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Issue 93 November/December 2013





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*With apologies to Otis Redding

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Linda Lack and her husband, Craig Anderson, relish their weekend time spent together sailing *Slack'R*, their 1983 Cherubini-designed Hunter 27, on Iowa's Lake Red Rock. In the off season, *Slack'R* resides in Craig's advertising and editorial photo studio where she serves as a Friday-night beer-and-Buffett cure for sailing-season withdrawal.

On the cover ...

Archive eXtractions

Articles compiled for you from *Good Old Boat* archives

Boat Reviews 28–30 Footers The ubiquitous 28- to 30-footers



The ubiquitous 28- to 30- footers We've wandered a bit, but the average length of boats covered in ou magazine has always been remained right around 28 to 30 feet. All articles were published in *Good Old Boart* magazine between May 1999 and November 2012.



Small keelboats to sail anywhere wiews of some of the first sailboats introduced during the fiberglass e the early family cruisers and racers in the size range of 25 to 27 feet. All articles were published in *Good Old Bast* magazine between Sectomber 1989 and November 2012.

Boat Reviews 25–27 Footers

Small keelboats to sail anywhere



Boatbuilders

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



GOOD OLD BOAT

Boatbuilders

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

A collection of historical articles about the earliest days of fiberglass boatbuilding ticles were published in Good Old Boat magazin between Sep/Oct 1998 through Nov/Dec 2011

Boat Designers

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

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Good Old Boat

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November/December 2013

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GOOD OLD BOAT

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News from our Websites



GoodOldBoat.com

Book reviews

We started offering book reviews with the first or second issue of *Good Old Boat* more than 15 years ago. Do you have *any idea* how many book reviews that has been? We don't either. But they are *all* still available to you at any time you'd like to browse through them at **www.goodoldboat**. **com/reader_services/book_reviews**. It is truly astounding (isn't it?) all the stuff we have been posting on our site all these many years.

Holiday boat parades

A couple of years ago we posted a listing of holiday boat parades and it becomes quite popular at this time of year. If we haven't included your favorite holiday parade, please don't keep it a secret from "the rest of us." Tell karen@goodoldboat.com about it and we'll add it to our list. Just send a link to a site with all the pertinent information. Happy holidays!



www.goodoldboat.com/resources_for_sailors/boat_parades



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We'll read the newsletter to you

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

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Voyages in Desperate Times

One of our newer audiobooks focuses on little-known U.S. history during WWII when private sailboats were conscripted for military use. Author Jule Miller spins a great tale about members of the U.S. Coast Guard's "Hooligan Navy" and their task on the East Coast of spotting Nazi U-Boats and rescuing survivors of the ships they sank. This book is unabridged and runs for 8.5 hours of good listening. www.audioseastories.com



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Perils of the chart plotter

Guest editorial

BY DAVID LYNN

Many cruisers are so confident in their chart plotters they no longer invest in paper charts. Paper charts may be expensive, but it's important to have the paper charts necessary to complete a passage. At an absolute minimum, we have a smallscale passage chart or charts of the area we will be sailing. We also try to have large-scale charts of ports we will visit.

Our appreciation for paper charts is based on the ease of creating a route on a chart plotter. If we're sailing a passage between ports, we have a tendency to zoom in to a highresolution view of the port at each end to plot waypoints and then zoom out to review the route connecting them. This low-resolution view of the route will often miss small hazards along the route. For example, the 1,000-nautical mile passage from Luganville, Vanuatu, to Bundaberg, Australia, passes right through Chesterfield Reef. This reef is clearly marked on the paper charts for the area but is only shown on the higher-resolution views on our chart plotter. Sailing onto this reef at 6 knots would certainly spoil your night watch.

Even if you painstakingly view your route at high resolution, you could miss hazards lying just off your route. With a motor vessel, this might not be a problem, but sailboats don't always sail the rhumb line.

In the days before chart plotters, my wife, Marcie, and I spent time calculating waypoints and plotting routes together. That made both of us familiar with the route and potential hazards. Since plotting on the chart plotter is a quick, one-person activity, only one of us reviews the route when planning. To ensure we're both prepared, we each review our planned route on the paper chart prior to any passage.

There is the possibility of losing electronics due to a lightning strike or because of an electrical or equipment malfunction. We have a couple of handheld GPS units aboard as backup. With paper charts and a GPS, we'd be no worse off than we were before adding the chart plotter, and I still have my trusty sextant, although I'm a bit rusty with it.

We've cruised areas like the fiords of New Zealand, canals of Patagonia, and rivers and estuaries of Tasmania where a chart plotter provides little or no detail. There, we found cruising guides and local charts to make navigating possible and we've sometimes made copies of hand-drawn charts or obtained mud maps from fishermen and other yachties.

A final shortcoming with chart plotters is that it's not uncommon to meet a fellow cruiser who's heading somewhere you've been or coming from a place you're planning to go. It's very pleasant to spend an evening going over charts and exchanging information on anchorages and navigation. We usually make pencil notes on our paper charts and cruising guides. We don't know how to add little notes to our iPad charts, but even if we could, it just wouldn't be the same. \varDelta

The chart plotter has evolved into a wonder that has simplified navigation and route planning beyond the dreams of sailors of old. Over the last decade, chart plotters have become less expensive and the chart sets now cover even the most remote areas of the world. It is rare to find a cruising sailboat without one. With the advent of navigation apps for tablets and smart phones, many cruisers have two or three aboard.

Five years ago, after delivering a friend's boat that had a chart plotter aboard, we decided to join the electronic navigation world. Next, we bought an iPad and navigation apps and charts. It's a marvel to see at a glance exactly where we are and to plot a course by simply moving a cursor around and dropping a waypoint. The chart plotter makes navigation so trivial it's easy to become complacent and to overlook other navigational tools. Therein lie the dangers.

Many electronic charts are based on chart surveys done before the advent of the GPS. While your GPS will locate you on the earth's surface to within a few feet, your chart might be off by as much as half a mile. The chart plotter could show your boat as being well clear of an off-lying danger when you are about to hit it. Many times, our chart plotter showed *Nine of Cups* being high and dry in the middle of an island when we were safely anchored in 50 feet of water a fair distance off the beach.

Electronic charts are usually accurate except for an offset. If you can determine what the offset is, most newer chart plotters allow you to correct for the offset. If your radar image can be overlaid on the electronic chart display, you can determine the offset by measuring the difference between the positions shown for the same landmark by the radar and the chart plotter. If not, you can use basic coastal navigation skills to determine where you are relative to the chart and then calculate the offset.

Pilothouse view, credit where



Rob replies

Stephen, you have described all the desirable features of a pilothouse better than I did! For the comparison piece on pilothouse boats in this issue (on page 16), I focused on 36 footers, since the smaller size presents the greater challenge in incorporating a full pilothouse configuration. Other than the Cabo Ricos, I'm not aware of many production Chuck Paine designs that meet the *Good Old Boat* criteria, so it is sometimes difficult to incorporate them into design comparisons.

I had the pleasure of visiting Chuck in his office many years ago, where I also had the pleasure of meeting Mark Fitzgerald, who was his draftsman at the time. This was on the cusp of CAD and Mark was still doing all his drawings in ink by hand! He is an incredible draftsman who has now gone on to be an equally good designer.

Thank you for sharing your enthusiasm for *Off Piste*. She really is a strikingly beautiful boat.

-Rob Mazza, Hamilton, Ontario

Another pilothouse fan

I sure enjoyed Rob Mazza's efforts to make sense of pilothouse boats (September 2013). Our 1981 Cooper 353 pilothouse, *Rhumb Line*, has radar, chart plotter, VHF-FM, compass, depth sounder, and autopilot down below. This is where we are in fog and when the frequent northwest rains come. The steering station topside has a cheap GPS/depth sounder — all I need when under sail.



Rhumb Line was a mess when we bought her 15 years ago. We have put in a new engine/saildrive, replaced the standing rigging and all the sails, and did major reupholstering just last year.

Cooper offered 32-, 35-, 37-, and 42-foot models but went out of business in the mid-1980s. The Cooper 353 is the model we see most frequently on the water.

-Tony Ford, Monroe, Wash.

Pilothouse view

I enjoyed Rob Mazza's article about the various aspects of pilothouses in *Good Old Boat* (September 2013). I have a Cabo Rico 42 PH that has provided shelter from snow, wind, rain, and heat. But what I find we appreciate most is the 360-degree view while anchored and the ventilation from the opening forward-facing window that always faces the wind while we're on the hook. This is especially true in the tropics, even on a boat with six well-placed Dorade vents.

We still spend the vast majority of our time while sailing or on watch in the cockpit. I feel it is very important to be able to see over the pilothouse and not through it. Looking through a dodger is bad enough. A pilothouse, mast, and rigging is too much in my opinion.

Off Piste is a real traditional sailboat with clipper bow, fine stern, overhangs, low freeboard, and an almost-full keel. She sails well and has canvas up anytime she is under way. We have removed the inside helm wheel for lack of use. The very expensive inside helm chair has been worth every penny. It swivels around so we can work at the chart table and use the radios.

Another benefit of the raised pilothouse is that the split level provides safer access and a feeling of volume below. Looking up from the galley into the saloon, my 6-foot 4-inch frame thinks it is in a room with an 8-foot ceiling. Coming in through the companionway is only four steps and the next flight to the galley only three. This is much safer than the normal ladder/stair found on most designs.

I am obviously biased toward this Chuck Paine design and think one of your well-thought-out comparison articles exploring the merits of pilothouses would be incomplete without this example's subtle differences.

The photo shows *Off Piste* in one of our favorite anchorages, the sand bar in Kaneohe Bay on the east side of Oahu Hawaii. At low tide, the anchor will be exposed and the depth sounder will read 30 feet!

-Stephen Cavanagh, Steamboat Springs, Colo.

due, and draft corrected



Mis-credit...

Good Old Boat is a first-class publication and Team GOB is the best in the business. A recent error of mine could cast a negative light on the publication, something I will never allow to happen. Through an error on my part, a photograph in the September 2013 issue on pages 3 and 30 was not credited to the correct photographer. That photographer is Tim Derry (Tim's original photo above) and I offer profound apologies to Tim and *Good Old Boat* for my error.

-Keith Bennett, Centennial, Colo.

Morgan 34 draft

This is the second time your esteemed publication has printed incorrect specs for the Morgan 34 (July 2013). The draft is 3 feet 3 inches (39"), not 3 feet 9 inches (45"). I guess I'm picky, but I've owned my Morgan 34 for 38 years and I still think she's the perfect boat (for me).

I just had the pleasure of taking my four oldest grandkids sailing from Monday through Friday. I am so honored that both sets of parents trusted me with their precious offspring — two 10-year-olds and two 6-year-olds. My club-member friends all tell me their own kids would never trust them with the grandkids!

-John Stoffel, Tuckahoe, N.Y.

Rob's mea culpa

Thank you, John, for pointing out the error in the draft of the Morgan 34. I'm glad somebody out there is paying attention! My apologies. I expect I made a transcription error and recorded 3.75 feet instead of the published figure of 3.25 feet. I do review the numbers closely, looking for obvious errors and inconsistencies, but since the other two boats in the comparison had drafts of 3.92 feet (Tartan 34) and 3.75 feet (Pearson 35), my recorded figure of 3.75 feet for the Morgan did not seem at all out of place. My own C&C Corvette, at 31 feet LOA, has a draft of 3 feet 6 inches. Indeed, the 3.25 feet figure would have raised an eyebrow. Fortunately, the draft does not enter into any of the comparison ratios, so the conclusions of the article are still valid, as well as my opinion that the Morgan is the finest looking of the three — a handsome boat, indeed.

Draft has always been a troublesome measurement in rating rules. It was completely eliminated in the old tonnage rules (depth of hold) and an approximation of B/2 (beam/2) was used instead, which led to the "plank on edge" cutters of the 19th century. Because it was considered a variable measurement dependent on trim, heel, and displacement, there was a long-standing opinion that draft should not be included in rating rules, and was thus not measured for either the Seawanhaka, Universal Rule, or International Rule, and the latter two tended to produce deep-draft vessels. It wasn't until the CCA Rule that draft was included in a rule, and then only to be penalized or rewarded based on the establishment of a mean draft of 0.147L + 1.5 feet. This encouraged shoaldraft centerboarders, such as the Morgan 34.

I have often in these pages lamented the accuracy of published wishful-thinking "design" numbers versus the realworld "as built" numbers, which are almost never published. However, to complicate the situation further by introducing transcription errors of my own is unforgivable, and I apologize sincerely. Many thanks for keeping me honest.

-Rob Mazza, Hamilton, Ontario

continued on page 64



The O'Day 322

A spacious and comfortable wing-keel cruiser

BY TOM WELLS

A certain connection draws some sailors back to favored nameplates. Such was the case for Jeff and Liz Fleenor. Jeff was a longtime sailor and owner of an O'Day 272 when he met Liz in the fall of 1995. Liz quickly fell in love, not only with Jeff but with sailing too. Circumstances caused Jeff to sell his O'Day 272 before he and Liz were married in 2000 but their shared intent was to return to sailing as soon as they were able. That time came in 2001 and the boat that drew them back was a 1989 O'Day 322 named *Wild Goose.*

Jeff and Liz journeyed to Kentucky Lake to give the boat a once-over and they were smitten from the moment they saw her. They had honeymooned under sail on a chartered boat at Kentucky Lake and it was somehow fitting that their dream was waiting for them there. With the purchase complete, they sailed Wild Goose north to be hauled and transported to Missouri's Mark Twain Lake. That is where they welcomed us aboard in

September of 2012 for this review. (To be honest about travel time, I'll disclose that my wife, Sandy, and I had to step to the dock from our own boat and walk 40 feet to board *Wild Goose*.)

History

George O'Day, a native New Englander, was known for his Olympic gold medal in the 5.5 Meter Class and also for his contributions as crew on several America's Cup campaigns. However, he'd grown up racing smaller boats and he carried that facet of his life forward with him when he founded the O'Day Corporation in the early 1950s. He began importing smaller, easily rigged and handled sailboats from the UK, and his acquisition of Marscot Plastics in 1958 brought him into the fiberglass era. That enabled him to bring sailing to a wide range of people. In 1959 he began building the O'Day Day Sailer. The Uffa Fox design was just 16 feet 9 inches long but it proved to be immensely popular more than 14,000 were built.

The O'Day Corporation also built

the Rhodes 19, Mariner 19, Javelin, and others. By the early 1960s the company had grown to become one of the largest producers of sailboats in the nation. When Bangor Punta acquired the company in 1966, George O'Day went briefly into retirement before partnering for a time with Columbia Yachts.

Bangor Punta immediately began to build a line of O'Day cruising sailboats in a range of sizes, from the O'Day 22 to the 39, all designed by C. Raymond



Jeff and Liz Fleenor sail their O'Day 322, *Wild Goose,* on Mark Twain Lake in Missouri, at top. The crisp deck styling looks modern even today, above.

Hunt Associates. In 1983, the conglomerate Lear Siegler bought Bangor Punta and renamed it Lear Siegler Marine. In 1987, it was again sold and reclaimed the name O'Day Corporation. During this time, the final series of C. Raymond Hunt Associates-designed boats was under construction, including the O'Day 322 that was produced from 1986 through 1989. In 1989, the company closed its doors, marking the end of an era. George O'Day didn't live to see the end of his nameplate. He died of cancer in 1987 while still fully involved in the world of sailing.

Before the company closed, it built 228 O'Day 322 hulls. The molds for the O'Day 322, 302, and 272 were bought by a Japanese company that continues to build them as made-toorder boats under the name O'Day Japan Corporation.

Construction

O'Day 322 hulls are solid laminate laid up with alternating mat and roving. The company developed a molded-fiberglass floor grid it called a "unipan" that was laid into the hull and bonded to it at every contact point to produce a very strong assembly.

The decks were made with balsa core except in high-load areas and at attachment points for fittings, where plywood core was used. The hull-todeck joint is basically of the shoebox style with overlapping flanges sealed with 3M 5200 and fastened with stainless-steel screws on 4-inch centers. An aluminum extrusion that combines a slotted toerail and a rubrail completed the assembly.

The cast lead, shallow-aspect-ratio winged "Hydrokeel" is connected to the keel stub with stainless-steel bolts, nuts, and washers. Some boats have exhibited issues with the keel connection, so checking keel-bolt torque from time to time is advisable.

The spade rudder is fiberglass over a foam core and stainless-steel armature. Rudders built this way are prone to water intrusion and sometimes require repair or replacement. Any survey of an O'Day 322 should pay careful attention to the condition of the rudder. The rudder stock passes through a tube that's bonded to the hull and to the unipan with the rudder bearing resting at the top of the tube.

There have been reports of some gelcoat cracking and crazing though *Wild Goose* does not exhibit any extraordinary gelcoat problems.

Rig

The O'Day 322 has a deck-stepped mast supported by a compression post. The rig has single spreaders with a slight aft sweep and single upper shrouds with dual lowers. The shroud chainplates connect to stainless-steel threaded rods below the deck that carry the loads down to the unipan hull structure. The single backstay is attached to a through-bolted chainplate centered at the stern.

The boom swings fairly low over the cockpit, so crew must be aware of that during tacks and jibes. The low boom also makes it difficult to fit a Bimini for sun protection. *Wild Goose* has a small "captain's Bimini" that provides some shade over the helm position.

Barient 21 self-tailing primary winches are mounted on the generous coaming forward of the helm and are accessible from the helm position. Barient 17 cabintop winches handle halyards, the vang, and the mainsheet, which is attached mid-boom and to a traveler mounted on the cabintop forward of the companionway hatch.

On deck

The deck has an aggressive molded-in non-skid pattern in traffic areas. Fairly wide sidedecks provide clear crew passage forward unobstructed by the chainplates, which are centered on the sidedecks. Teak grabrails along the sides of the cabintop provide handholds.

The stem fitting incorporates a dual anchor roller, and a sizable anchor locker provides ample storage for ground tackle. Chocks at the forward end of the aluminum toerail lead docklines to beefy aluminum cleats port and



The sharply sculpted cockpit is comfortable, at left, and the T-configuration makes getting by the wheel less onerous, but the seats are not long enough for naps. The scoop transom, at right, with its offset gate and folding swim ladder, is a popular feature because it provides a safe and convenient way to board the boat.

Review boat | The O'Day 322



The well-thought-out galley has a cutting board over one of the twin sinks and plenty of stowage in shelves and cabinets outboard, at left. The door in the galley leads to the aft cabin, at right. Although it's mostly tucked under the cockpit, it has a little standing room at the forward end and two ports for ventilation.

starboard. A stainless-steel bow pulpit provides security and double lifelines run all the way aft to the stern pulpit. Pelican hooks allow the lifelines to be detached for boarding at the cockpit.

The forward end of the cabin trunk slopes smoothly to the foredeck. A large Lewmar hatch there is over the V-berth. Aft of the mast, over the saloon, is a Lewmar hatch flanked by pie-pan vents. A sea hood aft of this hatch protects the companionway slide.

Solar vents are fitted on both sides of the companionway alongside rope clutches that secure the lines led aft from the mast through deck organizers. T-tracks and lead cars on the sidedecks provide adjustable leads for the jibsheets, which can be led back to turning blocks that provide a good lead angle to the primary winches.

The T-shaped cockpit is functional and comfortable, if a bit small for a 32-foot boat. The cockpit seats are only 4 feet 4 inches long, so napping on them is not an option. The configuration provides good access to the helm and the contoured helm seat presents a comfortable perch at any angle of heel. A seat-height bridge deck protects the companionway and reduces the size of the opening. Smoked-acrylic dropboards match the sliding hatch.

A cockpit locker is located beneath the port seat and the primary fuel filter is accessible at the forward end of this locker. Another cockpit locker is beneath the helm seat. Coaming cubbies on both sides provide on-deck stowage for small items such as sailing gloves.

