GOOD OLD BOAT™

THE SAILING MAGAZINE FOR THE *REST* OF US!

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GOOD OLD BOAT

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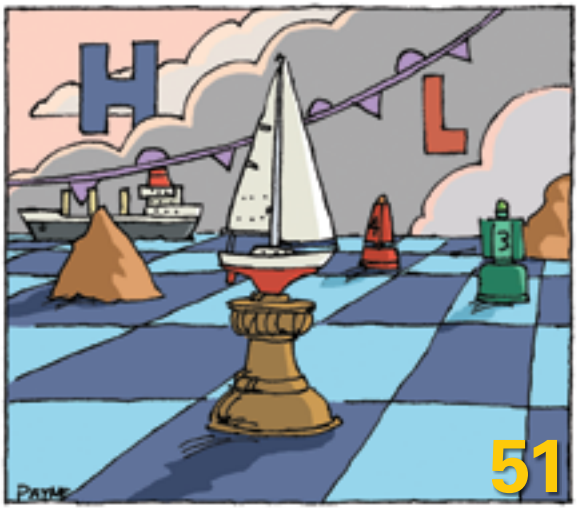
PHIL SHEA

For the love of sailboats

Speaking seriously



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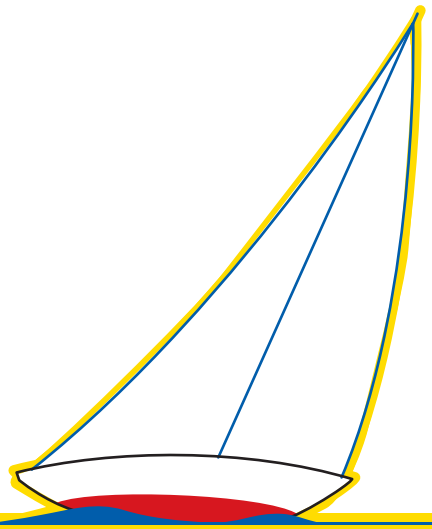

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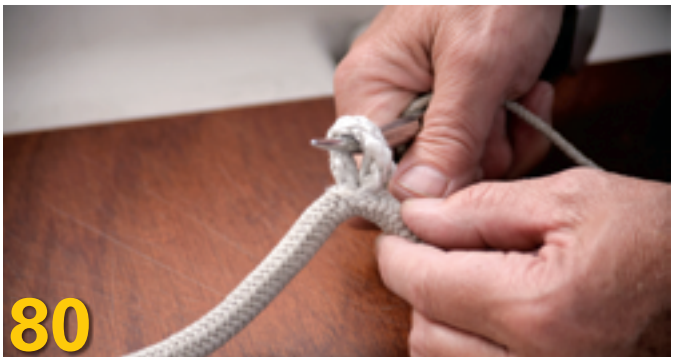

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Oasis III, a 1980 C&C 32 owned by Paul Côté and Julie Besse, is dwarfed by the bluffs of the Sleeping Giant on Ontario's Sibley Peninsula. Photo by Karen Larson.

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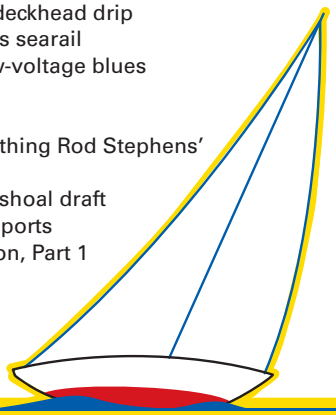

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MMPA

Sunflower

While we deliberated, our boat chose her own name

by Karen Larson

It's time to buy the champagne. The name of the Mega 30, our project boat, has been determined. Fate stepped in while we were deliberating. Her name will be *Sunflower*.

When we bought our trailerable sailboat in the winter of 2003, we dithered over a variety of names for her. From the beginning, we understood that she would be a "child of the prairie," taking us to lakes and seasides far from home in ways that *Mystic*, our C&C 30, cannot. *Mystic* must travel on her own bottom. But this new boat would have no such limitations, scooting down the highways and small lake-access roads with nonchalance.

So our potential names for her included *Prairie Dawn* and a host of variations on that theme. Since she's big and very yellow we decided that she would be named after the queen of the prairie blossoms, the sunflower. That first year I even sewed all her canvas in dark brown to go with the sunflower theme.

But then, as the number of her modifications and repair projects continued to grow beyond our wildest imaginings, so did our list of names. The years went by and, since we had not yet made an absolute commitment, we deliberated with a host of names, including some focused on our lifestyle as wandering editors. We considered names such as *Rough Draft* and *Editor's Note*. We even considered *Good Old Boat* (now there's a name that has worked for us in the past). Other names came and went as well, but none of those matter anymore.

> **"From the beginning, we understood that she would be a 'child of the prairie,' taking us to lakes and seasides far from home . . ."**

Sailors are not farmers. They don't even make good gardeners; the two activities compete for the same chunk of time. Years ago, however, early in my sailing career I tried to plant giant sunflowers by my office window. One year the chipmunks ate the seeds. The next year the rabbits found the tender shoots. It was a running battle that ran for four or five years before I conceded defeat and quit.

During this time I noticed the wild sunflowers growing by the side of the road. These roadside "volunteers" (weeds, really!) were not the giant sunflowers of my dreams, but rather a sturdier and simpler wild sunflower. These were true prairie flowers.

Imagine our surprise and delight when we returned home last August — after three wonderful weeks spent sailing *Mystic* on Lake Superior — to discover a 7-foot wild sunflower growing up in the shelter of our project boat. This wild sunflower had not been specifically planted, was completely untended in the summer drought, and was joyously creating one yellow blossom after another.

There will be no further debate. Our boat shall be named *Sunflower*.

Of cover shots, angels,

Don't knock the OMC Saildrive

Gregg Nestor, in his review of the Hughes-Columbia 31 (November 2008), is somewhat dismissive of the OMC Saildrive. I've been in possesion of a 1978 Islander 26 with an OMC Saildrive for more than 20 years and can report that I've had no significant problems with it. It has never failed to start and provides more power than the hull can take. That — coupled with not having to deal with oil changes and literally no maintenance other than an occasional change of spark plugs — suits me just fine. I would grant that it is a somewhat inelegant beast and may not appeal to the purist but, from a practical standpoint, I've found it to work just fine.

Tom Flader
Fond du Lac, Wis.

In love with a Nordica

I've been subscribing to your magazine for a while now and love it. I own a 1978 Nordica 20. I've been restoring her for the past two years. The interior enhancements I've made are posted on the Nordica website (search for my boat's name: *Njord's Noatun*): <http://www.nordicaboats.com/html/projects.html>.

Christine Rennord
Highland Park, Ill.

Theory of relativity

As for Barry Marcus' boat that grows during the winter maintenance season and shrinks after being launched, my boat is similar. When people ask me how big my boat is, I explain that when viewed from the end of a scraper or paintbrush, it is infinitely large, but when seen in the ocean during a storm, it seems tiny. These insights confirm Einstein's theory of relativity.

Ben Stavis
Bala Cynwyd, Pa.

Growing pains

So this problem [mentioned by Barry Marcus in the November 2008 Mail Buoy] is not just a Southern Hemisphere thing, huh? My boat regularly shrinks and expands according to circumstances.

Right now, she is on the hard and has doubled her size. As the coatings are finished, she is gradually shrinking back to 31 feet. When my partner came aboard for a cruise, the boat shrank to less than half size. As he is a large man who takes up a lot of space, it would have been more logical if the interior (at least) could have doubled.

As for slip fees, it's a well-known phenomenon in Australia that boats become shorter when a slip is booked. Common sizes are 9.9 meters, 10.9 meters, 11.9 meters, and so on to suit our 10-, 11-, and 12-meter berths. But alas, my 31-footer becomes a 35 due to her outboard rudder and bowsprit. As with all things in life, it pays to be flexible.

Petrea Heathwood
Mackay, Queensland

While we're down under . . .

The crew of *Kalida* sent this photo (below) of Natasha, age 10, and Matthew, age 8, taken on Lizard Island in Australia. Their parents are Dave and Allison Harper. Dave tells us, "Lizard Island is located 240 kilometers north of Cairns and 27 kilometers off the coast of North Queensland, Australia. It is a national park covering 1,013 hectares with 24 sandy beaches and a lagoon. For boaties, this is the best anchorage in Australia with so much to do. It is the last place you can swim when heading north because farther north you will be eaten by crocs or sharks."

Editors

Multi-tasking at the tiller?

My girlfriend, Linda, and I have been sailing for just over one year now. I think we're more hooked every time we go out. We are members of the Boston Sailing Center, where we

and growing pains . . .

are learning to sail, currently on J/24s. Early in our classes, I found an issue of *Good Old Boat* on a pile of books and magazines. I picked it up and figured it would be a good subscription to have. I tear through it every time it arrives and have plenty of "When I get a boat someday . . ." moments.

Thanks for a great magazine. I've received my final issue and am about to renew.

Here's a picture of Linda (above) multi-tasking at the tiller while reading our favorite sailing magazine with our favorite city in the background.

Bob Damiano
Arlington, Mass.

An angel of the marine kind

We love our good old boat, *Seahorse*, a 1976 Edey & Duff Stone Horse, but finding parts for the old Petter 1-cylinder, 5-hp diesel can be a major challenge. Or it was . . . until the folks at Edey & Duff pointed us toward Carol King at R. A. Mitchell Co., Inc. of New Bedford, Massachusetts: 800-990-5685, <http://www.ramitchell.com/>. Carol possesses a virtual encyclopedic memory for old, out-of-production marine engines. Repeatedly, she has searched and found parts for our old Petter. Regardless of how small the order may be, she applies the same effort in searching through technical manuals and emailing and telephoning sources in North America and Britain. She has never failed to find the parts we need to keep the old auxiliary diesel running. She is the best.

Paul and Kanani King
Sturgeon Bay, Wisc.

Pettit's high-quality antifouling

I own a 1976 27-foot Hunter. I bought this boat two years ago to refurbish it. The boat had not been in the water for two years. I had a lot of work to do on it, so I launched it with the original bottom paint on it (a hard-service type). When the boat was hauled out in the fall, it was power-washed and put in storage. During the winter, I was seriously injured and disabled. In the spring, I was unable to bend very well and could not sand the bottom. I was told that I could touch up any chipped areas with a good grade of turpentine and household primer. I painted the bottom with a roller so I would not have to bend. I used Pettit single-season ablative antifouling paint.

Then the boat sat on the mooring for about 11 weeks, as I was not able to sail. During the summer, about 90 percent of the boats on the river were hauled out and power-washed, due to heavy barnacle coverage. When my own boat was hauled out, the bottom was somewhat dirty but had no barnacles at all. I called Pettit and told them how well their paint held up and the great condition of the bottom of my boat. I know, from years of owning boats, that this was not normal, but it worked well for me.

This might help someone with a similar health problem. Please see that Gregg Nestor reads this, too, as his articles have helped me many times.

Del Grindle
Bellingham, Mass.

Easy halyard replacement

The article on replacing halyards (September 2008) was well done with excellent illustrations. There is another method for end-splicing a line that I have used several

Our thanks to Kevin Alles of Kingsville, Ontario, for this wintry buoy near the Cedar Island Yacht Club. Send a high-res image of your favorite aid to navigation. If it's printed, we'll send you a good old ball cap or T-shirt.

times. It uses string tape of the type used for securing packages for mailing. It's called fiberglass reinforced filament tape; 1 inch x 60 yards is $5.78 at Staples. Lay two 8-inch strips of ½-inch tape lengthwise for about 4 inches on each end, then wind tightly around and around the whole length of the splice. Using all of my strength, I have never been able to have one give . . . even a little! This is cheaper, faster, and maybe even better because it creates a smoother surface all around!

Jim Hildinger
South Lake Tahoe, Calif.

On the preservation of varnish

I very much enjoyed Ted MacKinnon's interesting solutions to the problem of unused varnish forming a skin when stored in the can (November 2008). One of the great things about this magazine is that it is a forum for such ideas. So here is another take on the same problem.

Once opened, place the lid, wet-side up, on a clean surface. Then transfer just the amount you need to a clean container for immediate use and quickly close up the can. When finished, make sure the lid is gently but firmly engaged. I have found that a closed lid can, unbidden, rise eerily from its resting place because the air in the can is compressed by closing or has warmed a little and the varnish acts as a lubricant. Pressing the middle of the lid while tapping around the edges seems to prevent this. However you do it, the thing is to make sure it is securely in place where it should be because you might just want to turn the can upside down.

My father taught me that trick when I was a boy. He would store paint and varnish inverted to maintain a seal. Even if a skin were to form, when the can was turned upright and opened, the varnish would rest on its skin, rather than the other way around. Never again would we have to thrust a spike through the dark resilient surface while long-curdled varnish squirted back up our sleeves.

Inversion worked a treat for years until one grim day, when I found him standing in a pool of varnish in the boat shed (which is why I stressed that the lid should be properly secured, nor should there be even the tiniest leak). So it was that we regrouped and applied a modified inversion technique. With the lid firmly in place, and held manually just in case, we would invert the can just long enough for the varnish or paint to settle on the sealing surfaces, then return it to the upright and store it.

Geoffrey Toye
Pembrokeshire, Great Britain

Water-based paints

Regarding the letters on water-based paints (in the November 2008 Mail Buoy), System 3 was promoting a water-based two-part polyurethane with no toxic fumes at a recent boat show. I kept pressing the guy about use by a one-job amateur, and he kept admitting (an honest man!) that there is a learning curve. Still, after having worked with two-part Petit and Awlgrip, I bet it's worth a try.

Regarding Gordon Pickett's long snorkel (used for prop work and also mentioned in the November 2008 Mail Buoy), I think I read somewhere that this can cause capillary bleeding in the lungs. He may have been at a safe depth and I'm no scuba expert, but maybe some other good old boaters can elaborate on this.

Len Lipton
Norwalk, Conn.

Ninth Annual Good Old Boat Regatta

October 2008: another October and another Good Old Boat Regatta, sponsored by *Good Old Boat* magazine and hosted by Shearwater Sailing Club.

On Saturday, a lot of old fiberglass and wood bobbed about in light northeasterly winds (photo above) as the race committee set an ambitious course of A-B-C-X-U (on government marks in Chesapeake Bay). However, within minutes of the last start, the winds began dying so the race committee rushed to shorten the course at "C."

Sunday's winds were even lighter. As the boats began the southward leg back from "B" in a beginning flood current, the wind started to flatten out. The race committee began calling class time limits. The responses ranged from polite resignation, to a full primal scream, to reports of mutinies by crews concerned that all the beer would be gone by the time they got to the party.

Not to worry. There was not only plenty of beer but also Dark 'n Stormies and much more to enjoy on both nights. On Saturday, we celebrated Good Old Boat Regatta co-founder Charlie Husar's 60th birthday with a salute from the Good Old Boat Regatta band and a rumored Miller Genuine Draft cake (which turned out to be chocolate). Then, there was the announced engagement of Steve Van Pelt and Suzi Acevedo. It seems that these two met at last year's Good Old Boat Regatta . . . and things progressed (photo on facing page).

One of the nicest things happened at Sunday's party. All of the Tritons, but one, dropped out of the race early. John Redifer and Lori Raugh on *Sea Deuce* hung out to the time limit announcement. That night the fleet took up a collection and bought the non-awarded trophy for them. These are the type of fun things that happen at the Good Old Boat Regatta that set it apart from other races.

Next year is the 10th anniversary of this regatta. We'll do something special. After all, we have a tradition to uphold. A genuine Miller Genuine Draft cake, perhaps? Hmmm.

Don Frye
Good Old Boat Regatta co-founder
Silver Spring, Md.

Classified success

I just wanted to drop you this quick email regarding the Tartan 30 I let you guys advertise for me. About three days after the ad came out in the magazine, the boat sold. I never dreamed that running the ad would be so effective so quickly. Thank you! Outstanding job! I never even considered placing a "For Sale" sign on the boat or running it in the local paper. The only ad I placed was with *Good Old Boat* magazine, and I made the right choice. Thank you so much!

W. Darin Canterbury
Saraland, Ala.

And furthermore . . .

First, I'd like to thank you for putting my ad in your magazine and website for my old Shipmate Stove that was looking for a free home. It's amazing how many inquiries came in and still are coming in, even though it found a home. I wish I had a stove for everyone who asked! This only shows by how many people, and in how many places, your magazine is enjoyed.

I had come across an article in your magazine, saved it to read (made a copy or tore it out) and, well, I don't have it now. I can't say when it was published, probably within the last year, and I can't remember the title for sure . . . so I'm just hoping that someone there has a good memory. It was an article, including a sketch of a boom vang or preventer that could be operated from the cockpit. Does this ring a bell? I so much enjoy and appreciate your mag!

Louise Drinnan
Datona Beach, Fla.

Anyone can find our articles

Of course it rings a bell with us! It was "Taming the Boom" (March 2008). There was also an article on this subject by Jerry Powlas way back in November 1998. You can locate the publication date of every article and Mail Buoy letter published in the magazine and newsletter online at <http://www.goodoldboat.com>.

Go to Readers Services > Articles Search. As long as we keep that index up-to-date, we don't have to have good memories. You can search by author and keywords.

Karen Larson, editor

A controversial opinion

The Mail Buoy letter published in the September 2008 issue about 30-amp to 50-amp electrical adapters may mislead readers.

The fact that you need to use a 50-amp to 30-amp converter is not a cause for concern about how the dock is wired, because the dock current rating is not important to the safety of your boat. The 30-amp rating of your shorepower cord is not its absolute maximum rating. It is simply the maximum rating with an acceptable loss of voltage due to resistance. It will actually carry far more current and would easily trip a 50-amp circuit breaker without being damaged. In fact, in the case of a short circuit lasting a second or so, the actual current may rise to several thousand amps, without damage to cord or receptacle. This is the reason that circuit breakers have a KAic rating (Kilo Amp Interrupting Capacity) in addition to their overcurrent rating.

What you should be concerned about is whether the shorepower cord on your boat feeds a fuse or circuit breaker sized to protect the wiring inside your boat before it feeds anything else. That is where the protection should begin on your boat. The fuse or breaker rating should match the internal wiring rating or the shorepower cord rating, whichever is smaller. So, if your boat is wired with #14 wire, you should have a 15-amp fuse or breaker between the shorepower inlet and any electrical load in the boat.

Gary Lucas
Hightstown, N.J.

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

Tartan 37

Two sailors were called to a Higher Porpoise

by Karen Larson

Tom Wells and his wife and willing accomplice, Sandy, have been sailing together since the bug bit decades ago. Until they retire, they're happy sailing their Tartan 37 on Missouri's Mark Twain Lake.

On any given weekend — rain or shine — there's going to be a party among the sailors on Missouri's Mark Twain Lake. We'd never heard of Mark Twain Lake or the town nearby, where Samuel Clemens was born, but we were in for a treat when we decided to feature the 1979 Tartan 37 owned by Tom and Sandy Wells. *Higher Porpoise*, the fin-keel version of the 37, is sailed with great enthusiasm and skill on this reservoir in northeast Missouri.

We first met Tom and Sandy in Annapolis at the Good Old Boat Regatta and were impressed by their many talents and inherent *joie de vivre*. Sandy absolutely sparkles with enthusiasm and Tom is a mountain of a man surrounded by a halo of creative energy. Wanting to know more about these interesting sailors and their sailboat drew us south to Missouri to greet the spring and an eclectic mix of very high-spirited sailors . . . high-spirited in every way. We've never met a group of sailors who can put away a bottle of rum (and whatever else is available) with greater aplomb.

Spring was delayed that weekend. Once the rain came in buckets, the wind blew in the 20- to 30-knot range, and all the boats were accounted for and secured at the docks, an excellent mixture called a Dark 'n Stormy kicked off the weekend's revelries, most of which occurred in the spacious cabin of *Higher Porpoise*.

Tom is an engineer who has an aptitude for music. He is able to dream up the words and music to a song for almost any occasion. We were enchanted several years ago when Tom introduced the *Good Old Boat* song at the Annapolis regatta (for the sheet music, go to: <http://www.goodoldboat.com/resources_for_sailors/sponsored_regattas>). That caught our attention; this magazine had never had its own song before.

Sandy was trained as a mathematician. She took a temporary job managing the deli of a grocery store and has stayed there for more than two decades. But she discovered a creative skill later in life when she began building museum-quality model ships, first from kits and then entirely from scratch. These days, the construction of an intricate ship's model, such as the *Pride of Baltimore*, will take her about a year to complete in elaborate detail.

Tom's fault

Tom claims responsibility for the sailing hobby he and Sandy share. He discovered sailing after they were married when he attended an annual picnic with co-workers, a group of young engineers. There was a Hobie 16 at the picnic and Tom and another newbie gave it a whirl. "My companion became frustrated handling the Hobie," Tom recalls, "and finally handed it over to me. From the moment I took the helm and felt the power in the sails, I was hooked! By the end of the afternoon I was flying hulls. When we came

“They began that casual boat-buying dance that deludes only the potential boat buyers, who claim they’re ‘not really looking.’”

ashore, one of the sailors there said, ‘I thought you hadn’t sailed before.’ When I assured him that I hadn’t, he said, ‘Well, you had better from now on!’”

Willing accomplice

While Tom may have been responsible, Sandy was a willing accomplice. Tom tells the rest of the story: “I went home to Sandy that evening and walked in the door with glazed eyes and a slack jaw. I may have been drooling. I think I mumbled something like, ‘I’m in love.’ She just smiled and asked, ‘What are we going to buy *now*?’

“I said, ‘How about a sailboat?’ To my everlasting wonder and joy, she said, ‘Sure! Sounds like fun.’”

Since the couple already had two small children when they discovered this thing we call sailing, they agreed that something more stable than a Hobie 16 was in order. They found a neglected Luger Leeward 16 for $1,000 and towed it home for some necessary TLC. The initials of their first names, along with those of their two children, gave them a name for this boat. The names Sandy, Karen, Andy, and Tom created *Skat*.

Tom tells the story of their first sail: “It was a rather blustery day. We took her to a lake and rigged and launched her. At last it was time to raise the sails. We did so and promptly sailed sideways into the weeds. Lesson number one: lower the centerboard.

“That day *Skat* taught us what to do and what not to do, and we began a long love affair with her. Sandy added a weather cover for trailering, and we would put our camping gear in the boat and head out each weekend. We sailed numerous lakes throughout Michigan and ventured into the Great Lakes whenever the conditions were right. Sandy and I knew we had found a lifelong passion. We committed ourselves to learning to sail in any and all conditions, reasoning that someday we might have to sail in them.

“We took care of *Skat*, and she took care of us, and our skills grew. When we moved to Missouri in 1981, *Skat* came with us.”

Growing family

A few years later they looked around and realized that they had a couple of growing adolescents, soon to be teenagers. No wonder that 16-footer had begun to feel so small. Truly a good investment, they sold *Skat* for $1,400. The next boat was a new 1986 MacGregor 25.

“A friend made the suggestion that named our new boat,” Tom recalls. “We had mentioned to him that we were thinking of naming her *Porpoise*, and he asked, ‘Did you get into sailing accidentally or on purpose . . . or should that be on porpoise?’ *On Porpoise!* It seemed to fit, and she had her name.

“*On Porpoise* proved to be a wonderful boat. She was a Chevy to be sure, but we learned to sail her fast and well. She won a great many races and took us far and wide. She introduced us to Lake Superior’s Apostle Islands, where she spent nearly five months during the 11 years we owned her.”

During this time, the family also chartered in other more far-flung sailing areas and began to expand their big-water experience while the kernel of a dream took root. Tom and Sandy began to plan for retirement aboard a cruising boat in the 35- to 40-foot range. Tartan 37s made the short list of suitable boats, and they began that casual boat-buying dance that deludes only the potential boat buyers, who claim they’re “not really looking.”

“Memorial Day weekend of 1997 found us traveling to Michigan for a family event. We decided to take the Friday off as well and hop around boatyards in Chicago and along Michigan’s west coast. We were not seriously seeking a boat at all,” Tom recalls. “We were only looking at them to fine-tune our list.”

Not ready yet

One of the Tartan 37s at Larsen Marine in Waukegan, Illinois, had just arrived

Tom, above, and at the helm, at right, is a creative musician, the type who writes the lyrics and music to songs . . . sometimes instantly. Sandy is equally comfortable at the helm. Her own form of creativity tends toward building model ships from scratch.

The galley is large enough to handle heroic breakfasts with style. Tom's spice rack, covered with netting, is a clever addition.

The quarter berth, located to port, is large enough for two. It shares common real estate with the navigation station.

on a truck from New Orleans after years in the Caribbean. It was not ready to show yet, but Tom and Sandy insisted, even though the boat had yet to be cleaned up and rigged.

"The broker took us to the farthest shed on the Larsen grounds and opened the doors," Tom says. "There she sat on her cradle — a Tartan 37 with the fin keel we preferred. Her hull looked to be in fairly good condition. The broker provided us with a ladder and a flashlight, and we boarded her for the first time.

"She was a mess. Her deck was dirty. Her exterior teak was weathered and gray. Down below, she was full of pulpits, stanchions, and all manner of equipment removed for travel. Her interior teak was almost black. Her upholstery was worn and, in some cases, in tatters. I removed the companionway ladder and cover to look at the diesel, which did not appear to be too bad. I turned and walked forward. With each step in this bedraggled, dirty, and jumbled boat, I found an overwhelming feeling growing within: I was home."

As they drove north along Lake Michigan's east coast, that feeling gnawed at Tom for several hours before he asked Sandy about her impression of that final Tartan they'd seen. In an effort not to influence her decision, he hadn't yet told her of his feelings.

"Someplace north of Saugatuck, Michigan, I finally turned to Sandy and began to say, 'When we were on that last Tartan 37, did you . . .' That's as much as I got out when she finished the sentence: 'Yes! I felt like I was home.' Oh boy. We were in trouble now."

Life has a way of working out. They both agree that things that were totally improbable began to pop into place as though they were pre-ordained.

"Marina space that was non-existent was suddenly available," Tom says. "Where we were not financially able to think about such a purchase, we suddenly were. We were supposed to have this boat, and by mid-June we had an offer, counter offer, and acceptance. By July, the survey was complete and we closed the sale. By August 1997, she was in the water in our slip at Mark Twain Lake. There was no question as to what name she would bear. When we first began to think about a retirement boat, we decided that, since our 25-footer was named *On Porpoise*, any move up would mean we had been called to a *Higher Porpoise*." The dinghy, which is used to transport the ship's dog, Boomer, to shore, is aptly named *Higher Puppus*.

Fine collaboration

The Tartan 37 is the result of a fine collaboration between the Tartan Marine Company and the renowned design firm of Sparkman & Stephens. In 1975, Charlie Britton, owner of the Tartan Marine Company, wrote a letter to Sparkman & Stephens to share his ideas for a new 37-foot cruising boat. Meetings, discussions, and exchanges of ideas quickly followed, and before long the design was taking form. The boat would be a departure from the more classic lines of earlier boats and, by the time the design was ready for production, it featured a new and unmistakable look that is still reflected in current Tartan designs.

The Tartan 37 was produced with a shoal keel and centerboard. A more race-friendly fin-keel model was also available and was initially produced as the Tartan 38, although the boats were otherwise identical. After a time, the Tartan 38 designation was dropped and all models were produced as the Tartan 37.

From the mid-1970s to the late 1980s, 486 of these boats were produced. The majority of the boats have the shoal keel and centerboard; fewer than 10 percent have the fin keel. A few of the last Tartan 37s built were fitted with a Scheel keel.

By the time *Higher Porpoise* came into the lives of Tom and Sandy Wells more than 10 years ago, she was already 18 years old and had spent at least some of that time in salt water. There was work to be done. Under her newest owners' care, she has been fitted with new sails and rigging. She has new Andersen primary winches and a Garhauer rigid vang. She has a new anchor windlass. Recently, she received new stainless-steel opening ports and a forward hatch. Her exterior teak has been stripped, cleaned, and refinished with Bristol Finish.

Tom has spent many hours reworking the old Westerbeke 50. He says a replacement diesel is an eventuality, but the original power plant continues

to function dependably as long as it is maintained and coddled adequately.

Higher Porpoise has been almost entirely rewired. She has new instrumentation and all-new interior light fittings. The galley stove and refrigeration system have been replaced. Sandy has made new upholstery for her and has also sewn all the canvas aboard including the dodger, Bimini, and covers for the helm and mainsail.

"The Tartan 37 is the result of a fine collaboration between the Tartan Marine company and the renowned design firm of Sparkman & Stephens."

A revelation

Sandy also took on the maintenance of the interior teak. She and Tom gleefully remember the day that she first learned what was beneath all that black mildew.

Tom was working to clean the exterior of the boat on that first day at Mark Twain Lake when Sandy shouted from below, "Come here, QUICK!" When one hears that aboard a boat, drastic leakage comes to mind, so Tom dived below in a big hurry. Sandy motioned toward the V-berth, which she had started cleaning with Murphy's Oil Soap. The cleaning had revealed a beautiful teak surface. As Sandy puts it, "Perhaps the dirt protected it through the years."

A 1970s-era 37-footer has just enough space for two, with the temporary addition of friends or family. The V-berth has enough headroom for occupants to sit up and maneuver about and enough foot room that they need not play footsie all night. There is stowage below. The main cabin offers port and starboard settees and a pilot berth above the starboard settee. Tom's ever-present guitar has claimed the pilot berth as its own.

A drop-down table and L-shaped settee to port, and the handy liquor cabinet just outboard of that, make this the go-to boat when the weather gets nasty outside and the crowds gather inside. There is a wide quarter berth to port that provides the seating platform for the nav station. To starboard is a very adequate C-shaped galley in which Tom is the master of heroic breakfasts and Sandy creates the rest of the day's fare.

Throughout the boat, the interior teak is deep and rich, and little modifications catch the eye — the sort of modifications that come of living on and slowly adapting a boat to your personal requirements. Netting on the spice cabinet in the galley and a swing-out instrument panel are examples of the thoughtful touches that have been added over the years.

The cabin is filled with sailing books, both serious and whimsical, and oodles of toys. Tom and Sandy are surrounded by friends who like to commemorate special occasions with small stuffed critters and porpoises of all types. It goes without saying that if your boat is named *Higher Porpoise*, you will have a growing collection of porpoise mementos.

We sailed with Tom and Sandy on a day blustery enough to snatch your cap if you weren't paying attention. We learned much about sailing on a man-made lake that depends on a dam for its water level and has inlets to funnel winds in somewhat predictable patterns if you have the local knowledge. Jerry's comments on the sailing experience follow.

How Jerry saw it

"After the photo shoot for this article, Karen and I transferred to *Higher Porpoise* from *Wild Goose*, Liz and Jeff Fleenor's O'Day 322, which had served as the shooting platform. We continued sailing in conditions that were building as predicted. In a reservoir, wind always comes off the land, and wind blowing off the land is normally shifty and gusty. I was invited to steer for a couple of hours in these conditions while Tom and Sandy trimmed the sails.

"The Tartan 37 feels heavy and fairly stiff, but was certainly not immune

The pilot berth above the starboard settee belongs to Tom's guitar. The ship's dinghy, named *Higher Puppus*, belongs to Boomer, the ship's mascot and security guard/boat dog.

The dining area, along with the nav station (not shown) and the companionway ladder, offers seating for between 25 and 50 drunken sailors, or so it seems at parties on *Higher Porpoise*.

“The Tartan 37 feels heavy and fairly stiff, but was certainly not immune to the sharp gusts that probably doubled the wind speed and changed the wind direction 30 or 40 degrees.”

to the sharp gusts that probably doubled the wind speed and changed the wind direction 30 or 40 degrees with each cat’s-paw. When even the ‘lulls’ put the rail in the water, Tom rolled in some of the genoa to put the boat back on her feet. My impression was that she would take rough going in her stride, giving a better ride than smaller or beamier craft. The long waterline provided good speed. The masthead rig was powerful but did not overpower

Tom and Sandy, which made it a good choice for them.

“The roller furler allowed them to make quick adjustments in response to conditions. The main had mid-boom sheeting to a traveler located forward of the dodger, and the mainsheet came into the cockpit under the dodger where it was out of reach of the helmsman.

“This is a common arrangement on larger boats. It takes clutter out of the cockpit and can be strong enough if the boom was designed for mid-boom sheeting to begin with. The dinghy sailor in me, however, cringes at the idea of having the mainsheet out of reach of the helmsman and, unless extensive use is made of the Autohelm, this is not an arrangement that is easy to work short- and singlehanded.

“If you are the helmsman on that boat, you just steer while other crew-members work the sheets. To *Higher Porpoise’s* credit, she took the gusts with good grace by just steering up; to Tom and Sandy’s credit, they never showed any concern about the boat or helmsman. That led me to conclude that things were within the normal envelope.

“If Karen and I had been alone on our own boat in these conditions, one of us would have had a hand on the mainsheet all the time or we would have shortened sail even more.”

New horizons

Tom summed up his feelings for sailing and the boat they have selected: “As we look back over the years, we are so very thankful that we got into sailing together, learned together, and will continue to sail aboard *Higher Porpoise* together as long as we are able. Our Tartan 37 will eventually find her way back to the Great Lakes and then outward and beyond. Our retirement will find *Higher Porpoise* taking us to those new horizons.”

Karen Larson didn’t become passionate about sailing until she met Jerry Powlas. They bought a C&C 30 soon after they were married and (within the limits of a sailboat and short vacations) have been sailing farther and farther afield ever since. They hope to increase their potential range with Sunflower, *a trailerable C&C Mega 30, the infamous “project boat.”*

Tartan 37

She's just as fit for bluewater cruising as for club racing

by Ted Brewer

Tartan 37 C&C 38 Catalina 38

Olin Stephens pioneered the fast keel/centerboard (k/cb) ocean racer in the 1950s, beginning with the famous *Finisterre*, with her winning ways. Given that ancestry, the Sparkman & Stephens-designed Tartan 37 had to be both a competitive and a civilized cruiser/racer in her day. As always, Tartan built her to unusually good standards, with a balsa-cored hull for strength and lightness, enabling the 37 to carry a very impressive 48 percent ballast ratio in her centerboard version and 47 percent in the deep-fin option.

In essence, the 37 has 6 inches more beam than *Finisterre*, 3 inches more draft and, although she is 3,000 pounds lighter, she carries over 1,200 pounds more ballast. Obviously, the Tartan 37 was designed to be a very powerful yacht indeed, whether in centerboard or deep-fin form. It may seem odd that the 37 carries less sail area than her famous sister, but she carries it in a tall and very efficient sloop rig instead of a low-aspect-ratio yawl rig. To sum it up, the Tartan 37 is a very much-improved design compared to earlier k/cb yachts. So, how would she fare against some of her contemporaries?

I selected the C&C 38 and the Catalina 38 for comparison, as I could not find a k/cb yacht of that era in the same league as the S&S design. The shark-finned C&C 38, like the Tartan, is also balsa-cored. However, C&C chose to use the weight savings to reduce ballast by more than 1,000 pounds and the displacement by 800 pounds. With a foot more waterline, this results in a much lower ratio of displacement to waterline length and a more easily driven hull. C&C also gave their baby about 45 square feet more sail area and, as a result, she has the highest ratio of sail area to displacement of the three yachts discussed here. This would make her a real threat in lighter air and would have really paid off in club racing in her home grounds of Lake Ontario, as well as in similar light-air waters.

Carries less ballast

The Catalina 38 is the largest of the three yachts shown here, with a bit longer waterline and a few pounds more *avoirdupois*. She does carry less ballast than the Tartan, perhaps because her hull is not cored, but the difference is not significant. The Catalina is also a little heavier than the Tartan but carries a bit more sail, so, overall, her figures stack right up to the others, as you can see. I would give the Catalina the edge in moderate conditions, and the well-canvassed C&C the edge in lighter air. Still, the heavily ballasted Tartan 37 should stand out when the breeze really stiffens and should still be very competitive in lesser breezes. She is a thoroughbred in every respect.

However, so much depends on the variables of weather, sails, equipment, crew, and skipper that all three yachts will provide their owners with all the excitement anyone could ask for in club racing. Of course, the Tartan really competes against herself with deep-fin and centerboard versions. The two should be quite evenly matched, though, with the centerboarder taking lighter air and downwind honors and her finned sister showing her mettle upwind in stronger breezes.

Capable yachts

Still, except in club racing, these three yachts are not truly competitive today and are most likely to be sought after for their cruising, rather than racing, abilities. In that case, each of the three — four, if you include both versions of the Tartan — are comfortable, seaworthy, and weatherly yachts, quite capable of making extensive offshore voyages. The k/cb version of the Tartan would be at home in the shoaler waters of Florida, the Bahamas, and the Gulf, but she is also a yacht that can handle a circumnavigation, given the proper equipment, condition, and crew. Indeed, both Tartan 37s, k/cb or deep-fin, are thoroughbreds able to take their crews anywhere in the world and bring them home again.

	Tartan 37	C&C 38	Catalina 38
LOA	37' 3"	37' 7"	38' 3"
LWL	28' 6"	29' 7"	30' 3"
Beam	11' 9"	12' 0"	11' 10"
Draft	fin 6' 7" cb 4' 2"/7'9"	6' 1"	6' 9"
Displ.	15,500 lb	14,700 lb	15,900 lb
Ballast	7,500/7,500 lb	5,980 lb	6,850 lb
LOA/LWL	1.307	1.27	1.26
Beam/LWL	0.412	0.406	0.391
Displ./LWL	299	254	256
Bal./Displ.	0.47/0.48	0.41	0.43
Sail area	625 sq ft	671 sq ft	648 sq ft
SA/Displ.	16.1	17.9	16.4
Capsize no.	1.89	1.96	1.88
Comfort ratio	28.7	25.8	27.8
Years built	1979-88	1976-82	1979-91
Designer	S&S	C&C	Frank Butler

Ted Brewer is a contributing editor with Good Old Boat *and one of North America's best-known yacht designers. He also is the man who designed scores of good old boats . . . the ones still sailing after all these years.*

Signaling for Help 101

How to get aid when you really need it

by Don Launer

There are many ways a sailor can signal for help: body movements, sound signals, pyrotechnics, terrestrial radio, and via the search-and-rescue satellite radio system.

Visual signals

Visual signals for help may be as simple as slowly and repeatedly raising and lowering your outstretched arms. This is an officially recognized call for help. No extra equipment is needed. This can be effective any time another vessel is nearby.

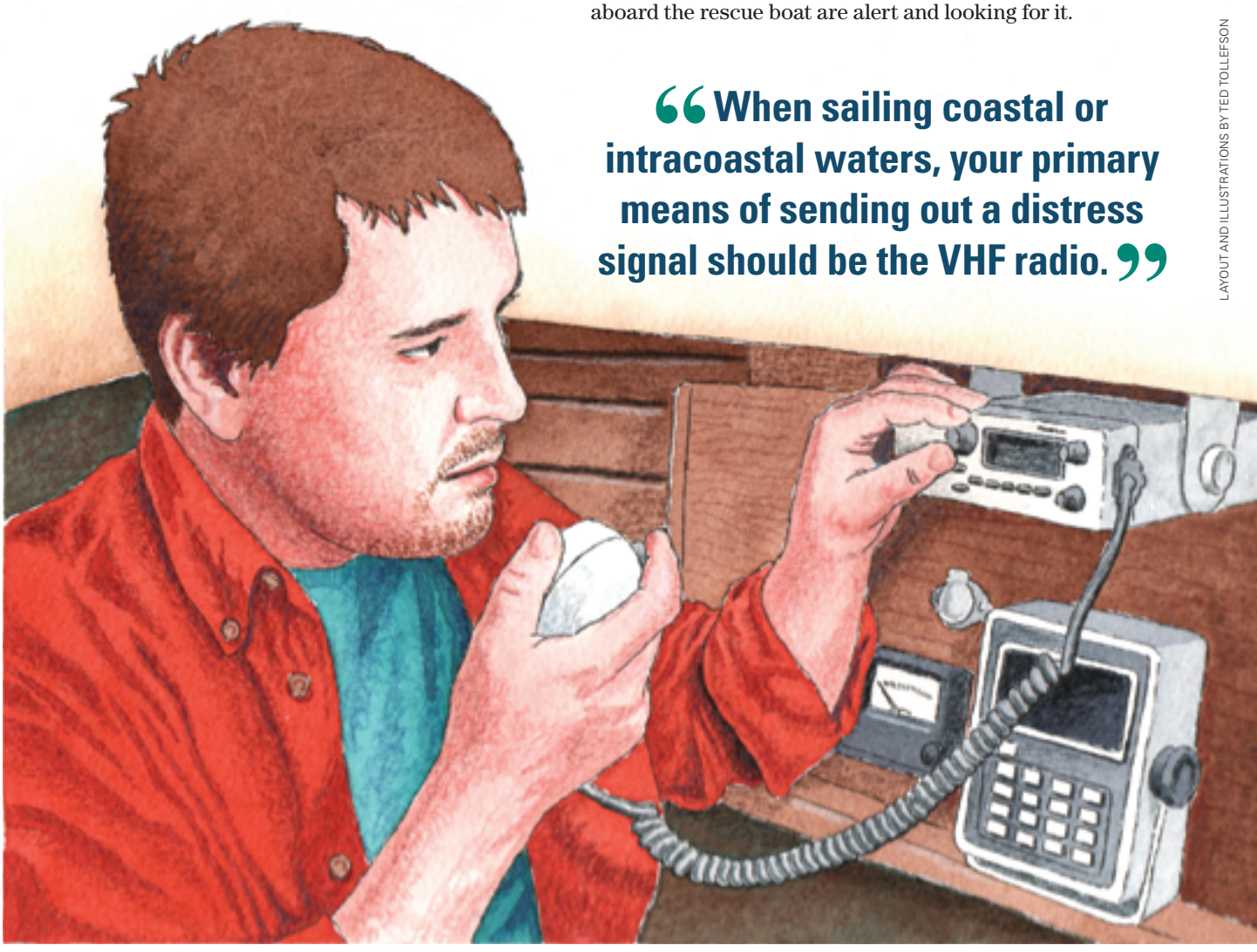
The display of an orange flag with a black ball and square also indicates a call for help. The black ball may be either above or below the black square. This type of flag is included in many emergency flare kits.

Another visual method is by signaling the Morse code "SOS" with a flashlight or searchlight (three short, three long, and three short).

Pyrotechnics is the visual method sailors usually think of first. Red flares can be either hand-held or rocket-propelled. For daytime, a hand-held smoke flare — one that emits large clouds of orange smoke — is very effective at alerting other boats that are too far away to see hand signals and flags, even those just over the horizon. At night, use hand-held flares or rocket-propelled flares.

Rocket-propelled flares may be either the meteor- or parachute-types, with the parachute flare visible longer than the meteor. If you're sure that there are other boats nearby, launch two flares about 30 seconds apart. Very often those on the other boat will think they *may* have seen the first flare. Launch the second flare while the people aboard the rescue boat are alert and looking for it.

"When sailing coastal or intracoastal waters, your primary means of sending out a distress signal should be the VHF radio."



LAYOUT AND ILLUSTRATIONS BY TED TOLLEFSON

Dye markers may also be used but are usually not in the inventory of most recreational vessels.

A white strobe light, flashing at 50 to 70 times per minute, may also be used on inland waters.

Searchlights can be used, provided the searchlight doesn't blind those on another vessel.

Using a signaling mirror to flash sunlight at a specific boat or plane is another method, but it's best to practice this technique before an emergency arises.

Audible signals

Two types of horn signals are recognized. The first is a very long, extended blast of the horn; the second is blowing an SOS — three short, three long, and three short blasts.

Repeatedly firing a gun or producing other types of explosive signals about one minute apart is also recognized as a request for aid but is not often used by recreational sailors.

Terrestrial radio signals

When sailing coastal or intracoastal waters, your primary means of sending out a distress signal should be the VHF radio. This signal can be heard by other boats in your vicinity as well as by the Coast Guard. It's important to learn the procedure for sending out a Mayday distress signal on VHF Channel 16, as well as how and when to use pan-pan and securité signals, even though these aren't distress signals.

If you have upgraded your VHF with Digital Selective Calling (DSC), the DSC distress signals can be transmitted with the press of a button. In association with an integral or remote GPS, this distress signal will also include your position.

Cell phones should not be your primary way of securing help because, when well offshore, contact with a cell tower may be unreliable. In addition, most cell phones are not water-resistant and 911 operators are not trained to handle emergencies at sea. Furthermore, unlike a VHF radio that can be heard by nearby boats as well as by the Coast Guard, the cell phone provides only person-to-person contact.

For boats well offshore, where VHF is out of range and there are no other boats nearby, radio distress calls can be made using single-sideband radios or the amateur (ham) band.

Satellite search and rescue

The search-and-rescue satellite (SARSAT) system is composed of geostationary (GEOSAR) satellites orbiting about 22,300 miles above the Earth, and low-earth-orbit satellites (LEOSAR), which orbit 528 miles above the Earth, with an orbit every 100 minutes.

GEOSAR satellites are capable of viewing large areas of the Earth and are able to provide an immediate alert for and identification of an activated 406-MHz emergency position-indicating radio beacon (EPIRB). They are, however, unable to determine the location of that beacon, unless the beacon is transmitting GPS coordinates. An EPIRB with an integral GPS is sometimes referred to as GPIRB. If no GPS coordinates are associated with the emergency beacon, then the LEOSAR satellites must determine the beacon's location using the Doppler technique.

This Doppler-location process of the LEOSAR polar-orbiting satellites may take two or more 100-minute orbits to complete, and this time could be further extended if the LEOSAR satellite is not in view of a ground station.

Thus, a GPIRB that transmits a vessel's location is of great value. That's because it avoids the relatively long time involved in using the Doppler-location process of the LEOSAR satellites. (For more on this subject, see "EPIRBs, PLB, and SARTs 101" in the January 2008 issue).

In the absence of any of the above methods of signaling, the U.S. Coast Guard allows any vessel to make any light or sound signals that cannot be mistaken for any other signal.

Don Launer, a Good Old Boat *contributing editor, has held a USCG captain's license for more than 20 years. He built his two-masted schooner,* Delphinus, *from a bare hull and sails her on Barnegat Bay in New Jersey.*

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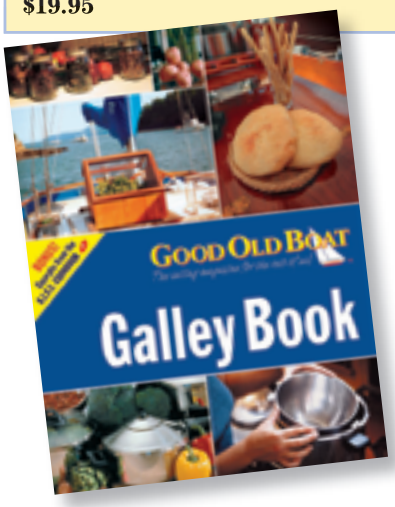

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A history of the

Up to 50,000 of these stalwart gasoline

WESTERBEKE CORP.

Universal Atomic 4 1950 trade show ad for the first model, above. It only claims 25 horsepower for the Atomic 4, not the 30 horsepower claimed later. Fahrney Hydro-Carbon Motor marine engine, 1901, below. The nameplate reads: Fahrney's Hydro-Carbon Motor, Speed: 600, Type: Marine, HP: 8, No: 54, Built by E. H. Fahrney, Chicago, Patented March 5, 1901.

In 1948, the Universal Motor Company of Oshkosh, Wisconsin, introduced a new engine model that soon began to play an important role in the Canadian and American sailboat industry, a role that has continued right up to the present day. In recognition of the dawning nuclear age in which it was born, this engine was called the Atomic. Including the number of cylinders in the name of its engines was a Universal Motor Company tradition, and because the new engine had four cylinders, the full name of the new engine was the Atomic Four, with the Universal model code UJ. Today it is commonly referred to as the Atomic 4.

Like all Universal marine engines, the Atomic 4's roots stretch back to the earliest Universal 4-cylinder marine engine — Universal Model C, first manufactured in 1915 — and even further back to 1898 and the very first engines built by the Fahrney, T&M (Termaat and Monahan), and Badger companies. These companies were the ancestors of the Universal Motor Company, which was formed by their incorporation in Oshkosh in 1913.

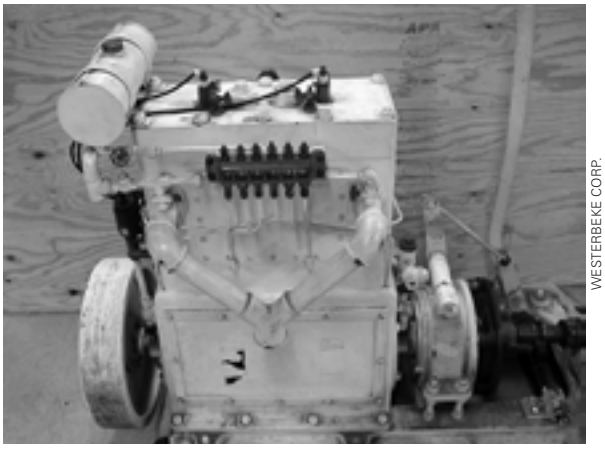
It's a not a Jeep engine!

Despite persistent rumors to the contrary, the new Atomic 4 was not a modified Jeep or tractor engine. It was based on the earlier Universal Utility Four engine, which was very similar to the Atomic 4. In fact, one of the Universal Motor Company's advertising slogans was "100% marine motors," because all its engines were designed as marine engines, instead of being adapted from automobile or tractor engines.

The early military and civilian Jeep engine was a 4-cylinder, L-head design (also known as a flathead, with the valves in the block on the same side of the cylinder) like the Atomic 4, but it was twice the size of the Atomic 4 at 134 cubic inches and had three main bearings, whereas the Atomic 4 has just two.

In 1953 Jeep switched to an F-head engine (with exhaust valve in the block and intake valve in the head), which bears even less resemblance to the Atomic 4 than the original Jeep engine. Atomic 4 engines, small tractor engines, early Jeep engines, and many other types of small marine and industrial engines (such as Hercules and Continental) had similar 4-cylinder L-head designs. Because they used the same Prestolite distributors, starters, coils, and Zenith carburetors as the Atomic 4, they looked similar and were often assumed to be the same engine.