A shallow sugar scoop in the transom provides a narrow platform



Designer:	C Baymond Hunt
Jesigner.	
	& Associates
LOA:	32 feet 0 inches
LWL:	26 feet 8 inches
Beam:	10 feet 8 inches
Draft:	4 feet 2 inches
Displacement:	10,250 pounds
Ballast:	3,530 pounds
Sail area:	464 square feet
Sail area/disp. ratio): 15.7
Disp./LWL ratio:	241
Fuel:	19 gallons
Water:	60 gallons
Holding:	16 gallons
<u> </u>	0



for the stern ladder and dinghy access. The stainless-steel stern ladder folds up against the transom to port.

Belowdecks

The O'Day 322 has an innovative and very attractive interior. Teak is used throughout, and the fit and finish is more than adequate.

The V-berth measures 6 feet 8 inches on the starboard side, but the berth is shorter (only 5 feet 5 inches) on the port side to make room for a hanging locker in the forward compartment. The bulkhead between the V-berth and the saloon has an unusual feature. A closure panel on the starboard side of the teak door provides privacy for the V-berth occupants but can be rotated open to create a sense of spaciousness and to improve ventilation throughout the cabin.

A two-leaf table is centered on the compression post in the saloon. With both leaves up, it can accommodate several people. There is a U-shaped settee to starboard, a straight settee to port, and two tiers of shelving above the settees on both sides. Aft of the shelves are storage compartments with teak doors. The cabin-sole sections within the fiberglass liner are plywood with teak-and-holly veneer.

Four fixed windows and four opening ports provide good light and ventilation. Smoked acrylic covers the fixed windows. On some boats these have had to be rebedded.

In the L-shaped galley, aft of the saloon on the starboard side, a two-burner propane stove with oven is fitted along the hull, a double



A dedicated navigation and "command" station is always appreciated, especially in a 32-foot boat, at left. The door at left is to the head. With the panel between the saloon and forward cabin (to starboard of the mast) swung open, the interior seems huge, at right. The open shelves outboard add to the sense of space.

stainless-steel sink in the forward counter, and a spacious icebox outboard of the sink. Jeff and Liz added refrigeration to their icebox. Storage cabinets lie over the outboard counter and, on some boats, a small microwave is mounted between the cabinets. More storage is available beneath the sink counter area. Pressurized hot and cold water for the galley and head sinks is drawn from a 60-gallon tank.

On the port side, aft of the settee, is a navigation station. It includes a chart table with hinged cover and storage, its own seat, and a shelf outboard with the main electric panel above it.

The fairly large head compartment is aft of the nav station. A vanity sink with

a combination faucet/shower fixture is fitted in a long counter outboard. A separate shower sump keeps shower runoff out of the bilge. The marine toilet faces forward at the aft end of the compartment and discharges into a 16-gallon holding tank.

A teak door aft of the galley leads to the large aft stateroom, which has full

continued on page 60

Comments from owners of the O'Day 322

"I owned a 1988 O'Day 322 from 1991 to 2002. The boat was generally comfortable and easy to sail in the Long Island/Block Island Sound area. Some areas needed improvement or caused concern:

- Aft stateroom lacks ventilation. I added a port in front of the cockpit step.
- The boat is relatively slow.
- The hull exhibited some crazing amidships below the chainplates. This showed up on all the other 322s I looked at.
- Signs of "boiling" or contaminants coming to the surface of the wing keel.
- The sealant between the hull and the keel deteriorated and was only visible when on the lift. It looked like a hanging loose tooth.
- The anchor roller was short and the flukes of a Danforth would hit the hull. I had an extension fabricated locally."

-Keith Lane, Mystic, Conn.

"What I liked:

- Handles great under power. Backing up is a charm. No port or starboard walk. Responds well. Perhaps it's a touch underpowered but for most situations it's great.
- Spacious below for a 32-foot boat. The aft cabin was ahead of its time and comfortable.

- Good cockpit space and comfortable.
- Sugar scoop stern and swim step.
- Comfortable sailing boat and responsive enough to the helm.
- Good visibility from the helm.
- Good storage in cockpit lockers.
- Head aft next to companionway steps good for wet foulies.
- Good engine access.
- "What I was not so impressed with:
- Wing keel. Did not seem to add to performance and here in San Diego was a kelp catcher.
- Construction quality was mediocre, but probably the norm for its period and price range.
- Winches are undersized.
- Furler interferes with anchor rode.
 - Not a great downwind sailing boat." —**Steve Brodbeck,** San Diego, Calif.

"Probably the two most outstanding features of the O'Day 322 are that it has the same amenities as larger boats, only a little more compact. There are two private staterooms for couples' privacy and the scoop transom and swim ladder combine convenience for swimming with safety for reboarding the boat should crew accidentally fall overboard.

—Jim Haslock, Cheboygan, Mich.

"The O'Day 322's strengths:

- T-cockpit makes it easy to get around the wheel.
- Winches are in reach of the helmsman from behind the wheel, good for singlehanding.
- Keel has huge wings at the bottom that put weight at the lowest point and increase righting moment more than expected for a shoal-draft boat.
 - Boat stiffens at 15 to 20 degrees and holds there.
- Rudder has never ventilated and stalled under heavy gusts in the five years I have owned the boat. I have been out in 20 to 30 knots a number of times.
- In a moderate breeze, if sails are trimmed for good balance, the boat will sail upwind on its own for hours with the wheel locked a few degrees below centerline. Remarkable.

"Weaknesses

- The sides of the hull show a very subtle dimple where the chainplate load transfers to the hull.
- Like most modern boats, there is some stern slap in a chop at anchor.
- Mainsheet is on the cabintop and not accessible to the helm.
- Bilge is only moderately deep (9 inches), but still better than some I have seen.
- Keel bolts need to be monitored for bolt tightness and integrity."

-Brent Baker, Riverside, New Jersey

Windvane Steering 101

Sophisticated mechanisms that use a simple principle

Windvane steering was pioneered by Blondie Hasler in the 1960s and is the autopilot of choice for many bluewater sailors. It relieves the stress of constantly being at the helm. Although it can't steer a compass course, when the sails are properly trimmed it does an excellent job of steering a heading in relation to the wind direction while using only the wind and the boat's motion through the water for power.

Choosing a windvane steering system is not simple. Several basic mechanisms are used and manufacturers add their own variations and innovations. The choice is also affected by practical considerations dictated by aspects of a boat's design.

How it works

All windvane steering systems share a common principle. A small windvane, usually made of thin plywood, aluminum, or fiberglass, is aligned edge-on to the wind. When the boat goes off course or the wind direction changes, the wind puts pressure on the side of the vane. This pressure is used to adjust the boat's course.

When setting a course using the windvane, the boat is brought to the desired heading and the sails are trimmed to balance the helm. The vane is then set edge-on to the wind and the connection to the steering mechanism is engaged.

The windvane is on a pivot at the bottom and a counterweight holds it upright when it's edge-on to the wind. When the wind gets on one side of it, the pressure tilts the vane around its pivot point. Since the vane is small, the force that results from the wind pressure on it is also very small and has to be mechanically amplified. This can be done in several ways.

Three basic windvane systems are in common use: the servo pendulum, the trim tab, and the auxiliary rudder. The choice of the windvane system and manufacturer is often determined by the configuration of the boat on which it will be used.

For a tiller-steered boat, the servo-pendulum type is a good choice. A boat steered with a wheel having multiple turns from stop to stop might do better with the auxiliary rudder, since the windvane would not have to interact with the boat's main steering system.

Servo pendulum

A servomechanism controls large amounts of power output by means of very small amounts of power input while automatically correcting in response to feedback. In the case of the windvane, the mechanism uses the small amount of wind power from the windvane to activate the large amount of power needed to steer the boat.

In the servo-pendulum system, the base of the vane is connected to a servo rudder, or servo oar, that's in the water. This is a small balanced or semi-balanced blade and it's on a pivot so it can swing (as a pendulum) from side to side. When the windvane is upright, this blade is centered, edge-on to the water flow. When the windvane is deflected by the wind, it turns the blade. The pressure of the water flow on the turned blade makes it swing to the side with considerable force, depending on how fast the boat is moving through the water. This large force, transmitted by means of lines connected to the tiller or to a drum on the steering wheel, is used to turn the boat's rudder and bring the boat back on course.



windvane

counterweight

swing arm

line to tiller

Servo pendulum: an oar in the water, when turned by the tilting windvane, swings to one side. The force generated is directed to turning the rudder by means of lines connected to the tiller or wheel. BY DON LAUNER

plunger rod

line to tiller

plunger rod

transfer gears

servo rudder or servo oar



Trim tab

In this system, a trim tab is mounted to the trailing edge of the boat's rudder or mounted on an extension fastened to the rudder so the trim tab is well aft of the rudder's trailing edge. The trim tab is balanced or semi-balanced and requires little force to turn it. When the windvane deflects, it turns the trim tab. This causes the main rudder to turn and bring the boat back to the desired heading.

Auxiliary rudder

The auxiliary rudder system uses a completely separate, smaller balanced rudder to steer the boat. First, the sails are trimmed for balance and the boat's rudder is locked in a position that keeps the boat on a straight course. The auxiliary rudder, which is coupled to the windvane, is then used as the steering rudder. Since the balanced auxiliary rudder is easy to turn, the windvane can drive it directly.



Auxiliary rudder 1: the windvane operates directly on a separate balanced rudder that can be turned with little effort. The boat's rudder is locked while the vane system is in use. Auxiliary rudder 2: this hybrid system uses the principle of the trim tab to turn the auxiliary rudder. Auxiliary rudder 3: In this system, the auxiliary rudder is operated by a servo pendulum.

In some applications, a trim tab is used on the auxiliary rudder while in other systems a servo pendulum is used to turn the auxiliary rudder.

Advantages

For bluewater passages, windvane steering has advantages over an electric autopilot steering a compass course. It can eliminate luffing when going to windward or accidental jibes when running, both of which result from changes in wind direction, and it does its job without consuming the boat's limited power.

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

PILOTHOUSES AND

Evaluating three variations on a theme

BY ROB MAZZA

In the article, "Defining a Pilothouse," in the September 2013 issue, we looked at how the aft end of a sailboat's coachroof is designed to meet various objectives. We saw how shapes can range from a low-profile house through gradual increases in height to culminate in the full pilothouse configuration that contains an interior steering and pilot station.

As noted in that article, when it comes to design aesthetics and interior amenities, size does matter. It is much easier to accommodate an attractive exterior profile as well as more sumptuous accommodations as the boat gets longer. Therefore, rather than examining some of the large number of 40-foot pilothouse sailboats on the market, I've chosen instead to focus on the much more challenging 36-foot size and have selected three examples to look at in some detail.

The Pearson 36 was the subject of Brian Coffay's spectacular photo in the pilothouse article in the September issue. For that reason alone, it deserves to be included in this review, but it is also a very handsome boat from the drawing board of Bill Shaw. The Nautilus 36 was designed by my old friend and C&C alumnus Henri Adriaanse and built by Niagara Nautic in St. Catherines, Ontario. The Nauticat 36 is a mid-range example from the Finnish builder Nauticat, long known for its pilothouse and motorsailer models.

Interior choices

Each of these boats meets the true pilothouse criteria of incorporating a complete inside steering station and a separate exterior helm location aft. In addition, in each of these designs, the saloon floor in the pilothouse is raised to take advantage of the increased headroom and the improved view of the outside world, especially forward. However, only the Nauticat 36 has a full aft cabin. It's under the cockpit sole that's raised to create better visibility forward over the pilothouse from the outside steering station. The Nauticat also has the highest pilothouse of the three. The Nautilus 36 offers three variations of quarter berths aft, but each is at the same sole level as the pilothouse and located either side of the cockpit sole and engine. The Pearson has no berths aft of the pilothouse. Since the only berths are the V-berths forward, the Pearson is definitely a "couple's boat."

Potential performance

Our purpose here is to evaluate these three pilothouse boats on sailing performance. With that in mind, I'll start with upwind performance, while recognizing that upwind passages on these boats may well be achieved with horsepower rather than sail power. For upwind performance, especially in light air, I'd give a conditional nod to the Nautilus, due primarily to its more efficient



Nauticat 36

LOA:	39 feet 6 inches
LOD:	36 feet 0 inches
LWL:	30 feet 10 inches
Beam:	10 feet 10 inches
Draft:	5 feet 3 inches
Displacement:	17,675 lb
Ballast:	6,835 lb
LOA/LWL:	1.17
Beam/LWL:	0.35
Disp./LWL:	269
Ballast/disp. ratio:	.39
Sail area (100%):	644 square feet
Sail area/disp. ratio:	15.2
Capsize number:	1.67
Comfort ratio:	35.1
Years built:	1983-1987
Number built:	61
Builder: NauticatYa	achts OY (Finland)
Designer:	Kaj Gustafsson,
	W. Aarnipalo



Nautilus 36

LOA:	36 feet 9 inches
LOD:	36 feet 9 inches
LWL:	28 feet 0 inches
Beam:	11 feet 6 inches
Draft:	4 feet 9 inches
Displacement:	15,500 lb (14,500 lb)
Ballast:	6,500 lb (5,500 lb)
LOA/LWL:	1.31
Beam/LWL:	0.41
Disp./LWL:	315 (295)
Ballast/disp. rati	o: .42 (.38)
Sail area (100%):	615 square feet
Sail area/disp. ra	tio: 15.8 (16.5)
Capsize number	: 1.85 (1.89)
Comfort ratio:	30.0 (28.1)
Years built:	1978-1982
Number built:	40
Builder:	Niagara Nautic, Inc./
A	Aztec Yachts (Canada)
Designer:	Henry Adriaanse

PERFORMANCE

hull form of separate fin keel and cantilevered spade rudder. It also has a slightly higher ballast/displacement ratio, the highest sail area/displacement ratio, and the lightest displacement (see the sidebar at right) However, it's a full 2 feet shorter on the waterline than the other two boats and the fin keel has the least draft, neither of which bodes well for it maintaining its advantage upwind in stronger winds.



Pearson 36

LOA:	36 feet 5 inches
LOD:	36 feet 5 inches
LWL:	30 feet 0 inches
Beam:	11 feet 6 inches
Draft:	5 feet 6 inches
Displacement:	17,700 lb
Ballast:	7,300 lb
LOA/LWL:	1.21
Beam/LWL:	0.38
Disp./LWL:	293
Ballast/disp. ratio:	.41
Sail area (100%):	570 square feet
Sail area/disp. ratio	: 13.4
Capsize number:	1.77
Comfort ratio:	32.9
Years built:	1978-1981
Number built:	30
Builder: Pea	rson Yachts (USA)
Designer:	William Shaw
9	

Looking at the fin-keel underwater profiles of the Nautilus and the Pearson, it seems odd that, with a 3-inch longer overall length and similar proportions of bow and stern overhangs, the Nautilus would have a waterline length that much shorter than the Pearson's. However, I have to work with the published figures, conflicting and confusing as they often are. The ability of the Nautilus to use overlapping headsails does make up for that deficiency in lighter air.

The Pearson 36 has the next best upwind keel configuration with a separate skeg and rudder but, based on the sail plan I have for it, the Pearson has no overlap in its jib but employs a self-tacking club boom. Although it lacks the sail area of the Nautilus and has the lowest sail area/displacement ratio of the three boats, the Pearson has the advantage in heavier air because of its longer waterline, heavier displacement, and a smaller sail plan that might not have to be reefed as early as that of the Nautilus. (The Pearson 36 in the photo in the September article has no club boom and uses a large furling headsail. This extra headsail area would help in lighter winds.)

Although the Nauticat has an even longer waterline and a larger sail plan, thanks to the mizzen and a J measurement extended by a bowsprit, the full-length keel with its large propeller aperture and greater wetted surface are not made for efficient upwind work. Nor is the ketch rig with double headsails a good combination for efficient windward performance. However, for reaching in any sort of breeze - which I expect these boats will do more often when under sail - the Nauticat's longer waterline and double-headsail ketch rig may well make up for a less efficient underbody shape.

These boats are well within the margin of safety for the capsize number. They also have very acceptable comfort ratios . The Nauticat 36 has the highest, primarily due to its heavy displacement combined with a narrower beam.

In summary

All things being equal (and they never are), the Nautilus would be the best performer in lighter air, the Pearson in more breeze, and the Nauticat when reaching, especially in heavier air when her longer waterline and split double-headsail rig work best.

Aesthetically, my preference would be for either of the more traditional sailboats: the Pearson or Nautilus. Still, it's hard to argue with the generous accommodations of the Nauticat, with its separate aft cabin, even though the raised cockpit does create a top-heavy appearance aft. \varDelta

Rob Mazza is a Good Old Boat contributing editor. As well as being a lifelong sailor, he spent much of his adult life designing sailboats. Since he began his design career at C&C Yachts when that company was building boats that are still very popular, he knows firsthand what makes an old boat good.

Displacement discrepancies

I obtained the displacement and ballast data for these boats from sailing sites online, most notably Sailboatdata.com, which I have found to be quite reliable. When compared to the other boats, the figures for the Nautilus 36 seem quite believable. However, its designer, Henri Adriaanse, was kind enough to send me a copy of the original sales brochure for the Nautilus 36, which shows the displacement and ballast as 1,000 pounds lighter! Henri maintains that the boats were in fact built to the lighter specification.

Using the lighter displacement number, D/L and SA/D become even more advantageous for the Nautilus. This further accentuates the light-air performance of the Nautilus in comparison to the other two boats, but it does not change the other conclusions.

This example highlights the observation I have made, in this article and elsewhere, that published numbers, no matter how diligently compiled by Saiboatdata.com and others, are not 100 percent reliable.



A good old classified helps a Chris-Craft Capitan

BY SUSAN PETERSON GATELEY

Sophie twice revived

I took two men and 16 years to complete an international effort to save *Sophie*. She was a little blue sloop, just like the boat in Richard Bode's popular book about sailing and life, *First You Have to Row a Little Boat*. Her earlier name was *Born Free*, and she was very near death when Chris Gateley, the man who would later become my husband, first saw her in 1994 on a late summer day in a boatyard by Lake Ontario's Sodus

Bay. The 26-foot Chris-Craft Capitan, hull #7, had been put on her steel cradle backward. One pad had holed her, another had severely pushed in the bottom. The asking price was \$500.

A few months before, Chris had launched a wooden daysailer, a 19-foot Lightning, on the protected waters of Port Bay near his home. He had spent the previous year building a shop to work on the boat, repairing, painting, and varnishing the Lightning and finding a new mast for it. He had never owned a wooden boat before and was shocked when his new boat began to sink during her maiden voyage. Her cedar planking and centerboard trunk had dried out and shrunk and water poured in through the open seams. After sailing and bailing for 20 minutes he returned to the ramp, hauled her out, and towed her back to the shop for more work.

That's when he saw an ad for a 26-foot fiberglass sloop with a hole



Bruce Milan, his wife, Diane, and sailing friend Bill McBurney show off *Wave Anvil* (formerly *Sophie*) after her third refit, top of page. Chris Gately carried out the first refit after he purchased *Sophie* in 1994. Among other repairs, he rebuilt the main bulkhead and mast support, above, using ash from his backyard woodlot.

in her bottom for \$500. Wow! A 26-foot plastic boat for the same price he had just paid for a leaky wooden Lightning with rot in the centerboard trunk? Off he went, checkbook in hand, to survey the boat. A few days later, the Capitan made her way up the driveway aboard a U-Haul car carrier while the Lightning project went on hold. Indefinitely. He eventually gave away the Lightning — to his brother in Wisconsin.

A sorry state

Sophie turned out to be a considerably bigger project than the Lightning. As on many a boat of her era, the chainplate deck penetrations leaked and the interior plywood bulkhead they were bolted to had rotted. The bolts holding the 1,800-pound cast-iron keel were badly rusted and several sections of the glassed-in wooden stringers that reinforced the boat's bottom had also rotted. Sophie's rudder was mounted on a skeg that had already been repaired once and was in need of further strengthening. A split on the forward edge of the rudder blade itself was also in need of repair. Both the forward hatch and the cover over the outboard well needed to be rebuilt. What's more, the aluminum holding tank had corroded through, leaving an unpleasant aftermath.

Beneath the grime and neglect, however, Chris could see the boat's

potential. He liked her sweet sheer, her bold bow, and her general businesslike look of determination. Internet research revealed her good pedigree. She was said to be Sparkman & Stephens design #1860, created in 1965 and later modified with a larger cabin to become the Chris-Craft Capri. Modeled to race under the MORC handicap rule of the 1950s, the Capitan, with her big cockpit and small low cuddy cabin, was first and foremost a racer and lively daysailer. If you could tolerate sitting headroom down below, she was surprisingly roomy, with four bunks, a galley of sorts, and a built-in head.



The Capitan was created in an era when racing designs were wholesome and moderate enough to serve as capable coastal cruisers. The 1960s were also a time when sailing families cruised quite happily on yachts of 20 to 25 feet and when wheel steering, pressurized hot water, shorepower circuits, 6-foot headroom, and enclosed heads were not standard features for a *Sophie*-sized boat.

A workmanlike rebuild

Chris ripped out the rotten main bulkheads and glassed in new ones, and he rebuilt the support for the deckstepped mast using exterior fir plywood and sturdy ash from his backyard woodlot. He rebuilt the galley and storage shelving and lockers, replaced the keel bolts, redid the forward hatch, made a new cover for the outboard well using plywood and epoxy, and repaired the damage to the bottom. He used close to 5 gallons of polyester resin on the bottom job and beefed up the lightly built hull. He installed a new holding tank and head and purchased a butane stove for the galley. The next spring, he and several friends sanded and primed the badly faded gelcoat and painted it Bikini Blue with a one-part polyurethane paint.

Sophie's rebuild was a solid workmanlike job using good-quality marinegrade hardware and epoxy. It was not a high-end restoration with teak



Sophie had been sitting on her trailer in Chris and Susan's backyard for several years and looked a little forlorn before they sold her, at left. She perked up a good deal in the hands of her new owner, Bruce Milan, at right. When Susan and Chris saw her in 2012 she had new sails and a spiffed-up interior, at top.

and mahogany elegance and 10 coats of varnish, though fresh paint and a few pieces of cherry trim from the woodlot did contrast nicely with the varnished fir plywood and ash in the cabin. Her non-skid decks were still in good condition, as was most of her hardware and rigging, but her mainsail was showing its age. Her new owner decided to try to get one more summer out of it with the help of a good deal of duct tape and some seam re-stitching. To his surprise, it lasted five more seasons before a 35-knot wind finally did it in.

The resurrected boat was launched on a quiet summer morning at a boatyard on Little Sodus Bay, New York, and motored to the dock with the help of a couple of friends. She was given a new name, *Sophie*, after the first command of author Patrick O'Brian's fictional sea captain, Jack Aubrey. When Chris first sailed his 5,000-pound boat, he said that, after years spent sailing a Sunfish, she felt like the *Queen Mary*. He took his fine big yacht on several weekend our marriage not long after. (*Note:* Susan wrote of boat partnerships in the May 1999 issue. –**Eds.**) In the spring of 2009, I put ads up on several websites and sent one to the Good Old Boat classifieds. Within a week, the Good Old Boat ad was seen by another budget boater, this one in Prince Edward County on Lake Ontario's Canadian shore about 50 miles north of where Sophie sat. He drove down, looked her over, and a deal was made. We were delighted to see Sophie off to Canada aboard a flatbed with her enthusiastic new owner, Bruce Milan.

Sophie's new caregiver

Poor patient *Sophie*. Enthusiasm had been sorely lacking over the last 10 years of her life with us. Our enthusiasm had been absorbed, first by her 32-foot big sister, *Titania*, a Chris-Craft Cherokee, and then by *Sara B*, the elderly wooden schooner (who last appeared in these pages in the January 2011 issue). Bruce, however, was very enthusiastic. He had dabbled

Mice made their way below, spiders spun their webs ...,

cruises that summer, sailing solo with his faithful dog or sometimes with his younger brother. But then, after just one season, fate sidelined the little blue sloop once again. Her owner fell in love. Another Chris-Craft, a 32-foot Cherokee, came along and caught his eye. With it came yours truly, his future wife.

Chris' younger brother sailed *Sophie* around the lake for two more seasons. Then *Sophie* returned to his rural upstate New York yard on a flatbed trailer and sat. Years passed. Her winter cover shredded, was replaced, and began to shred again. Leaves filled her cockpit and rotted. Mice made their way below, spiders spun their webs, and wasps built nests on board.

Finally it got to me. I was, after all, in large part responsible for her plight, having talked her owner into buying a share of the 32-foot Cherokee partnership in 1996, which led to in sailing in years past, getting started with a Styrofoam-hulled 8-footer and later sailing on Lake Superior. After he moved to Prince Edward County, a rural region of limestone outcrops, rolling farm fields, and summer homes surrounded by the best sailing waters on Lake Ontario, the sailing bug bit him pretty hard.

Via email he wrote, "I purchased a beautiful, but somewhat disassembled, plywood dinghy built in about 1960. It was a Zenith, designed by Ian Proctor of Wayfarer fame, and I spent a couple of years sanding and finishing it. Then I realized a racing dinghy was a little past my demographic situation and began looking at larger, more comfortable boats. What I soon found out was that I didn't like the looks of many of them and they were hopelessly out of reach cost-wise too." But he recalled when he first saw the Capitan sitting on



Bruce Milan saw the classified ad for *Sophie* in *Good Old Boat*, took a look, and purchased her.

the trailer, grimy and neglected but with her nose still in the air, he was quite taken with her looks, just as Chris had been 15 years before.

Bruce sent regular email updates on the commissioning and launch. In June 2009, we stopped by Picton with *Sara B* to see how the Capitan was doing. Bruce met us there and we had a good gam as we checked out the newly painted and refurbished boat, now christened *Wave Anvil*. Bruce, a blacksmith for 35 years, explains her name by saying, "An anvil in the form of a classic good old boat will slice effortlessly through and over whatever waves she encounters. What better name for a boat as unstoppable as the 1967 Capitan has been than *Wave Anvil*?"

A windy awakening

But the next summer, *Wave Anvil* did come to a stop. It took a 35-knot blow to do it. Ironically, *Wave Anvil*'s former big sister, our Cherokee, was battling up Prince Edward Bay under storm jib and reefed main that afternoon when just 10 miles away off Picton a gust split the Capitan's old main and tore it asunder. That same windy day also convinced Bruce he could no longer ignore that loose feeling he was getting from the rudder. It was time for some more work.

As Bruce contemplated the urgent need for a new mainsail and possibly

a new rudder and skeg, he recalled a Chris-Craft Capri he'd seen in a nearby boatyard some years back. He had looked at the boat as a possible purchase and decided it was too far gone then. Now, he went back for a second look and found the boat had a good suit of sails and a rudder and skeg assembly that was, if not like new, at least considerably better than the wobbly appendage on *Wave Anvil*. The Capri's owner had abandoned her, so he made a deal with the boatyard to "harvest" parts off the hull and then cut it up.

He wrote that the boat was a "gold mine" of parts: "Friday I hauled out a pickup full of rotten junk from below. She pretty much looked like the inside of a dumpster with ruined moldy cushions and clothes and a weird assortment of collected junk the previous owner had left in her. I was severely stung by a wasp in the process as there is a colony on board somewhere. Luckily, I harvested the sails from her last October, as her decayed hatches really leaked this summer and increased the general funk to a high level."

Bruce drilled some holes in the hull to drain the water, "to aid in the unfunkage for later removal of some of the interior." He added, "Oddly, she is a rotten wreck and now officially doomed, yet has many very sound components that are specifically and exactly what my boat needs. What luck, except for the wasps!"

The Capri rudder and skeg bolted right onto the Capitan hull and were installed with a "giant glob" of 3M 5200 adhesive. Her bow rail and stern pulpit were fitted, and Bruce salvaged cleats, the galley sink and pump, lifelines and stanchions, a new tiller, winches, and other gear for his boat's refit. He spent a year on the job and relaunched *Wave Anvil* in the spring of 2012.

Sibling reunion

We thought it would be fun to get our Chris-Craft Cherokee over to Prince Edward Bay to sail again with her little sister as they once had while traveling together on a trip to Canada back in 1998. In late June, we met Bruce, his wife, Diane, and sailing friend Bill McBurney for breakfast followed by a photo shoot. It was a glorious day with west winds of 10 to 20 knots and flat water on Prince Edward Bay. The two old Chris-Crafts charged along together for about an hour, the Capitan staying in front of the Cherokee until the bigger boat pulled ahead very slowly once they were in open water and in slightly stronger winds. At last Wave Anvil tacked for home while we continued on our cruise, feeling very satisfied

indeed about *Sophie*'s fate. Today, lucky Capitan hull #7 sails one of the most beautiful areas of Lake Ontario.

As before, this effort was not a perfectionist better-than-new showroom restoration. Bruce, a skilled artisan ironworker, describes his work on the boat as an "everyman approach." Chris, who writes computer code for a living, knows how difficult and time-consuming achieving the last one percent of perfection can be. Make the repair solid, strong, and well-engineered ... and then go sailing. Shortly after Bruce bought the boat and got her safely back to Canada, he wrote, "Thanks a million for getting me into a good old boat that's within my budget. I think I'll have a great time using her here around Prince Edward County."

Well, we got 'er done. It took three people in two countries 16 years, and we couldn't have done it without *Good Old Boat* magazine's classified ads! *A*

Susan Peterson Gateley writes and sails on Lake Ontario. Her books, including Living on the Edge With Sara B: a Sailing Memoir and Maritime Tales of Lake Ontario, are available for sale at www.chimneybluff.com. Bruce and Diane Milan run a B&B. Bruce works as an artist blacksmith. See his work at www.pec.on.ca/islandforge.



After Bruce bought Sophie and renamed her Wave Anvil, her first home was Picton Harbour, Ontario, at left, seen here in 2009 when Susan and Chris paid a visit in Sara B (whose gaff-rigged spars are just visible at the bottom of the photo). Wave Anvil with a bone in her teeth at the 2012 reunion, at right.



After the storm, it's decision time

or some sailors, after a storm or hurricane comes relief. The mooring held. The neighboring steel boat didn't break loose during the night and wreak havoc. The docklines held up. Others are not

so fortunate. The storm surge has lifted boats up like twigs and deposited them in front yards half a mile away. Or the docks rose above the pilings and hundreds of boats were set free to crash on shore. Or, what seems like the ultimate insult, the boats just sank.

Sailors preparing for Hurricane Sandy last fall took some solace when it was downgraded to "merely" a tropical storm. But the respite was short-lived. Thanks to a funnel-shaped and steep shoreline, a full moon, a higher-than-normal tide, and a slower-than-predicted forward movement, Sandy stunned stormwatchers and left a horrifying trail of death and destruction. Huge Staten Island ferries snapped their hawsers and had to be held in place

by their masters, probably eternally grateful for engines at bow and stern. Low-lying communities were inundated by a surge of salt water combined with high winds and an extraordinary amount of rain. One hundred sixty people died,

BY GARY MILLER

thousands were injured, and untold households had to make do without electricity well into the frigid winter.

For sailors, the huge (940-mile-diameter) storm caused an unprecedented amount of damage. Marinas disap-

> peared. Boats either sank or were hurled onto the surrounding shores. Yacht clubs were under water. The HMS *Bounty* replica sank with the loss of two, including the captain.

BoatU.S. spokesman Scott Croft said, "In terms of boat damage, this will surpass all other storms. We've never seen anything like it." BoatU.S. estimated that more than 65,000 recreational boats were damaged or lost as a result of Hurricane Sandy. The company estimated that dollar damage to all recreational boats was more than \$650 million, making the late October storm the single-largest industry loss since the association began keeping track in 1966. To put that



When he first saw her after Hurricane Sandy had passed, Alan Vieiro's Watkins 27, *Jolly Blue*, at top, was wedged between others at the boatyard. He said, "She appears to be OK with her mast and rigging still in one piece, her rudder whole and not bent, and no significant hull damage. She is a sturdy, well-built boat and I am hopeful that, once back up on stands, she will be OK." Vadym Telpis found only the keel and parts of the deck of his boat among the piles of boats and pieces at The Raritan Yacht Club, above. Paul Athens sent this photo of a Cal 9.9 that broke away from its mooring in Hurricane Sandy and wound up quite literally in the graveyard, top right. By the next day all that was left was the mast and keel. Paul's own boat, *White Pants*, a 1982 Catalina 30, was declared a total loss, center right. The cost to straighten the keel, replace the bowsprit, and re-rig her exceeded 75 percent of her insured value and the yard bought her for salvage and resale (and, we hope, re-sail). One year later, she has been restored and is waiting for her next owner. Stewart Wickstein sent photos of damage at the Raritan Yacht Club in Perth Amboy, New Jersey. Founded in 1865, it is one of the oldest yacht clubs in the USA, bottom right.

number in perspective, it's about the same as hurricanes Wilma and Katrina combined.

Picking up the pieces

When the skies cleared, many boat owners faced the question, "Now what do I do?" For some, immediate action was paramount. Their boats were blocking roads or railway lines or were leaning against high-voltage wires. Workers and machines toiled 24/7 to deal with the most pressing cases.

For many, their boats were the last thing on their minds. Houses were gone. There was no heat or electricity. Food was scarce. Relief organizations, schools, churches, and other groups banded together in unprecedented numbers to provide help. Tales of heroism were told nightly on the television news.

On top of the other problems brought on by the storm, boat owners had decisions to make and work to do. All over the New York tri-state area (that includes New Jersey and Connecticut), marinas had disappeared, yacht clubs were destroyed, and shore facilities had been disabled. The only silver lining was the date: October 29. By late October, a good percentage of boats were already hauled for the season and on jack stands. This worked against some, as it made it easier for the surge to lift and deposit boats farther inland. One NPR listener called in and pleaded, "Help! What do I do? There's a 35-foot sailboat in my front yard!"

At what was left of Nichols Great Kills Park Marina on Staten Island, New York, manager Eddie Tominack surveyed the unbelievable damage. Three hundred fifty slips were literally gone. Worse, the National Park Service announced that, after 37 years, it would not renew the franchise to maintain the marina, which is located in Great Kills National Recreation area and is the largest on Staten Island. A two-year study had already been under way to determine how to best develop the 350-acre park when Sandy hit.

"Boat owners who did elect to receive a replacement check," Eddie told me, "can't buy another boat because they have nowhere to dock it. Then you have the people whose boats were worth between \$5,000 and \$10,000. Most of those don't have insurance at all. They're really out of luck. And this is the kind of marina where most people do their own work."

Several months later, Eddie and boat owners received better news. A grassroots effort assisted by Senator Charles Schumer (D-NY) and Representative Michael Grimm (R-Staten Island/ Brooklyn) resulted in a last-minute victory and an announcement from the National Park Service that it had agreed to renew the lease for three years.

Stories like Eddie's were repeated endlessly in the 15 states hit by Sandy. Sailors soon reached the next level of response as they faced whether their boats were salvageable or a total loss.

Salvage or abandon?

Yacht salvage is something most sailors never think about. It conjures up boats being raised from the briny deep, dripping with seaweed and headed for the junk pile. But fiberglass boats don't disappear easily. They don't decompose in a landfill. You can't chop









Stewart Wickstein's insurance company sent him a check for the insured value less 5 percent of his Comfortina 32, *Thalassa*, above and detail, and a friend is repairing her. This year he is enjoying life aboard once more on a 1990 Beneteau 32s5.

them up and burn them. Maybe, just maybe, they can be salvaged.

I was introduced to the word "salvage" not too long ago. A stately 32-foot Cheoy Lee double-headsail ketch we owned was dismasted halfway between Block Island and Greenport. New York. The damage was extensive and repairs were expensive, especially on paper in the surveyor's report. New mast, rigging, sails, lifelines, and so on added up to more than the boat was worth. BoatU.S., our insurer, wanted to write a check for the replacement value. To make a long story short, we took it. However, a local sailor purchased the boat from the salvage company and, with a little cash and a lot of ingenuity and hard work, had himself a beautiful boat that, as they say, "turned heads."

The majority of Sandy's victims were not so easy to categorize. For example, if there was a 6-foot gash in the hull,

Finding a suitable salvage

There's a big difference between salvaging your own boat and salvaging someone else's. By someone else, I don't mean your sailing buddy on the next mooring who was going to upgrade to a Xanadu 46, so his Xanadu 26 that was trashed by a storm is a well-known commodity.

I'm talking about slapping down your hard-earned cash for an unknown boat that has been salvaged by an insurance or salvage company or by a marina that has invested time and money in bringing it back to life. The results? As they say, your mileage can vary.

Many have walked away from project boats, disappointed and with no recourse. On the flip side of the coin was a sailor who proudly admitted, "My \$200 initial investment plus the \$2,200 l have in her yielded me a boat valued at approximately \$11,000."

How to decide? How to proceed? Start out by buying from a reputable salvage company. Every sailing center in the U.S. has salvage companies that have been around for 10 or 20 years. As Bob Adriance of BoatU.S. says, "This isn't the time to hire someone cruising the beach in a tow truck. Ask them how long they have been doing business. Ask for references — and call those references." Many of those boats that have been sitting in the corner of the boatyard for years are there because the yard owner can't establish legal ownership title. Obtaining legal ownership is a big hurdle in buying a salvaged yacht. As veteran sailors know, more than one boat has been impounded by the U.S. Coast Guard and returned to its rightful owner because ownership hadn't been properly and legally transferred. The salvage company is usually the one responsible for this, but you should ask up front to make sure there is no confusion. If a yacht is documented, that usually helps establish legal ownership.

YachtSalvage.com's Bob Costa cautions a would-be buyer to look at the boat very carefully before bidding. That means hiring a qualified and certified surveyor who has been in business for at least a few years and can provide solid references. You need a detailed, professionally prepared, written report from someone whose reputation is on the line.

Search the web and you will find countless stories of people who got burned from buying yachts sight unseen. You laugh, but it happens every day. Some people get lucky. They buy through eBay and pay with PayPal or another solid payment system that tracks every move and eventually their claim gets straightened out. But do you really want to spend time, money, and frustration with banks, lawyers, the owner, et al., just because you didn't want to carefully look at the boat (or more properly, have a professional look at it) before buying it?

Buying from a marina that you know probably combines the best of all worlds. The marina owner, in most cases, is not going to risk ruining his reputation by selling you a pig in a poke. He'll probably be honest about the condition and history of the boat.

Admittedly, the price has a lot to do with how much money you should invest in a survey. The "dock committee" of neighbors in your marina can probably help you examine a Rhodes 19 washed up on the beach with broken rigging and you will not fall into a financial hole. As the price of the boat goes up, however, so does the logic for getting a thorough survey.

With survey in hand, market conditions in the back of your head, and a realistic set of expectations on the horizon, you might be able to buy a storm-damaged boat from the salvage company and find the silver lining in that devastating storm.

Fair winds.

Cliff Moore photographed the scenes of destruction at Morgan Marina, at right, in Sayreville, on the New Jersey shore of Raritan Bay, which is off New York's Lower Bay. As for his own boat, *Pelorus*, a Paceship PY26, below right, he reported, "My boat was right where I left her, but a flatbed truck parked 5 or 6 feet away had been shoved into her side and abraded five holes in the side, some the size of my hand. Something hit the stern pulpit and damaged the ladder mounting bracket. There was water inside but not up to the cushions. I was very, very lucky."

would you attempt to buy the boat back and make the repairs? Yourself? Or if the boat sat at the bottom of New York Harbor for six weeks, would you — and, more important, *could* you — tear down the engine as part of your salvage effort?

As viewers of Good Old Boat's Fixer-Upper Sailboats web page know, there's an abundance of cheap or free boats to be had. Most can scratch the itch to rebuild an old beauty by acquiring one from the yacht graveyard. So why even think of salvaging your own?