The immediate predecessor to the Atomic 4, the Utility Four, Universal



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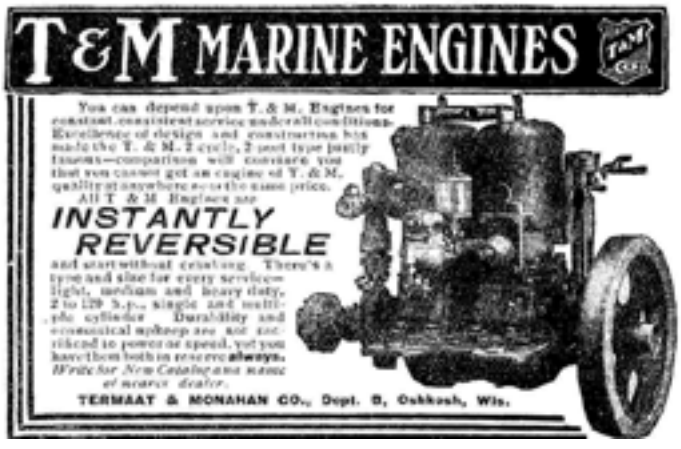


ENGINES AFLOAT, BY STAN GRAYSON

Universal Atomic 4

engines were built between 1948 and 1980

by Robert Hess

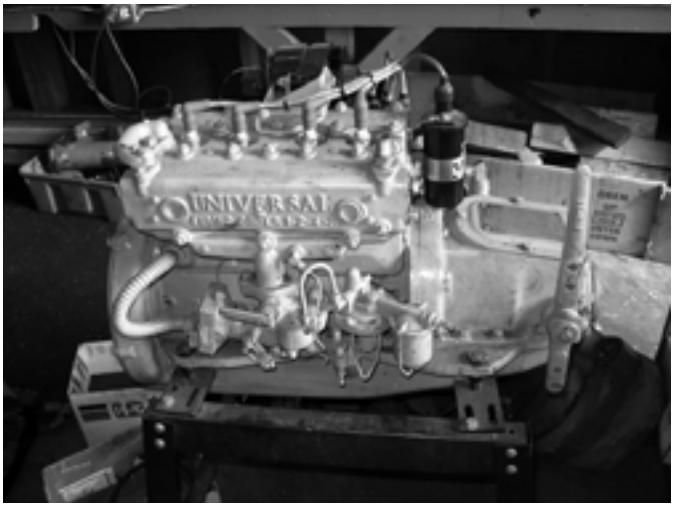
Model BN, was introduced in 1933. It was a 4-cylinder L-head engine with a capacity of 95 cubic inches, which developed 25 horsepower at 2,500 rpm. Unlike the Atomic 4, it was fitted with a Joes Gears integral reversing gear, not a Paragon. Joes Gears were manufactured by the Snow & Petrelli Manufacturing Company in New Haven, Connecticut.

The Utility Four was used extensively all over the world during World War II to power lifeboats for the ships, barges, and tankers of many navy and merchant marine fleets. It was available with an optional magneto ignition and a dual carburetion system that allowed it to run on gasoline or diesel fuel. To burn diesel, the engine was started on gasoline from a small engine-mounted tank and then switched to diesel when it warmed up. The hot exhaust system was used to pre-heat the diesel so it could be used as fuel.

Building the engine

The Atomic 4 was built at the Universal Motor Company factory in Oshkosh, in three main configurations: direct drive (UJ), reduction drive (UJR), and V-drive (UJVD). The Paragon reverse gears and reduction drives used on the Atomic 4 were built at the Paragon Gear Works factory in Taunton, Massachusetts, and the Walter V-drives fitted to the V-drive models were built by the Walter Machine Company in Jersey City, New Jersey.

Most Universal engine parts were cast in-house at the Universal Foundry, which was in a separate building near the factory in Oshkosh (the foundry was torn down in 2000; the factory is still there). Universal engine parts cast at the foundry were marked with the cast-in foundry mark UF (for Universal Foundry) as well as a cast-in model code and part mold number.



Facing page: an ad for the T&M (Termaat & Monahan) marine engine. This page, above right: an early Universal Atomic 4 UJ.

The Atomic 4 model code is UJ, and the Atomic 4 block mold number is 1, so Atomic 4 blocks are marked UF and UJ-1, cylinder heads are marked UF and UJ-2, oil pans are marked UF and UJ-4, and so on. Parts on early engines used the same casting numbers as later engines, even though in some cases the design of the parts was changed. For example, besides cylinder head and manifold redesign for newer engines, the belt pulley UJ-79, used on early engines with generators, was cast with thinner sheave sides than later pulleys intended for use with alternators.

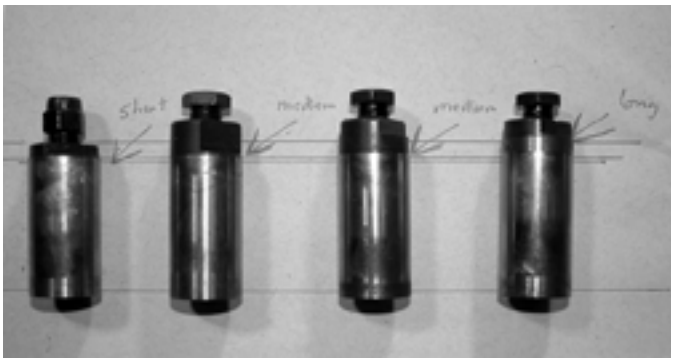
Design changes

Many design changes were made to the Atomic 4 over the 32 years it was in production. However, there were three main variants. The early-model engine's main distinguishing feature was a cylinder head without a thermostat housing and a "flip-top" oil filler cap on the side of the gear housing. These were built until around 1967 (up to serial number 79475). Early-model transition engines were identified by the oil filler cap in the gear inspection cover plate and were built around 1967 to 1969 (serial number 79476 to 170508). Late-model engines with an integral thermostat housing in the cylinder head (incorporating a modern full-flow bypass thermostat) and an oil filler cap in the front of the block were built from 1969 to 1980 (serial numbers higher than 170509).

Other major changes to the engine during its production life included a switch from Prestolite (initially 6-volt and later 12-volt) to Delco Remy electrical components; a modified lubrication system and oil-pressure release valve; a better carburetor (Zenith 68); different water pump (Oberdorfer); upgraded valves, valve followers, and springs; revised flywheel housing and cover plate (the new plate was a flat piece of sheet metal instead of the earlier cast piece); and a revised oil viscosity specification (SAE 30 for hot weather or SAE 10-30 for multigrade/year-round use).

Universal also issued several bulletins, including a modification to the oil-pressure release valve to stop fluctuating oil pressure, a modification to the thermostat housing to help cure overheating in hot weather, and a revised fastener torque specification for connecting rod nuts from 33 to 25 foot-pounds.

A lower-power version of the Atomic 4, the Stevedore, was produced for several years starting around 1974. The Stevedore model designation added an S to the Atomic 4 model, (model UJS for direct drive, model UJSR for reduction drive, and model UJSVD for V drive). The Stevedore was built to comply with lower Canadian federal import duties on engines with less than 20



Atomic 4 lifters were available in at least four different styles.

horsepower, because truckloads of Atomic 4 engines were being shipped north from Oshkosh into southern Ontario and fitted in sailboats built in the busy Canadian sailboat manufacturing industry centered there (C&C, Grampian, Hinterhoeller, Alberg, Hughes, Northstar, Bayfield, and others), which was shipping most of the boats they built back to customers in the U.S. (all this before the introduction of the North American Free Trade Agreement).

In 1978, changes to U.S. and Canadian Coast Guard regulations made it necessary for Universal to replace the AC Delco mechanical fuel pump used on all engines built since 1948; they switched to a Facet electric fuel pump with an oil-pressure safety switch.

The previously unused automotive ballast resistor bypass R-terminal on the Delco starter solenoid was incorporated in the system as an oil-pressure safety switch bypass to allow the electric pump to supply fuel while starting the engine before it had built up enough oil pressure (10 psi) to activate the oil-pressure safety switch.

Over the years, Universal also increased the optional equipment available for the Atomic 4 directly from the factory: a bypass oil filter (made by Fram); adjustable rubber engine mounts (made by Bushings Unlimited); high-capacity alternators (made by both Motorola and Leece-Neville); different control panels (some made by Teleflex); and freshwater cooling (made by Sendure).

Even after the engine had been out of production for 15 years, Westerbeke (which later acquired Universal) introduced minor design changes in the form of a new-style graphite head gasket (only one gasket is required as long as compression is under 125 psi), and an optional 180°F thermostat that raises engine operating temperature for longer life and lower fuel consumption designed to be used in freshwater-cooled engines only. Sales of the Atomic 4 grew strongly as the recreational sailboat market expanded.

The end of production

In 1961, the Universal Motor Company was sold to the J. M. Nash Company of Milwaukee, which became Medalist Industries in 1967. Thus, Universal changed its name to Medalist Universal Motors. This new shift in ownership changed the Atomic 4 model designations several years later. The UJ became the 5101; the UJR, the 5102; and the UJVD, the 5103. In the 1970s, Universal also manufactured a single-cylinder engine called the Atomic One and a twin called the Atomic Two, but neither had the level of sales of the Atomic 4 and they are not well known.

“. . . sailboat manufacturers increasingly began to switch from gas to diesel engines, and sales of the Atomic 4 tapered off.”

At the end of the 1970s, sailboat manufacturers increasingly began to switch from gas to diesel engines, and sales of the Atomic 4 tapered off. Production was stopped in 1980. The price of an Atomic 4 at that time was $2,324. Freshwater cooling was a $398 option.

By 1974, Universal had already begun importing Kubota diesel engines from Japan and adapting them for marine use, so the company was ready for the sailboat market shift to diesels. The company’s early Universal diesels were named Atomic to take advantage of the reputation of the Atomic 4.

Catalina, the largest U.S. sailboat manufacturer for many years, fitted Atomic 4 engines to most of its smaller boats until around 1985 (the engines fitted between 1980 and 1985 were produced in 1979 and 1980 and stored until they were sold), when they switched to Universal diesels.

Parts still available

Westerbeke dealers continue to sell new Universal marine diesels and parts for the Atomic 4. But Atomic 4 blocks, oil pans, valve lifters, and crankshafts, as well as several transmission components, such as Paragon gear throw-out bearing assemblies, are not available. However, most common rebuild and repair parts still can be obtained, including cylinder heads, pistons, thermostats, gaskets, and manifolds.

Many people have wondered if it would be feasible for Westerbeke to begin building brand-new Universal Atomic 4 engines. Many engine shops have approached foundries to evaluate the feasibility of manufacturing new blocks, only to discover that, although it is possible to cast new blocks at a fairly reasonable price, the cost of custom machining each casting to create a viable engine is prohibitive.

This is due to the lack of the original Universal factory tooling and production line. If Westerbeke did begin building a 21st-century Atomic 4, it would require many design changes to bring the engine up to date. The most important design decision would be the fuel the new engine would use.

Nevertheless, even without a new design, the legacy of the Atomic 4 is assured. Like the little engine that could, thousands keep chugging in classic sailboats around the world.

Robert Hess is a licensed marine mechanic at Eastern Marine Systems, a Volvo Penta dealer in Toronto, Ontario. Before joining Eastern Marine, he was a Westerbeke/Universal marine engine dealer in Vancouver, British Columbia. He and his wife, Laura, sail Water Lily, *a 1979 Hughes 38, which they repowered with a new Universal M35B diesel to replace the original Atomic 4 UJR.*

Sanding fiberglass

Experience the joyful Zen of boat restoration

by David Goldsmith

Meet your new best friend, the workhorse Porter-Cable 7335 right-angle sander. These can be used for all but the finest sanding.

It's a good idea to begin a major fiberglass boat restoration project by starting each morning in front of the mirror repeating, "I love to sand . . . I am one with my sander . . . abrasive grit is my friend . . . sanding is my life." After a few weeks of this, you'll start to believe it, and at that point the project should really take off. Chances are you're going to spend far more time on sanding than on any other operation in the entire project, so you might as well tell yourself you enjoy it.

Proper use of abrasives and abrasive tools is a test of a boatowner's skill. The finest teak, the closest joinery, and the clearest varnish will only emphasize poor sanding if the wrong grit or sander is used.

Tools

There are four power sanders in my boat-work toolbox: a random-orbit finish sander; a dual-action sander; a triangular detail sander; and a 4½-inch grinder with a sanding disc. There are those who would add a belt sander or a quarter-sheet sander to the list, but I haven't found anything the belt sander does that the dual-action can't also do (we're talking about projects and restoration, not a complete build). Even my vibrating quarter- sheet sander doesn't get used much since it's so easy to change paper on the disc sanders.

Grinders

An angle grinder is the tool for the most aggressive removal of material. Removing old non-skid on deck or loose flaking paint down below requires the grunt of a grinder spinning a very rough disc. You can spend a week with even the most powerful sander and rough paper but you can get farther in a few hours with a grinder. Of course, the finish left by the grinder will be gouged and rough and will require further sanding to get to an acceptable level for finish.

Grinders come in several sizes, based on the size of the implements they swing. The most common small grinders are 4½ inches in size and the large grinders are 7 inches. I have used a 7-inch grinder to take off a dozen layers of bottom paint in one go and it was quite an experience. I can't imagine using such a beast on the interior or decks, although the 4½-inch size is ideal for cutting tabbing, grinding glass, taking off paint, and removing non-skid and gelcoat.

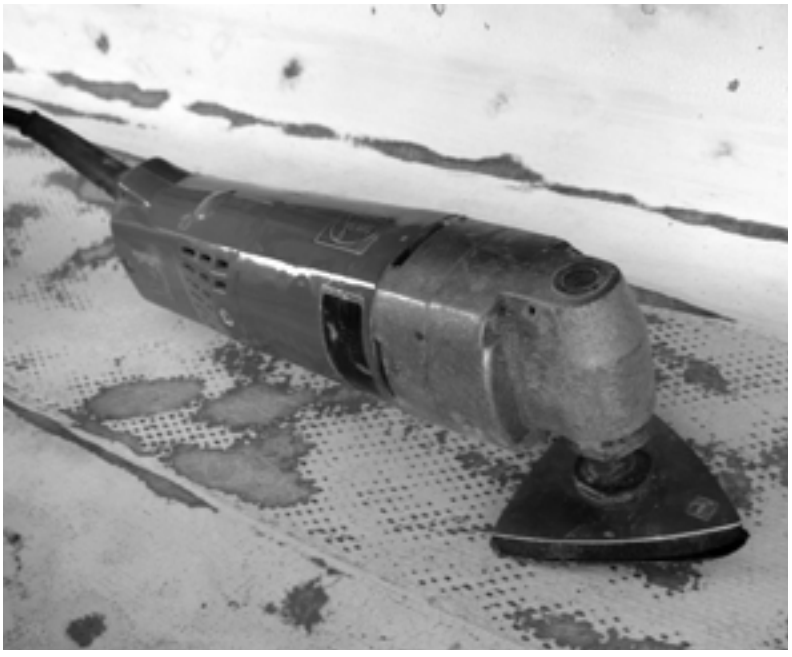
A grinder spins a disc that is attached to its spindle. I highly recommend a grinder with a ⅝-inch x 11-inch spindle. That is the *de facto* standard and what most accessories fit. Most grinders you buy stateside will be of this type. Occasionally I see one with a metric spindle, and I owned a Chinese-made generic one with a spindle thread that defied description.

Useless for glasswork

The typical grinding disc that comes with grinders is great for taking off stubborn nuts or other intransigent metals, but is pretty useless for glasswork. For the latter job, two accessories are essential: a diamond continuous-rimmed blade (this looks like a solid disc with grooves radiating out along the plane of the disc over the outer half inch of diameter) and a sandpaper backing disc.

You use the edge of the disc to cut tabbing and you use the disc at an angle to grind down the ridges left after tabbing is cut. It simply blew me away how quickly and easily these blades go through fiberglass — it was like cutting butter with a hot knife. I'm nearly finished with a major renovation project on a 32-footer, and I'm still on my first blade.

Cutting would be sufficient reason to keep a grinder around, but the sanding power of an angle grinder is essential for just any major restoration project. You can't just put sanding discs on a grinder, however; you'll need a backing pad. A backing



Random-orbit sanders, top. Be sure to check the dust collection and the paper-hole pattern before buying abrasives. The older-model Fein detail sander, bottom, is expensive but very effective in corners.

pad is a semi-rigid disc on the spindle of the grinder that supports the sanding disc as it spins.

Another nice disc to have around is a thin metal-cutting disc. This looks similar to the grinding disc that probably came with your grinder, but it's much thinner. It quickly cuts through bolts and old lifelines. There are masonry-cutting blades that look similar, so make sure yours says that it is for metal.

Sanders

Sanders are the tools we're all probably more familiar with from woodworking or furniture work. They range from triangular detail sanders to grinder-like right-angle dual-action sanders. Low-power finish tools are not the right choice for sanding fiberglass. I have two sanders in constant use: a random-orbit sander that takes 5-inch discs and a right-angle, dual-action sander, also in the 5-inch size, that takes the same discs. If you have access to a very large air compressor, then an air dual-action sander might be the best option of all; they are light, powerful, and inexpensive, but you need a lot of air to run one.

Random-orbit and dual-action electric sanders are most often available in 5-inch and 6-inch sizes, using either hook-and-loop pads or pressure-sensitive adhesive (PSA) pads for attaching sandpaper. The argument for the 6-inch one is simply that having a larger pad means that it swings a larger disc and sands a larger area more quickly. On the negative side, particularly for boat work, is the fact that the larger disc is harder to fit into lockers, corners, and other odd-shaped parts of a boat. Additionally, the old standard Porter Cable right-angle sanders in 5 and 6 inches are the same sander except for the pad and counterbalance. They can be converted from one size to the other with a few parts from Porter Cable. Having the same motor and gears turning the smaller 5-inch pad means that there is more power being applied per surface area of the smaller pad. Having more power per area should reduce bogging down and permit more aggressive sanding.

Nearly dustless

I've been happy with a pair of Porter Cable model 333 sanders for finish sanding. With a Shop-Vac hooked up to the dust port, this sander is very nearly dustless. I've used a similar DeWalt that was just as nice. These sanders are simple tools; pick a color you like and run with it.

The tool of choice in big dual-action sanders is the Porter Cable 7335 (5-inch) or 7336 (6-inch). The body of this tool can be a little large for some users, and the ergonomics could use some tweaking. Nevertheless, this is a well-built tool that can remove material very aggressively. The current model has a variable-speed feature; so far, I haven't turned mine down from "Full."

Finally, I also have an older Fein detail sander. This is an odd little duck that doesn't get used even a fraction as much as the Porter Cable sanders but, when needed, it's the only tool that can do the job. Boats have small corners, odd shapes, and small crevices. In these tight spots, this tool makes the difference between an OK job marred by a few oversights and a great finish that makes people look closely in an attempt to find a defect. The Fein sanders, and some other similar triangular detail sanders, vibrate in a very small area, allowing you to sand right up against edges and into corners in ways that quarter-sheet sanders cannot. The paper is expensive, and I have worn out a few of the backing plates, which are also expensive, but it is all very high quality and does a simply amazing job. When taking old finish off interior moldings and woodwork crevices, it feels like an eraser: just rub it back and forth a bit and you've got bare wood.

Minimum of hand-sanding

I'm not much of a perfectionist and, having experienced my worst trip to the emergency room after an injury related to hand-sanding, I do as little hand-sanding as possible. That said, there will invariably be an instance or two where there simply isn't any choice but to take a gritty disc in hand and go to it. In these cases, the finish can almost always be improved by adding a backer to the disc. A thin piece of closed-cell foam or some neoprene from an old wetsuit work well. For contour sanding, you can cut any shape you can think of out of scrap wood and wrap the sandpaper around it. The outside edges of molding or any radiused corner should be hand sanded, because even the lightest touch with a power sander will leave an uneven flat on the surface. If you're good, you can get away with a really soft pad and fine grit on the sander, but why risk it?

It's difficult to describe sanding technique. You want to apply some pressure, but not too much, and to tilt the sander at just a bit of an angle while keeping as much of the disc as possible on the surface. You'll develop a feel for it. Just make sure you create a balance between how much pressure you apply and the fatigue it creates. You want to exert some pressure while holding the sandpaper to the material but not enough to tire yourself out, overload the motor, dig into the material, or vibrate the substrate in such a way as to reduce sanding effectiveness. The sander should do the work; if you're quickly tiring from sanding, chances are it's because you're applying too much pressure. After a few hours of constant sanding you'll start fancying yourself something of a sanding artist: taking off a few layers of uneven paint here, smoothing some varnish there . . . OK, maybe I'm going too far in glorifying grunt work.

Abrasives

Sanding begins with coarse sandpaper (the low numbers, such as 24-, 32-, and 50-grit) and works down through steps to ever-finer papers (120- and 220-grit or higher). I have been astounded that I have ground the entire interior of our 32-footer with just two 24-grit discs that still have some life left in them. At this writing, the cockpit has been ground and the decks will follow, all with 50-grit, and after a day of grinding I'm still going strong on my first disc. I was concerned when I saw that the grinder sanding discs came in three-packs, particularly when compared to the 50- or 100-packs of sandpaper I had been buying for the dual-action sander.

I've found that 24-grit is about right for removing flaking gelcoat or paint on the rough side of a molding and that 50-grit has been perfect for taking off old non-skid on deck where the 24-grit was too aggressive. After using the 24-grit discs on the interior, I stepped through 80- and 120-grit. Going much smoother isn't really essential

"When taking old finish off interior moldings and woodwork crevices, it feels like an eraser: just rub it back and forth a bit and you've got bare wood."

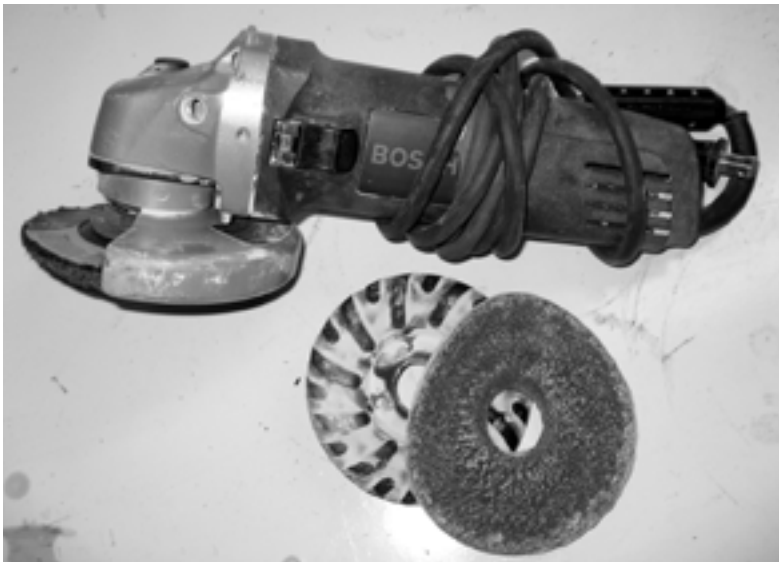
if you're going to use a high-build primer or if the area is in a locker or other inaccessible spot. I only went as far as 80-grit in the quarter berth areas, for example. For the smooth areas of the overhead I used 220-grit, but that may have been excessive. I'll re-assess that choice once the finish is complete. On deck, I wouldn't go further than 120-grit on the areas to be smooth, and going finer than 80-grit on areas to be non-skid is superfluous.

Removing the finish

Preparing woodwork such as bulkheads and built-ins for a full restoration can be accomplished by using 80-grit paper in a dual-action sander to completely remove the finish from the wood. One advantage of owning an older boat is that the surface veneer is thick enough to sand to raw wood without sanding through. Using 120-grit paper followed by 220-grit paper will prepare the wood for varnish, with 320-grit paper used between coats.

However you buy your sandpaper, buy lots of it, and change it often. In large quantities it isn't terribly expensive, and having lots of it around means you'll always have a fresh disc available. Even if a disc still feels rough to the hand, it may still need to be changed, since going through a few discs an hour is perfectly normal. PSA discs cannot be put back on once they've been peeled off, so use them up before changing grits. Once they come off, fold them in half, as these "tacos"

Having a few 4½-inch grinders around saves time spent changing wheels. These are set up for sanding, cutting, and grinding.



The Bosch 4½-inch grinder with sanding pad and 36-grit disc is a good choice for removing very heavy material.

can be used for hand sanding and touch-ups. Keep a few such tacos of each grit on hand.

People have personal preferences for different brands and types of sandpaper. I've tried all of them and, to tell the truth, I've found so much variation from one batch to the next of the same type that I hesitate to recommend any brand over the others. I heartily recommend buying your paper in bulk online from a company specializing in abrasives, since even the generic stuff from that source will be better than that from the local hardware store.

Like most things, the less pretentious the company, the fewer marketing claims about the product, and the less branding, the better. If you have a local abrasives supplier or an industrial supplier that sells directly to the public, it may be a good source, although these sources can be expensive. I buy most of my paper online from Industrial Abrasives, Inc., of Reading, Pennsylvania. A box of 50 discs of 5-inch 5-hole hook-and-loop runs about $12. I have also found that McMaster Carr also carries very good abrasives and just about anything else you could possibly want. This company is an excellent resource for all kinds of things and you can spend an afternoon exploring their online catalog.

Protective equipment

Personal protective equipment is essential when using grinders and sanders. While fiberglass isn't as scary as asbestos, it still isn't something you want to breathe for any length of time. A respirator is essential; dust masks won't cut it. Eye protection is also essential and goes beyond safety glasses; goggles are better. Even with tight-fitting eye protection, it is simply amazing where glass grit can go. Grinders, in particular, and sanders, if they are used for more than a few minutes, are incredibly loud, particularly in the reverbative confines of a plastic hull. Ear protection in the form of over-the-ear muffs keeps grit out of your ears as well as protecting them from noise.

Thick gloves are a good idea too. A grinder is a dangerous tool, so the user must remain aware of his hand positions relative to the disc. You don't want this tool to graze your leg or nick your finger. The protective guard is there for a reason; I have never encountered a situation in which removing it would have made things easier. It provides an essential safety function by keeping fingers off the spinning disc and it directs dust one way, rather than all over the place. Leave the guard in place!

Skin irritation is par for the course when working with fiberglass. When every surface and the air itself is full of glass dust, your skin will itch. A cold shower helps, but the truth is that after grinding fiberglass, you're going to itch. I've seen the moon suits that are supposed to help, but I haven't tried one. (***Note:*** *Like eye and ear protection, these suits are clumsy, uncomfortable, and unventilated. Wear them anyway.* ***–Eds.***)

The Zen of sanding

In contemplating a major restoration project, the moments we probably anticipate involve lovingly flowing fresh varnish onto original woodwork, hooking up new electronic doodads, the crackle of new sails, or maybe an engine that will finally start each and every time.