The most common reason is you know the boat. The fact that it is yours, of course, means your emotions cloud the waters a little. But let's say, for the sake of argument, that your old Pearson has sunk in a storm. You know the old 1-cylinder Yanmar was on its last legs, the wiring was a hodgepodge that more often than not had you hanging upside down in the bilge like a tree lemur, and the sails had what we might kindly call "a cruising shape" to them. You call your insurance agent, who asks if you would like to salvage your boat. The company will even write you a check to cover the cost of repairs after you buy the boat back from the salvage company. What to do?

If you have the time, money, and ingenuity you might salvage your boat. The key part is ingenuity. Maybe you don't know how to strip down a diesel and rebuild it, but you know someone in your yard who is upgrading and has a perfectly usable 1GM for sale. Cheap. In fact, if you help him remove it from his boat and help him install his beautiful new 3GM, he'll give it to you. The boat's wiring? That had to be upgraded anyway, so write it down in the budget. Most sailors would not try to repair a 6-foot gash in the hull. But they can find someone who can. And if the hull needed repainting anyway, the numbers might add up.

The same goes for sails and rigging. Does the bottom line justify the time and effort required to put your baby back on her mooring? For some, the answer is a resounding yes!

Getting competent salvage and repair help for a damaged boat after a hurricane is difficult. Some insurance programs will arrange for and pay to have their clients' boats salvaged; others will at least provide some assistance. But boat owners without insurance don't have anyone to lean on. For those going it alone, BoatU.S. offers a wealth of detailed information, including organizations, resources, and just plain good advice. Search for "salvage" on the BoatU.S. website.

No one makes a killing salvaging boats. Mike Costa of YachtSalvage.com says that, not surprisingly, the salvage boat inventory was high following Hurricane Sandy. But there were also plenty of buyers, especially from Europe. "They buy them sight unseen," he says.

If you have a surveyor carefully look the boat over and go in with your own eyes wide open, you can get a good deal. And you could have fun bringing that good old boat back to life. \varDelta

Gary Miller is a photographer, writer, and good old boater whose last ride was a beautifully restored Pearson 35 sloop, Viridian. Instead of sailing, he spent the past spring and summer hoofing it . . . northbound on the Appalachian Trail.



Resources

Southwinds magazine

This Gulf Coast regional sailing magazine has many links and a lot of information available regarding hurricane preparedness and lessons learned. www.southwindsmagazine.com/hurricaneinformation-for-boaters.php

BoatU.S. Hurricane Resource Center

BoatU.S. offers many free online resources and preparation worksheets. www.boatus.com/hurricanes BoatU.S. also has advice on inspecting a used boat to determine if it might have been salvaged. www.boatus.com/pressroom/release.asp?id=936

Where to find damaged boats:

Cooper Capital Specialty Salvage www.cooperss.com Certified Sales and Yacht Salvage (two divisions of the same company) www.certifiedsales.com www.yachtsalvage.com USAuctions.com Www.usauctions.com Good Old Boat's Fixer-Upper Sailboats page www.goodoldboat.com/resources_for_sailors/ fixer-upper_sailboats.php See also: "Preparing for the Big Blow" by Don Launer, *Good Old Boat*, May 2002

RATIO RATIONALE

What's the D/L with the SA/D?

Good Old Boat receives frequent letters from readers asking for an explanation of the formulas used to compare sailboats. We generally refer people to articles written by Ted Brewer and published in the earliest editions of Good Old Boat. The formulas have not changed, but we thought it was time to refresh all our memories. We asked Rob Mazza to explain just four: Displacement/Length Ratio, Sail Area/ Displacement Ratio, Comfort Ratio, and Capsize Screening Formula. -Eds.

Displacement in pounds (.01 × LWL)³ × 2240

number of ratios have been used for many years to predict the comparative performance of different boats: faster or slower, comfortable or less comfortable, betteror less-suited to offshore sailing. Due to the laws of scaling, the ratios must be "dimensionless" if boats of varying sizes are to be compared with any accuracy. All things considered, a longer boat will generally be faster than a shorter boat, and longer boats have substantially larger displacements than smaller boats because the volume a boat displaces does not increase in equal proportion to its length but with length cubed. The formulas that produce the ratios use a boat's dimensions along with some factors to "jiggle" them a bit so the resulting numbers are manageable.

Displacement/Length Ratio

Archimedes proved that the weight of the water displaced by a floating body is equal to the weight of that body. Thus the term "displacement" refers to the weight of a ship or boat. This ratio shows whether a boat is light for its waterline length (low value) or heavy for its waterline length (high value).

Displacement is also a volume measurement, that is, a cubic measurement. The length in the denominator of the formula is the length, in feet, of the Load Water Line (LWL), sometimes called Length on Waterline. To arrive at the desired dimensionless ratio, the denominator and the numerator in this fraction must have the same dimensions. If you merely divided the

displacement (an L-cubed measurement) by the LWL (L), you would get an L-squared measurement, or area. This is not dimensionless.

Achieving a dimensionless result requires

either dividing the cube root of the displacement by the LWL or dividing the displacement by the LWL cubed. Early scientific designers opted for the latter solution. However, to achieve a manageable number, rather than the full LWL, only .01 x LWL was used in the cubed function. As this ratio has been around for quite a while, the unit used for displacement is actually the British long ton, which is 2,240 pounds, not 2,000 pounds. Therefore, the displacement of the vessel in this formula is its weight in pounds divided by 2,240 to achieve its displacement in long tons. Consequently, the formula for the Displacement/Length Ratio is:

Displacement in pounds (.01 x LWL)³ x 2240

Boats that appear in *Good Old Boat* are typically fiberglass production racer/cruisers from the 1960s to the 1990s and into the 2000s. For these boats, the range of D/L Ratios goes from about 200 on the "light" side to about 350 on the "heavy" side, but extreme designs can be as "light" as 60 to, occasionally, as "heavy" as more than 400.

Of course, once the LWL became important as a measurement in rating

BY ROB MAZZA

formulas, clever designers started to fudge the rating by shortening the measured LWL and adding longer overhangs and fuller ends to achieve a heeled waterline that was considerably longer than the static, upright LWL. Therefore, the D/L Ratio may not be a completely realistic ratio when dealing with boats with long overhangs and full ends (scows, for instance) that achieve longer sailing waterline lengths when heeled.

Sail Area/Displacement Ratio

Sails deliver the power for a sailboat and the SA/D Ratio is an attempt to achieve a dimensionless power-toweight ratio. Sail area is calculated using the I, P, J, and E spar measurements rather than the area of the actual sails used.

This means the genoa overlap and the roach of the mainsail are ignored, as are the areas of spinnakers and staysails. In double-headsail cutter rigs, the entire foretriangle, defined by the I and J measurements, is used in the calculations, rather than the totalled individual areas of jib and staysail. Cutter rigs with long bowsprits, such as the Westsail 32, may therefore end up with a higher SA/D ratio in theory than in practice. As with the D/L Ratio, the Sail Area/Displacement Ratio needs to be dimensionless. Simply dividing Sail Area (L squared) by Displacement (L cubed) would give us a strange dimension of 1/L, so some adjustments are necessary.

Rather than taking the square root of sail area and the cube root of displacement, the scientific designers of the past decided to take the ½ root of displacement in the formula. To confuse things even more, displacement in this ratio is not measured in long tons, as in the D/L formula, but in cubic feet.

Since displacement is always published in pounds, to find displacement in cubic feet, the published displacement in pounds must be divided by the density of salt water (64 pounds/cubic foot). For consistency in the numbers, the density of seawater, rather than fresh water (62.4 pounds/ cubic foot), is always used. This higher density of seawater, of course, explains why boats float higher in salt water than in fresh.

Consequently, the final formula for the SA/D Ratio is:

Sail area in square feet (Displacement in pounds ÷ 64).667

Heavy under-canvassed boats have SA/D Ratios in the 14 to 15 range. The average racer/cruiser has an SA/D Ratio in the 16 to 18 range, and anything higher that that is considered to be a lightweight flyer.

I have mentioned in past boat-comparison articles that the most problematic number in yacht design and the yachting industry is the published displacement. Both of these ratios

Comfort Ratio

Ted Brewer developed an ingenious ratio as a way to measure "motion comfort." Ted describes the origin of this ratio in a past article in Good Old Boat (see "Resources," page 28) and on his website, www.tedbrewer.com. Ted based his formula on the premise that a boat that exhibits quick upward motion in a seaway will be more uncomfortable (or vomit inducing) than a boat in the same conditions that exhibits slower upward motion. Ted surmised that the speed of upward motion is inversely related to the yacht's displacement (a heavier boat will react more slowly than a lighter boat in the same sea state due to its greater inertia). Although its amount of travel might be greater, the speed or frequency of travel will be less.

Ted surmised further that the speed of upward motion is directly related to



can be skewed a lot if the published displacement is wrong, as it often is for some of these older boats. It's inevitably lighter than reality, not only because boats always get heavier as they get older and accumulate much more "stuff," but also because the published displacement is often the designed (wished for) displacement, rather than the actual (oh, nuts!) displacement observed when the prototype sat low on its lines after it was launched.

It is often the more optimistic (and more marketable) designed displacement that appears in the brochures. Also, the designed displacement might be calculated based on half-full water and fuel tanks with no provisions on board or on a completely empty boat (racing trim). The end result is that a fully laden boat in cruising mode can be, and usually is, much heavier than its published displacement. the area of the waterline plane (beamy boats will react faster than narrow boats). He hypothesized that beam not only affects the waterplane area but it contributes an additional factor of increased form stability that also results in a faster motion. For this reason, Ted accentuated the beam factor in the formula by raising it to the 1.333 power. The formula Ted derived is essentially

the displacement in pounds divided by an estimate of the waterplane area, with an additional exponential applied to the maximum beam. The area of the waterplane is calculated by multiplying the length of the waterline by the beam and, since most boats are pointed at each end, assuming that the actual waterline plane is only 65 percent of that number. However, he also recognized that the waterplane of a boat is not static in a seaway and increases with the boat's pitching as the bow and stern overhangs become immersed. For length, therefore, Ted chose a statistical average by using 70 percent of the LWL plus 30 percent of the LOA. The Comfort Ratio formula is:

ne contort nato formula is

Displacement in pounds .65 x (.7LWL + .3LOA) x B^{1.333}

As you can see, this is not a dimensionless formula, since it is essentially L cubed divided by L to the power 2.333, which results in the dimension of length to the power 0.667. If Ted had used B squared in the formula, rather than B raised to the power 1.333, the dimensions would have worked out better, but beam would have played far too significant a role in the formula, not unlike the way it did when a 19th-century measurement rule produced the plank-on-edge cutters. Therefore, Ted is quick to point out that it is useful to compare the Comfort Ratios of boats of similar sizes and types but, in Ted's words, "not to compare that of a Lightning Class sloop with that of a husky 50-foot ketch."

Ted points out, "Ratios will vary from 5 for a light daysailer to the

Displacement in pounds .65 × (.7LWL + .3LOA) × E

Max. beam in feet (Displacement in pounds ÷ 64)^{.333}

high 60s for a super-heavy vessel, such as a Colin Archer ketch. Moderate and successful ocean cruisers, such as the Valiant 40 and Whitby 42, will fall into the low-middle 30s range." However, the Comfort Ratio is entirely a relative expression, as Ted further acknowledges. "Do consider, though, that a sailing yacht heeled by a good breeze will have a much steadier motion than one bobbing up and down in light air on leftover swells from yesterday's blow, also that the typical summertime coastal cruiser will rarely encounter the wind and seas that an oceangoing yacht will meet. Nor will one human stomach keep down what another stomach will handle with relish, or with mustard and pickles for that matter! It is all relative."

Capsize Screening Formula

After the disaster of the 1979 Fastnet Race, stability, capsizing, and inverted stability became the subject of great focus. The Capsize Screening Formula derives from an attempt by the Cruising Club of America to quantify a boat's "bluewater" capability. This formula compares the vessel's maximum beam to its displacement on the assumption that excessive beam is undesirable and, especially when combined with low displacement, can potentially result in the boat staying inverted for a good period of time after turtling.

The resulting rather simple Capsize Screening Formula is the maximum beam of the boat divided by the displacement. In this formula, the cube root of displacement in cubic feet (obtained by dividing the displacement in pounds by 64) is used to achieve a dimensionless number that's reasonable to deal with.

The Capsize Screening Formula is:

Max. beam in feet (Displacement in pounds ÷ 64).333

Any value of CSF of 2 or less is deemed acceptable. The lower the number, the better. However, if you have no intention of taking a boat offshore and are only interested in coastal cruising, numbers slightly above 2 may well be acceptable.

This beam and displacement argument goes back to the "cutter cranks" of the 1880s, who were advocating the greater safety of the narrow-beam heavy-displacement British cutter compared to the widebeam light-displacement American sloop, which often did capsize (see my article, "What is a Cutter?" November 2012). There really is nothing new under the sun!

Rob Mazza is a contributing editor with Good Old Boat. *His bio is on page 17.*

Resources

Brewer by the Numbers By Ted Brewer, published in the July 1999 issue and also available online: www.goodoldboat.com/reader_services/articles/ Brewerformulas.php **On Helm Balance** By Ted Brewer, published in the November 1999 issue and also available online: www.goodoldboat.com/reader_services/articles/ Helm balance.php **Comfort Ratio** By Ted Brewer, published in the September 2003 issue. It is not available online. **Design Language** By Robert Perry, published in the September 2009 issue. It is not available online.

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AN ANTENNA POST ASART

Channeling old masters through metal tubing

BY MATHIAS DUBILIER

hen Jennifer and I bought *Phoenix*, a Hans Christian 33, we had the luxury of being able to install some systems from scratch and thus design them the way we wanted. But when it comes to implementing the designs I envision, although I fancy myself having the patience and skills of Michelangelo, my work inevitably reveals itself to be that of a maladroit.

I have always thought it was a shame to see various antennas affixed — sometimes with hose-clamp contraptions — on a pushpit rail. The cables are bound to the stainless-steel tubing every so many inches like a lady on a railroad track — but with ugly zip ties. The final wince is evoked when I notice cables protruding from holes in the hull like half-ingested spaghetti.

Not wanting to do likewise, I considered our options. I had three antennas: a Garmin GPS, a NavTex mushroom, and a WiFi stick antenna. There had to be a way to build an antenna post that would appear all of an elegant piece.

I perused the web pages of marine suppliers. None offered antenna-post solutions. I was going to have to be my own designer. My criteria were that wires could not be visible; the post had to be of stainless steel for durability, strength, and ease of maintenance; and it had to look like a work of art . . . or, at least, nice.

After wandering the aisles of marine suppliers and hardware stores to see what was available off the shelf, I decided to build a stainless-steel "cactus." A rod rising from the side of the hull would have parallel upright branches to support the antennas.







Assembling the antenna tree itself was a simple Erector set project but attaching it to the curvaceous hull took a little art. Mathias pressed into service a teak wedge that once lived under a flagstaff base. Before bolting the tree to the hull, he fitted a length of split water hose to protect the cables from chafe.

Gathering components

Following a morning of coffee and sketching, I set off for a marine supply store to get the parts. My first stop was the tubing department. I chose 1-inch tubing to accommodate the Ethernet connector for my WiFi. Since I wanted my antenna post to rise above my pushpit, which would make it about 4 feet tall, and I also needed tubing for the branches, I bought a 6-foot length.

Next, I went to the antenna section, where I bought two stainless-steel antenna pedestal mounts of the type with a flat plate welded to the bottom for flush mounting (West Marine model 409888). My plan was to cut the base plates off, leaving me with tubes threaded to accept antennas.

Then it was off to the rail-fixtures aisle. There, I bought tees and 90-degree

Materials and cost

The antenna post Mathias built is unique, but once he added up the costs of the project, he realized why hose clamps and zip ties rule the rails:

2	stainless-steel pedestal mounts	
	(\$32 each):	\$64
1	6-foot stainless-steel tube:	\$5.
1	30-degree round base:	\$2
2	90-degree tees (\$18 each):	\$3
2	90-degree elbows (\$15 each):	\$3
1	top cap:	\$2
To	Total materials:	

elbows for the cactus. When inspecting the pieces, I noticed the chrome units by Zamak weren't hollow all the way through. As this is critical for leading the wires internally, I was glad to see that the stainless-steel versions were indeed hollow.

The tricky purchase was the base. First, there was a design choice. Rail bases come in rectangular or round. But, more important, they are offered in 30-, 45-, and 60-degree angles. Some DaVinci type might be able to calculate the angle needed. I employed the "buy it, try it, return it" method.

Eyeball alignment

Phoenix has a canoe stern with moderate tumblehome approaching the gunwale. Experimenting with different placements of the base and the inserted tube resulted in varying degrees of approximation to vertical. But none was perfect.

Lingering in my collection of spare and retired parts I found a teak flagpole-base wedge I had removed from my previous boat. While my hand cramped up clamping the contraption together, I asked Jennifer to look from different angles to judge whether our cactus would be erect.

"Yeah. I mean, I think so. It looks good. I can't really tell, but it doesn't look *off*."

Only M. C. Escher would have required anything more precise than that.

I had to cut the wedge to fit the stainless-steel base and bore a hole in

the middle for the wires. A little sanding and varnishing made it look as if all its life it had really wanted to be an antenna wedge instead of a flagpole wedge.

In the Bimini section of the marine store, I found a finial. A top-ball top cap was the perfect topper.

Sculpting metal

Cutting the tubing to length was not easy. A friend offered his miter saw and we used a grinding wheel. We got the job done, but it was more butchery than Bernini. Later, our Bimini maker said we should have brought the tube to him and he would have cut it to size in minutes.

Drilling holes in stainless-steel tubing is also not easy. The metal must be drilled slowly because it hardens when heated, and a drill press or drill attachment is needed to prevent the drill bit sliding off to the side.

Finally, I had a machine shop tap a thread for the top-cap's setscrew. I wish I had also asked them to drill my holes. They would have done a neater job.

By the time I finally assembled my antenna post, I discovered that we would be using 3G modem sticks in our laptops to get Internet access instead of relying on WiFi. Consequently, my post ended up with an unused hole. Oh well, another defect in the Degas.

After watching YouTube videos of how to drill into a hull, I made a nice hole in *Phoenix*. Jennifer and I led the wires and, just as we were about to

My solution ... a short dowel, filed concave on each end and lashed in place with cord.

bolt the post to the hull, I noticed that it would be prudent to fit chafe protection at the through-hull. I cut open some water hose, wrapped it around the wires, shoved half the 6-inch hose into the tube, and left 3 inches hanging into the cockpit lazarette.

A loose end tied up

A final touch was needed — some kind of bracing to give the post additional support. Someone, someday, was going to lose their balance and reach for the post. Unsupported, it couldn't endure that kind of force.

"Don't do anything ugly to ruin the design," Jennifer said from behind her crossword puzzle.

"Of course not," I retorted and began to brood.

I had to admit she was right. The best I had come up with was odd clamps and bent brackets. A small sacrifice in a Seurat, I figured. But now that was out. My solution was, in fact, the *pièce de résistance*. I would fashion a short dowel, filed concave on each end and lashed in place with cord.

"Sounds salty," even the woman of crosswords admitted.

Pièce de résistance? Hardly. The result did not quite match the vision I had, inspired by the 20th century knot guru, Hervey Garrett Smith.

All in all, we love our new antenna post and we're proud that we have something so unique. But I also take solace in Salieri's final words in the movie *Amadeus*: "I absolve you of mediocrity."

Mathias Dubilier and his wife, Jennifer, are receiving NavTex and GPS signals while cruising the Mediterranean on Phoenix, their 1986 Hans Christian 33. Follow their voyage and musings at www.dolphinsvoyage.blogspot.com.



The final touch was to brace the antenna tree in case anyone grabbed it, above. A dowel inside the lashing makes the assembly rigid. The finished tree is an organic fit on *Phoenix's* stern, at right.





A suspense novel written for sailors by sailor/author, Tom Wells.

Paul Findlay is living his dream, sailing the Great Lakes aboard his beloved sailboat and writing about his voyages to pay the bills. When Paul receives a cryptic call for help from his old college roommate, Rich Perry, the dream quickly turns into a nightmare. A deadly game of cat-and mouse across the greatest of the Great Lakes begins . . .and the cat has all the modern advantages.