The truth of the matter is you're going to spend countless hours leaning on a little buzzing sander and wondering if the new batch of 120-grit discs is less aggressive than the last batch. I won't tell you to learn to relish sanding, but you might as well spend some of that time becoming one with the electricity, the motor, the sanding pad, the paper of the disc, the grit of the surface, and your yacht that's underneath it all.

Remember that it's your sailboat that you're shaping, ever so slightly, with each tilt of the sander and each swipe of the grinder. Take some pride in the buckets of sanding dust that accumulate and the bags of spent discs. A few extra hours sanding can mean a lot to the finished product and the pride you'll always enjoy in the coming years of sailing.

David Goldsmith sails his Flying Scot, Anhinga, *on the waters of Florida, toils on his Islander 32 restoration, and works on a Ph.D. at the University of Florida.*

Resources

Industrial Abrasives, Inc.
<http://www.riverweb.com:8002/index.html>

McMaster Carr
<http://www.mcmaster.com>

Wrestling with rust

One sailor's method of maintaining an iron keel

by Gregg Nestor

A few years back, my friend Roland purchased a used 31-foot sailboat with a fin keel made of cast iron. After his first sailing season he discovered that the keel was severely corroded beneath numerous layers of ablative bottom paint.

Autumn, with its damp and questionable weather conditions, was ruled out as the time of year to address this problem. Instead, Roland decided to use the off-season to research and develop a technique to refurbish the rusted keel and to assemble the necessary materials. Come spring, he'd tackle the problem with confidence.

But let's pause here to explore some basic metallurgy. Only a few metals, such as gold and platinum, occur naturally in their elemental forms. Most other metals occur in nature as oxides. Iron is one of these. Iron ore is mined, processed into iron and steel, and then fashioned into all kinds of useful objects. When these objects corrode and form rust, the metals revert back to iron oxide. This cycle is nature's way of reclaiming the metals that humans have extracted from the earth.

Some metal oxides resulting from corrosion can act as a protective coating. This is the case with aluminum, stainless steel, and lead, to name but a few. Iron oxide, on the other hand, is porous, flaky, and loosely attached. It provides little or no protection to the metal underneath. Over the years, we have developed all types of processes and coatings to break nature's cycle. Unfortunately, even the best of these attempts do nothing more than slow down the corrosion process.

In that case, why make a keel from cast iron instead of lead? Cost and environmental concerns top the list of reasons. In the first place, lead is far more expensive than iron, pound for pound. As foundries that pour cast iron are much more common than lead smelters, it's cheaper to make an iron keel. Also, lead and the fumes from melting it are toxic and must be carefully contained and monitored.

Surface preparation

The first step in refinishing a rusted keel is to remove all the corrosion byproducts from the metal's surface. There are several ways to do this, including grinding, sandblasting, chemical stripping, or any combination of these. Bear

The rusted cast-iron keel, above. The port side during the grinding process, below.

“Cast iron will begin to rust as quickly as one hour after it has been cleaned. So Roland sanded and applied an initial protective coating.”

in mind that metal does not corrode uniformly. Localized corrosion in the form of pitting will be common: remove the rust from all surfaces, including from deep inside any pits. If this is not done, a corrosion cell will develop beneath the porous loosely bonded rust left in the pits, and aggressive localized corrosion will occur.

Roland elected to use a grinder with coarse-grit sanding discs to remove the flaking bottom paint and rust from his boat’s cast-iron keel. He alternated between 36-grit and 24-grit paper. While these grits normally are very aggressive, he found that their sharpness was quickly blunted by the hardness of the cast-iron keel. Several packages of sanding discs were consumed before the removal process was complete and the keel was ready for coating.

First coating

Cast iron will begin to rust as quickly as one hour after it has been cleaned. So Roland sanded and applied an initial protective coating to one side of the keel before tackling the other. He selected a product called Rust-X as a base coat.

Besides acting as a passivating primer, Rust-X chemically converts any remaining rust from an oxide to a phosphate, stopping the corrosion cycle. The material is a water-thin milky liquid which, when applied, changes color from white to a blue-black. This change in color indicates that chemical passivation of the cast iron has taken place and that a sound base for the application of further coatings has been achieved. Even though a few pits were in evidence, Roland felt that the Rust-X would effectively deal with them. He was wrong.

Fairing the surface

Once both sides of the keel had been cleaned of rust and initially coated with Rust-X, it was time to smooth the surface. Corrosion had taken its toll and several areas of the keel resembled the surface of the moon. Roland used an epoxy resin/filler and applied the mixture as smoothly as possible, thus minimizing the amount of subsequent sanding that would be needed. In those areas where sanding exposed bare cast iron, another coat of Rust-X was applied.

At this juncture, Roland briefly considered applying a layer of fiberglass cloth and epoxy. But since this was the first time the keel had been refurbished, Roland elected to give chemistry, in the form of barrier coatings, a test of a year or two before adding a physical protective barrier. In this way, if something went wrong, it could be easily seen and corrected without having the

An application of the Rust-X, top left. Note the color change just above the brush, from milky white to blue-black. The keel coated with Rust-X, top right. Fairing the keel with epoxy resin/filler, bottom left. The keel coated with Interlux VC Tar, bottom right.

work and expense of repairing and reapplying a fiberglass skin.

Coatings two and three

Roland selected Interlux VC Tar to coat the now-smooth keel. He felt that two coats of VC Tar would not only provide a protective barrier coating for the Rust-X pretreatment, but also act as a compatible primer for the final coatings of bottom paint.

Many Great Lakes sailors have discovered that properly-applied Interlux VC 17 bottom paint not only performs well in this freshwater environment, but also can last two, or sometimes even three, seasons. Before launching the boat, Roland rolled on two coats of Interlux VC 17m Extra.

In retrospect

After a summer of sailing, Roland had the boat hauled. At first glance, the lower leading edge of the keel displayed the absence of bottom paint, exposing the VC Tar primer. He suspected that this was the result of a soft grounding and not active corrosion. Closer inspection of the keel revealed localized corrosion on the starboard side in the form of a couple of ⅛-inch pits. Except for the pits, it appeared that Roland's labor that previous spring had paid off.

In his haste to launch the boat the following spring, Roland simply sanded those small, pitted areas and refreshed the keel with a coat of Interlux VC 17m Extra. This expediency proved to be unwise.

> **"Roland simply sanded those small, pitted areas and refreshed the keel with a coat of Interlux VC 17m Extra. This expediency proved to be unwise."**

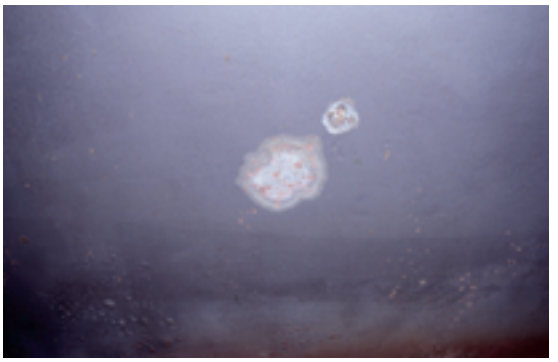
After a five-and-a-half-month-long sailing season, Roland again had the boat hauled. Again, the lower leading edge displayed wear. The bottom paint and the VC Tar barrier coating were gone, exposing the cast-iron keel. He attributed this condition once more to a grounding. The previous small areas of localized corrosion had grown considerably, from ⅛-inch spots to something the size of a half dollar. Except for the pitting, Roland was guardedly happy with the results.

Final analysis

Throughout the refurbishing process, Roland was careful to take a lot of photographs and to keep notes chronicling his work. After carefully reviewing everything, Roland felt that the overall results achieved were good, if not extremely encouraging, although a few areas required special note. They are:

- Following the grinding process, sandblasting of the pitted areas should have been done. This would have assured a rust-free surface, and

The keel coated with Interlux VC 17m Extra, top left. Results after the first season; note the lower leading edge, top right. A closer look at first-season results; note the localized pitting, bottom left. Results after the second season; note the lower leading edge and enlarged areas of pitting, bottom right.



A closer look at second-season results, with enlarged areas of pitting, at right. More second-season results: the lower leading edge is devoid of protective coatings, exposing bare cast iron, at far right.

quite possibly could have eliminated the development of localized corrosion cells.

- It was good that Roland did not sheathe the keel in epoxy and fiberglass. The small corrosion cells that did develop might have remained unnoticed until they had evolved into an alarming condition.
- When the pits were noticed after the first season, they should have been properly treated rather than simply sanded and given a coat of Interlux VC 17m Extra. Proper treatment should have incorporated all of the steps, including sandblasting or the use of a Dremel tool to clean the corrosion byproducts from the pitted area.
- Assuming that the pitted areas are properly addressed, sheathing the keel with epoxy and fiberglass prior to the application of the primer and bottom paint will add a protective physical barrier. Several layers of fiberglass and epoxy are warranted on the keel's leading edge, especially the lower portion that's subject to damage due to groundings.

Gregg Nestor, a contributing editor with Good Old Boat, *developed a keen interest in sailing while growing up on the southern shore of Lake Erie. His third book,* The Trailer Sailer Owner's Manual: Buy-Outfit-Trail-Maintain, *is soon to be released by Paradise Cay Publications. When not writing about sailing, Gregg and his wife Joyce, cruise aboard* Raconteur, *their Pearson 28-2.*

Cast-iron keel care and repair

by Eric Thomas

Cast-iron keels are prevalent on many of the small trailersailers of the 1970s, due to the strength and suitability of iron for swing keels on these vessels. These keels are also common on many more recent French-built boats, due to the taxes on lead in Europe.

The approach at Barker's Island Marina, where I work as a marine service advisor and yard supervisor, is to clean the keel to bare metal, then do a final grind and seal, followed by fairing, priming, and painting.

A recent Chrysler 22 refit we did included an iron swing centerboard covered with large rust blisters, zebra mussels, and remnants of antifouling paint. To limit cost and the scope of work, we left the keel in place while the repair was made. We lifted the boat onto six jack stands high enough to allow the keel to swing free. A plastic curtain was draped around the vessel and dust collection was set up. The keel was first ground to bare metal using an 8-inch grinder and metal grinding discs. This left a few deep pits behind to be cleaned out later with a small rotary die grinder. The work area was then cleaned up with a vacuum and the fin was blown clean with compressed air.

Once the epoxy was mixed and the roller was ready to go, we quickly ground the surface once more so the metal surface would be as "fresh" as possible. We feel that metal that has been freshly ground with clean sandpaper is the best surface to seal with un-thickened epoxy resin. We never wipe the surface with cotton rags soaked with solvents, as the rags can leave snags of cotton fiber on the sharp ground metal that will allow moisture to travel through the protective epoxy coatings and corrode the metal beneath the barrier coat. Many off-the-shelf solvents are recycled and contain impurities. Instead of using these, we keep the area clean and literally grind the surface clean. After rolling on the first coat, and while it's still wet, we recommend using a new wire brush to work the epoxy into the surface. This technique can encourage long-term bonding and is especially useful on lead, which oxidizes very quickly.

After the critical first coat is applied and allowed to cure to a "green" stage, we apply successive coats of epoxy and fairing wet-on-wet to avoid sanding between coats. After fairing is complete, we apply a sealer coat of Interprotect 2000E primer and fill pinholes prior to applying antifouling paint.

Over the years, we have used this technique successfully on boats with iron keels built by Beneteau, Ranger, Santana, Chrysler, and others.

Eric Thomas is the marine service advisor and yard supervisor with Barker's Island Marina in Superior. Wisconsin. In his free time he sails, races, and maintains the three sailboats currently in his fleet.

TED TOLLEFSON

Rudder repair the hard way

Miss Marley *offered "learning opportunities" aplenty*

by Chris Kreitlein

I bought my Cape Dory 30, *Miss Marley*, without a survey — not something I would recommend to anyone, but something I was willing (or foolish enough?) to do. I had heard all the horror stories about buying a boat without a survey, but getting one would have been another hassle and expense I just did not want. Cape Dory sailboats have a very good reputation as solidly built boats.

I knew she had a heavily fouled bottom because I could see the barnacles trailing in the current. The seller was very straightforward with me and said she had not been pulled out of the water for four years. He had lost his house in Hurricane Katrina and had moved inland at the insistence of his wife. He was willing to let *Miss Marley* go for a very attractive price. We took her out for a one-hour cruise in the Mississippi Gulf so I could see how she sailed. She was slow as molasses because of the fouled bottom and the rudder felt a little odd (which I mentioned at the time), but otherwise she seemed to sail fine. I gave him a check when we got back to the dock. I wanted to save the money I would have spent on a survey to have her hauled out and cleaned off back in my hometown of Pensacola, Florida.

My friend Steve and I motored *Miss Marley* all the way back to Pensacola along the ICW. It was a long, slow trip, never making more than 4 knots the whole 18 hours back. I took the boat out alone into Pensacola Bay a few times to become more comfortable with her. Each time I ended up motoring back because she was so slow — like a tub of water. I knew she had to be pulled out and cleaned off. I finally decided I had to get on with it, so in early October I motored her over to the nearest boatyard and had her hauled out.

As the crane lifted her out of the water, I overheard one of the yard workers saying, "The rudder is broken."

Rudder hanging free

As the crane slowly rolled past me with *Miss Marley* dripping in the slings, I looked, and sure enough, the rudder was hanging free from the gudgeon at the heel plate. My throat tightened as I thought to myself, "Now what is *this* going to cost me and how am I going to get it fixed?" I had

“I looked, and sure enough, the rudder was hanging free from the gudgeon at the heel plate. My throat tightened as I thought to myself, ‘Now what is *this* going to cost me . . . ?’”

expected to spend about five days cleaning and painting the bottom, but suddenly realized that was going to stretch into weeks. I felt a horrible pain in my backside right where my wallet sat.

After they got the boat down on the blocks and jack stands, I crawled under the hull to look at the gudgeon. On a Cape Dory 30, the rudder is supported at the top by a stainless-steel post coming down through the stuffing box from the steering quadrant. The post extends about halfway through the rudder, where it bends in an arch to provide the leverage to turn the rudder, and then it stops. The bottom of the rudder has an encased bronze plate that holds a stainless-steel, 1-inch pin that rests in another bronze plate encased in the hull at the gudgeon. The total weight of the rudder rests and rotates on that stainless-steel pin.

On my boat, the bottom pin had rusted through and broken off. Worse yet, the rudder shaft was bent to starboard about 5 degrees. I have no idea how long the rudder had been broken or whether it was already bent when I bought the boat. I had run aground in the mud at my marina and a friendly motorboat had towed me off. Perhaps I bent the rudder.

Regular ecosystem

The state of the underwater hull was unbelievable — a regular ecosystem of its own. The sea life was alive and doing very well. Some of it was still breathing as I began scraping it off. I started with a scraper and spent two days knocking the smelly stuff off. Then I attacked her with my angle grinder mounted with a 60-grit flap disc. It took me four days of miserable dirty work to grind the bottom down to gelcoat and fiberglass. As sick as I was about the rudder, I felt good about the boat’s hull. It seemed very sound. I only found one significant blister, which I ground out and filled with polyester marine-grade Bondo impregnated with fiberglass, a product I bought at Wal-Mart.

I had to spend days sanding and smoothing off the hull with an orbital sander because I had gouged it so much with my angle grinder. During breaks in my labor, I wandered the boatyard looking for someone to fix my rudder. A couple of contractors in the boatyard looked at it and said, “Sure I can help you with that, but right now I’m pretty busy with this other job. I’ll get right back to you next week and we’ll get on it.”

I finally nailed down one guy who seemed really serious about helping me, but then the 37-foot Catalina he was finishing fell sideways off the blocks, snapped its rudder in half, and drove the jack stands into the hull. With that, I realized if I wanted my own rudder fixed this year, I was going to have to do it myself.

Crawling into the lockers

Funny what you can do when you have to. I had tried to crawl down into the tight confines of the cockpit lockers on my boat before, but I got claustrophobic and couldn’t do it. This time, on a cool October morning, I slipped off my shoes and slid right down in there. I hooked up a light and a fan to help me, grabbed some tools, and began taking the steering apart. The rudder shaft was held in place at the top by a bronze collar. It passed behind the steering quadrant bolted on the shaft, and levered against a bronze key fitted into a slot in the shaft. Then the shaft passed through the bronze stuffing box, through

The rudder’s 1-inch stainless-steel bottom pin had rusted through and sheared off, at right. The lack of a bottom pin allowed the rudder to bend off center, far right. Chris estimates that it was 5 degrees to starboard.

a double-banded black rubber hose, and out the bottom of the hull.

I had a heck of a time getting all the bolts out but finally got most of it disconnected. One set-screw on the rudder stop collar would not come out and I stripped it. I hooked up my electric drill and drilled it out. Finally, I had it all apart and was ready to drop the rudder down. The yard lifted the boat and two of us pulled on the rudder, but it would not move. I climbed up onto the boat and down into the locker again. While the boat was hanging in the slings, I loosened the stuffing-box bands and rubber hose. With two of us tugging on it and the boat swaying in the breeze, the rudder began to slide down and finally fell out at our feet. The yard sat the boat back on the blocks and I hauled the rudder off to my van.

Extracted the pin

A friend was able to drill into the remains of the stainless-steel pin stuck in the gudgeon and, with an automotive puller, pop it out. Meanwhile, I took the rudder over to another boatyard and dropped it off with a fellow who, I was told, did excellent fiberglass work. Over the next few days, with my constant encouragement, he cut into the bottom of the rudder and pulled out the remains of the pin stuck there. Then he cut open the top of the rudder to expose the bent shaft. He took the rudder over to a machine shop and left it with them to straighten. Again, with my regular visits, they finally got around to working on it. It took two tries, but eventually they were able to straighten the rudder shaft. The fiberglass work took two more days and the rudder was ready for me. The total rudder repair cost was $806.

It was not easy getting it back up into the boat. I tried digging a hole in the ground to set the rudder in. But getting it deep enough to slip the shaft up into the boat would have taken me a week. So I had the crane come back and lift the boat again. Three of us tried to maneuver the rudder back up through the stuffing box, but it would not go. Finally, we wiggled it around enough that it began to slide up. I climbed inside again to make sure it cleared the support collar at the top. It fit just right. But that was not the end of it. I had to push the rudder up high enough into the hull to slide the stainless-steel bottom pin already in the rudder into the gudgeon.

Sleepless nights

I had spent several evenings lying in bed wracking my brain on how best to do that. I thought of cutting off the top of the rudder an inch or two for just enough clearance to slide the bottom pin in, but then I would have to rebuild the rudder. A phone call to Robin Hood Marine, a Maine boatyard where Cape Dorys had been built, told me I should cut out the gudgeon and bronze plate,

“With two of us tugging on it and the boat swaying in the breeze, the rudder began to slide down and finally fell out at our feet.”

The rudder shaft and stuffing box were so corroded that Chris had trouble freeing the fasteners and working the rudder loose, top. The remains of the broken stainless-steel bottom pin had to be drilled out and removed with an automotive puller, middle. With a newly cleaned and painted bottom, and her feathering Max-Prop back in place, *Miss Marley's* performance was about to make a dramatic improvement, bottom.

> **“Something did not seem right. I suddenly realized that I had accidentally passed the rudder shaft up through the middle of the steering quadrant instead of behind it.”**

put in the pin, and glass it all back. I definitely did not want to do that. I finally latched onto the idea of using my angle grinder to cut out the fairing in the bottom of the hull below the stuffing box for enough clearance. Part of the fairing had been broken when the rudder was bent, so I had already cut out some of it. I decided to do that.

The yard sat the boat back down and left me to work. I began grinding away. I stopped every few minutes to struggle with the heavy rudder and to see if the bottom pin would clear the gudgeon and drop into position. All afternoon I ground away, lifted, and measured. I almost gave up, and considered taking the pin back to the machine shop to have half an inch cut off it. But finally it cleared. I greased the bottom of the pin, lifted the rudder, slid the pin over the hole, and let it drop down. It was a tight fit; I could hear the air puffing out past the grease around the pin in the hole.

Horror sets in

I was pretty happy — but my happiness changed to horror. I climbed back into the cockpit locker to begin hooking up the steering. I hooked up the top of the rudder shaft in its support collar and then began on the steering quadrant. I was squeezed down on my side with arms stretched out in front of me while staring at the steering quadrant and trying to remember how to hook it back up. Something did not seem right. I suddenly realized that I had accidentally passed the rudder shaft up through the middle of the steering quadrant instead of behind it. I could not lift it up off the shaft because the upper support collar prevented that. I sure could not drop the rudder enough to lift it off the top end of the rudder shaft because I could never have gotten the bottom rudder pin up and out of gudgeon. I was sick! How could I have done something so stupid?

I lay there for 10 minutes, wondering if I could possibly grind the quadrant off and order a new one from Edson. Looking at the situation, I saw that part of the upper rudder support collar bracket could be unbolted, so maybe I could pry the quadrant off, sliding it between the upper support collar and the rudder shaft. I unbolted part of the support bracket but the quadrant was too thick to pass between the remaining part of the bracket (which I could not remove) and the rudder shaft. I grabbed a large wrench and stuck it between the two and pried as hard as I could while tugging on the quadrant. I was surprised, but with a lot of prying force, the quadrant squeezed between the shaft and the support bracket. Happiness was suddenly restored.

Fairing and painting

After hooking the rudder back up, I spent the next two days rebuilding the hull fairing above the rudder with fiberglass and epoxy. When I finally got to the point of painting the hull, I rolled on a barrier coat of two-part epoxy paint (one gallon, at $38 a gallon), then three coats of Super Shipbottom paint, an ablative antifouling paint I found on the Internet. I got two gallons, at $145 a gallon, from <http://www.supershipbottom.com>.

I spent a month and two days in the yard. I finally got back in the water with a yard bill of $765. *Miss Marley* had become a different boat. I could not believe how fast she moved with a slick hull and good rudder. In fact, I could hardly slow her down when I got back to the marina and nearly rammed the dock. Usually, when I cut the power a ton of barnacles caused her to stop immediately.

Anyway, it has all been quite an adventure, and I have learned a lot. *Miss Marley* is now safe and sound in her slip at the Bayou Grande Marina in Pensacola.

Chris Kreitlein *retired from the U.S. Navy in 2005 after 28 years of service, during which he served as an officer aboard ships and aircraft. His primary warfare specialty was as a naval flight officer on the E-2C aircraft. His last tour of duty was at the Pentagon, where he briefed the Secretary of the Navy and the Chief of Naval Operations on a naval interdiction program to intercept weapons of mass destruction on the high seas.*

Aurora — a photographer's favorite

This old Winslow yawl still stirs passions

by Mary Jane Hayes

Most sailboats, when berthed or moored, look rather like birds with folded wings. As birds are meant to fly, windships are meant to sail. Under canvas they demonstrate and fulfill their true natures. So it is with *Aurora*, a 36-foot Winslow yawl. Under way she is a wonder — sheer poetry in the hands of a master mariner. Of all the boats in our homeport of Scituate, Massachusetts — and there are more than 650 — she is my favorite to photograph.

Aurora is no spring chicken. According to her present owners, Rick and Mary Williamson of Scituate, Rick's father, an industrial arts teacher in a junior high school, began her construction in 1958. She was launched in 1962, her sails made by his mother with some advice and help from knowledgeable friends, and her name chosen by both of Rick's parents. Newspaper articles at the time documented her building and launch.

Aurora was both nimble and staunch. Her hull was, and is, white with a blue sheer stripe and blue boot top. She is made of strip-plank construction, with 1⅛-inch cedar planks on oak ribs. Her planks are edge-nailed into each other and screwed into the ribs. The masts are made of Sitka spruce, which is very light but strong. Her beam is 9 feet 6 inches; her draft, 5 feet 6 inches. Her original engine was a 45-hp 4-cylinder gas Lathrop engine. Rick removed that old tired engine in 2004 and repowered her with a 40-hp Volvo/Penta diesel, work done with the advice and assistance of a local diesel dealer. Nowadays, *Aurora* sleeps four, but in the 1960s she actually slept up to seven with pipe berths.

Out of the blue

After about five years into her sailing career, *Aurora* was sold by Rick's parents to a couple who were going to relocate from a neighboring town to South Freeport, Maine. In 1986, Rick's father received a call out of the blue from the wife of the couple who had purchased *Aurora*, informing him that her husband had been dead for three years and she was now trying to sell the boat. She was wondering if anybody in Rick's family was interested. As luck would have it, Rick and his wife were headed to Portland, Maine, that next weekend to take the ferry to Nova Scotia. They left a bit early and detoured to South Freeport to look at the boat. Once they returned to Scituate, Rick drove his father back up to see it. After a few months of mulling it over, they decided to take the woman up on her offer to sell and bought the boat back, hiring a local transporter (whose father had helped and advised Rick's father on the original construction of *Aurora*) to bring her home. She was re-launched in the spring of 1988.

Rick does all the work on the boat himself, brightwork included, and stores *Aurora* in his backyard.

But I don't see her in these prosy moments. I see her out sailing and whenever the wind is high — no matter what other vessels are out there on the briny deep — we head for her in our Grand Banks 36-foot trawler, *Sea Story II*. I shoot her from every angle, and there isn't an image of her that isn't beautiful. She holds her own with every more "modern" windship I capture with my camera, whether she's beating, reaching, or running — always, I might add, while being expertly helmed — proving the truth of Keats' old adage that "A thing of beauty is a joy forever."

***Mary Jane Hayes** and her husband, Warren, have been boating for more than 25 years. They sailed* Serena, *a Sabre 28, for seven years and now cruise the East Coast in a Grand Banks 36,* Sea Story II. *A freelance writer and photographer, Mary Jane has been widely published in boating magazines.*

A happy ship

Positive experiences and peaceful moments make good memories

by Richard Smith

Richard's granddaughter, Piper, at her happiest, swabbing down the dinghy fore and aft while good old Scout looks for birds.

My 9-year-old granddaughter, Piper, escaping the tedium of grown-ups talking about boring things, was burrowed deeply into *Kuma's* fo'c's'le with her stash of favorite books. Later in the afternoon, to everyone's surprise, she climbed out, grabbed a life jacket and began bailing the dinghy. She worked with a sponge and small plastic bucket, scrubbing hard, scraping at seagull droppings and hardened seaweed with a sharp stick. More than content, she was downright pleased with herself. Further buoyed by praise from the captain for a job well done, she went on to swab down the decks of the mother ship, cleaning off muddy paw prints left by the ship's dog, Scout (who watched her intently), and cleaning out cockpit detritus. She'd never been so happy on the boat.

The next day, during the long haul home, her brother, Nick, whose patience had become depleted along with the batteries in his menagerie of electronic devices, relieved the skipper and discovered that he could sail to windward like a witch. It was cold and raining hard but he stood fast, ignoring the weather-weary groans of those lubbers huddled down below. He held to a difficult compass course with grim determination and the semblance of a smile.

Playing an important role

I think the boat intercepted the everyday lives of these two and did what boats are meant to do. Piper and Nick discovered something — not just about bailing dinghies and steering the boat, but something else. They found that they were a vital part of something larger than themselves. And if adventure, as has been said, is a disaster that turns out all right, they found that too. It was a kind of happiness, unique to the occasion and borne of what the world required of them, not just what they required of it.

One day, I hope they'll discover the joy of pushing off — of watching someone along the docks watching them and waving and smiling at the sight of their small boat, well-handled and bound for islands. I hope they'll notice the sails harden and draw well, telltales streaming back almost perfectly. And I hope they'll look back to see a well-scrubbed dinghy following along, marking speed with every tug on the painter and every foamy whisper.

Happiness on a small boat takes many forms. It happens unpredictably and when least expected. It's often a personal thing and cannot be shared. It comes as the satisfaction of finding a good anchorage and setting the hook well and of sitting in the cockpit watching a mast line up against a flagpole, hard evidence that the boat's not dragging . . . little things like that.

It's hard to beat waking up to settled weather on an August morning, wiping dew off varnish before anyone's up, and looking forward to another day at the same anchorage . . . unless it's feeling a cold wet fog roll in through the companionway, building a fire in the woodstove, and looking forward to another day at the same anchorage.

I'm always happy sailing under the Tacoma Narrows Bridge in the current that sweeps *Kuma* into the southern reaches of Puget Sound at around 16 knots. Almost every year it happens and every year it's like the first: rushing under the great bridge with the seals and the small fishing boats, thinking about those huge cephalopods on the bottom, watching the herring gulls wheeling against the sun. And if there's a buoy available at Eagle Island and I can row among seals at sunrise, contemplating the next couple of weeks, I'm happy.

Happiness, of course, is the other side of the coin from something else, without which we cannot hope to know it. It's been said that the difference between powerboaters and sailors is that the former expect, as we do with cars, that everything will work. Sailors, on the other hand, tend to ex-

pect something to fail at any time and that they'll have to fix it themselves. We're used to it and it keeps us from getting too giddy when things go well. Getting through failures of equipment (and nerve) produces its own kind of happiness, a kind of happiness the skipper may share with few others.

Satisfaction not guaranteed

Be that as it may, the captain must bear some responsibility for keeping his passengers and crew in good spirits. It's a popular misconception that a day on a pleasure boat is some guarantee of pleasure. In fact, happiness afloat is illusive, unavailable to many, and certainly nothing to be taken lightly or for granted.

It doesn't matter how safe, comfortable, and convenient things are made on deck or down below or how much good humor is brought to the situation. It doesn't matter how many cold drinks and sandwiches are ready or what hidden joys the destination may hold; sometimes people can find better things to do than shuffle about on a shiny plastic bench in a tangle of ropes and dangerous-looking objects. You can't find a boat big enough, fast enough, new enough, or enough like home to please everyone.

Even old Scout shakes most of the time when we're under way and lives only to get ashore. I have an idea that fear is the basis of his discontent. It's not boredom, as we once thought; it's fright. We've deprived him of everything that makes sense to a dog — smells and taste (he won't eat or drink when we're under way), the chattering of squirrels, and even a few trees and shrubs to rub his back against. He's jostled about with no grip on the slick seats, strapped into a pet harness and life jacket or wooly sweater when it's cold enough, and when the temperature gets into the 80s and 90s he gets doused with buckets of seawater.

If he gets within smelling distance of another boat he perks up until he loses the scent, but thereafter his misery knows no bounds until he rides the dinghy, his only friend, to shore. Happiness when we sail has come to be, for old Scout, the Viking Kennel. Sailing isn't for everyone, man or beast, and there's no reason to think that it is.

A little friend from England, Jai Sandhu, happily steering with the lightest, most delicate touch imaginable.

I think some people feel a bit like Scout — alien and lost in a foreign country and fearful. There is not only the fear of wind and deep water and the creatures that live there but also the fear of the unfamiliar. There is a fear of not knowing what you should do on a boat that obviously requires that all sorts of things must be done. Some good people are afraid of appearing to be clumsy in the use of a new language. Pretending to be bored is a shield against this fear of the unknown.

No shouting

People become unhappy on a small boat when they are held responsible for things they don't know. It helps if the skipper is a good teacher — if he or she knows the lesson plan and has devised a simple method that's well within the capability of the crew. The legendary shouting matches that can precede the abandonment of sailing happily together are often a result of not thinking ahead. There is sometimes a tendency for the inexperienced skipper to expect his crew to compensate for his own lack of knowing how to do something, especially when things begin to unravel.

A case in point: letting go the anchor. The engine is running, making communication difficult at best. The

Gary Stoop tails for Richard as he nears the spreaders. Gary is one happy fellow because he isn't the guy up the mast.

crew goes forward to make ready the anchor but he or she can't seem to unbend the lashing holding it in place. It's taking too long to satisfy the helmsman who shouts,

"WHAT'S GOING ON UP THERE?"

"WHAT?"

And louder, **"I SAY, WHAT'S GOING ON UP THERE?"**

This is entirely lost in the wind but what is not lost is the skipper's obvious dissatisfaction with what's happening or not happening on the bow. The foredeck hand, trying to free the anchor from its lashing, throws more words against the wind.

"WHAT?"

Another reply is lost to the sounds of a roaring engine.

The skipper moves forward and when he's about halfway there, he sees the nylon cable slipping below the waves and moving toward the stern. He rushes back to the helm and backs down. There's a tad too much throttle or not enough, the rudder is hard over from a forgotten maneuver, the current grabs the bow, pushing the boat toward rocks, and so on and so forth.

Thinking ahead is important to happiness as well as good seamanship. A few carefully worked out hand signals can take the place of shouting; a clearer sense of what's happening, for everyone concerned, is as important as a division of labor. Smiles all 'round is a good start, too, but the captain is responsible. That's what skippers are for.

Happiness in small numbers

Happiness on a small boat may well be inversely proportional to the waterline length but small boats with more hands on board are definitely not the merrier. Some small boats are almost entirely taken up with berths. I counted five in one 18-footer at a recent boat show. The salesman said that two more could sleep on the ample cockpit seats.

My feeling is that just one shipmate at a time works best. Maybe two, but one good one is hard enough to find. I've also shared a happy ship with two good friends but more than that and talk inexorably moves to second mortgages and the Academy Awards, children, Paris Hilton, and lawn fertilizers.

The casual and impromptu thrill of being a part of the outdoors and the

Beth Smith at *Kuma's* helm and feeling much happier than this serious expression lets on.

here and now and the uniqueness of being on a small boat gets lost. You can miss an eagle being mobbed by crows or scooping up a salmon. The pterodactyl-like cries of a lumbering great blue heron are easily drowned out by cockpit speakers. The gathering cat's-paws that call for alertness at the helm go unnoticed along with dolphins and seals. Before you know it, the special pleasure of being where you are is gone.

A rendezvous at a good picnic spot close to the water's edge can produce happier times for those who'd rather talk than watch. Row the dinghy ashore to a gathering of friends on the beach. You'll be surprised at the amount of attention the little dink garners from otherwise water-challenged people. Before long, bored adolescents will put aside their iPods and vie for a go at the oars. They can get away from the rest of the crew and become masters of their own ships. Dinghies, like puppies and small children, have a way of bringing smiles, uncontrollably, to the faces of the otherwise disgruntled.

But failing in the pursuit of happiness with others, there is a great deal to be said for the joys of singlehanded cruising and for learning how to keep oneself happy at sea when there's no one else to entertain or look after.

"My feeling is that just one shipmate at a time works best. Maybe two, but one good one is hard enough to find."

Sailing alone not only instructs in boat handling techniques otherwise not acquired, but it also gets us closer to the essence of what led us to sailing in the first place: freedom and independence, self-sufficiency, and a renewed acquaintance with our better angels.

Richard Smith is a contributing editor with Good Old Boat. *He has built, restored, and maintained a wide variety of boats and sailed them in Michigan lakes and Oregon reservoirs, and from harbors and mud berths in the Irish Sea. He and his wife, Beth, currently sail* Kuma, *an Ericson Cruising 31, in the Pacific Northwest.*

Think big, buy small

Review your expectations

by Dave Martin

Chris and Holly Martin, ages 4 and 3, in 1995 on board the family's 25-foot Cal, *Direction*.

What is the ideal boat size? Should I buy the biggest boat I can afford or the smallest boat I can possibly squeeze my family into? For most of us, the two ideas overlap. We all want the most boat for our money. The question remains: how "big" is big?

Expectations concerning comfort and boat speed have risen dramatically over the past three decades. It used to be that boats in the 27- to 32-foot range were acceptable dream machines. Today, if you believe the ads in sailing magazines, 40 feet is the benchmark that establishes minimal speed and comfort. Why the shift? Is it really necessary to spend upward of a half million dollars to "live the dream"?

There have always been megayachts and people to buy them. Nothing new there. But even mainstream cruising has become a high-budget affair as manufacturers have continued hunting for deeper pockets. Boatbuilders can make healthier sales by producing large, high-end boats that ultimately target a market having more disposable income. The hefty sticker prices generate enough cash to support sophisticated advertising and marketing strategies. Subsequently, most of the glossy ads and boat reviews tout the glossy boats.

One improvement

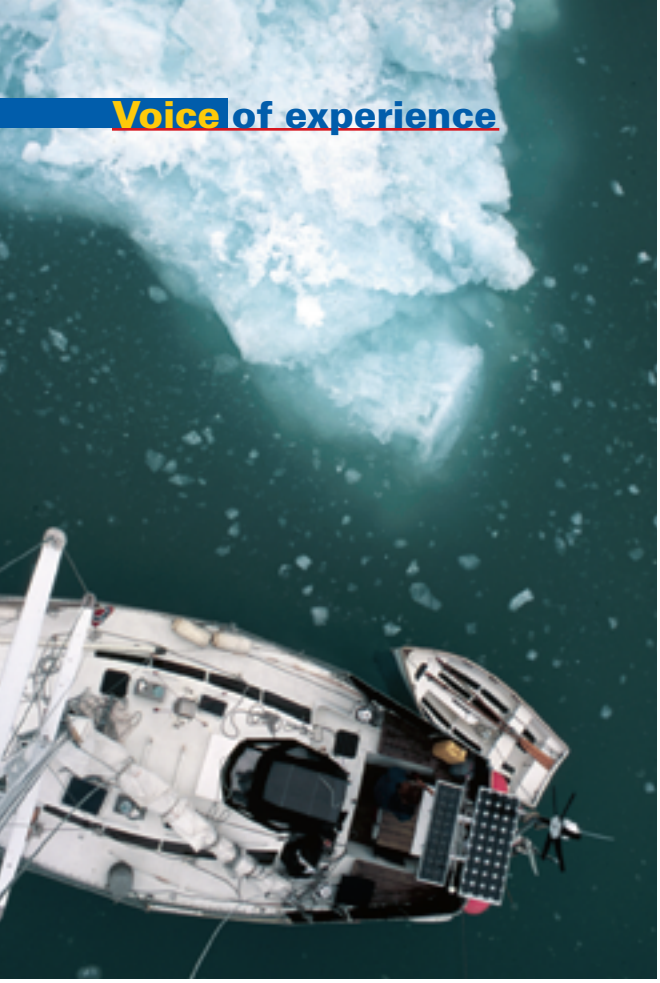
Technology has made it possible for a small crew to run a large boat safely and competently. Elaborate roller-furling systems and automated winches make it feasible to handle enormous sail plans — even for those who are less physically active. GPS and integrated chart plotters have made navigation safer and more easily understood. Prior to GPS, sailing out of sight of land, or even making long coastal passages, was not for the faint-hearted. Weather-receiving technology and forecasting have also improved dramatically. Onboard computers and email capabilities provide a reliable shoreside link for those who want to go cruising but are fearful of being out of contact with children or aging parents.

All these technological advances taken together create an electronic and mechanical fortress. The guesswork, tension, and perceived risk are greatly reduced. Assuming that nothing breaks down, a captain can now effortlessly handle a large expensive boat. Power to the people.

> "Technology has made it possible for a small crew to run a large boat safely and competently."

But for some cruisers, this kind of luxury dampens the magic of cruising, not to mention the possibility that owning a boat at all is out of reach. The "romance of cruising under sail" began as a way to simplify life, embrace hardship, and step out of predictable shoreside roles. Modern boats are becoming floating extensions of the living room where creature comforts are clung to like chintz life preservers.

I read the 2008 sailboat review in a leading sailing magazine that exempli-



fied this shift in boat length, comfort, and price. In the review, a 40-foot sailboat was touted as "mid-sized" while a $300,000 35-footer was reported to be a "small" cruiser . . . Huh?

Although these delineations are marketing verbiage, the message is disturbing. Newcomers to the sport with salaries like mine are going to conclude that boating is out of reach. They should not lose heart! Low-budget cruising still exists. It takes a hearty soul to turn a deaf ear to the tantalizing ad ploys and decide to buy a cheap, used, 30-foot boat to go cruising. But remember, the purpose of an ad campaign is to shift a buyer's perception from what's needed to what's wanted. It works.

Buying frenzy

For example, there seems to be a frenzy these days over expensive, HD flatscreen TV with HDVD capabilities and surround sound. "Bigger is better. A sharper image, better sound." I don't own a TV, but if I ever wanted to start watching TV again, I could probably pick up an inexpensive used digital set. When a consumer allots big dollars for a "perfect" picture, that's a result of priorities.

Boats are nothing but priorities. When Jaja and I sailed our 25-footer, *Direction*, around the world, we saw the same sunsets and walked on the same beaches as the folks on the big boats. We had a galley, a head, a double bed, and the ability to cross oceans, raise children, and see the world. When we set off to go cruising in our 20s, we didn't want to pay for anything bigger than 25 feet. We wanted to sail rather than work until we were able to afford a "proper sized boat" (which has been getting more expensive each year). We set off with what we had and witnessed firsthand what was possible on a small boat and slim budget.

In 1996 we bought our 33-foot, steel-hulled sloop, *Driver*. This purchase followed a lengthy search for a 40-footer. We couldn't afford even a used 40-foot boat, but we were hoping to find a deal. How we planned to maintain, store, and repair a boat we couldn't afford to buy was a hushed topic. We were convinced we needed a 40-foot boat. Had to have it.

At one point, we even considered borrowing money to purchase our 40-footer. We figured we'd stay ashore and work a few extra years to pay off the loan. It would be worth it. With visions of living in a "comfortable" space while sailing "comfortably" over lumpy seas, we blocked out the possibility of a smaller boat. We had boat buyers' fever, a condition that did not match our financial wherewithal. We were on the threshold of going into debt and getting sucked into the very system we wanted to escape. We had lost sight of the entire project. Luckily, we didn't run into any smooth-talking brokers.

Our Icelandic sailing plans were beginning to spiral out of reach. Then one day we drove through a boatyard looking at "For Sale" signs and found the boat that would change our lives and the lives of our kids. She was 21 years old, a borderline derelict, and only 33 feet long. But *Driver* represented *Going* — the most crucial step in getting underway.

Back to reality

We boarded *Driver* skeptically. There was something about her rugged demeanor that appealed to us. Within five minutes we had one of those *Moments*. Everything came into sharp focus. The boat was overpriced but negotiable (we haggled and got a good price). Suddenly, the reality of a departure date was in our grasp. There would be plenty of room on the boat once we made some necessary modifi-

***Driver*, summer 2000, on Magdalene Fjord in Spitsbergen, Norway, near 80 degrees north latitude, above. The Martin family on the beach in Spitsbergen, Norway, summer 2000, at right. The Magdalene glacier is in the distance. One of the methods for anchoring in ice-strewn waters is to anchor in the shallowest water possible so that icebergs will run aground before they hit the boat.**

> **“We were on the threshold of going into debt and getting sucked into the very system we wanted to escape.”**

cations. Any boat, regardless of price or age, needs modifications.

Sitting in the cockpit, we realized that 33 feet of boat for our growing family of five was big enough for the voyage we were contemplating. *Driver* was cruise-ready two years later. By then we had sold, given away, or thrown out anything that didn't fit on the boat. When we finally set off, we had no house, car, cell phone, or insurance policy of any kind. Priorities.

Looking back, it's hard to believe how carried away we became when shopping for a boat. We had just finished a circumnavigation aboard *Direction*, so anything larger than 25 feet should have looked good. Where had our large-boat fixation come from? Was it overcompensation? Or did we feel we deserved it? Perhaps it was due to cruising in the company of so many bigger boats during our circumnavigation. A 40-foot boat feels like a house compared to a 25-footer. It is all comparative, of course. If you own a 40-footer you envy the 50-foot crowd. (We actually did have friends who envied our 25-footer but they were sailing a 19-foot converted lifeboat.)

Comfort zone

Is a 25-foot boat as comfortable as a 33-footer? No. Is a 33-foot boat as comfortable as a 50-footer? No way. Am I less likely to get seasick on a bigger boat? Not necessarily. I found the snappy motion of our 25-footer much more agreeable than the rolling gait of the bigger boats I've sailed over the years.

The real stumbling block when going aboard a boat that is 30 feet or smaller is the initial shock regarding lack of interior volume. The truth is that when I get used to a boat, and especially if I'm living on it full time, the walls disappear.

The boat becomes an extension of my psyche, which is otherwise limited to the space between my ears. Buying *Driver* and then sailing her to the Arctic and back on a five-year voyage proved to us, once again, that a strong boat is imperative, but length, gadgets, and interior volume are arbitrary.

During the summer of 2007, we sailed *Driver* to southern Newfoundland with an 11-year-old and two teenagers. Their kid-sized bunks (originally fitted when they were 2, 5, and 7) were a tight squeeze, but the five of us never felt that the boat was too small. What we enjoyed was being away from home for seven weeks . . . away from jobs and school and off on an adventure. We all had a place to sit, a place to sleep, and a place for our stuff.

For us, the real reason for any voyage — or a daysail — is to be outdoors, see new sights, feel the wind, and escape routine. Any boat, regardless of size and price, will satisfy these prerequisites. It does not matter to us how large or how small the cockpit is, how cramped the head, or how much counter space is available for preparing food. The world outside is limitless.

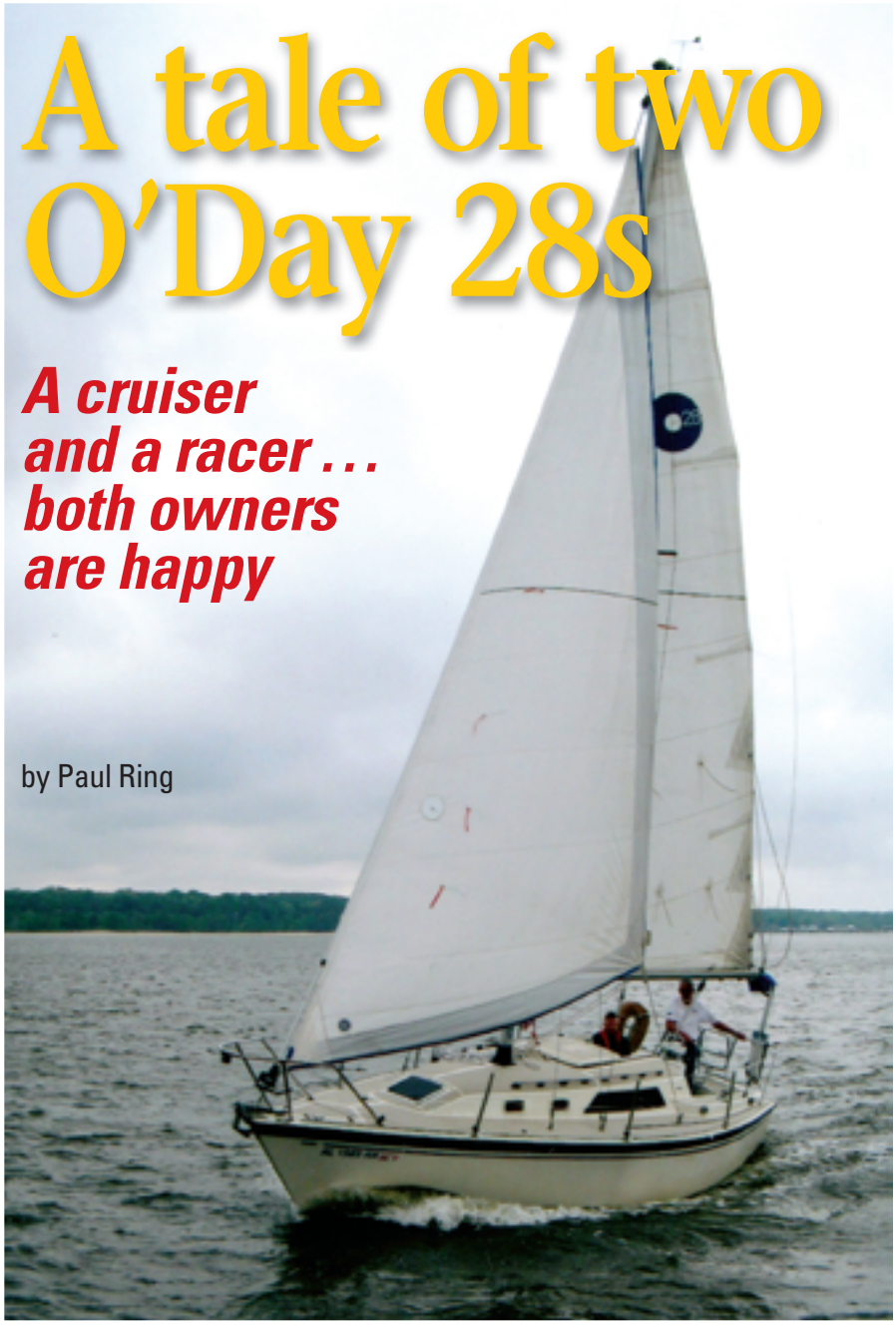
Dave Martin is a contributing editor with Good Old Boat. *Between 1988 and 1995, Dave and his family circumnavigated aboard their Cal 25,* Direction. *Between 1998 and 2002, they voyaged to the Arctic aboard their 33-footer,* Driver. *They are now living in Maine.*

Chris and Holly in Maine in 2004, above. The Martins' mast was a vertical playground. The family on the beach at Port Mouton, Nova Scotia, August 2007, at left. *Driver* is in the background. In Maine, just 150 miles to the south of this beach, the harbors were clogged with boats, but Nova Scotia was a different world. While Port Mouton may have white sand beaches, the water temperature is 45 degrees . . .

A tale of two O'Day 28s

A cruiser and a racer . . . both owners are happy

by Paul Ring



STAN BROWN

From 1978 to 1986, Bangor Punta Marine produced 507 O'Day 28s; two of them are kept at the docks of Fairhope Yacht Club in Fairhope, Alabama, on the eastern shore of Mobile Bay. *Liza*, a 1984 model, is owned by David and Mary Lucas, and *Sunshine*, a 1987 model, belongs to Ralph and Joan Peterson. Each couple bought their boat for quite different reasons.

When I caught up with David, he was preparing his boat for a two-month cruise along Florida's Gulf Coast as far as the Dry Tortugas. While I helped him move his boat to the marina across the creek for a quick haulout to clean and inspect the bottom, we talked about his boat; it's his first, and he's owned it for seven years.

While the O'Day 28 is considered a racer/cruiser (or cruiser/racer), for David and his wife, Mary, it is a cruiser, for they have little, if any, interest in racing. Budget was their first consideration, so they shopped for boats of the approximate size and vintage of the O'Day 28. To avoid delivery costs and inconvenience, they also looked for a boat located within a reasonably short sail from home.

Their interest in cruising made interior accommodations very important. David says Mary insisted on a boat with a "real head." For David, a boat of manageable size for singlehanding — both sailing and maneuvering in a

***Liza* underway, at right. Although 25 years old, her lines retain a contemporary, handsome look. The O'Day 28 test boats were *Liza*, below at left, and *Sunshine*, below at right, one a cruiser, the other a racer.**

Hauled out for a scrub, the underwater profile of *Liza's* fin keel and spade rudder is revealed.

Liza shows lean, good looks with her raked bow and counter transom. Her foredeck is uncluttered.

harbor — was important. Mast height was also important because, along the northern Gulf coast, there are several 50-foot bridges. After looking at a number of boats, they kept returning to the O'Day 28. It was in better-than-average condition and David was impressed with its overall quality. He says it felt like a "solid boat." He still thinks so.