About the Author

Author Tom Wells is an engineer, a longtime sailor, and a Contributing Editor and boat reviewer for *Good Old Boat* magazine.

He has a sequel in the works, featuring Paul Findlay and his sailboat in another nautical setting.

What readers are saying

This book is addicting. It practically reads itself ... [*Superior Run*] could be the offspring of Tom Clancy meeting Sandra Brown on a Great Lakes cruise ... Tom Wells' knowledge and passion of sailing and the Great Lakes makes this a richer read, enough to whet your interest in one of the most beautiful spots on Earth. I will be awaiting the sequel(s). — Dave. NY

An imaginative plot and excellent narrative pull the reader in. — John, RI

Superior Run is a true sailor's novel. — Karen, OR

Available through: Amazon, Kindle Reader, Barnes & Noble, and Tower Books.

Exterior improvements



Single-step boarding ladder

Bridge the gap twixt dock and deck

BY MIKE HOLTZINGER

y wife and I have been the proud owners of *Anastasis*, an Islander 28, for seven years. She was very well equipped when we bought her, truly a "turnkey" boat. Over the years we nevertheless discovered that irresistible boater's urge to make a number of upgrades, including a chart plotter, a newer autopilot, a backstay adjuster, and a new asymmetrical spinnaker.

But one upgrade we made early on has been the least expensive and we use it every day we board our boat. Within months of taking possession of *Anastasis*, I built a single-step boarding ladder. If I were to say it has proven its worth, my wife, who found it difficult to board the boat without it, would certainly agree!

The step is designed to attach to our boat's perforated aluminum toerail and could no doubt be adapted to boats that don't have that feature. It has become a popular item in our marina. Several people have asked me to build them one and others have copied it. It can be built easily in two to three hours, including final installation.



Materials

- 5-foot length of 1-inch schedule 40 PVC pipe
- Four 90-degree 1-inch PVC slip elbows
- Two 1-inch PVC slip tees
- PVC cement, gray (small bottle)
- PVC primer (small bottle)
- Two 3¹/₈-inch stainless-steel carabiners without eyes or
- Two CAMP Nano 23 climbing carabiners
- 25 feet of ¾-inch Sta-Set rope
- Sail needle and Dacron sail thread (I used FSE Robline)

(PHOTO 1)

Pieces of pipe

From the 1-inch PVC pipe, cut three 12-inch pieces and four 2¹/₂-inch pieces. Lightly sand the markings on the 12-inch pipes (for appearance) and all the cut edges so they'll slip easily into the elbows and tees for assembly. (**PHOTO 2**)

Assembly

From this point on, things happen fast as the cement sets quickly. It's a good idea to practice the assembly steps before applying cement to any of the pieces. When dry-fitted, the smaller parts can be pulled apart with the help of channel-lock pliers.

Read through this section a couple of times and practice at least twice before attempting to glue the pieces together. The order I used is important as it makes allowances needed for the pipes with the elbows and tees to line up. When gluing these pieces together, it's very likely that the finished lengths of the 12-inch pipes with the tees and elbows attached will not be exact, since they may not be pushed onto the pipes to the same exact depths.

To get the elbows and tees to align correctly, I recommend that you have a workbench with enough area to lay





5

all the parts flat and properly aligned as you glue them together and a strong backboard to push against. A piece of plywood laid next to a wall will suffice. When you do the actual gluing, a rubber mallet will help you set the connections to the right depth.

How you apply the cement is important, so read the instructions on the container. First wipe the pieces to be joined — inside an elbow, for example, and the outside of the pipe with the primer, then apply the cement liberally to both surfaces. Keep a rag handy to wipe off excess glue.

If you follow this sequence, all should turn out well:

1. Glue the two 1-inch tees to one of the 12-inch pipes, one at a time. When you glue the second tee, make sure you're holding the first tee flat on your work surface. This will ensure that the tees remain properly aligned.

2. Mark the 2½-inch pipes in the middle for reference (1¼ inch) and glue the four pipes into the ends of the tees. Make sure you push them all the way in, and do so as quickly as possible. (You should barely see your reference marks.) Your mallet will help here. (PHOTO 3).

3. One at a time, glue all four elbows onto the ends of each of the other two remaining pipes. Push the elbows onto the pipes as quickly and as far as possible. Make sure they are aligned parallel. (**PHOTO 4**)

4. Select one of the pipes with the elbows glued on. Lay it alongside the pipe with the two tees on your work surface and glue the elbowed pipe to the 2½-inch extensions on the teed pipe. Use the backstop or wall as a brace. You have to do both ends simultaneously, so work quickly.

5. Repeat step 4 on the opposite side. Allow the glue to dry and take a deep breath. The fast and furious part is completed! (**PHOTO 5**)


Rope risers

With the step platform lying flat, drill $\frac{1}{4}$ -inch pilot holes in the center of each elbow. Follow up with $\frac{1}{16}$ -inch holes for the Sta-Set rope to pass through. This job is far easier to do with a drill press. Drill slowly with little pressure so the drill does not chip the plastic. (**PHOTO 6**)

The object now is to install the Sta-Set so the step platform will be suspended approximately 12 inches below the deck of the boat.

1. While holding the step platform in a horizontal position, thread the rope through the right-hand hole closest to you.

2. Tie a stevedore knot or stopper knot, leaving 4 to 6 inches extra, and pull it tight. (A great reference book on knots that I keep on board is *Pocket Guide to Knots* by Lindsey Philpott.) The stopper knot gives a much better finished look, but the stevedore knot is smaller and locks very well. Now pull the rope tight against the step to further tighten your knot.

3. Mark the rope with a Sharpie pen where it comes through the top of the step, then measure 26 inches as a starting point and mark the rope again. Now thread the end through the inside right hole and stop where the mark on the rope reaches the top of the step.

4. Pinch the rope against the hole where it comes through the step so it won't move and wrap the rope around what will be the 12-inch rail on the boat side. Beginning at the hole it emerged from, wrap the rope all the way to the hole in the next elbow. This wrapping will be the chafe guard to prevent the step from scratching the gelcoat.

5. Feed the rope through the hole in the elbow from the bottom and pull it tight. As you tighten, rotate the wraps on the pipe so they tighten too.

6. With your Sharpie, mark the rope once again as a reference where it comes through the elbow on the top side. Then measure to the same measurement used in step 3 and mark the rope once more. Feed the rope



through the final hole and stop when the mark meets the top of the step. Now mark the rope at the bottom of the step as a reference for your stevedore or stopper knot.

7. Feed the rope through that hole from the top of the elbow and pull it through until both marks emerge from the bottom of the elbow.

8. Tie another knot, lining it up with the second mark you made on the rope, but don't tighten it yet. This way, you can adjust it until the top mark on the rope is again on the top side of the elbow. I started by making the bottom mark sit just inside the knot and barely visible. This takes some fine-tuning until

Carabiner choices

I show two different carabiners in my materials list. When I built my first step, I used the 3½-inch-long stainless-steel carabiner without eye. They've been in use on my boat for five years and look as good as they did when I installed them. They have a maximum working load (MWL) of 450 pounds apiece. The CAMP Nano 23 carabiner is the smallest climbing carabiner and has a "certification" to 20 kilonewtons — equivalent to an incredible 4,498 pounds! These carabiners are about ½ inch longer, are lighter, are much easier to install, and can be repositioned around on the toerail if the toerail has large holes and is not set back too far. you can completely tighten the knot with the mark exactly on top of the elbow. (**PHOTO 7**) You may be tempted to cut the extra rope off below the knot. Don't do it yet; this should be done after final installation.

Final installation

At the boat, determine where you want to position the step and clip the carabiners onto the two rope risers on the step platform. Position the step and attach the carabiners about 8 inches each side of the center of the step (so they are about 16 inches apart). Adjust the step until it is level. Eyeball it or check it with a 9-inch level when nothing is moving. Use your weight on the step to finish tightening the knots and the wraps, checking that the step platform is still level in all directions. Take one final visual check to make sure everything looks right.

When satisfied, finish the job with a sail needle and Dacron sail thread. Pinch the lines together at the bottom of the carabiner and sew a couple of stitches through the rope. Wrap the thread tightly 10 to 15 times around both parts to make a seizing, then stitch again through the bottom of the wraps a couple of times and tie off the thread. Do the same to the other side. When done, and you're satisfied with the final installation, make sure the stevedore or stopper knots are tight. Once all is secure, you can cut the extra line on the bottom of the step, leaving about 11/2 inches, and finish off the two ends.

Alternate installation

If the toerail has smaller holes or is fitted inboard of the edge of the deck, the carabiners may settle at too much of an angle and not work effectively. In that case, I recommend that you make the rope-loop risers 1 or 2 inches longer. Take a %-inch-diameter aluminum rod and bend 1-inch 90-degree angles on each end of the rod about 24 to 28 inches apart, depending on the hole spacing in the toerail. Pass the loops through



Project completed — you now have a great boarding step that can be fitted port or starboard as needed (top inset photo page 32). On a boat that has double lifelines, the lower lifeline gate can be led through the step as a way of stowing it while under way (bottom inset photo, page 32). If this is not

possible, the step can be pulled up and laid on the deck while still attached or you can remove it while you are sailing. All aboard! \varDelta

Mike Holtzinger is a senior pastor who started sailing in his teens by rebuilding an El Toro. He moved to a Lido 14 and raced it during his college years. Sailing was then put on hold until he and his wife became empty nesters. They sailed first a 1980 MacGregor 25 and then a 1976 Islander 28. They have completed six cruises during the last several years, exploring Puget Sound and the Salish Sea as far north as Princess Louisa in British Columbia.

Sheets and Halyards

the holes in the toerail. Then slide the

the backside of the toerail and insert

the 1-inch ends of the rod through the

holes in the toerail. This will prevent the rod from moving. Adjust the step

so it's level and slowly push it down

It's not necessary to sew the loops

because they will not move. I recom-

mend sewing them anyway once the

setup on the other side of the boat.

alternate installation.

step is properly set to make it a quick

Even if you can use carabiners,

you might find it preferable to use this

to tighten the loops around the rod

(PHOTO 8).

prepared rod through the loops on

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never been easier.

HULL ENCY

Rolling Awlgrip

for a

mirror shine

BY ANNE MCMILLEN-JACKSON

PART ONE





In this first of two parts, Anne and Chris make the decision to apply Awlgrip to the topsides of their Bruce Roberts 45, Mr. Mac. While they began by rolling and tipping the paint, they later learned that the finish was improved when they eliminated the tipping step. In this first article, they also include the biggest part of the battle: preparing the hull. In part two, they'll go into the details of mixing and applying the paint. A dmit it. You've often admired the bright, glossy hull of a passing boat and thought that, someday, the topsides of your own beloved vessel will reflect the sun like that, inciting hull envy in all who see her. But reality rears its dull and mottled head and you heave a sigh. Surely it takes years of experience, weeks of work, and a boatload of money to achieve a mirror shine. Surprisingly, it doesn't.

The topsides of our 1986 Bruce Roberts 45-foot sloop, *Mr. Mac*, were in need of a facelift. My husband, Chris, and I had owned our boat since January 2000 and the topsides were in reasonably good condition then. But after nine more years in the Florida sun and two years actively cruising from New England to Trinidad, the hull was faded, dull, and stained. During our previous haulout, Chris had A year after the Awlgrip treatment, Mr. Mac's topsides reflect the water in the anchorage at Chacachacare, Trinidad, above. From prep and priming, top left, to the finished topcoat

compounded and waxed it, but even that did not restore the luster. As much as we dreaded it, it was past time to paint the topsides.

We had heard good things about Awlgrip, a two-part polyester urethane coating. We were hauled in Trinidad to paint the bottom anyway, so we gritted our teeth and got a rough estimate from the boatyard for spraying the topsides with Awlgrip: \$10,000 to \$12,000 and four to six weeks. There was no way the cruising kitty would survive that kind of gutting. There were good contractors who might do the job for less, but Chris knew he would need to oversee every step of the work, saving us no time at all. We decided to do the job ourselves using roller and brush. It might not look as good as a professional spray job, but it would cost about a quarter of the price. We'd been painting the bottom ourselves for years, and Chris had repainted the deck, most of which was non-skid, prior to our departure from Florida. But now we were talking about 45 feet of hull above the waterline, in full view, requiring a glossy, flawless finish. There would be no room for mistakes. As if fated, we met another cruising couple who had painted their own 52-foot sailboat's topsides with

reflecting the next-door boat, lower left, the job took Anne and Chris two weeks.

Awlgrip, using a rolling-without-tipping technique, with excellent results. They passed on a CD of how-to documents with tips and hints from other cruisers on painting topsides with Awlgrip. We followed the recommendations, learning and modifying our technique as we went.

The bottom line? It came out beautifully. After just the first coat, fellow cruisers and boatyard workers stopped by to admire our work. Many times, we were asked, "Did you spray that?" This boosted our confidence and made us believe the job was going to turn out well.

Planning

In addition to the documents provided by our friends, we read the official literature. Awlgrip produces an application guide with detailed instructions for applying any of the Awlgrip products to any type of surface, specifying which application technique — spray or roll-and-tip — is appropriate for each product. We used Awlgrip Topcoat, which can be rolled or brushed.



Chris and Anne laid out all their supplies in an orderly manner to ensure they would have no untimely delays while painting. Chris always wore a respirator rated for organic vapors while working with the primer and topcoat.

Awlcraft 2000, for example, is intended for spray application only.

I downloaded the guide as a PDF from the Awlgrip website. This document is long (77 pages) and somewhat intimidating. It stresses that it is *not* a how-to guide for do-it-yourselfers. Regardless of the intended audience, it has a great deal of useful information. To simplify things, I copied and consolidated only the text we needed.

This guide recommends the use of specific name-brand products

for wash-down solvents, deluxe tack rags, roller covers, paintbrushes, and so forth. We used good-quality supplies (they are listed in the sidebar), but not necessarily those made or recommended by Awlgrip. We followed the recommendations for the primer, topcoat, converters, and reducer. The application guide contains the product data sheets (including pertinent information such as product number, description, sizes available, and application information) for all the Awlgrip products.

Preparing the hull

Our first task was to figure out what was on our topsides, gelcoat or paint. If it was paint, we would have to worry about whether the Awlgrip would adhere to it. After some scraping and sanding, Chris determined that paint had been applied over the original gelcoat. The paint was in poor condition, discolored in some spots and nearly worn through in others. The Awlgrip application guide has complete instructions for determining

Prep and priming supplies

Painting a hull requires careful planning, especially when it comes to having the right tools and supplies on hand. Begin by making a list of everything you'll need. Some of the items we used were not readily available from a chandlery or hardware store. For example, we found that plastic peanut butter jars are ideal for storing mixed paint because they are sturdy and resistant to chemicals and have tightly fitting lids.

Your topsides are highly visible, so don't skimp. Always use clean stirring sticks, mixing pots, and roller covers. Don't underestimate the number of sanding pads or clean towels you'll need. When in doubt, use new supplies rather than risking a problem by re-using old ones.

- Sanding pads 80-, 120-, 240-grit
- Sandpaper 80-, 120-, 240-grit
- Masking tape
- **Towels** for wiping off dust
- Black T-shirt to test cleanliness of hull
- Primer and converter
- Roller pan (clean)
- Roller handle
- Roller cover (and spares) specified for use with urethanes and epoxies (West System 800)
- Rubber gloves, box of to suit your personal preference (latex or non-latex, powdered or non-powdered)
- Paper towels roll

- Stirring sticks
- Mixing pot plastic, preferably marked with volume graduations
- Screwdriver for opening cans
- Paintbrush small, high-quality for tight areas
- Jar glass or plastic for cleaning small brush
- Acetone for wiping hull and cleaning small brush
- Respirator with new cartridges

Our respirator was a 3M Half Facepiece 6000 Series with 3M 6001 Organic Vapor Cartridges. We changed the cartridges after each day's painting. For masking tape we used 3M Scotch-Blue Painter's Tape for Multi-Surfaces #2090 with a 14-day removal period.

Gefore we began sanding, we washed the hull with detergent to remove wax and dirt.

compatibility — if we knew what the paint was, which we didn't. We decided to take it down to gelcoat.

Prepping the hull turned out to be about 70 percent of the total project. First we removed the boat name and home port from the stern. These were vinyl appliqués and Chris used a razor blade to lift the edges, while being careful not to deeply scratch or nick the surface. Then he peeled off each piece. (*Note:* a heat gun can be very helpful with vinyl removal. Plastic "razor blades" and similar sharp plastic products also work well. –**Eds.**)

Before we began sanding, we washed the hull with detergent to remove wax and dirt. (A powdered household scouring cleanser is recommended in the application guide.) It is important to start with a clean surface. Sanding old wax into the surface can lead to adhesion problems.

To remove the old paint and uncover the gelcoat, we sanded with 80-grit sanding pads on a 5-inch random orbital sander, then hosed the dust off the hull and let it dry. To smooth the surface, we next sanded using 120-grit sanding pads on the random orbital sander, replacing pads often (about one pad for every 6 feet of hull) and sanding with broad strokes to achieve an even surface. In places too small for the sander, such as behind the bobstay and between through-hull vents and the rubrail, we sanded by hand using 80-grit, then 120-grit, sandpaper. When sanding, Chris wore an N95 dust mask/respirator to avoid inhaling particulates. Once the sanding was done, we again hosed the dust off the hull and let it dry.

We applied 1½-inch blue painter's tape to the teak rubrail and the boot

stripe and followed up with one more thorough cleaning to ensure we had removed all the dust and oils. Chris developed a routine for this procedure: dust a section of the hull with a clean towel, wipe down the section with acetone using a second clean towel and, finally, wipe the section with a clean, soft, black T-shirt. Residual dust stood out on the black fabric, ensuring that we didn't miss a spot. We snapped the first towel and T-shirt often to free them of dust (downwind and at a distance from the boat) and changed to new towels every few sections.

We didn't have hull damage or any areas that required fairing. If we had, this would have been the time — prior to priming — to fair them and sand those areas again.

Any contaminant, such as sweat and skin oils, whether natural or applied, will cause

Chris taped carefully to ensure an even boot stripe, at left. The guide coat was easy to apply and dried quickly, below left. Sanding off the guide coat, below right, ensured that spots — like brush marks and sags in the primer that would stand out after topcoating — were flattened.









adhesion problems between coats of paint. For the duration of the sanding and cleaning phases of the procedure, we avoided using hand cream or sunscreen and wore rubber gloves. It was warm in Trinidad, so we used a separate towel for wiping sweat from our faces and arms.

Priming the hull

Good organization is essential when painting primer or topcoat, and it really helped that there were two of us. To ensure that we had all our supplies at hand, before beginning we laid everything out on a clean towel beneath the boat (see the sidebar on page 38). We kept extra supplies handy in case of an accident, like dropping the roller in the dirt, so we wouldn't lose time (and the wet edge) while rummaging around for spares.

First, Chris cleaned the hull with acetone, then he donned the respirator and mixed the primer. This is a two-part epoxy primer; the two parts, which Awlgrip calls base and converter, are mixed 1:1. The how-to document on the CD suggested applying two coats of primer, one right after the other, with no sanding in

between, so we prepared all the primer we needed in one batch.

We mixed one quart of primer with one quart of converter in a 2½-quart mixing pot, added about 10 percent reducer, stirred it well, and let the mixture sit for 15 minutes for induction, per the manufacturer's instructions.



The guide coat . . . reveals brush marks and stippling that need to be sanded smooth.

One quart each of the primer and converter made enough for two coats on our hull. Starting at the bow, Chris rolled on the primer in 4- to 6-foot sections to maintain a wet edge.

We had a single scaffolding stand that we moved after each section was complete, while taking care to protect the roller from making contact with anything. We used this single scaffold instead of two with a board between them to speed up the moving process. I moved along with Chris, refilling the roller pan with primer and checking that he didn't miss any spots.