Ralph and Joan Peterson lost their Ranger 30 to Hurricane Katrina and their 1987 O'Day 28 is its replacement. Not precisely an even trade, perhaps, but close in many ways. Both the Ranger and the O'Day were designed by C. Raymond Hunt Associates, New Bedford, Massachusetts, and built by Bangor Punta Marine, Fall River, Massachusetts.

Although the O'Day is smaller, interior arrangements are similar. For Ralph, the interior is primarily for stowage, since his interest is exclusively club racing and the occasional daysail. Already familiar with the quality of Bangor Punta Marine products, Ralph felt comfortable when shopping brought him and Joan to the O'Day 28. Like David Lucas, Ralph cites the O'Day 28's ease of handling. He doesn't singlehand, but he often races shorthanded.

Design

The O'Day 28 is quite modern looking, even though the design is 30 years old. A flat sheer joins the raked stem and counter transom. Freeboard and beam are generous, creating ample interior volume for accommodations; however, the fine bow means the couple occupying the V-berth will be playing "toesies."

O'Day 28

Designer: C. Raymond Hunt Associates
LOA: 28 feet 3 inches
LWL: 22 feet 11 inches
Beam: 10 feet 3 inches
Draft (keel): 4 feet 8 inches
Draft (cb up): 3 feet 3 inches
Draft (cb down): 6 feet 10 inches
Displacement (keel): 7,300 pounds
Displacement (cb): 7,700 pounds
Ballast (keel): 2,550 pounds
Ballast (cb): 2,950 pounds
Bal./Displ. (keel): 0.35
Bal./Displ. (cb): 0.38
Sail area: 370 square feet
Displ./LWL ratio: 271
SA/Displ. ratio (keel): 15.70
SA/Displ. ratio (cb): 15.20
PHRF: 228

The cabin trunk is fairly long and low enough to nicely complement the hull profile, which does, however, somewhat compromise headroom, which is about 6 feet. Even though I'm 6 feet 2 inches, in my view, the small loss of headroom is worth the improved appearance.

The cockpit is sufficiently large and the coamings are raked about right for comfortable seating. The modified T-shape makes it possible to get past the steering wheel without stepping up on the seats — an important safety feature. However, there are only two undersized cockpit scuppers. These would drain slowly if pooped.

The sidedecks are wide enough for comfortable movement from the cockpit to the foredeck, where there is an anchor locker and a single anchor roller. A second, lightweight Danforth-type anchor could be carried in the locker. Altogether, it's a reasonable arrangement for coastal cruising.

Underwater, the entry is fine at the bow, and the bottom gradually widens to well-rounded sections farther aft. The fin keel is of moderate aspect ratio with a sharply raked leading edge. The spade rudder is hung all the way aft. Draft is 4 feet 8 inches, which is shallow enough for those who regularly sail in thin water. A less popular centerboard version also was produced, which drew 3 feet 3 inches board up, and 6 feet 10 inches board down.

Interior

The interior layout of the O'Day 28 is conventional. As mentioned ear-

The anchor locker is a convenient feature. With the primary anchor on the bow, a second, lightweight anchor can be carried in the locker.

Sunshine's traveler, with line control, makes for easy mainsail shaping when racing.

lier, the V-berth is narrow at the foot. Forward of the V-berth is bin storage under the anchor locker, with additional storage under the berth. The head, immediately aft of the V-berth, extends completely across the boat and fulfills Mary Lucas' requirement for a spacious, enclosed head. Especially appealing is the large fiberglass lavatory unit with generous storage under and behind it. Showering is done with a hand-held unit while using the commode as a seat. The holding tank has a capacity of 15 gallons.

The main cabin has settees port and starboard, with the port settee convertible to a double. The dining table is attached to, and folds up against, the forward bulkhead — a good arrangement in a boat this size. However, once underway it should be stowed; otherwise, stumbling into it would likely tear it away from the bulkhead.

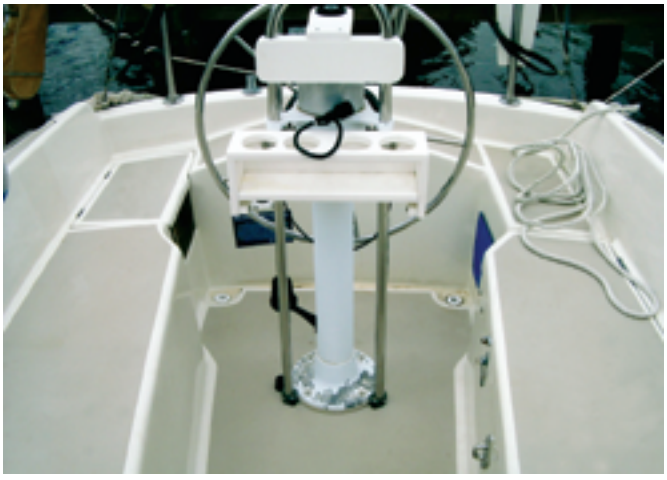
The L-shaped galley is aft and small, but adequate. Both David's and Ralph's boats have the original two-burner pressurized alcohol stovetops. While these stoves are out of favor because of the potential for flare-ups when lighting, David and Mary find theirs satisfactory, and Ralph doesn't use his at all. The small 4-cubic foot icebox is barely adequate and could benefit from adding insulation, where possible, between the box and the surrounding cabinetry. David and Mary supplement theirs with a 12-volt portable refrigerator/freezer chest stowed in the quarter berth. The sink partially tucks under the cockpit, which makes dishwashing a little awkward. Galley stowage is well thought-out and adequate for coastal cruising.

On the starboard side is a cabinet with built-in drawers. A hinged extension converts it to a small chart table. Immediately aft is the quarter berth. As is so common, David and Mary use theirs as a place to stow bulky items.

Stowage in the main cabin is quite good, aided by the boat's generous beam. Shelves with fiddles are above and behind the seatbacks with bin stowage behind. Half of the space under the starboard settee is taken up by the 25-gallon water tank.

When I helped David with a valve adjustment, I found access to his Universal diesel to be better than average. A portion of the front and top of the galley cabinet are part of the engine compartment enclosure and completely open up. Additional access is through a quarter berth panel and cockpit seat locker.

The overall appearance of the interior is attractive. Teak-faced plywood is used for bulkheads and cabinetry, with solid teak for trim. A white fiberglass headliner keeps the interior from being gloomy. The joinery is above average for a boat in this price range. The upholstery fabric in both boats is an attractive dark blue and still looks new.



Liza's T-shaped cockpit is comfortable; however, the two cockpit drains are undersized.

Construction

The hull is a one-piece solid fiberglass laminate. David's 1984 boat has a minor blistering problem (many very small shallow blisters), while Ralph's 1987 model has had none. A "unified grid pan" is bonded to the interior of the hull for stiffness. The cast-lead keel is attached to the hull with stainless-steel bolts.

The deck, cabin, and cockpit were molded as a single unit, with balsa or plywood used as the core material, wherever each was

“When I helped David with a valve adjustment, I found access to his Universal diesel to be better than average.”

appropriate. The molded-in non-skid provides good traction. On neither boat did I discern any deck flexing. The deck turns down over the hull shoebox style. The joint is bedded and then mechanically fastened. It is covered with a two-piece vinyl gunwale guard. A fiberglass headliner is bonded to the underside of the cabin and deck.

The rig

The conventional masthead rig is a keel-stepped mast held up with double lower and single upper shrouds, a single forestay, and a split backstay. Both boats have roller-furling headsails, although hanked-on headsails were standard. On Ralph’s boat, the traveler is mounted just forward of the companionway hatch and the mainsheet is led to the aft end of the cabintop, but out of reach of the helmsman. David’s traveler is mounted on the bridge deck (the standard arrangement) and is not line-controlled, although it’s adequate for cruising. Jibsheets are controlled by self-tailing winches on Ralph’s boat, while David’s are the standard non-self-tailers. The optional cabintop traveler and self-tailing winches enhance Ralph’s sail-handling capabilities — a boon for his racing interest.

Performance

It was a gray, blustery morning when I test-sailed David’s boat.

The dining table on *Liza* folds up to the bulkhead when not in use, a nice feature for making room in a small cruiser.

Liza's galley, while small, has the necessities for meal preparation: stove, sink, icebox, and stowage.

The wind was offshore at about 8 to 10 knots. In the lee of the shore it was smooth sailing. When close reaching, we made between 5 and 5½ knots, which I felt was reasonable, considering that David has only a smallish 125 percent genoa on his roller furler. Acceleration out of tacks was good, steering was precise, and the helm was light. More sail area in these conditions would have induced more heel, causing the submerged hull shape to be more asymmetrical, with a resultant increase in weather helm. However, with the sails we were flying, this O'Day 28 was a pleasure to sail.

With a sail area/displacement ratio of 15.7, the O'Day 28 is not going to be a greyhound on the racecourse, and *Sunshine's* PHRF rating of 228 reflects that. Other fleets rate the boat 192 to 216. But that's not to say that it can't be a successful and fun club racer. I've sailed against Ralph and have observed that his boat points well, and with his 155 percent genoa poled out, gives a good turn of speed downwind. Well-sailed, the O'Day 28 can sail to its rating and bring home some silver. A Cal 28 rates similarly: 207 to 213, depending on the fleet. The heavier, full-keel Cape Dory 28 rates between 228 and 246.

The engine is a 10-hp, 2-cylinder Universal diesel that is a little undersized by today's standards. (Some early models were fitted with an Atomic 4 gas engine.) However, as with many of today's automobiles, the standard is oversized. Fuel capacity is 18 gallons. I found that the boat moved along just fine with the engine giving us about 5 knots at 2,000 rpm. David reports that he gets 5½ knots in smooth water, while the little engine sips fuel. The fin keel/spade rudder underbody gives excellent maneuverability under power. In reverse there is some prop-walk, but just a little speed gives the rudder sufficient bite for predictable steerage.

Conclusion

The O'Day 28, in my view, is a good-looking, fun racer/cruiser. David and Ralph are both pleased with their boats, even though one uses his exclusively as a cruiser, while the other races his and doesn't cruise at all. When asked, both said they would probably buy the same boat all over again.

Ideal cruising accommodations will not fit inside a 28-foot boat; however, the compromises made to create the

The head compartment on *Liza* extends completely across the boat, making possible this conveniently large lavatory with mirror-faced cabinet behind.

Liza's quarter berth has been converted by David and Mary Lucas to bulk storage. The cabinet in front has a lift-up leaf that converts it to a small chart table.

O'Day 28's interior were made intelligently. A couple or a family with one or two small children can cruise on this boat and enjoy it.

The O'Day 28 offers a good opportunity for budget-minded sailors to get into cruising or racing, or both, for a modest amount of money. An online survey found seven O'Day 28s for sale. The average asking price was about $14,900, with a low around $10,500 for an older gasoline-powered model and a high of $19,500 for a 1985 model with a diesel engine.

Paul Ring is a contributing editor with Good Old Boat. *He has sailed, repaired, modified, restored, and built boats for the past 42 years.* Magnolia, *his restored Cheoy Lee Offshore 27, graced the cover of Don Casey's book,* This Old Boat. *Paul currently sails his Nonsuch 260 with first mate, Barbara Brown, on Mobile Bay. He has written many how-to articles for sailing publications.*

A breath of fresh air

Rescue your nose from those shipboard odors

by Richard Smith

It's that first waft of air that rushes up after a long winter — a heady mix of diesel, mildew, deodorizing chemicals, and stale bread. There's a component of that rockfish you cleaned in the galley sink last summer and the vague, but insistent, aroma of something like boiled cabbage.

In truth, after the initial blast, some of us never notice this peculiar olfactory environment, content in the certain knowledge that it's relatively benign — not like a cycle-crazy bilge pump, a whiff of propane, or a dodgy depth sounder in a gathering fog.

My good wife, Beth, can tell when I've been down to the marina; she can smell it. That nose can detect diesel fumes before I get in the door. This can be annoying but it's also one of the reasons why *Kuma* is sweet-smelling and fresh as a daisy these days.

It started with complaints about how the bread I'd brought home after a solo cruise didn't taste quite right. I argued that it was only a boat smell and entirely natural — not all that bad. Our disagreements became sharper. Beth could smell it in everything — bedding, upholstery, sweaters, jeans — everything. Pretty soon, I began to smell it.

Brought to heel on the matter of boat odors, with flashlight in hand and curled around the gearbox, I finally found telltale traces of diesel running down the fuel tank from the site of a take-off for a Webasto heater I'd removed the year before. Small amounts of fuel ran along the hull and under the fiberglass engine pan to lie in a thin surface film in the bilge. A faulty non-return valve in the bilge pump hose had been recycling a cup or so of diesel for months.

Long history

Trying to keep a boat sweet has a long history. In the 18th century and earlier, scurvy was a big problem. With a primitive understanding of nutrition and its role in keeping crews alive long enough to discover a new world, Captain James Cook served up great portions of sauerkraut augmented by fresh fruits and vegetables whenever he could find them, and when he could wean his crew away from their normal fare of bully beef and grog. Cook rarely lost a man to disease.

However, Alan Villiers, in his excellent book, *Captain James Cook*, tells us that, despite Cook's efforts at introducing healthier food, diet actually played a minor role in conquering illness. The real benefit that Cook brought to the health of his ship, according to Villiers, was his insistence on clean, dry air and cleanliness. He ordered fires to be built in the bilges so that the heat would sweep fresh air into otherwise noxious and unhealthy spaces. That was what brought success to his fight against scurvy.

Fires in bilges notwithstanding, good ventilation is more than attaching cowl vents or fans here and there; it starts with sources. Make sure — absolutely sure — that no diesel finds its way to the bilge. Diesel fuel and fumes, in particular, can seep into just about everything.

It's a good idea to keep one of those big white oil-absorbent "diapers" under your engine and to check it regularly for spots. Get one of those powerful fluorescent portable work lights. Make it daylight down there.

Both hatches and the companionway are open at anchor. Holes top and bottom provide through-ventilation of the electrical cabinet, at left below. Ventilation holes under forward berths help keep mattresses dry, at right below.

The louver vent to the cockpit locker, at left. The Nicro solar vent, above, pulls air through the spaces above and below the head door, helping to ventilate the rest of the boat as well. The chain locker in the forepeak lies just below a 4-inch cowl ventilator, at right.

Go over your engine, especially all fuel hoses and their fittings, regularly with a clean white rag. Look around suspiciously. Sniff everything up close, especially the bilge sump.

Small hole

When you take on diesel, tear out a small hole in the middle of one of those oil-absorbent diapers and fit it over the filler pipe. Any spilled fuel will be absorbed immediately. Be sure you don't stuff the contaminated cloth back into a cockpit locker.

Keep your food supply fresh. Try not to provision for an ocean crossing if you're just going across the lake or along the coast for a few days and nights.

Any space not taken up by foodstuffs contains air. The icebox or refrigerator can be a real culprit when it comes to harboring bad smells. Keep it clean.

Try cruising without the microwave that comes in so handy in the marina. Lighten up — you'll move around more fresh air and sail a little faster too.

We took a page from Captain Cook's healthy-ship book and got rid of the nav table that blocked access to the quarter berth and interrupted a large flow of air. Since we pilot from the cockpit, we never used it.

Out came the large, unused quarter-berth mattress. This upholstery-free compartment absorbs fewer engine and galley odors now and provides more headroom and better access to the engine, cockpit drains, and steering cables — a big bonus. Rethink boxes of surplus boat gear and overly large tool chests that crowd the air out of closets. Get rid of big warm fuzzy things like the cushions, pillows, comforters, and blankets you don't use. They impede air movement and soak up stray odors of all kinds. Pick through your closets and drawers and take home whatever you haven't worn in several summers. Strip the boat during winter layup.

"My good wife, Beth, can tell when I've been down to the marina; she can smell it. That nose can detect diesel fumes before I get in the door."

Brush on deck

Air tends to flow forward from the cockpit or companionway opening. Brush your cat or dog up on the foredeck to reduce the amount of pet hair down below. Wet dog is one of the most difficult smells to ignore within the confines of a small boat, so we try to get old Scout good and dry before he goes below. By the way, you can pick up animal hair from upholstery easily with rubber dishwashing gloves. Just scrape them over the surface and the hair will pile up into large, easily removable clumps.

I once lived in a marina where we frequently exchanged meals with good friends in a Coronado 30. They were excellent evenings but what I remember most vividly was trying to enjoy all that good food and talk while balancing my feet on the rim of a kitty-litter box. I don't think my friends ever noticed and I wasn't about to tell them. That was back in the days when I thought all boats smelled.

In warm weather, it's a good idea to keep your hatches open as much and as often as possible. Our two main hatches can be opened to several positions, which we determine according to weather and security concerns. Beth is a borderline claustrophobic as well as a fresh-air freak. She gets very antsy when the dinghy is lashed to the foredeck and we can't get the hatch open all the way — like straight up. We can crack it, but it's not enough. That's another reason why we tow the dinghy.

Fitted latch

Our chain locker in the forepeak lies just below a 4-inch cowl ventilator. A hinged door separates it from the forecastle berths. It was easier to keep the door shut than prop it open with a

cushion, so I fitted a latch that keeps it wide open. This provides a source of fresh air up there when and where it's needed.

At the other end of the boat, there are multiple ways of moving air about. Companionway slides can be removed, and replaced with screens if necessary, and we've got a ventilating portlight in the eye-level companionway slide that helps move air and the steam generated by cooking clams and pasta. Directions for making this portlight are in the July 2007 issue.

During winter, we remove panels from either side of the engine compartment, which is vented through cockpit louvers to the outside. An electric light bulb in the engine compartment also encourages the movement of air up and out.

The head requires special attention. More chemicals do not result in fresher air. Whatever your Porta Potti, holding tank, or other plumbing arrangements are, the compartment should be positively vented. Beth is convinced that the thing that keeps the head sweet, in addition to (my) fastidious cleaning, is the Nicro solar vent that has worked more or less continuously for more than 10 years, except, of course, at night and during sunless days, or if I've rigged a tarp above it for one reason or another. Its active operation pulls air through the spaces above and below the door, helping to ventilate the rest of the boat as well.

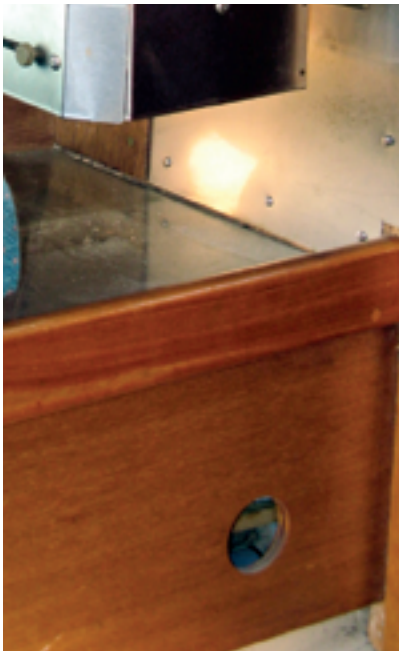
Hunted all over

I've hunted for dead air spaces all over the boat: in the backs of lockers, behind doors and hatches of all kinds, under the settees and berths. In a wooden boat, surveyors make a beeline for these spaces to look for rot. In fiberglass boats, these spaces provide ideal breeding grounds for mildew and can foster rot in battens, cleats, cabinetry, and other woodwork.

To get air into and through these spaces, I drilled 1¾-inch- and 2¼-inch-diameter openings with a hole saw. In traditional boats, these apertures often take the shape of anchors, stars, or shells. They may not be to everyone's taste (there is a good instinct that keeps us from drilling holes, carving sea-horses, or otherwise making holes in perfectly good boats) but they have an important role to play in moving air about and preventing mildew and mold from growing in these spaces.

Our Dickinson wood-burning stove is another small hedge against onboard pollution. It produces a dry, comforting heat on cold, foggy mornings. It pulls combustion air throughout the boat leading it through various openings and back to the outside. It's a modest and, perhaps more psychological than practical, way of keeping *Kuma* fresh, but it's a good shipmate, putting me in mind of Captain Cook and the fires down below that brought fresh air and better health to the good ship *Resolution*.

Richard Smith is a contributing editor with Good Old Boat. *He has built, restored, and maintained a wide variety of boats and sailed them in Michigan lakes and Oregon reservoirs, and from harbors and mud berths in the Irish Sea. He sails* Kuma, *an Ericson Cruising 31, with his wife, Beth.*



A vent hole under the stove and settee berth.

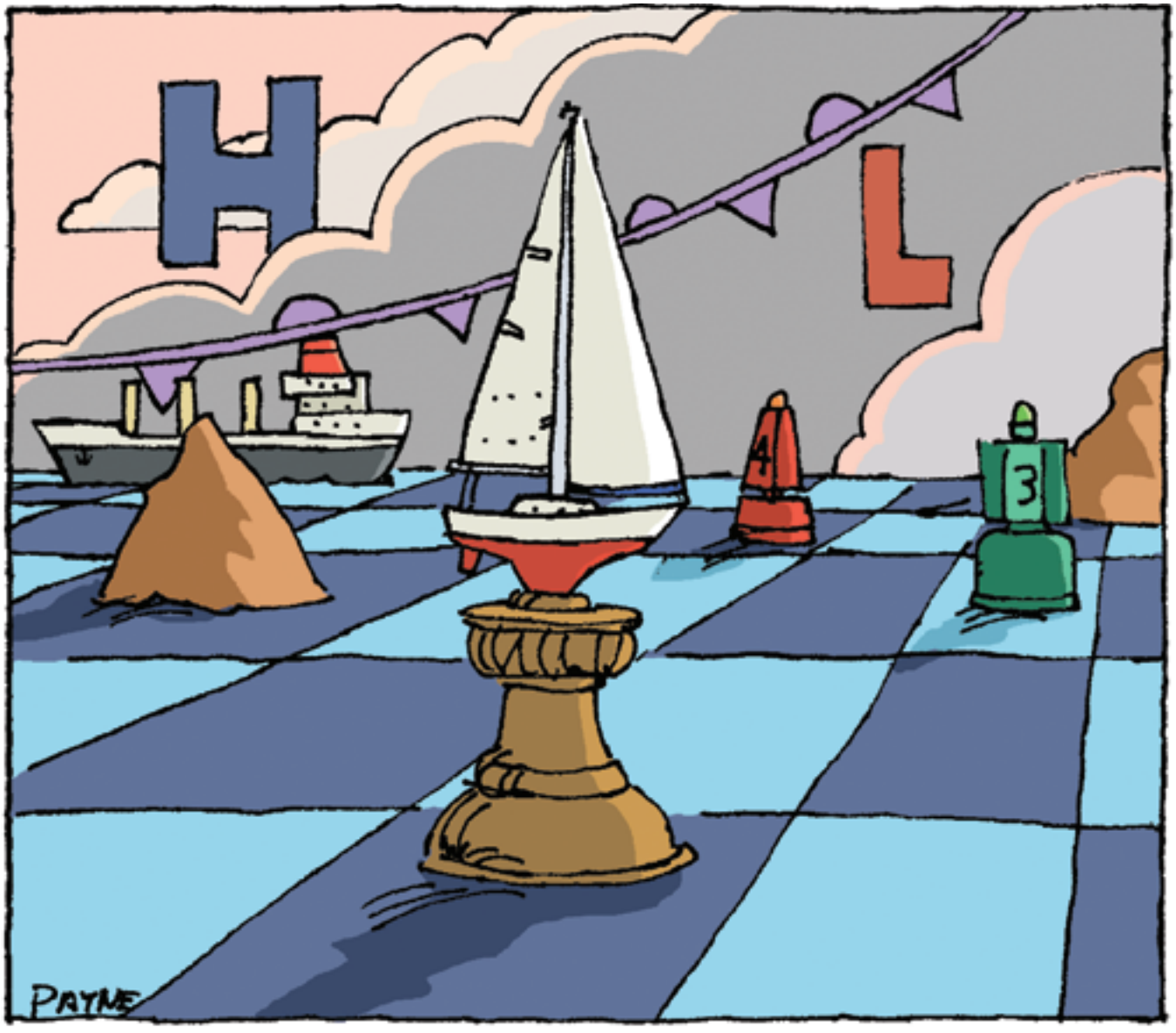
Defensive sailing

Practice these ideas for safer sailing

by Beth Leonard

Having options may prevent a minor mishap from becoming a serious accident. Based on his 20-plus years of experience, Lieutenant Commander John A. MacDonald, U.S. Coast Guard (Ret.), notes that, "Most accidents occur because the boater has no backup position. They run out of fuel, but they can't sail the boat in the current conditions. Someone tries to reef and ends up overboard, but they have no crew-overboard equipment or training. Most serious accidents result from a cascade of causes that could be arrested with one good backup."

That backup can come in many forms, from a decision to seek shelter based on a forecast for bad weather, to a way to stop the boat quickly to fix a broken block. Over the course of a 10-year circumnavigation aboard our 47-foot aluminum sloop, *Hawk*, we have spent almost all of our time sailing in unfamiliar waters in unpredictable weather, with large tides and strong currents, beyond the reach of rescue services. Almost everything we do to keep ourselves and our boat safe is defensive, designed to prevent that "cascade of causes" from starting.



ILLUSTRATIONS BY TOM PAYNE

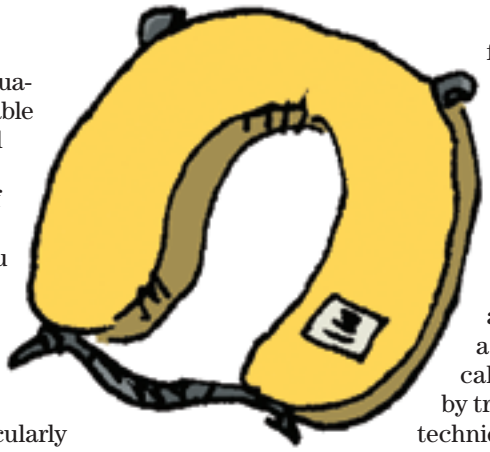
Defensive sailing consists of three things: building skills, acting preventively, and thinking ahead. Integrating these three elements into your sailing will increase your safety and your crew's competence and confidence. It will also empower and involve the whole family, making time spent on the boat more fun and rewarding.

Basic safety gear

When sailing offshore, being prepared for the worst that can happen does not start with safety gear. Life rafts, emergency position-indicating radio beacons (EPIRBs), and panic kits represent the last resort. Similarly, being prepared for coastal emergencies does not start with emergency communications, PFDs, fire extinguishers, and flares. That's where a serious emergency ends, often with damage to the boat or injury to the crew. While this equipment should be aboard, sailors can't substitute it for basic safety equipment that increases self-sufficiency and allows the crew to get home on their own. Having the following equipment aboard and knowing how to use it will make it far less likely that you will ever need outside assistance.

- Have an anchor ready to deploy.
- Keep first and second reef lines led and ready for use.
- Use a preventer when running downwind to forestall an accidental jibe.
- Carry crew-overboard equipment for retrieving conscious and unconscious victims.
- Keep a knife with a marlinspike on deck or by the companionway for clearing fouled props or opening shackles.
- Carry spare fuel if it can be stowed safely.
- Install smoke alarms and carry appropriate fire extinguishers and a fire blanket.
- Carry basic tools for use in bleeding the engine's fuel lines and making minor repairs.
- Install an electric bilge pump and a high-volume manual pump.
- Carry an appropriate first-aid kit.

Building skills

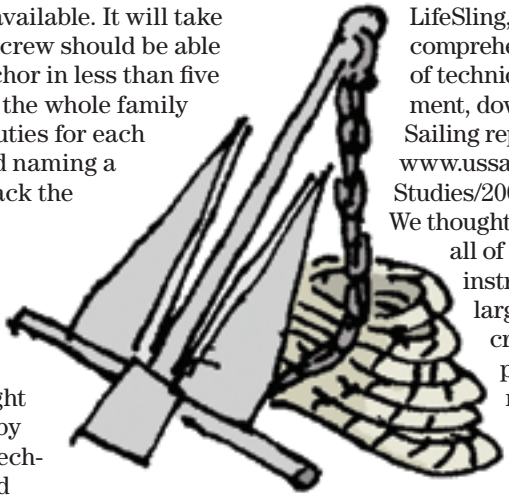


In most emergency situations, you need to be able to stop the boat or sail it somewhere without the aid of an engine. If your engine dies or a line fouls the prop, you need to stop the boat and fix the problem, fix it while sailing, or moor the boat under sail. If someone goes overboard, particularly if they are injured or unconscious, you need to maneuver close to them and stop the boat to get them back aboard. If the weather deteriorates, you need to be able to sail the boat to a safe harbor. If you go aground, you need to be able to kedge off. In each of these situations, one or more of the following techniques offer solutions for controlling the boat and helping yourself. Practicing them will involve every member of the family and can add some spice to an otherwise lazy summer day.

Deploying an anchor. If you are in or near shallow water and your engine fails, the prop gets fouled, someone goes overboard, the keel touches the bottom, or something else goes wrong, everyone's first instinct should be to stop the boat and deal with the situation. As soon as they realize there is a problem, the crew should prepare to deploy an anchor and wait for the skipper's command to do so. If the anchor is not stowed on the bow, it must be accessible, the connections between anchor and rode must be easy to work, and a marlinspike must be readily available. It will take practice, but the crew should be able to deploy the anchor in less than five minutes. Involve the whole family by designating duties for each crewmember and naming a timekeeper to track the crew's progress.

Heaving to. In water too deep for an anchor, the boat can still be brought almost to a stop by heaving to. The technique can be used for everything from bringing the dinghy aboard when the waves start to build during a daysail to enjoying a picnic and a swim on a calm day. Start by trying the technique in moderate conditions (10 to 15 knots of wind). If you have a large headsail, furl it to about 100 percent and then tack the boat without releasing the sheet. Lock the rudder in a position that holds the boat from 30 to 60 degrees off the wind. Depending upon the boat's hull configuration, it may continue to move forward at 1 or 2 knots, or it may drift to leeward at about a knot. For a more complete explanation, refer to the article on heaving to at <http://www.bethandevans.com/articles.htm>. Practice will help you determine how much sail to use for different wind and wave conditions. To get going again, release the sheet and trim the headsail in on the leeward side of the boat. Let every crewmember take the helm and heave the boat to, and make a habit of using the technique. Heave to outside the marina to put out fenders and lines, or near a racecourse to watch a regatta.

Crew-overboard retrieval. Much debate surrounds the various crew-overboard techniques: crash stop, reach-tack-reach, the LifeSling, and so on. For a comprehensive review of techniques and equipment, download the U.S. Sailing report at <http://www.ussailing.org/safety/Studies/2005_cobs.htm>. We thought we had mastered all of these until an instructor attached a large bucket to the crew-overboard pole we were to retrieve. We discovered that no matter how we got back to the



"body," the real challenge was positioning the boat so we could haul the full bucket of water aboard, which weighed a fraction of what a body would weigh.

Too many people practice crew-overboard retrieval as a 6-knot fly-by grab, which will not help at all when confronting the real thing. So whatever method you use, practice actually stopping the boat next to the "victim." Remember that the LifeSling can be used only if the victim is conscious, uninjured, and not hypothermic — and work on other techniques for more serious situations. Practice enough that each person immediately takes on one of the crew-overboard tasks — pointing at the victim and keeping him in sight continuously, throwing objects that float, maneuvering the boat, and handling sheets and lines. Make it a habit to pick up anything that falls overboard and floats, such as hats or boathooks. Once a month or so, designate a crewmember to drop a horseshoe buoy or life jacket over the side and to time how long it takes before the crew retrieves the "person" in the water.

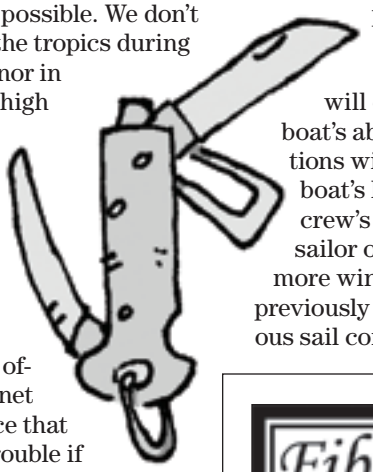
Maneuvering without an engine. Most coastal boats can easily be sailed on and off an anchor or mooring buoy, and many can be sailed into a slip in a not-too-crowded marina. While you're learning, leave the engine running but don't use it unless you have to. Start by sailing on and off the anchor and mooring buoy. Once your crew has mastered that, try sailing out of your harbor as soon as the boat is clear of the slip. If your marina truly precludes sailing, designate a secondary harbor nearby as your "emergency port" and practice sailing in and out as well as anchoring under sail.

Along with mastering the techniques above, make explicit plans for each situation you might encounter and make sure that each crewmember knows what role he or she should play. Develop emergency plans for fire, taking on water, going aground, losing the engine, or fouling a prop. Make sure everyone aboard knows where critical safety equipment can be found and how to operate it.

"Defensive sailing consist of three things: building skills, acting preventively, and thinking ahead."

Acting preventively

Like most offshore sailors, we are actually quite conservative. We know our boat, respect her limits, and avoid bad weather whenever possible. We don't make passages in the tropics during hurricane season, nor in the temperate and high latitudes when winter gales rage. We maintain the boat to forestall serious emergencies like fire or taking on water. We do these things because we often have no safety net — no rescue service that will get us out of trouble if we get into it. Most of these things take little time and effort, but they would prevent the majority of the incidents coastal sailors call the Coast Guard about each year.



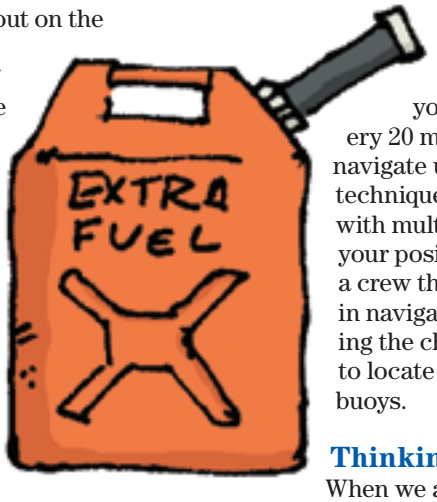
Maintain your boat for safety. Most of the life-threatening situations that can occur aboard an offshore or coastal boat can be prevented by good maintenance. Faulty wiring, dirty alcohol stoves, or fuel leaks can lead to fires; rusted hose clamps or clogged breathers may cause a vessel to sink; worn fittings or frayed standing rigging can result in dismasting. Older boats that have had multiple owners are more likely to have hidden faults that can become safety hazards. Good maintenance of all systems offers the best insurance against major mishaps.

Know the limits of your vessel, your crew, and yourself. Every boat has its limits, and these must be understood and respected. Equally, every crew has its skills and areas of competence, and these improve with experience. Your definition of heavy weather will change over time, but your boat's ability to handle storm conditions will not. You need to find your boat's limits while building your crew's skills. Take an experienced sailor out with you on a day with more wind than you have sailed in previously and experiment with various sail combinations in high winds or

"When your crew has mastered these skills, turn off the GPS and go for a sail. Plot your position every 20 minutes or so and navigate using only these techniques."

steep waves. Select controlled circumstances in sheltered waters close to home to build skills with your crew. When cruising unfamiliar waters, sail conservatively and stay within your boat's and crew's limits.

Track your position, as well as the weather forecast and the tide. Used properly, charts and tide tables keep skippers from grounding their boats and forecasts of deteriorating weather tell them when to find safe harbor. Before heading out on the water, always check the forecast and the state of the tide. If you plan to be out for more than a few hours, carry a weather radio or VHF, the appropriate charts, and tide tables. If you carry a GPS, learn to use the features that will help keep you safe — putting in waypoints, creating a route and using cross-track error to keep you on the route. But never forget that while a GPS is a marvelous aid to navigation, it is just that — an aid. It cannot substitute for good paper charts and basic coastal navigation skills. Too many crews have come to depend upon it as their sole means of pinpointing where they are. Each member of the crew should learn to plot the boat's position on a paper chart using compass bearings taken on identifiable landmarks, to plot a course line and convert between true and magnetic courses, and to use the depth sounder to position the boat using contour lines or to navigate along contour lines. When your crew has mastered these skills, turn off the GPS and go for a sail. Plot your position every 20 minutes or so and navigate using only these techniques. You'll end up with multiple ways to find your position and with a crew that participates in navigation by checking the chart and helping to locate landmarks and buoys.



Thinking ahead

When we are sailing, our position is dynamic, not static. We are navigating through space, as captured on the chart, but also through weather systems and tidal movements. We are constantly evaluating not just where the boat is now with respect to the land masses around us, the weather conditions and the tidal flows, but where it will be in 10 minutes or an hour. And we are factoring in ways to deal with the situation if something should go wrong. There are four main ways to ensure that you have a backup option if the unexpected happens.

Make sea room. As offshore sailors know, it's not the sea that's the problem — it's the land. The more distance you have from it, the more options you have. When coastal sailing in unfamiliar waters, it has become second nature to do everything we can to make sure we have more space, rather than less. When approaching a headland upwind on one tack, we sail high off the course. If, as often happens, the wind comes forward as we approach the headland, we will usually be able to weather the point without tacking. If the wind doesn't shift, we'll be able to fall off to a nice reach while rounding the point. Similarly, in an area with strong currents, we always give headlands a wide berth (between a half mile and a mile) because currents often accelerate around them and can produce dangerous waves. Making sure you have some room to maneuver gives you options if the engine quits or the wind dies and allows you time to choose from your grab bag of boat handling skills to deal with the situation.

Prepare for the worst. When sea room simply is not an option —

entering a marina or a narrow river entrance — we always make sure we have a backup plan. If entering upwind under power, we keep a sail up so we can turn downwind and run back out to sea. If we can't sail our way out of trouble, we make sure an anchor is ready to deploy in seconds before we reach the restricted area. When entering a strange marina, we always have fenders and lines deployed on both sides of the boat so we have options if we have to change our plans and go to a different slip or enter stern first instead of bow first.

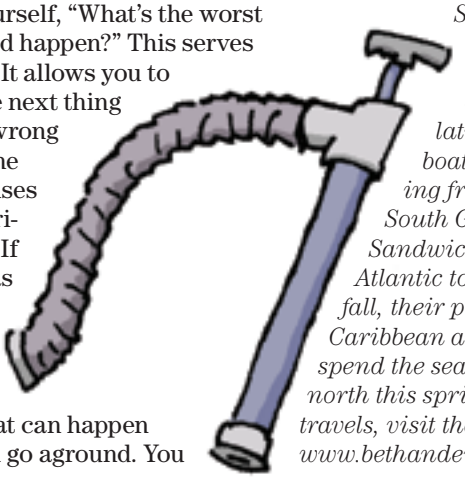
Get as much information as possible. Knowing what lies around a point or through a narrow harbor entrance allows you to plan ahead. When entering a strange marina, we always call ahead and find out where we will be docking and which side will be against the dock. When entering an anchorage, we get that information from a reputable cruising guide, from another sailor we trust, or from someone already in the harbor via VHF radio. When these options are not available, as in a remote anchorage where there are few other boaters, we will often heave to outside the harbor in a position where we can use binoculars to see the layout before we enter. If the entrance is too narrow for that, we will deploy the dinghy, and one of us will go in with a hand-held depth sounder to explore.

Turn on the engine. We're not purists. We lug that hunk of metal around, service it, and feed it expensive fuel.

"Finally, whenever things start to go wrong, ask yourself, 'What's the worst thing that could happen?'"

If we're in a situation where it might increase our safety, we don't hesitate to turn it on. But we consider it as one additional option and always have a backup plan if it decides to go on strike. We will use the engine to help us tack instead of jibe in big seas to limit the stress on the rig, to get out of the way of an oncoming freighter if we've misjudged our relative positions, or to maneuver to a crewmember in the water if that is the most efficient way to get back to him. Many times, we turn the engine on as part of creating a backup option and turn it off again without putting it in gear. But before we turn the key, we always make absolutely sure that there are no lines in the water.

Finally, whenever things start to go wrong, ask yourself, "What's the worst thing that could happen?" This serves two purposes. It allows you to prepare for the next thing that could go wrong and forestall the cascade of causes that lead to serious accidents. If your engine has failed and you're drifting toward a shoal, the worst thing that can happen is that you will go aground. You can get an anchor out or raise a sail to forestall that.



Just as importantly, this exercise can quickly calm a crew. "The worst thing that will happen is that we will go aground, get out the dinghy, kedge out an anchor, and winch ourselves off. We may lose a little bottom paint, but that's it." The crew will be much less likely to succumb to panic if a likely scenario can replace their worst fantasies.

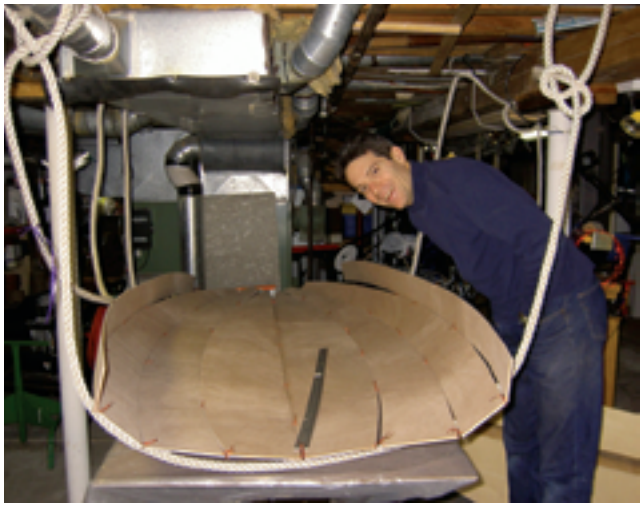
By learning to sail defensively, you will forestall problems and involve the whole crew in learning new skills. And they will experience the satisfaction of sailing onto the anchor or flawlessly picking up a mooring buoy, impressing everyone in the anchorage.

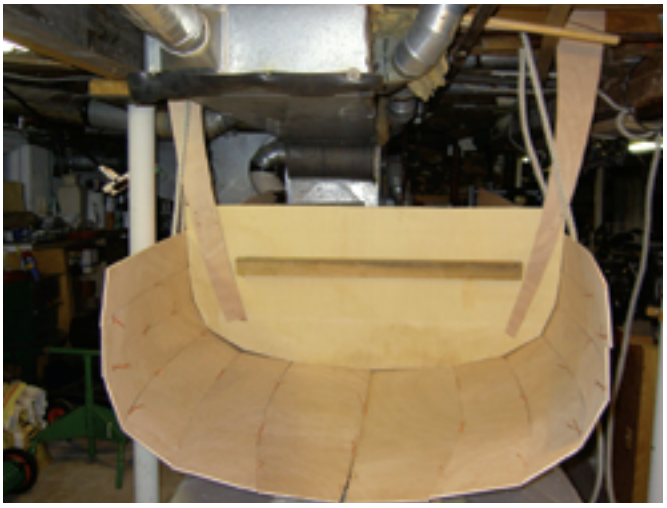
Beth Leonard and her husband, Evans Starzinger, have sailed more than 100,000 nautical miles, most of those in the high latitudes, on their current boat, Hawk. *After heading from the Falklands, South Georgia, and the South Sandwich Islands north up the Atlantic toward Antigua, late last fall, their plan was to reach the Caribbean around January 2009, spend the season there, and head north this spring. For more on their travels, visit their website: <http://www.bethandevans.com>.*

A craft of love

A dinghy makes a tender and fitting gift

by Nina Nakajima





PHOTOS BY JIM BELISLE, JONATHON MAGUIRE, AND NINA NAKAJIMA

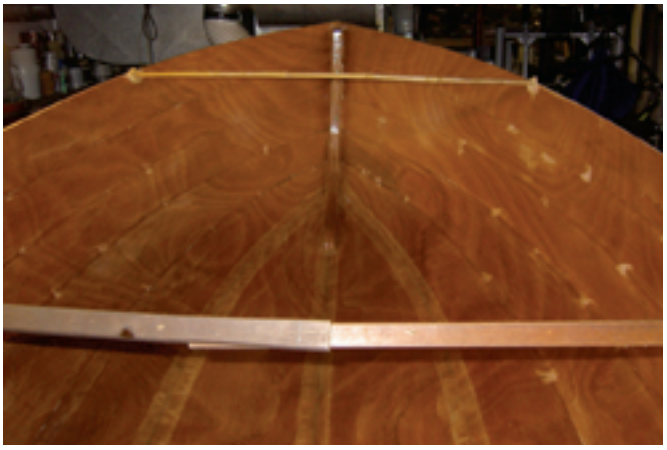
A sailing dinghy was the most perfect wedding gift Jonathon could have given me, but I was not thrilled about my new husband spending our honeymoon in the basement building it. Others had their own reservations. Could Jonathon really build a boat or would it end up as one of those projects that takes up room in the basement for 16 years? Would she fit through the basement door once completed? How would she sail? Wouldn't she be too small?

Work began on January 1, 2005, two days after our wedding. By spring, he had completed Selway Fisher Design's Redshank, a 7-foot 6-inch English stem dinghy. Jonathon spent three weeks of vacation and most of his spare time during that winter in the basement (when he wasn't busy tending to his new wife, buying a new sailboat, and training as a pediatric resident). A rough estimate of the total time spent is 400 to 600 hours.

Now, the dinghy we'd dreamed of for years — one that would be stable and easily rowed, sailed, and lifted on deck — is a reality. During our summer cruises, we used to spend breezy afternoons talking about how great it would be to sail around the anchorage in a dinghy. Now we spend these afternoons talking about discoveries made while sailing around the anchorage or reliving exciting moments in the puffs.

We liked the Fatty Knees dinghy of Lin and Larry Pardey fame, except for its price and weight. When Jonathon saw the photo of the Redshank on the Selway Fisher webpage, he knew it was the boat that he wanted to build for me and immediately ordered the plans. A good friend of ours, who is a very talented cabinetmaker, shared a few basic woodworking tips, which went a long way. Jonathon learned about the stitch-and-tape method of building a wooden boat from the books *Ultralight Boatbuilding*, by Thomas J. Hill, and *A Manual of Modern Small Plywood Boat Construction Techniques*, by Paul Fisher, and basically followed the instructions therein. Stitch-and-tape (also referred to as stitch-and-glue or tack-and-tape) is an easier alternative to the traditional clinker (lapstrake) method and produces a lighter craft. The basic technique, as the name indicates, is to:

- Stitch together the plywood hull planks (the Redshank has six on each side) using wire ties. Lines slung underneath the hull and a template set inside the hull assist in the process. The bow pieces are stitched together once the transom is nailed in.
- Lightly epoxy the seams together, then remove the stitches and fill the holes left by them (this is not part of the standard process, but we feel it added to the aesthetics of the boat). Tape the



Stitched together with wire ties, the plywood hull planks lie in a pair of rope slings, at left above. Drawn up around a template, the planks begin to take on the shape of the hull, at right above. After taping the seams on the inside of the hull with fiberglass, Jonathon applied several coats of epoxy, at left.

Even with the basement door and its frame removed, extracting the dinghy was a tight squeeze.

When it came time to fit the mahogany gunwale rails, Jonathon rounded up all the clamps in the neighborhood.

seams on the inside of the hull with fiberglass and apply several coats of epoxy.
- Fiberglass the outside of the hull and sand until smooth.

By January 19th, these steps had been completed, and the basic structure, consisting of 6-mm okume marine plywood for the hull and laminated mahogany for the transom, was finished. But a lot of parts still needed to be added before the dinghy would be ready to leave the basement: the keel and stem (they would be made of white oak for its hardness), the daggerboard trunk (9-mm okume marine plywood), the seat mounts (fir), the seats (mahogany), the mast step (white oak), and the inner stem (laminated 9-mm okume plywood).

Jonathon enlarged the middle seat to encompass the daggerboard trunk and to make a bigger seat. He made the seats removable for ease of future refinishing and, to keep our bottoms dry, constructed a dummy to insert in the daggerboard slot when not sailing.

Then the big question: would we be able to get the Redshank out of the basement? We had measured the doorway and thought there was about 1 inch to spare. As it turned out, it was a very tight squeeze, even after removing the door and doorframe and leaving the seats out of the dinghy to allow the boat to flex.

Once outside, there were still some outstanding items: the mahogany rails (we used all the clamps in the neighborhood); the quarter knees, the breasthook, and the oarlock beds (all made of mahogany); the bronze protection on the stem and keel; a few coats of white two-part polyurethane paint on the outside; and lots of varnish.

May 22nd, launch day, was one I will never forget. A small parade of neighbors, cheering and beating on drums, escorted us and the Redshank from the backyard to the lagoon a few blocks away. We opened a bottle of champagne and, in his toast, Jonathon announced that our Redshank would be named *Nina*. We waded into the water, boarded *Nina*, and ventured out for a row to celebrate our 12th anniversary of becoming a couple.

With her nearly 7-foot-long spoon-shaped spruce oars, *Nina* rowed beautifully, as expected. Jonathon had decided on two sets of oarlocks, one for a single occupant and one for when two or more would be aboard. But how would she sail?

Cat rig

Nina's sail plan was for a gaff rig, but we thought a cat rig would be more practical and efficient. We purchased an Escape sail on eBay and, to accommodate it, Jonathon installed the mast step farther forward than called for on the plans. We also purchased a used two-part Windsurfer mast, which can be stored more easily. The sail was blue (we could live with that) and the mast was fluorescent green (it has since been painted white). The boom is part of a broken spinnaker pole from a racing dinghy and fits snugly inside *Nina* for storage, as do the oars. Jonathon fashioned the daggerboard out of laminated teak and

***Nina's* middle seat, extended to encompass the daggerboard trunk, adds both style and stiffness.**

Small as she is, *Nina* carries the family of three in comfort.

***Nina* looks the part as *Saudades'* tender, and fits nicely too.**

made it longer than designed. The rudder and cheek plates are from an old Albacore.

Nina sails delightfully, even in light winds. It takes about 5 knots of wind to get her going, while 10 knots makes for a lively sail. When sailing in 15 knots, we wish we had put in more flotation.

At the outset of this project, people thought two would be a crowd in a dinghy that, at 7-foot 6-inches, is shorter than an Optimist. We have since become a family of three and we fit comfortably. During the summers of 2006 and 2007, we used her almost daily for excursions while cruising in the North Channel of Lake Huron.

We had planned to stow the dinghy on the deck of our Dufour 27, but the dinghy was not the only thing conceived that winter. To accommodate our growing family, we bought a Tayana 37, named *Saudades*. Jonathon jokes that we had to buy a boat to match the dinghy. *Saudades* had davits — perfect! During a midwinter visit to our new boat, we measured the distance between the davit falls so we could fit corresponding lifting points on the dinghy.

So our family fits in *Nina* nicely, *Nina* fits nicely on the stern of *Saudades*, and she fits most beautifully and wonderfully into our life afloat.

Nina Nakajima and Jonathon Maguire take Saudades *from their home on Toronto Island, Lake Ontario, Canada, to the North Channel of Lake Huron during the summers. Their daughter, Joni, is now 3 years old and the family still fits comfortably in the dinghy.*

Resources

More about the Redshank at Selway Fisher Design
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***Nina* cuts a colorful figure and a clean wake exploring an anchorage with her namesake.**

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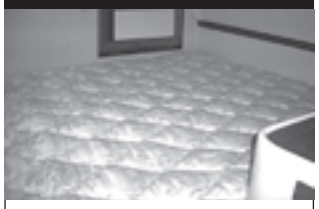

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Making Carly a sailor

A reluctant 7-year-old gets bitten by the sailing bug

by Gregory Byrd

Carly and Greg on St. Joseph Sound, off Dunedin and Clearwater, Florida. This sound is protected by Caladesi Island on the north and Clearwater Beach to the south. The Intracoastal Waterway runs through this area.