The guide coat

The morning after applying the primer, Chris prepared an ink mixture to apply over the primer as a guide coat. He broke open a black Hewlett Packard inkjet printer cartridge, took out the ink-filled sponge, then placed the sponge in a quart of denatured alcohol and stirred it well. Any type of ink would probably suffice. Using a foam sponge, he wiped the inky liquid over the primed hull as a guide coat. Being alcohol-based, it dried quickly and it was easy to see against the white primer. That afternoon, he sanded with 240-grit sanding pads on the random orbital sander, changing pads frequently. He hand-sanded the hard-to-reach spots with 240-grit sandpaper.

The guide coat indicates when a smooth surface has been achieved. The ink reveals brush marks and stippling that need to be sanded smooth. The trick is to sand only until the guide coat is gone but to ensure that it is all gone. A light-colored topcoat will not easily cover up a dark mark or defect, so any spots where imperfections show through a primer coat need to be re-primed. We found only a few pinholes in the primer and decided they were small enough to not require re-priming. We filled them with white Marine Tex epoxy and faired them with a razor blade. \varDelta

Anne McMillen-Jackson is a marine biologist turned full-time cruiser. She and her husband, Chris Jackson, cast off the docklines in May 2009 and have cruised from Maine to Trinidad aboard their Bruce Roberts 45, Mr. Mac. They support their seaborne habits by writing articles about boating and fantasy/science fiction novels for which they have won awards.

In part two, in our January 2014 issue, Anne and Chris will explain the fine art of mixing the Awlgrip paint and applying it. They'll also include tips they learned along the way.

Awlgrip system

We used the following Awlgrip products. Full specifications are available on the Awlgrip website: www.awlgrip.com

- Awlgrip Topcoat (G8009 Off-White Revisited)
- Awlcat #3 Brush Converter (H3002)
- Awlgrip Slow Brush Reducer (T0031)
- Awlgrip 545 Epoxy Primer D8001 White Base
- Awlgrip 545 Epoxy Primer Converter D3001
- Awlgrip Slow Brush Reducer T0031

Note: for dark topcoats, use D1001 Gray Base. Do not use Awlcraft 2000 Topcoat for rolling as it is intended for spray application only.







A Sandpiper sheds its dust and spreads its wings

BY KEN KILPATRICK

caught the sailing bug early despite the fact that powerboats outnumbered sailboats by a zillion to one on the lake at my grandparents' home where I spent many a contented summer day. It was the rare occasion I did see a sailboat placidly and noiselessly exploiting the free locomotion of the wind — that made me ache to find out if the pastime was as unfettered and fun as it looked.

Since there were no plans to add a sailboat to my grandparents' collection of watercraft (powerboat, pontoon boat, rowboat, and canoe), and I lacked the resources to acquire one, I made do. With 2 x 2s for mast and boom, baling twine for stays, a bedsheet for a mainsail, and pieces of plywood for rudder and leeboard, I turned their rowboat into a laughingstock vessel they were doubtlessly loath to admit had any connection to either their upscale lakefront home or one of their bloodline. The cool thing was, the clunky rig actually worked.

Buoyed that this initial field test affirmed my rudimentary grasp of sailing science, I resolved to get a real sailboat. The Styrofoam board boat I bought with that goal in mind came closer to the bona fide sailing experience I sought, but its scale left something to be desired. By the time I'd begun dating my future wife, I'd graduated to a beautiful racingclass Lightning. But it was all the two of us could do to raise its telephone pole of a wooden mast and lower it though the deck to its step below. Besides, I pined for a cuddy cabin. A 1979 Sandpiper 565 (with lightweight stepped aluminum mast and four-berth cabin) was just the ticket. My wife and I sailed it on numerous short voyages on Michigan lakes, among which our excursion to Marion Island in the West Arm of Grand Traverse Bay stands out. The wind that day was strong and steady, the skies cloudless, the water a deep cobalt blue, the island wild and deserted, and the freshly baked pasties we'd brought along for lunch a veritable feast. Sitting there, far away from everything, our boat anchored a few yards offshore, I couldn't help but observe, "It doesn't get any better than this."

Unfortunately, the boat that brought us so much pleasure soon began gathering dust in our garage. The demands of work, an interminably long renovation of our 1895 Queen Anne home, and raising children relegated the forlorn sloop to the bottom of the priority heap. Every now and then, I would express my regret — usually in some beautiful lake setting — that we weren't out enjoying her.

Memories reawakened

Years passed. A couple of summers ago we vacationed on tiny Garden Island in Lake Champlain. The accommodations included a Sunfish. One day on a whim, with conditions reminiscent of the glorious sail I'd long ago enjoyed on Traverse Bay, I tacked across to the New York side then sailed with the wind — feet dangling over the gunwales in the temperate,

and a boat

Ken's son lain takes the Sandpiper's helm, at left, while his father enjoys the sensation of being under sail once again. The whole family worked to restore the Sandpiper to sailing condition. Ken's son Conor power-washed it, top right, his daughter Shannon and lain scrubbed the deck and cockpit, middle right, and lain and his cousin Kyle (on deck) prepped the outboard and tested it in a trash can full of water, bottom right.

relaxing waters — all the way back. It had been so long since I'd experienced such complete and utter freedom. I raved ecstatically about the foray for months.

After we returned home, my eldest son, who in half an hour absorbed enough to confidently take the Sunfish out on his own, could think of nothing but buying a sailboat. We already owned one I pointed out, though getting it back into the water after it had been ignored for so long would entail addressing a growing list of deficiencies.

My wife came to the realization that if we were ever going to enjoy our old sailboat again, it would be because we finally quit deferring that goal to some vague future date. She had seen my love of sailing rekindled on Lake Champlain and watched our son gravitate to the sport like a sailor born, yet it had taken driving out of state and using someone else's boat to make that happen. So she enlisted our children's help and quietly (so as to surprise me) began the long process of getting the Sandpiper ready to go back out on the water.

But the list of problems soon overwhelmed them: miceeaten headsail and berth cushions, broken through-hull fittings, missing spreader, disintegrated below-berth access panels, corroded mainsheet block, smashed transom light, weathered teak trim, inoperable outboard, dry-rotted trailer tires, and so on. So I joined in. For two weeks we labored on the boat's restoration . . . sewing, fabricating, reaming (crystallized gas in the orifices of the outboard's fuel valve), sanding, oiling, varnishing, scrubbing, and power washing. The most remarkable thing was not seeing it glisten after all our efforts but seeing it out of our garage at all, where it had been a fixture for as long as our kids could remember.

Indeed, out on Michigan's beautiful Higgins Lake a short time later, our daughter quipped, "Dad, can you believe we're actually *sailing* in our boat?"

Sailing again

Our celebratory return to the water was attended by barely enough air to fill our sails, prompting skepticism when my wife and I averred that we'd heeled to the gunwales and thrilled to breathtaking speeds in the past.

Two days later, we took the boat out again, this time on Hamlin Lake, separated from windy Lake Michigan by a sliver of dunes. A 15-knot breeze blew in off the larger lake, making it difficult to hoist the main and unnecessary to even







Cruising memories Reviving a passion and a boat





I was elated to feel the pressure of the mainsheet and tiller in my hands.

contemplate the jib. As the boat began heeling nicely (eliciting a few cries of alarm) and making impressive headway across the chop, I grinned.

I was content to be doing what my younger self in that long ago sail-outfitted rowboat had yearned to do. I was elated to feel the pressure of the mainsheet and tiller in my hands. And I was happy that our kids were finally getting the sailing experience on our boat they'd always missed.

Back when our Sandpiper was still a new acquisition, an acquaintance related that a boat owner's two happiest moments are when he buys a boat and when he sells it. I agreed wholeheartedly with his first point, but considered him way off on the second. But his words would come to haunt me. The prospect of freeing up a bay in our garage that was for two decades allocated to an unused boat seemed preferable to the long process of readying the boat to sail.

Now, however, with the cleanup and restoration work behind us and only enjoyable sailing ahead, I look at our old Sandpiper parked where it always has been and envision not an empty bay but the new sailing adventures that await us. Δ

Ken Kilpatrick was 3 when his father took him for his first boat ride, stiffly bundled in a classic 1950s-era orange cloth-covered life vest in his uncle's equally classic wooden rowboat. That may have been the spark that ignited his lifelong love of boating. After reading the National Geographic account of Robin Lee Graham's 1965 solo sail around the world, Ken fantasized about doing the same, until days of queasy seasickness on a weeklong eastern Caribbean cruise with his wife made him yearn to be back on terra firma.

Conor enjoys the breeze funneling between the sails, at top, and takes the Sandpiper's helm while Shannon and her friend LeeAnne enjoy the ride in balmy weather on Hamlin Lake.



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A replacement



When the fuel lift pump on his 30-year-old engine wore out, Art bypassed it with an electric one.

Ur 46-year-old Allied Seabreeze, Secret Water, is a wonderful sailing boat. Nonetheless, reliable auxiliary power is a high priority. Originally built with a Gray Marine gasoline engine, she was re-powered in the early 1980s with a diesel ... not your typical marine diesel, but an odd duck, a Lehman 4D50. Actually, it's a marinized Peugeot. While we were doubtful about it at first, this engine has proven, with a mere 2,100 hours on the clock, to be a reliable workhorse. Perhaps not kitten-quiet like most of the newer breed, but it gets the job done.

The first sign of trouble was that the routine bilge-water pumping finished with a little shot of red that left a sheen on the water. Gasp! I had a fuel leak. I carefully inspected her original Monel fuel tank. No problem. Then the port side of the engine. Secondary filter: OK. High pressure pump: OK. Return lines: OK.

Over to the starboard side. Shutoff valve, primary filter, fuel lines: all OK. The last thing I set my eyes on was the low-pressure lift pump. Aha! Fuel had evidently been leaking from the diaphragm. After 30 years, fatigue had taken its toll.

The lift pump is actuated by a push rod riding on a crankshaft cam, a simple

and proven mechanism. The motion cycles the diaphragm up and down and little check valves direct the fuel. It was time to rebuild the pump.

Parts are available for the engine, but a rebuild kit for the pump is not. For a ridiculous price, I could get a complete assembly, but I'd rather channel my boating dollars to other trinkets.

Auto-parts store solution

I knew it was standard practice to replace similar pumps on Atomic 4 gasoline engines with electric pumps. I also know of several modern diesel engines that rely on electric pumps. So why not my old Lehman?

A little Internet research led me to the folks at Facet/Purolator, who turned out to be most helpful. They recommended their model with the smallest output pressure and lowest capacity. Since our fuel tank is slung under the cockpit sole, no lifting is involved. We actually have a slight head of pressure, so it doesn't take much effort to deliver the fuel.

Installation was pretty straightforward. I bypassed the original pump and reworked the fuel lines to connect to the new one. It draws electrical power from the key switch.

pump

Electric substitute for a mechanical pump

BY ART HALL

Bleeding the system was a cinch. I no longer had to pump the little hand lever on the original pump. Clear fuel flowed out of the bleed ports within seconds, rather than minutes.

The moment of truth arrived ... and after sitting "cold iron" for two weeks, the old 4-holer leapt to life. I let her run at half throttle for 20 minutes and she never missed a beat.

I'm aware of some installations where an electric pump is installed in parallel with the mechanical pump. It is switched so it can be used intermittently to make the bleeding process easier. I've also heard of installing one in line with the mechanical pump. I feel that arrangement has some serious drawbacks. If you install the electric pump after the mechanical pump, it would draw the fuel, but a failed diaphragm in the old pump could allow air to enter the system and would be difficult to detect. If the electric pump were installed before the mechanical one, it would pressurize the latter. If the diaphragm then failed, a significant leak could result or, worse, the fuel could possibly travel down the pushrod and contaminate the crankcase oil.

Resources

Fuel pump (12 VDC); Facet model 40104 www.facet-purolator.com Available from NAPA (NAPA Part 610-1078) www.napaonline.com Hamilton Marine: Coast Guard-approved hose, cable, fuse, fittings, clamps www.hamiltonmarine.com

We should be good to go for another season."

With my refit, I feel I have kept an aging, low-hour, dependable diesel engine in service. The entire cost was less than \$100 for the pump, tinned wire, barb fittings, hoses, and clamps. No charge for the skinned knuckle. We should be good to go for another season and more. \varDelta

Art and Sandy Hall, and their not-soinclined-to-sail Pekingese, Kitri, can be found sailing Secret Water, their Allied Seabreeze 35, on Penobscot Bay, Maine. Occasionally, they'll push way Down East for some solitude. A significant enjoyment while cruising is exploring "eel ruts" in their Peapod dinghy that is set up with two rowing stations. Life is good.



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November/December 2013



Vent dryers bar moisture from fuel tanks

BY GARY WILSON

Keeping diesel dry

Ur marina has a regulation that prohibits us from refueling our boats from jerrycans while tied up in our slips. The trouble is, I like to keep my tanks full to minimize the amount of water that condenses inside them. As the fuel is used and the level inside a tank drops, the amount of condensation that forms on the insides of the top and the walls increases with the volume of air in the tank. It drips down, sinks to the bottom of the tank (because it is heavier than the fuel), and provides an environment for microbes to grow and eventually clog the fuel filters.

To keep the tanks topped up, I would rather use a jerrycan occasionally than make a special trip to the fuel dock for a small amount of diesel. Our Passport 42 has two 65-gallon tanks and there is a great temptation to empty a tank before going to the fuel dock to fill up. However, unless we are off on a long cruise, it takes a long time to use up a tank. That would leave a long time for condensation to form and collect in the bottom of a fuel tank that is gradually getting emptier.

Water can also enter the fuel from contamination of the fuel dock's storage tanks or splash through a poorly protected vent fitting, but in our cruising grounds in the Pacific Northwest, the more likely source is condensation inside an empty tank. This is especially true in summer, when the air is warmer and able to hold more moisture. Our tanks are below the waterline and the seawater is always cool. Warm moist air plus cool tank equals a good environment for moisture to condense and contaminate the fuel.

Water also causes rust in black-iron tanks like mine. After a couple of episodes with rust-clogged filters at inopportune times, I decided to do something about it. If I could get this little "distillery" to produce bourbon, I might feel differently about it . . . but clogged fuel filters are not as fun.

My solution was to lower the humidity of the air in the tank.

Silica gel solution

A Google survey brought up several industrial methods for de-humidifying air. On a smaller scale, it appeared that silica gel desiccant (like the little packets in medicine bottles) would be a good solution. A vent dryer that uses this desiccant subsequently came on the market, so that validated the choice. Had I known this would be available, I would probably have purchased one, rather than going to the time

As the air passes through it, the silica gel absorbs water but does not become "wet"... It can remove up to 40 percent of its weight in water.

and trouble of reinventing the wheel. However, for the DIYers among us, I will describe how I made the vent dryers with parts available online and in hardware stores. (*Note: If you don't want to go to the trouble to make your own, go to www.H2Out.com.* –*Eds.*)

The basic concept is to fill a rigid tube with silica gel and insert it into a tank vent line, forcing any air that flows into and out of the fuel tank through the vent to pass through the desiccant and give up its moisture. That includes air that enters from the outside to replace the volume of fuel used from the tank, air moving with the daily "breathing" of the tank as air expands and contracts with changing temperatures, and air that moves into and out of the tank due to changes in barometric pressure.

As the air passes through it, the silica gel absorbs water but does not become "wet." More correctly, it adsorbs water onto its surface, but most of the surface area is internal to the silica gel granules due to their very high porosity. It can remove up to 40 percent of its weight in water, depending on the temperature and relative humidity, and "blue indicating" silica gel changes color from blue to pink as it adsorbs water. When it becomes pink, the gel is saturated and must be removed from the tubes and rejuvenated by baking in a 250-degree oven for 2 hours. As it bakes, if you open the oven door and stir it occasionally, you will feel a blast of hot, moist air (fogs your glasses), attesting to the moisture escaping from the beads. It gradually returns to its blue color and, after it cools, can be replaced in the tubes.





Gary's vent dryers, clipped to their backing board, are ready to be installed, facing page. Each end cap is made up of a PVC adapter, a screen, and a nylon barb fitting, at top. Gary trimmed the screens to fit inside the adapters, above.

Notes on vent hose and dryer location

In my boat, the original vent was a

single ½-inch-diameter

hose that serviced both

tanks and looked like

the reinforced vinyl or

PVC hose commonly

used in freshwater

systems on boats.

A previous owner had

fitted a second %-inch



The original vinyl vent hose had turned brittle.

vent hose. As part of my dryer project, I wanted to replace them both with new %-inch hose to improve the airflow and tidy up the installation.

In the process, I discovered that, while the vent hoses were intact and doing their job, the vinyl was discolored and it was stiff and brittle in the areas that occasionally see some contact with diesel fuel. When I removed them, they broke apart and cracked, somewhat like uncooked macaroni.

Vinyl, I have learned, is not suitable for use with diesel fuel. I feel fortunate that this vent dryer project forced me to recognize that the hoses needed to be replaced with proper material.

In researching the options for replacement hose, I found SAE Type 30R7, which is used as fuel line for gasoline or diesel and vapor hose in vehicles. I also found USCG Type A1, which has greater fire-resistance and is rated and recommended for tank vents. It is also more expensive.

I was tempted to use the Type 30R7, since it is so much better than what I was replacing. However, with all the time and effort I was investing, the extra cost for the proper marine product seemed trivial.

In my installation, the possibility that fuel will ever reach the vent dryers is remote. It cannot happen if the fuel tank is accidentally overfilled because the dryers are located high under the cockpit coaming and about 2 feet above the fuel-fill caps, which are in the cockpit floor.

If, as is the case on most boats, the fuel fills are at deck level and at or above the level of the vent fittings, there is a risk that the silica gel beads could become contaminated with fuel. Silica gel that becomes soaked in diesel fuel will be ruined and must be discarded and replaced.



After filling a vent dryer canister with silica gel, above, Gary fitted the top cap, top right, The StarBoard mounting board has pole clips to hold two dryers, above.

Testing the concept

Like many boat owners, I am a seat-of-the-pants engineer. I am sure there is a way to calculate the most efficient diameter and length of housing to contain the silica gel beads, but my approach was more by guess and by gosh. I wanted to have the largest tubes with the greatest volume of silica gel that were practical for my available space. I reasoned that a larger volume of silica gel would remove a larger volume of moisture and take longer to become saturated. That way, I would have to regenerate the silica gel in the oven less often. For a first pass, I decided to try two 3-footlong, 2-inch-diameter tubes, one for each tank.

I filled a 3-foot-long clear acrylic tube with silica gel beads, fitted end caps on the tube, and blew through it with a lung full of air. It seemed to restrict the flow too much, so I cut it in half and tried the same thing with an 18-inch tube. The level of resistance seemed to be more reasonable. Most good old boats with only one fuel tank will only need one vent dryer.

Resistance to airflow is not as critical to the small amounts of air that flow as the tank breathes or as fuel is consumed by the engine. However, when the tank is being filled with fuel, the fuel displaces air in the tank at a more rapid rate and the vent tube must be able to accommodate that. My plan evolved from two 3-foot tubes to two 18-inch tubes. If this still proved to be too restrictive when the tank was being filled, it would be easy enough to make them a little shorter or to put two 18-inch tubes in parallel for each vent line, thereby doubling the airflow capacity.

Step by step

- Most good old boats have only one fuel tank, so one vent dryer will suffice.
- Cut the 2-inch acrylic tube to length with a table saw or hacksaw. Make these cuts as square are possible.
- Test fit the PVC adapters to the 2-inch tube.
- If the fit is too tight, sand the insides of the PVC adapters until a snug fit is obtained.
- Mark each PVC adapter in the side for drilling the retainer screws.
- Drill each PVC adapter (in place on the tube) with the $\%_4\mbox{-inch}$ bit.
- Remove the PVC adapters and tap the holes in them for the 8 x 32 threads.
- Drill out the matching holes in the 2-inch tube with the ¹¹/₆₄-inch bit.
- Trim the stainless-steel drain screens with tin snips to 2-inch diameter and fit them inside the PVC adapters.

- Fit the nylon barb fittings to the PVC adapters using Teflon tape to seal the threads.
- Fasten one end cap on the 2-inch tube with a ½-inch #8 x 32 screw and fill the tube with silica gel beads.
- Fasten the opposite end cap in place with a ½-inch #8 x 32 screw.
- The vent dryer canister is now complete and ready for mounting.
- Cut the ½-inch StarBoard to size.
- Drill the StarBoard for the %-inch #8 screws to mount the 2-inch Beckson pole holders.
- Mount the 2-inch pole holders to the StarBoard pad.
- Mount the StarBoard pad to its location in the boat.
- Press the completed vent dryer into the pole holders.
- Couple the %-inch diameter vent line to the barb fittings on the ends of the vent dryer.

When the tank is being filled with fuel, the fuel displaces air in the tank at a more rapid rate and the vent tube must be able to accommodate that."

Assembling the dryers

For end caps, I used PVC adapters, which are very nearly a perfect fit to the 2-inch acrylic tube. I sanded the insides very slightly to make assembly a little easier, but they still hold a pretty good seal.

My simple method of retaining the caps on the acrylic tube was to drill and tap a hole for a #8 x 32 machine screw in the side of each end cap and a slightly larger matching hole in the acrylic tube (not tapped). A ½-inch #8 stainless-steel cap screw keeps each end cap in place. A ¾-inch screw would be long enough, but I used ½-inch screws and sharpened the ends slightly to form a point that would help to line up the holes during assembly.

I drilled the holes in the same position on both ends of both tubes so the end caps would be interchangeable. The end caps need to be removable (at least on one end) so the silica gel can be extracted and replaced. I used one fastener in each end rather than two. This allows the end cap to "cock" slightly, rather than sit square to the tube, which bothers my discerning eye a little bit, but a good seal is still maintained and one screw is easier to work with and align when fastening the end caps to the tubes.

To prevent the silica gel beads from draining out of the tubes through the end fittings, I used stainless-steel-screen sink strainers I found at the hardware store. They were a little too large and had stainless-steel bands around their perimeters. I cut the bands off with tin snips and trimmed the screens to 2 inches to fit inside the end caps. The "bump" on each strainer protrudes into the acrylic tube (away from the end cap) and provides more surface area at the interface for the air to pass from the silica gel beads into the ¾-inch opening

Materials and tools for two 18-inch-long vent dryers

Materials

- 2-inch OD x 1³/₄-inch ID clear acrylic tube, available in 5- or 6-foot lengths
 - 4 each 2-inch PVC x ¾-inch NPT adapters



- 4 each nylon barb fittings, ¾-inch NPT to ‰-inch barb, straight or elbow
- 4 each stainless-steel drain screens
- 4 each ½-inch #8 x 32 pan head cap screws for end caps
- Silica gel: 2- to 5-mm bead size, approximately 1 pound per 18-inch vent dryer. (Smaller 1.5- to 3-mm bead size is available, but do not mix the two sizes as this will allow the beads to pack more tightly and further restrict airflow.)
- 8 each %-inch #8 x 32 flat head sheet-metal screws for mounting pole holders to StarBoard backing board
- Teflon tape
- 4 each 2-inch Beckson pole holders
- 1/2-inch StarBoard, 7 x 12 inches

The material cost for two vent dryers was about \$175 (not including the $\frac{1}{8}$ -inch replacement vent hose). This was enough material to make four 18-inch-long canisters, although I only needed two in the final analysis. The 2-inch acrylic tube and the silica gel beads are the major expense and the acrylic tube is only available in 5- or 6-foot lengths, so I initially bought materials for 6 linear feet of vent dryer.

Tools

Most DIY boat owners will have the tools needed for this project, except perhaps the thread tap and the tin snips. I used a table saw to cut the acrylic and the StarBoard, but hand saws would work perfectly well.



- Tape measure
- Table saw or hacksaw and hand saw
- Screwdriver
- Sandpaper
- Tin snips
- Drill and drill bits (¹%₄-inch and %₄-inch)
- Thread tap (#8 x 32)
- File
- Funnel (for filling tubes with silica gel)

I mounted my two vent dryers on a board, then mounted the board in the boat... the canisters snap right in and are easy to remove.





After a season of use, the silica gel beads had turned pink in the end of the dryer nearer the vent, top. Baking them in the oven turned them blue again, above. Gary's vent dryers are fitted up under the cockpit coaming, below.



of the end cap. To complete the assembly, I screwed nylon barb fittings into the end caps to couple with the tank vent hoses.

I mounted my two vent dryers on a board, then mounted the board in the boat. (As it's located in the damp cockpit locker, I used StarBoard.) Beckson 2-inch plastic pole holders were a perfect fit to secure the acrylic tube canisters to the board — the canisters snap right in and are easy to remove.

To regenerate the silica gel, I remove the vent lines from the vent dryer canisters, pull them out of their mounts, and take them home. I remove the end caps and empty the silica gel into a shallow roaster pan and place it in the oven for a couple of hours at 250°F.

After a season of use, the vent dryers have worked as expected. We drew fuel out of one tank over a period of nine months and the silica gel granules turned pink on the intake end of the canister. The granules for the unused tank remained blue throughout. Refilling the tank also went as expected, with no noticeable back pressure in the vent line. Δ

Gary Wilson built his first boat in 1962 at age 15 (an 8-foot hydroplane) followed by a 14-foot plywood sailboat while still in high school. This boat went with him to college in Santa Barbara, California, where he met his wife, who just happened to have a Jeep with a trailer hitch, and they've been sailing together ever since. Their current boat is a 1985 Passport 42 that they sail out of Olympia, Washington, and into British Columbia in the summers.

Resources

Acrylic tubing US Plastics: www.usplastic.com Interstate Plastics: www.interstateplastics.com Blue indicating silica gel dessicant Delta Adsorbents: www.deltaadsorbents.com Beckson pole holders and StarBoard West Marine: www.westmarine.com Marine fuel hose Trident Marine: www.tridentmarine.com Teleflex Marine: www.teleflexmarine.com/products/hose Gates: www.gates.com Don't want to do it yourself? H2Out Air Vent Dryer www.h2out.com

The Hunter 29.5

Innovative design and a voluminous interior

BY RICHARD SMITH

Here Marine builds enough boats, about 2,000 a year, to make it one of the leading producers of sailboats in the world. The company was established by John and Warren Luhrs in Alachua, Florida, and was acquired last year by David Marlow. It is now called Marlow-Hunter. This company is not known for its allegiance to traditional methods of design and construction in the marine industry — it is known for technical innovation and novel thinking about what sailboats should look like.

Some departures from convention stem from Hunter's imaginative design team; others reflect the company's ability to integrate owner feedback into the design process, sometimes producing significant changes during a model's production run. Deriving inspiration as much from industrial design and modern architecture as from traditional small-boat design, the Hunter team creates sailboats rich in ideas, such as rigs without backstays and interiors with few bulkheads and spaces with unusual shapes.

The Hunter 29.5 is a good example. Our review boat is *Wind Dancer*, whose owner, Dick Osborn, was a willing and active accomplice in this review. Hunter 29.5s were built between 1993 and 1997. *Wind Dancer* was built in 1995 and Dick bought her in 2005. She was his second sailboat. He had previously sailed a Schock 23. The pre-purchase survey pronounced the boat to be "in generally average condition for her age" and, seven years later, she seemed that way to me. We scheduled sea trials and underway photography for a late October morning. Unfortunately, light winds diminished to about 1 or 2 knots, but as we followed *Wind Dancer* in light air, I was surprised at how well she moved with her sails barely full. However, we decided to set the sea trials for a day with more wind in it.

Dick Osborn sails his Hunter 29.5, *Wind Dancer*, on Puget Sound. The boat is representative of Hunter Marine's sailboats with their distinctive styling.



The Hunter's scoop transom makes it easy to get in and out of a dinghy... or the water, at left. Owners praise the two quarter seats built into the stern pulpit. The deck has some intricate molding details in the transom, the cockpit, and the fairing that covers the sail-control lines led aft to the cockpit, at right.

The rig

The Hunter 29.5 has a fractional rig with a single set of spreaders swept back at 30 degrees so the shrouds and forestay combine to form a sort of tensioned tripod that supports the mast fore and aft as well as transversely. This eliminates the need for a backstay, which allows for a markedly larger roach that increases mainsail area and in turn allows for a smaller foresail. It's estimated that the larger mainsail with little more than a lapping jib can provide as much drive as a smaller mainsail and 150 percent genoa.

There is much to be said for a small headsail with a larger mainsail. In gusty conditions, a lot of wind can be dumped in a hurry by reefing the main, and there's no complicated hassle (and expense) involving two heavy headsail winches, movable blocks, and so forth in getting a big genoa from one side to the other. However, there's a limit to how far the boom can be let out before the mainsail becomes impaled on those swept-back spreaders. Rather than sail dead downwind with the sails more or less at right angles to the centerline of the boat, it's better to broad reach and jibe downwind, which many skippers prefer to do anyway because it eliminates the need for a whisker pole and reduces the danger of an accidental jibe.

Because of the lower jibsheet loads, the only winches are two Lewmar 16STs mounted one each side of the companionway. Lewmar 30ST spinnaker

The Hunter 29.5



winches can be mounted on the coaming beside the helmsman, but *Wind Dancer* isn't equipped with this option. An outhaul with a 3:1 purchase and two reefing lines run through the boom and back to the cockpit. The boat is rigged with a topping lift and a boomvang tackle.

Construction

The hull, deck, structural grid below the sole, and interior components are molded separately and assembled with structural adhesives or secondary bonds of fiberglass. The hull is laid up of solid fiberglass while the deck is of balsa-cored sandwich construction. The hull-to-deck joint is through-bolted and well bedded.

The keel is molded with the hull and receives a cast lead insert. A lead bulb/ wing casting with a recess to accept the lower end of the fiberglass keel is attached to the molded keel, but no keel bolts are visible inside the boat. The lead shoe is intended to absorb the impact of grounding.

On deck

In spite of rather narrow sidedecks — a concession to the voluminous interior — moving fore and aft is fairly easy. It helps that the chainplates are located at the deck edge, but stanchion supports intruding into the walkway can be tripping hazards. I prefer a less-rounded toerail to brace against. A shallow anchor locker at the bow



The mainsheet tackle connects to a short traveler mounted on the custom steering pedestal, at left. On the foredeck, an anchor locker with a hinged cover holds a modestly sized anchor and rode, at right.

holds a limited amount of anchor warp. Two mooring cleats are fitted inside it where they are hidden from view and out of the way but awkward to use. Dick belays his starboard bow line to the sturdy stemhead fitting that contains two large bow rollers.

The cockpit is large but has limited storage, due in part to the berth below. There is under-seat storage with a "gull wing" hatch to starboard and a similar hatch in the bridge deck that's intended to contain running rigging brought back to the cockpit. The mainsheet is attached to a short traveler forward of the helm. One end of the 3:1 purchase can be controlled there with a camcleat. The other end leads to the mast and back to a winch on the cabintop.

Two seats are built into the stern pulpit on either side of the helmsman where they're out of the way and well positioned for non-sailing crew. They bring crew weight aft but the fun and convenience they add may be worth it. At the stern is an excellent swim platform with an integral ladder and two small hatches built into steps at the lower level. This is also a good way to launch a dinghy. The downward-plunging sheerline produces voluptuous curves at the stern.

Belowdecks

As with other Hunters, the most striking impression of the 29.5 belowdecks is the absence of bulkheads and the configuration of spaces. Saloon settees resemble sectional sofas, large windows take the place of portlights, and the quarter berth has grown into a queen-sized bed. Few exposed fittings, such as nuts and backing plates securing deck hardware, are visible. Black-plastic or teak-fronted doors cover storage bins located almost anywhere opportunity allows.

The forward berth is open to the saloon, making a fine place for the kids (or more nimble adults) to lounge about or sit peering into the cabin with legs dangling over the edge of soft furniture. Some privacy is achieved with curtains. A 40-gallon water tank and a 6-gallon water heater are located under the berth. U-shaped seating in the saloon surrounds a large teak drop-leaf dining table. Dishes and cutlery are stored under a hinged panel on top. The table can be lowered and special cushions, that stow on a shelf in the after sleeping area, convert it to a large double berth. A stainless-steel compression post for the deck-stepped mast is located at the forward end of the table and is unobtrusive. Four hatches under the seat cushions give access to general storage. There's a small but convenient teak locker for foul weather gear just aft of the starboard saloon settee.

The head is to starboard of the companionway ladder where it's handy to the cockpit. It's well laid out and well ventilated and contains a toilet, lavatory, shower, and good storage behind black plastic doors. A hingedown shower seat or baby-changing table covers the toilet and a prominent curved black plastic Art Deco locker door adds a stylish touch to the compartment.



Even with the head adjacent to the companionway, the galley and aft berth area still appears spacious. The cook has plenty of room to work and can commandeer the top of the engine box if necessary.



The V-berth is accessed with some difficulty by climbing over the large and inviting U-shaped settees. Note the extensive use of molded fiberglass liners and the absence of space-dividing bulkheads.

The L-shaped galley is to port of the companionway and contains a two-burner non-pressurized alcohol stove, a microwave, a very large icebox, and a sink that's angled toward the centerline of the boat. A convenient counter-long bin is located at counter height just under three large storage cupboards. The area is well lighted and ventilated by three opening ports. Lying athwartships abaft the galley is a large double berth that measures almost 5 feet wide by 8 feet long. The space is achieved by raising the cockpit sole a bit and wrapping the berth around the small engine compartment. Although getting in and out of the berth is a bit awkward, the area is adequately lit and there is provision for storage in several cupboards. I think some string hammocks would serve well for additional storage here.

The engine

The Hunter 29.5 is equipped with the Yanmar 2GM diesel with a Kanzaki transmission. Dick reports it to be trouble-free with plenty of power and a good match for the boat. It's contained in a sound-insulated box with service access from the front, behind the companionway ladder. Additional service access is via doors to port and aft in the rear berth. Fuel is stored in a 20-gallon tank located under the cockpit. The Yanmar turns a Martec 15 x 12 folding prop.

Under way

For the rescheduled test sail, the Yanmar started without any fuss and

Comments from owners of the Hunter 29.5

"I owned a 1994 model and used it in a sailing charter business. The cockpit is roomy and well laid out for six passengers and one or two crew. The extra pulpit seats were especially helpful on full charters, as was the absence of backstays that kept the cockpit open.

"The boat sails more like a dinghy than any other keelboat I have owned — it's fast, responsive, and fun. The mainsheet is easy to reach from the helm, the 6:1 mainsheet tackle never required the use of a winch, and the small jib could be tacked without having to grind the winches if you timed it right. The boat maneuvers well under power and will back exactly where you tell it to go.

"My biggest complaint was with the quality of construction. Self-tapping screws were used to hold everything together, and most of them were stripped out. The fiberglass hull liner made it impossible to through-bolt or re-bed any deck fittings, so the boat had a number of persistent deck leaks. When exposed to the deck drips, the bulkheads eventually turn to dust. The bulkheads are set in slots in the fiberglass liners without any tabbing to the hull, so the boat squeaks a lot in even a small chop.

"The interior was usable for two adults. The aft berth was a bit difficult to access and the V-berth, reached by climbing over the U-shaped dinette, was really only useful for storage. The shower drains into the bilge instead of a separate sump, so if you intend to overnight, you will want to fix this.

"The boat served us well as a daysailer and occasional weekender in sheltered waters. For that purpose it was a good choice, and I would recommend it to others."

-Jim Mueller, Pensacola, Florida

"I've had my Hunter 29.5, *Freedomrider*, for about five years. I sail it extensively on San Francisco Bay. I daysail, singlehanded mostly, with some overnight trips. *Freedomrider* has been a great boat for me. It's pretty quick in light air or a blow, gives a dry ride, points really well, tacks without the need for a winch handle, and is easy to singlehand. It can turn in its own length and backs up very well. Below, it has a roomy layout and a nice head.

"On the downside, it has very little storage, limited tankage, and the fiberglass workmanship could be better. It's tender in a blow (reef early and often!) and the rig makes going dead downwind a problem.

"All in all, it's a pretty good old boat. It's not the boat I'd take cruising, but for my purposes it suits me to a T. Plus, Hunter 29.5s hold their value very well." -Dave Calhoun, San Francisco, California ran quietly. I stuffed the shorepower cord into the anchor locker and we cast off. Dick backed out of the slip and we motored out of Apple Tree Cove into Puget Sound, where we found 10- to 12-knot winds and a light chop in the shipping lanes. Heading into the wind, we hoisted the mainsail and quickly unfurled the small jib. Dick pulled the engine-stop knob and we slipped away under sail without any noticeable loss of speed. Wind Dancer's main was pretty well blown out but she still pointed acceptably. When clear of the Kingston ferry landing, we eased the sheets and settled into a reach. I was surprised at how well the tails of the several running rigging lines were contained in the bridge-deck locker, making for a tidy cockpit. The short traveler just forward of the binnacle proved very handy to the helmsman as we came about.

The increased sound of our wake told me the boat had accelerated quickly. She was very responsive to the helm, which was particularly smooth. The boat was well balanced on all points of sail.



A fold-down seat is handy in the head and aids cleanup by sheltering the toilet from shower water.

With darkening skies, we furled the jib, started the Yanmar again, and headed into the wind to drop the main. The lazyjacks helped gather in the billowing sail as Dick tied in a good harbor furl. Under power, the boat seemed very maneuverable, turning sharply and surely as we pointed for home.

Conclusion

The PHRF rating for the Hunter 29.5 is 192 seconds per mile. In comparison, a Beneteau 305 is 168, and an old Pearson 30 is 174.

This boat does everything a coastal cruising sailboat of its length and type might be expected to do and then some. It sails well with an easily handled rig that is ideally suited to the shorthanded or solo sailor. At the same time, the saloon is lavish and the cockpit is large enough for several guests whether entertaining under way or at dockside.

Dick Osborn feels the Hunter 29.5 was a good choice for him and his family. They're all happy with the boat and enjoy it.

An Internet check shows prices of used Hunter 29.5s to be about what Dick paid for *Wind Dancer* seven years ago: a few thousand either side of \$35,000, depending on condition.

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



The O'Day 322, continued from page 13



standing headroom alongside a threedrawer dresser. The spacious berth lies aft and beneath the cockpit seats. Opening ports outboard and in the cockpit provide good cross-ventilation. It's important to close the outboard port before getting under way — it's below the rail!

Power

The O'Day 322 has a Yanmar 2GM20F diesel. Access for inspecting and servicing the engine is fairly good, with a removable panel behind the companionway ladder for the front end and a second panel inside the aft cabin for starboard side service points.

The engine is smooth and fairly quiet. It provides adequate power to drive the boat at hull speed in flat water and backing under control is a snap. Unlike many boats, the O'Day 322 shows only slight port prop walk, and that is easily overcome with judicious use of throttle and rudder.

Sailing performance

When we took to the water to photograph *Wild Goose* under sail, winds of 8 to 10 knots were creating a very mild chop on Mark Twain Lake. As Jeff and Liz put *Wild Goose* through her



The head compartment on the O'Day 322 is quite generous for a boat of its size and is laid out to be usable when under way, at left. The engine is behind the companionway steps, above.

paces for the camera, we used our own boat as the chase boat. We were returning an old favor, since *Wild Goose* was the chase boat for a featureboat article about our Tartan 37 that appeared in the January 2009 issue.

Sandy and I have both sailed *Wild Goose* over the years that we have known Jeff and Liz and we know her to be a stable, solid performer. She is not a racing boat and does not pretend to be one. When you pay attention to trim and sea state, however, *Wild Goose* does not disappoint. She points moderately well for a wing-keel boat, performing best at about 40 degrees apparent, and she tacks quickly and easily. The feel of the helm is precise and the fairly large spade rudder provides good control.

It's worth noting that, in light air, the low-aspect-ratio vertical section of the keel does not provide much resistance to leeway and sideslip is noticeable when beating or reaching. As soon as the wind increases and the boat heels, however, the wing increases draft, adding considerable lateral resistance, and the excessive leeway disappears. The rig is smallish for a 32-footer and the O'Day 322 performs best when the wind rises. Since the primary winches are close by the helm, singlehanding is possible. However, the mid-boom sheeting means it's desirable to have a second crew to control the mainsheet and traveler, which are on the cabintop.

We've sailed *Wild Goose* through a series of tacks and jibes and have never noticed a problem with control. There is little, if any, roll on a deep run, and though we did not have the chance to see her perform with a cruising spinnaker, she will likely do well.

In summary, the O'Day 322 is a very good sailer and a comfortable ride. With its stability and full bridge deck, it is well suited to coastal cruising.

These boats are not widely raced, but available PHRF ratings show an approximate rating of 168. That compares to a Catalina 320 wingkeel model at 153 and a Beneteau Oceanis 321 at 162. The comparatively small rig is likely responsible for a higher rating number, but when the wind is up, the O'Day 322 can be quite competitive.

Prices and availability

A search found four O'Day 322s on the market at asking prices from \$25,000 to \$29,900 — quite a tight range. With 228 of these boats built, the small number for sale may indicate that owners are satisfied with them. \varDelta

Tom Wells is a contributing editor with Good Old Boat (and he has also earned the honorary title of Troubadour through his musical contributions at boat shows). He and his wife, Sandy, have been sailing together since the 1970s and own and sail a 1979 Tartan 37, Higher Porpoise.

<u>Resources</u>

O'Days in general have a strong and loyal following. These sites provide a wealth of information on the boats: http://oday.sailboatowners.com http://www.iheartodays.com

Better leecloths

Comfort and convenience — watchwords for the off watch

Those of us who sail boats that heel or roll sometimes need help staying in our bunks. Traditionally, a leecloth is fastened under a batten along the inboard edge of a settee berth and held up by lacing or clips. Although it's not exactly comfortable, you lie in the vee formed by the junction of the cloth and the edge of the mattress. Once in the bunk, you must tighten the lacing or flip it over hooks to hold the cloth in place. Over time, the cloth gets grungy, but removing it for cleaning is a time-consuming exercise that entails removing the fastening screws.

The leecloths in the saloon of my 31-footer, *Talisman*, are made from marine canvas and have boltropes along the lower edges that fit into alloy tracks. The tracks are fastened outboard so the cloths wrap under the cushions, cradling the sleepers securely and more comfortably. The seams are underneath and outside, leaving a smooth surface inside for the sleepers to lie against.

The upper edge of each leecloth is reinforced and has strong eyelets at both ends. When in use, the forward end is clipped to the bulkhead and the after end has a small tackle the occupant can easily tension while lying down. It's easy to release the cleat when you want to get out of the bunk.

To stow the leecloths, you simply unclip and fold them under the mattresses. For laundering, slide them out of the boltrope tracks, remove the lines at each end, and throw them in the washing machine. Δ

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



A boltrope on the leecloth slides into a track on the outboard edge of the bunk, so the leecloth is under the mattress and the sleeper.



BY PETREA MCCARTHY

Petrea's leecloths are full length and easy to set up and take down, above.

A snaphook on the forward end of the leecloth clips into an eye on the bulkhead, above.

A quick-release tackle at the aft end makes it easy to adjust the leecloth and get into and out of the bunk, at right.

November/December 2013

Quick and easy

Instant whisker pole

BY DAVID WRATE

Adapting a boathook to do double duty





T o make my own whisker pole, I developed an alternative approach to that described by Clarence Jones ("An Inexpensive Whisker Pole," May 2012). My device begins with a West Marine telescoping boathook, model #289480, and the same Forespar Lexan snap-on hook. The business end of the boathook is threaded with the same diameter and pitch as a paint-roller handle.

The diameters of the Forespar fitting and the boathook handle are nearly the same. At my local metal market, I found a 6-inch length of aluminum tubing that slipped over the handle end of the boathook. I rolled up the rubber handle, David took a standard West Marine boathook and extended it with a 6-inch length of aluminum tubing, above. (The fasteners are under the rubber grip.) He epoxied a Forespar Lexan snap-on mast hook into the end of the tubing.

slid on the tubing, secured it with self-tapping screws, then rolled the rubber handle back down. After a bit of work with some coarse sandpaper, the Forespar fitting slid into the end of the 6-inch extension. I epoxied it in place.

For the other end, I bought an inexpensive paint roller and cut off the metal roller part, leaving about 3 inches. Like Clarence, I used a piece of tubing to protect the sail.

The beauty of this device is that I can have the boathook do double duty as a whisker pole by simply screwing on the paint-roller end. I poke the spike into the clew of the jib and clip the snap-on hook into a ring on the mast. \varDelta

David Wrate lives in Victoria, British Columbia, where he and his wife, Cindi, cruise the beautiful Gulf Islands in CinDino, their 1978 Crown 34, a truly good old boat.





Selvagees to the rescue

An old-time rope trick saves the docklines

BY BEN ZARTMAN

N ot until our family spent our third winter aboard while cruising on *Ganymede* — our home-finished Cape George 31 cutter — did we have occasion to spend the whole chilly season at a dock. The marina was not as sheltered as we might have desired, and a few months of rocking against the finger pier during winter storms took its toll on fenders and docklines. In spite of our best efforts at creating a fair lead, one of the docklines chafed terribly against a stern cleat and had to be replaced. As any good old boater knows, decent nylon lines are expensive. For us, at least, seasonal replacement is out of the question.

When tying up *Ganymede* for a second winter alongside a pier, I tried something that, to me at least, is new. In the depths of the sail locker, as well as here and there in various other places, we have hundreds of feet of older Dacron line in short lengths. These are old sheets and halyards, mostly, leftovers from previous boats or retired from primary duty. They're faded and fuzzy but too good to throw away outright. Taking the longest of these, I made a selvagee — a coil of many strands' thickness — long enough to reach from the foredeck bitt out through the hawsehole, whose edge is

Selvagee 1: a skein of rope yarns wound round with yarns or marline (as for stoppers or straps) 2: a number of parallel wires bound together with a fine wire serving one of the greatest sources of chafe. An oversized shackle at the end of the selvagee made a perfect spot for attaching docklines.

The selvagee worked so well that I rove several more for the stern line and springlines. All the primary chafe points now have sacrificial rope going through them, rope whose

many thin strands are able not only to take tight corners better than a thick dockline, but — being made of Dacron — won't saw back and forth against the edges like the more stretchy nylon would. I watched my expendable selvagees closely as winter wore on with an eye to refreshing them from the seemingly inexhaustible supply of small stuff jumbled in the bottom of the sail locker. That winter I was able to rest secure knowing that my primary docklines were safe from undue strain and chafe. $\underline{\mathcal{A}}$

Ben Zartman lives with his wife, Danielle, and three young daughters aboard Ganymede, the 30-foot Cape George Cutter he built from a bare hull. They spent the summer exploring Newfoundland, making the most of it before the approaching autumn turned them south and west again. Follow them on their blog at www.zartmancruising.com.



To preserve his docklines from chafe while *Ganymede* was tied to a dock over the long winter, Ben made selvagees out of old halyards and sheets.



The bow hawsehole caused serious chafe the winter before, but the selvagee, made of smaller and more flexible Dacron line, protected the nylon dockline.



Mail buoy



continued from page 9

Half-corked

Regarding Ferman Wardell's letter about hats in the



hat that would float. Making them also provides me with some refreshments. You might notice that the corks do not go all the way around the hat, so I am only half corked!



-Chuck Jones, Trenton, Ontario

Shoelace science

A recent article dealt with laces on boat shoes becoming untied ("Lace Locks for Deck Shoes," July 2013) and suggested a device to overcome the problem. My analysis of the problem is as follows: all knots depend on friction to stay "knotted." Rawhide laces stretch in use. When one ties a bow or double bow or triple bow, the portion of the lace

September 2013 Mail Buoy, I thought you might get a laugh out of the hats that I wear while sailing. I started wearing these corked hats about 25 years ago. It was an inexpensive way to come up with a



Kevin McLean shakes out a reef on his Tanzer 22, *A'bhan-dia Fand* (the goddess Fand), on Lac St-Louis near Montreal, Quebec, early last fall. His good friend and sailing buddy Chris Atack took the photo from his Tanzer 22, *Seatramp*. Send your sailboat photos to jstearns@goodoldboat.com and we'll post them on our website. If we publish yours here, we'll send you a Good Old Boat T-shirt or cap.

within the eyelets stretches, partly because it is in the nature of rawhide and partly because the parts of the shoe containing the eyelets have been cinched tightly and these leather sides stretch. In any event, friction is lost and the knot comes untied. Probably the easiest "fix" is to replace rawhide laces

with regular shoelaces of a non-stretching material. "Not very seamanlike," you say? "OK," I say, "then keep retying your shoelaces." Actually, I prefer wearing athletic shoes or even tennis shoes on board. Of course, I am a trawler-driver. —**Robert Siegel**, Annapolis, Md.

Service form Stafford

"Product Launch" in *Good Old Boat* March 2013 showed Stafford stanchion mounts. I purchased two sets and mounted lights on them, as I reported in my Mail Buoy letters in the May 2013 issue and the June 2013 newsletter. Now I've

had one break. I sent a picture to Stafford and one of their sales folks (Jim) contacted me to replace the broken mount. If others also have this problem, they should contact Stafford to assist them in finding out why this



happened. Also, I mistakenly said I used the ³/₄-inch stanchion mounts . . . wrong, they are in fact 1-inch. My bad.

Stafford sent me two brand-new mounts — they arrived this afternoon. I love dealing with companies like this ... it renews my faith in the good old USA.

-Michael G. Ferris, Erinsville, Ontario High praise indeed from one of our friends to the Great North. -Eds.

A good really old boat

My wife and I were vacationing at Hyannis, Cape Cod, and we took the \$20 harbor and lighthouse tour. We were at the end of the channel when this antique yacht blew by us rail



down in the foam. The captain said it was the *Mya*, owned by the Ted Kennedy family. It was awesome! I don't think my Morgan would keep up. I photographed a couple more boats inside the old Hyannis harbor where the Kennedys keep their boats. The fishing boat is the one that portrayed the *Andrea Gale* in the movie *The Perfect Storm*. Now it's a clammer in Hyannis Harbor. Love Cape Cod and that chowdah! –James Kiley, Cortland, N.Y.





Nimble • Catalina • Hutchins • Seaward • Precision MacGregor W.D.Schock • Stuart Marine • International Marine To name just a few of the builders who choose the Elexible Eurler

Cruising Design is now offering an affordably priced mainsail reefing system and a patented spinnaker furling system

The Flexible Furler is the original, tried and true, flexible reefing system. We designed the first Flexible Furler 12 years ago, and we've since learned even more about our product and the sailors who use it. It was a bulletproof design back then, and we have taken every opportunity to make the Flexible Furler even better over the years. The result is a *proven* yet updated reefing system designed for a lifetime of flawless service.



Good old classifieds

Boats for Sale



Irwin 30

1976. Well maintained. RF genoa, FB main, lazy-jacks, electric windlass. Good-running FWC Atomic 4. Holding tank. Stowable 8' dinghy. Rigged for singlehanding. AP plus many extras. Sunshine Coast, Sechelt, BC. \$13,500.

> William Saari 604-740-8803 donsaari@telus.net



Herreshoff H-28 1963. Classic ketch. Wooden hull. 30-hp Atomic 4 engine. Exc cond. GPS, Autohelm. 5 sails including cruising spinnaker. East Lake, OH. \$10,000.

> Warren Burrows 440-488-6294



Vindo 35

1976 Swedish sloop. Sound fiberglass hull. Beautiful teak decks and cabintop over fiberglass. Yanmar diesel 3GM30 about 11 yrs old w/210 hrs. Fuel system polished, new Racors '13. RF jib, dinghy, OB, Bruce anchor. Engineer maintained. Needs some restoration. Annapolis, MD. \$24,000.

William O'Neil 239-565-2345 thejobo@aol.com



Southern Cross 28

1981. 4'8" draft, factory finished w/a tiller. Engine and transmission rebuilt '05. Hood main. RF jib purchased '98, refurbished '09. Hull refinished '04. New steel cradle, dodger, and sail covers. D/S, GPS, and AP. H/C pressure water. Bluewater cruiser, excellent in all sailing cond. In fresh water since '98. Mallettes Bay, VT. \$22,000.

Robert Miille 802-748-5663 rmiille@yahoo.com



Pearson 36.5

1978. Well equipped and maintained, seaworthy cruising sailboat w/new engine. Recent top-of-theline electronics. Good sails, and running rigging. Separate shower in head, 6'3" headroom. Updated interior w/new sole, curtains, and cushions. Lots of room, comfortable, ready to cruise. Pictures and detailed description of features available. Melbourne, FL \$39,500.

Clayton Showen 321-243-7853 cshowen@cfl.rr.com



Cal 33

1985 sloop. Pretty, fast, 4'9" draft. Doyle Stackpack, RF, Yanmar 3GM30, Garmin chart plotter, Autohelm. Repairs/upgrades over the last three years include: new cabin sole, bulkhead, headliner, head and holding tank, VHF, stereo, new throttle and gearshift. All stanchions, pulpit, etc. professionally rebedded with butyl tape in '12. '13 bottom paint and compound/wax topsides. West River, MD. \$37,500.

Richard Miller 703-424-6230 rozenfrance@gmail.com



Fatty Knees

Most of our classified ads appear on the

GOOD OLD BOAT

7' dinghy. Includes sailing package, custom color hull, lifting eyes, drain, teak floorboards, OB pad, oars and leathers, and gear bags. Used twice and always stored inside. Maple Grove, MN. \$2,250. Joanne Armbruster 612-387-7546 fjarm@aol.com



Moody 30

1977. Å joy to sail. Built to Lloyd's. This yacht is complely refurbished. Volvo diesel MD11C. The storage is vast; the interior new and clean. Current USCG registration. The photograph does not do justice but is a starting place. Aransas Pass, TX. \$20,000.

Billy Joe Vied 210-833-9137 210-695-2841 bjvied3@aol.com



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

Will and Kathy MacArthur 315-754-8885 rcmac4@gmail.com



Gray Seal 22 Hand-crafted by Jim and Dick Wagner and launched in 1994.

website: www.goodoldboat.com/resources_for_sailors/sailing_classifieds/ "Saturday Morning" is a beautiful example of Iain Oughtred's Gray Seal design. Constructed of Bruynzeel mahogany marine plywood strakes on ash frames. Featured in three *WoodenBoat* magazine articles January-June 1996. See website for details and videos. Includes Iain's Auk 7' mahogany lapstrake dinghy. Lake Minnetonka, MN. \$16,900 OBO.

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



Cheoy Lee Bermuda 30 1966 fiberglass ketch. Truly a "good old boat" project. Completely rebuilt in the last 6+ years w/attention to traditional details as well as contemporary upgrades. '12 upgrades: new Harken RF, new cabin cushions, and other cabin features. Yanmar 3GM diesel. So. Dartmouth, MA. \$29,500.

Edward & Ellen Carlson 508-993-4515 barefoot-girl@comcast.net www.cheoyleeassociation.com/ Sale/BarefootGirl.htm



Stonehorse 24 1971 Edey & Duff sloop. Classic Sam Crocker design. Full keel, efficient sail plan. 8-hp Yanmar diesel. Tanbark sails. New cushions. Trailer included. Very good cond. East Taunton, MA. \$12,000. Robert Pirozzi 508-269-1173 rppirozzi@aol.com



Cape Dory 28 1976. Bluewater family sailboat. Original: 8 bronze ports, 2 Bomar

hatches, bronze thru-hulls stand the test of time. New refit. Clean interior w/green cushions. Mast, boom, ProFurl, ¼" standing rigging, turnbuckles, chainplates, blocks. Main, jib, Lewmar #16 ST winches. GPS, VHF, D/S, 25-lb CQR anchor. 1983 Volvo MS2 18-hp diesel rebuilt '98. Bonus: trailer, aluminum I-beam twin-axle w/steel cradle. 6 Acme threaded pads. St. Petersburg, FL. \$15,500. **Tim Stark**

727-403-9900 timstark@tampabay.rr.com



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





Ranger 28

1977. *Gilded Lily*. Fully restored. Feature boat Sep/Oct '06 issue. Many upgrades. Beautiful, fast, comfortable sailer. Enhanced A4. New bottom paint. Dinghy, davits. On the hard, Atlanta. \$10,500.

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



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1968 sloop in great condition. Wonderful Herreshoff design. All sails '05 by UK. Main w/stack pack and lazy-jacks. RF jib, spinnaker (never used). Torqeedo electric motor w/solar panel. Triad trailer 2005. Hinckley sea foam green hull, bottom painted, ready to sail. Wareham, MA. \$8,000. James Murray

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Stephan Hoglund 218-370-1314 sh@stephanhoglund.com http://stephanhoglund.com/ info.cfm/paratype/105

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The Mantus Bridle is available in several sizes. For detailed product and ordering information, visit www.mantusanchors.com/mantus-bridle.



-Chuck Koucky



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Boatyard ghosts



W inter has closed in. Boats are hauled out in northern climes. Their once-sweet lines are swaddled in shrinkwrap or tarps. The boatyard, which used to hum with activity, has gone quiet and lonesome . . . almost.

Snowflakes spin themselves into eddies among the jackstands and keel blocks. If the yard is inland, all the masts are down on trestles, looking forlorn. If the yard's at the water's edge, the wind is moaning through standing rigging and halyards are slapping. It's strange. Halyard slap is a summer sound — a sound associated with sundowners and gas grills mounted on the stern rail. Your neighbors in an anchorage might not appreciate halyard slap in the middle of the night, but on the whole, it's a warm and happy sound. Move the slapping of halyards into a boatyard in winter, though, and somehow the sound turns cold and sad. It's all so lonely.

But wander around and you will find them: the boatyard ghosts. Like restless spirits of the dead, they never quite go away. As long as the weather isn't downright extreme — and sometimes even then — you will hear one clanking and bumping around beneath a cockpit sole. Maybe you'll even see one up on a stepladder doggedly fairing dings and dents out of a hull. Usually, it's one sailor, all alone. You might find two in the same boatyard at the same time, but they don't talk. Like old Ebenezer Scrooge, they are closed up "solitary as an oyster." It's tempting to think they must be haunting these desolate places as penance. Why *else* would they be out in the cold and the wet, tearing up their frostbitten knuckles, mining the gloomy bowels of lockers, and barking their shins on slippery bridge decks rendered even harder and more unyielding by the cold?

To the casual observer driving by, they look listless, shapeless, and lost — wretched shadows drifting among the hulls. But it isn't so. They are surprisingly energetic, in obedience to the Law of the Boatyard in Winter: work hard, keep moving, or freeze. If they see you, these boatyard ghosts might tip you a perfunctory wave, but don't expect much in the way of conversation. That's just as well. All ghosts are reputed to mutter and gibber to themselves, but it's best to let the wind carry their grumblings away. Some people think Halloweentype ghosts offer deep insights into hidden worlds. Maybe so, but anything a boatyard ghost says while struggling with stiff fingers and stiffer fittings is hardly insightful and probably should never find its way into print.

Besides, they just don't have the time to be sociable. Days are short, winter clothing is bulky and awkward, fingers can tolerate the cold for only so long, and stuff must be done before spring returns. The boatyard ghosts are goaded and driven by demons of their own making. Work! Work! They have to finish whatever they're doing before the weather warms up. After that, time spent in a boatyard is time wasted.

And so they'll be out there, off and on, all winter, alone and cold. Boatyard ghosts might look like wisps or wraiths, but they're as substantial and ordinary as can be. They hustle to keep warm. They're self-absorbed because they're in a hurry. And — depend on it — next season, we boatyard ghosts will be out on the water long before the rest of you slackers. \varDelta

Robert Hlady has enjoyed a checkered career as a journalist, lawyer, and stay-at-home dad. He started out as a desert rat, but became a passionate sailor later in life. A member of the Beverly Yacht Club in Marion, Massachusetts, he singlehands a 1979 O'Day sloop on Buzzards Bay, races on other people's boats, and will do just about anything to get out on salt water — including winter maintenance projects.

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