PHOTOS BY SHAWNA BYRD

The second time my wife, Shawna, and I took our daughter, Carly, sailing on our Albacore dinghy, I figured someone would call the police. Her 7-year-old imagination had convinced her that the boat would capsize and that sharks would devour us all. My carefully reasoned argument that I had spent 40 years on the water and had never been eaten by a shark elicited neither a smile nor confidence. Of course, there was some reason for her having less-than-perfect confidence in me: on her first trip I had been paying so much attention to making sure she and her mom were happy that I didn't anticipate a jibe, and the boom knocked me off the boat. But no sharks ate me that day.

While my wife understood that it was for Carly's own good to spend some time sailing, my daughter came by her fear honestly. Shortly after Shawna and I were married, I bought a Mirror dinghy. I would load it and its spars on my pickup truck topper and drive to the beach near downtown St. Petersburg, Florida. The Mirror was just light enough that I could put it on my shoulders with my hands on the forward bulkhead and walk it down to the water. It was just heavy enough, after hours of sailing, that I stumbled back up the beach like a drunken college student coming home.

Perhaps due to being in love or due to our both being recent college graduates and broke (thus having little other entertainment), my wife happily climbed in the Mirror and handled the jibsheet, screaming as the little boat heeled over in a reach in Tampa Bay. The day we took Carly out, some 20 years later, Shawna whispered, "You'll keep the boat from heeling over, won't you?"

Calm enough air

I don't know how we got Carly from the dock (where she was throwing one of her more energetic tantrums) into the boat, but once we were under sail in calm enough air, she settled down. The morning had been spent watching her firmly-set jaw as she growled "I HATE sailing!" But there is magic in sails. She had to admit early on that she enjoyed my friend Pete's 30-foot Morgan. Now, though, she rested against the gunwale in the security of her life jacket while the boat moved across the smooth waters near Clearwater under a beautiful blue sky. We tacked, and she gripped the seat hard while the boom swung across and Shawna switched the jibsheet from one side to the other. No one went overboard. There were no sharks to be seen. She smiled a little. An hour later, I had her take the jibsheet. She felt the sail move on the other end. I had her trim the sail. We tacked and she switched from one sheet to the other. She smiled, this time right at me. She handled the jib for another half-hour, no longer worried about the shift of the hull as the wind picked up, but focusing instead on trimming the sail. She was helping to sail the boat and she knew it.

I had her hooked and now I would reel her in. I made some excuse to let her mother take the jibsheet again and cajoled her back to the tiller.

"Take this," I told her. She looked at me like I had just told her there were penguins on her head. "Steer the boat." She looked at me again. "We'll do it together." And she put her small hands on the tiller alongside my hands, which suddenly looked as large as my father's ever had. I gave her a landmark and had her steer for it.

> "...she put her small hands on the tiller alongside my hands, which suddenly looked as large as my father's ever had."

Sailing on her own

I recited a mantra for her "push left to go right, push right to go left," wishing I knew whatever was the standard sailor's rhyme for this. Soon she was sailing the boat on her own, overcorrecting a bit now and then, but in

Carly and Greg proved that their win, described in this essay, was no fluke by winning first place in the same regatta the following year. Pictured here, the happy crew with their award.

control of the boat while Shawna and I handled the sails like good crew. I guided her to the marina where the breeze was coming right off the dock. With a little help, she steered us in and turned up beautifully into the wind, stalling the boat and luffing the sails as our rail kissed the dock. On the way home in the truck, she said, "This was the best day ever!" Shawna and I sighed.

But this is not all. Carly is 8-going-on-9 now and has sailed with me enough to have taken the tiller a few times. She is comfortable with the jibsheet, with the boat heeling over in a broad reach, and with the hum of the centerboard as the boat gets up on a plane. So I didn't hesitate to sign us up for the "Lite" division of the Dunedin Cup last September. I know that the Albacore midwinter competitions are held in Sarasota, Florida, but our old Albacore, a 1974 Grampian model, is not in racing trim. The sails are probably 30 years old, she — *Villanelle*, named after a beautiful form of French poetry — still has her aluminum centerboard, and her rudder is delaminating. My sailing skills are in line with *Villanelle's* shape. I sailed a Sunfish as a kid, my dad's Catalina 22 in high school, and the Mirror dinghy after college. I understand old Phoenician technology well enough to make a boat go and to have some fun, but that's it so far.

Blissfully unaware

Perhaps that's a good thing when teaching a youngster to enjoy the sport. There are a dozen things about trim of which I'm blissfully unaware. *Villanelle* seems to be forgiving enough, even when Shawna and I capsized her on our first outing. She righted easily and we sailed her away, scuppers flowing out, Shawna bailing, her cork-soled shoe heading for Mexico.

So, after maybe four months of not having been out on the water, Carly and I launched our ragged boat for the Dunedin Cup and Kiwanis Regatta next to shining O'Day Daysailers, and paddled through the marina out to the racecourse. Our motley division consisted of two 22-footers and a 14-footer sailed by an older couple and their two granddaughters. We didn't know enough to circle back and forth at the starting line, so by the time the final flag came down, we were 50 yards behind the 14-footer. As we crossed that invisible line, Carly's Mickey Mouse cap flew off, landing on the green waves of St. Joseph Sound and drifting sadly away as my daughter cried.

"We get your hat," I said, "and we lose the race." She looked at me with her teary eyes. "I promise to buy you a new one after the race." She nodded and we were off. We had gotten lucky. The 22s were stuck a couple hundred yards behind the start line and seemed to have a tough time coming about. I knew we could catch the little 14 on the running leg of the course where we could get up on plane and the Albacore would show her stuff.

I was wrong.

Perfect tacks

We'd get close, but the captain of the little 14 executed one perfect tack after another, while I put us in irons at least once as I navigated the new experience of sailing a racing course. By the second time around, we were a hundred yards back and knew we'd never catch him. This was fine. My goal all along had been to have a good time for Carly, to make sure we didn't capsize, and for her to have fun. All of those things had been happening, save the missing hat, which she'd forgotten in the excitement. On the second and last leg of the race, the wind shifted so that it was necessary to make a tack to starboard and then come about port again to make it to the first buoy. I watched the 14 ahead of us as she came about beautifully … and then her mast came down.

"Carly! Look at that!"

"What?" she said. She had been scanning the water for dolphins.

"Their mast is down!" I thought first of the girls on the boat. One of them had been sitting forward. Of course, we couldn't sail any faster and we would have to come about before we could get to them. By the time I steered close to them, the rescue boat had already arrived.

"Everyone OK?" I shouted.

"Yeah," we're all fine, the captain called back. I looked at Carly.

> **"… she bounced up to receive our plaque. We had our picture taken together and retreated to where we had been sitting, Carly with a strong hold on that little plaque."**

First place

"That means we're in first place," I said. She beamed. "We're outta here — coming about!" I said. She snapped the jibsheet free of the cleat and hauled in the port sheet like an old pro. The 22s were being sailed well and had gained some ground. On our run, we increased our lead. I botched another tack near the final marker but when we crossed the finish line, the judge in the committee boat blew his air horn, gave us a thumbs-up and called out "See you at the trophy table." I reached

toward Carly and gave her a high-five.

"Did we win, Daddy?"

"I don't know," I said, honestly. The 22s had likely sailed a faster course but hadn't reached the start line for a long time. I didn't know what the rules were. I didn't know if the race was handicapped. It was an informal race, after all. The serious races took place among the Daysailers, the Beach Cats, the Windlasses (women sailing Optiprams), and the big boats racing in the Gulf of Mexico.

After we hauled the boat out, we walked past the 14 and could see the base of the mast where it was torn and twisted. We learned later that a shroud fitting had failed. It would have beaten us easily. Sunburned, tired, and happy, we strapped down the boat, took her home, and put her to bed. Later, at the cookout, we ate among the real sailors and the sailboats at their moorings. We waited for all the other awards to be announced. Then came our division.

"I'd like to tell of her sailing Lasers for her college team or making bluewater crossings, but she sees herself as a sailor now and will, I think, forever."

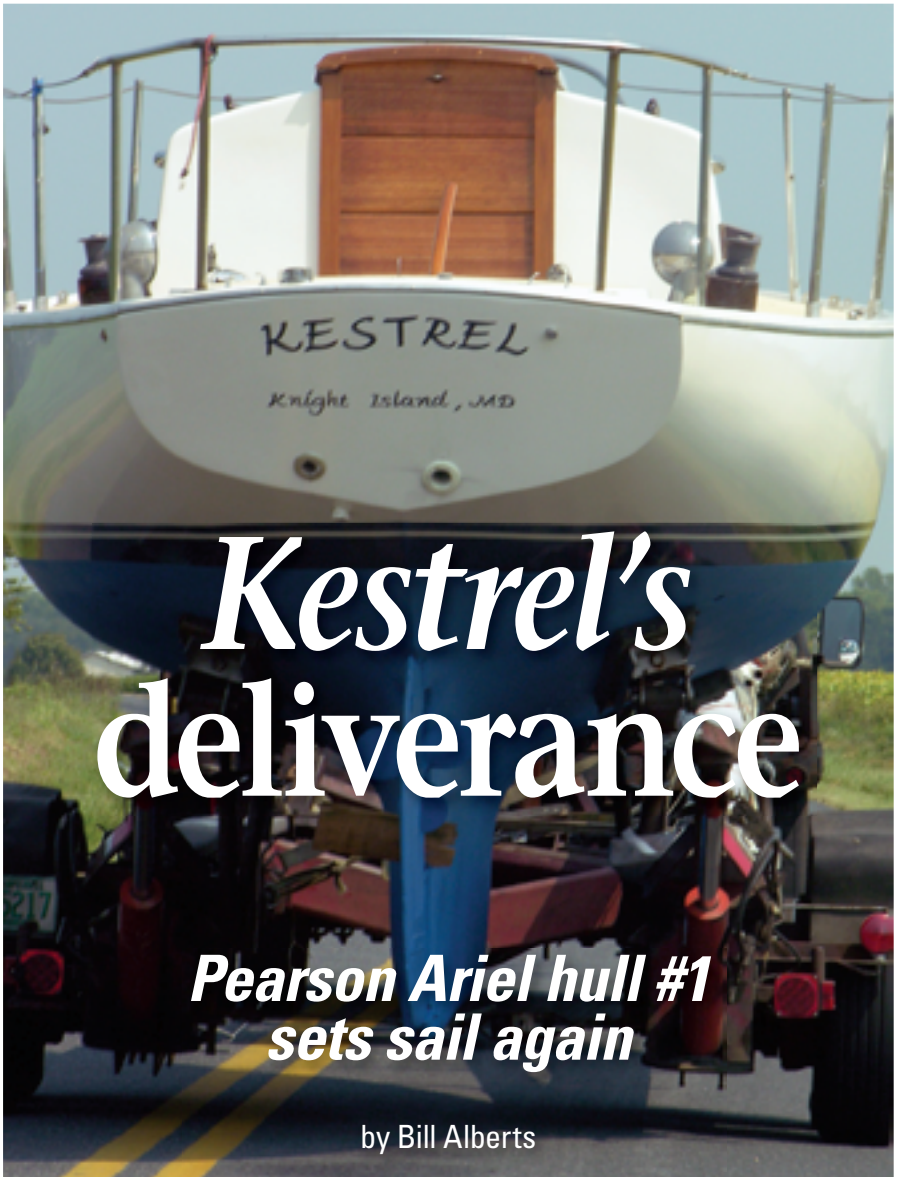
A happy judge

The judge, I think, was happy to see us come in first, because he realized the power an experience like that can have on a young mind.

"In the Lite division, sailing in *Villanelle*, a 15-foot Albacore, Captain Carly Byrd with help from her dad, Greg, as crew!" I gave her a little shove and she bounced up to receive our plaque. We had our picture taken together and retreated to where we had been sitting, Carly with a strong hold on that little plaque.

"We got lucky today," I told her. She nodded her head as if she understood. And we did get lucky, or rather, Carly did. I'd like to write this story 10 or 15 years from now and tell of her sailing Lasers for her college team or making bluewater crossings, but she sees herself as a sailor now and will, I think, forever. As we drove home that night, full of shrimp and beer (Sprite for Carly), she said in the dark of the truck's cab as she fought the good sleep coming on from a day working hard in the sun, "Daddy, this was the best day ever." And she meant it.

Gregory Byrd is a lifelong boater who sails his Albacore and refits a 21-foot Luger Westwind for more distant adventures. He teaches writing at St. Petersburg College in Clearwater, Florida.



Kestrel's deliverance

Pearson Ariel hull #1 sets sail again

by Bill Alberts

A few years ago, when my wife, Ann, and I were searching for a boat, we happened upon a beauty. We were in Oxford, Maryland, for the weekend and found ourselves strolling around the docks. There she was, an Ericson 29, polished, painted and looking mighty good in the afternoon light. A "For Sale" sign was posted in her shrouds.

Ann and I called the owner and he invited us aboard for a look. Since it was a fine afternoon, he asked us if we wanted to take a sea trial right then. Of course we said "Yes!"

The sail was effortless. The boat was exciting, very clean, responsive, and apparently well cared for. We drove home talking excitedly and decided to make an offer. That night, I called John Griffiths for advice. John is a friend, a boatbuilder, and a retired boat surveyor. I respect his judgment. I wanted him to tell me only good things about our choice. However, John is not inclined to praise boats. He tends to point out their faults. It's the surveyor's instinct, I suppose. In this instance, his comment was "What year?" When I told him, he said, "She's got bad decks."

I remember thinking, "You haven't even seen her yet. How can you say that?" I stiffened . . . listened . . . and then went ahead with my own plans. The owner accepted our offer and we were off into the heady world of yacht buying. The first thing I did after we sent in our deposit was to arrange to have her surveyed.

Launch day. *Kestrel* on the road to the marina.

Detailed report

Seven hundred dollars' worth of survey later, I was given a very detailed report. The bottom line: she was in great shape except for one thing . . . she had bad decks. In fact, the word the surveyor used was "saturated." When I looked into how much it would cost to repair them, I was given estimates that raised our purchase price by 50 percent. We withdrew our offer. Chastened, I decided to listen to John in the future.

That fall, John sold his C&C 40, *Moonlight*. He and his wife, Sandy, had decided to swallow the anchor and sell while their classic cruising yacht was still in top condition. She went fast and John found himself without a boat. Then, by coincidence, while in Oxford on an errand, he came across *Kestrel*, Pearson Ariel hull #1, vintage 1963. And he took her home.

When I first saw *Kestrel*, I was quietly stunned. She was a wreck. Even my inexperienced eye could see that it was going to take a huge, sustained, effort to get her back into the water. Her decks and coachroof were bad. The original Atomic 4 engine had been submerged and left to rust. Everywhere I looked I could see work to be done, and I knew that what I could see was nothing compared to what must lie beneath it.

Now, if anybody on this planet knows about boats and rot, it's John Griffiths. He certainly knew that *Kestrel* would require a tremendous amount of work. As time went on, when I commented on how one job just led to another, seemingly endlessly, he smiled. "It's a hobby," he said, "You don't want to rush it."

Three-inch hull

I remember sitting in the cabin with him after he had removed the old bookshelves. He showed them to me. They were the better part of an inch thick. As he held out the wood to me, he said, "Look at that. They don't build them like this anymore . . . don't have to. Back then, they didn't know. These boats were overbuilt. The hull is 3 inches thick in places along the keel."

Weeks later, when I visited again, I found that John had removed the old engine, cut away the top skin on the decks and coachroof, re-cored the decks, and glassed over everything. Yet, after all this work, the boat still looked awful. It was overwhelming to contemplate the work that lay ahead.

The look on my face must have been transparent. John said, "Do the worst jobs right away, when you're still in love. Don't start with the brightwork."

He certainly didn't. The work went on: New portlights. A new hatch was fitted and bedded in. Since the Ariel's mast is deck-stepped and the original strong beam had sagged, John built another: an arch made of solid cherry that he had harvested, milled, and seasoned right on his farm. He took the supports straight down to the keel, so the mast is now better braced than when *Kestrel* first came off the line.

He removed the old Monel water tank. The quarter berths were made into settees with the angle of the backs adjusted for comfortable seating. Lots of little storage cubbies were also incorporated into the seatbacks. The woodwork was all of cherry and poplar from the farm.

Rebuilt Yanmar

He found a Yanmar 2GM that BoatU.S. had for sale as a write-off. It was judged to be irreparably damaged. John took it apart piece by piece. I remember seeing it all laid out on his bench: springs and bolts and bits and pieces . . . hundreds of them, it seemed. I wondered if he would be able to put them all back together again, not to mention whether or not the finished product would run.

He was able . . . and it does run. Like a clock.

So *Kestrel* was repowered. A new fuel tank was added beneath the cockpit sole; the engine beds were made and glassed in; the drive shaft and stuffing box installed. John made a new rudder and replaced the old rudder tube and shaft bearing. He made

"Now, if anybody on this planet knows about boats and rot, it's John Griffiths. He certainly knew that *Kestrel* would require a tremendous amount of work."

a stainless-steel tiller-stop to keep the rudder from slamming over in reverse and running afoul of the new three-bladed prop, a bigger prop than the original because of the larger, slower-turning diesel.

John drilled holes in the keel and let out gallons of water that had collected in voids around the ballast. After letting it dry for the better part of a year, he injected vinylester resin into the voids until they were completely filled.

He built a beautiful, heavy-duty, double anchor roller on the bow. After making careful measurements, he had a stainless-steel pushpit constructed, and added stanchions and lifelines all around. One winter, John's old friend

***Kestrel* with her bottom painted, top, waiting for transport to arrive and at anchor on the Sassafras River. At 25 feet 7 inches, the Pearson Ariel and Pearson Commander are sister ships that share the same hull design.**

and fellow sailor, Mike Arms, came over and spent many days painting *Kestrel's* hull, but before he did, John removed the rubrail and re-bedded and re-fastened her hull-to-deck joint.

Fixed bit by bit

At one point, John and I were sitting in the cockpit and he mused, "They made all kinds of mistakes on hull #1. Then, they fixed them bit by bit as more boats came off the line. Remember how thick the hull is at the keel? Other spots, it's too thin." He laughed. It didn't matter.

After the hull and decks were painted, John made a cockpit grating out of teak. He added a Gusher bilge pump that could be handled from the cockpit. He installed the instrumentation for the engine and framed it in cherry, rebuilt the slides for the hatch, and made mahogany double handrails for inside the cabin and for the coachroof.

He painted the mast with Awlgrip and replaced the standing rigging; added new, heavier-than-stock chainplates; rebuilt the lazarette hatch; and added a waterlift muffler for the Yanmar. He removed the old head and glassed over the holes where the seacocks had been. His plan was to sail *Kestrel* as a daysailer, not a cruiser, so a Porta Potti would do. Likewise, he didn't feel that he needed a sink or an icebox. Those were torn out and new cabinetry built to replace them. A new electrical panel and all-new wiring followed, as well as an engine cover that also provides steps up from the cabin to the bridge deck.

The work went on and on. I began to wonder when, if ever, John would launch *Kestrel*.

Mike said, "The problem is, he has no plan to campaign her. He may just tinker with her forever." After five years, a hip replacement, and gall bladder surgery, it began to look like *Kestrel* would stay in the shop, almost ready to go, with no one to sail her.

Sudden change

But that all changed suddenly. In August, John's son, Trevor, and his fiancée, Gwen, hatched a plan. They would quit their jobs and sail *Kestrel* south for the winter . . . if John would agree, that is. The original plan was to go to the Bahamas, but anywhere south would be fine.

Young . . . in love . . . no kids . . . Well, why not?

I have no doubt that there was a sparkle in John's eye when he learned of the idea.

That was it. The ice broke and things began to move in earnest. With the prospect of giving *Kestrel* to his son, to open the door to the cruising life that John and Sandy had shared for so long, the Griffiths' family shipyard went into high gear.

The Porta Potti came out and a new head was installed, along with a holding tank and a diverter valve for pumping out at sea. New seacocks were installed where the old ones had been removed. All that cherry was varnished and re-varnished. New LED lighting was installed and an additional battery bank was added for onboard electronics.

A depth sounder was added, and the sender glassed into the hull beneath the port settee. A mattress was made for the V-berth and an insert added to cover the toilet and make a double berth. John made a dinette table that can be folded and put away in the hanging locker. *Kestrel* now carries 22 gallons of water in 2-gallon collapsible jugs. For dishwashing, there is a collapsible camp sink. A two-burner camp stove completes the galley.

Ready for launch

John made a sea hood for the hatch, and added a small spray-dodger. Sandy, Trevor, and Gwen worked tirelessly to complete all the little jobs that needed

PHIL SHEA

On February 25, 2008, *Kestrel* makes the passage from Bimini to Chub Cay.

Adventures in the Bahamas

When *Kestrel* went cruising, Trevor reports, they were in a rush to leave Bimini, in the Bahamas, because a weather system was coming through that would trap them there for a week.

Says Trevor, "We left hurriedly in the middle of the day with two other boats, one with our new friend, Phil [Shea], and another filled with young Swedish doctors. We decided that we would anchor for the night on the banks and continue to the Berry Islands the next day. It's a long run, about 90 miles in total. That night, however, the winds started to pick up and the banks got really choppy; no one could sleep. We decided to leave at 3 the next morning because we had 70 miles left to go and we couldn't sleep anyway. When we tried to fire up the engine, the diesel choked and went up in a puff of smoke (or steam)."

Not willing to mess with it in the dark and the choppy conditions, they sailed off anchor with the other boats and headed to Chub Cay. With Phil's help, they managed to fix the engine under way. It turned out that they had been slamming around so badly in the night that water had been forced up the exhaust and flooded the engine. "We were lucky that we got it all out with no problems," Trevor recalls.

"It was good that we were able to fix the engine since the wind completely died in the late afternoon and we were forced to motor the last 20 miles or so. This passage turned out to be somewhat of an ordeal and an adventure . . ."

attention before launch. By the second week in October, *Kestrel* was ready to be moved out of the barn and back into the world . . . even if it was only the landlocked world of the farm. Trevor, Gwen, and John went to work with pipes for rollers and a small tractor for power. Some leverage provided by a large block, a length of very stout rope, a hydraulic jack, and a lot of youthful energy, tempered by John's knowledge and patience, were all the other ingredients necessary.

I watched that "birth" and assisted the midwives whenever necessary, as they hauled *Kestrel* out of the barn where she had been gestating for so many years. But mostly, I was there to photograph that baby as she was presented to the world afresh.

When she was launched the following week, her bottom freshly painted, her name on her transom, I was again there to document the event. It was exciting to see her touch down in the Sassafras River, a tributary of the Chesapeake Bay, and to ponder the world of possibilities that lay before her and her new owners. It was a privilege to be a part of the process. Because one man saw something beautiful beneath all that rot, something worth the effort it would take to save her, and because that same man ultimately had the wisdom to let her go, to give her away, *Kestrel* is free to soar once again.

I said a prayer as that beautiful little pocket cruiser splashed. "May she protect her crew as they have protected her." I'm quite sure she'll do her utmost. She comes from good stock.

Gwen working on the boat.

Since childhood, Philadelphian ***Bill Alberts*** *has spent summers on the upper eastern shore of Maryland. A musician, teacher, and writer, he has had the good fortune to be able to earn a living doing what he loves. He and his wife, Ann, sail their boat,* Haabet, *out of their home port of Hack's Point on the Bohemia River in Maryland.*

Vessel documentation

All you need to know about U.S. Coast Guard registration

by Vern Hobbs

VERN HOBBS

Vern's vessel documentation number is chiseled onto an overhead beam and indicates that his boat is a piece of the United States, no matter how far from home *St. Pauli Girl* roams.

"What do these numbers mean?" our guest asked while stowing her gear in the forward berth.

"That's the vessel documentation number." I answered. Her perplexed expression told me further elaboration was in order. I considered how best to summarize the meaning of the eight-character encryption chiseled into the overhead beam, and settled on the one that was first offered to me many years ago: "Those letters and numbers mean that this boat, wherever she might sail, is a little piece of the United States."

This simple explanation satisfied her curiosity, and impressed upon her the gravity of this time-honored system of ships' registry. "Wow!" she said in a voice barely above a whisper, as she ran her fingers over the deeply carved inscription.

Cataloging vessels by name, homeport, and nationality is a practice known commonly as vessel documentation, and is centuries old. Our own national program was established by the 11th Act of the First United States Congress, making it one of the oldest federal laws on the books.

Simply put, vessel documentation is a form of federal boat and ship registration. It provides conclusive evidence of ownership; an unbroken, chronological history of previous ownership; and establishes the nationality of the vessel's owners. Vessel documentation is practiced by most, if not all, seafaring nations and is therefore recognized and respected by judicial bodies of other countries.

The United States Vessel Documentation Program is administered by the Coast Guard through the National Vessel Documentation Center (NVDC), in Falling Waters, West Virginia. All matters pertaining to the issuance, renewal, and verification of vessel documentation, as well as related questions, should be directed to the center. The center offers an informative and easy-to-use website and can be contacted by writing or calling a toll-free number (see page 76).

Four categories

There are four categories of vessel documentation: Fishery, Coastwise Trade, Registry, and Recreational. Fishery documentation applies to boats engaged in commercial fishing within U.S. territorial waters and certain other areas designated as Exclusive Economic Zones. Coastwise Trade refers to the carriage of passengers and goods between U.S. ports, while Registry documentation is intended for vessels conducting international trade. Recreational documentation covers all pleasure craft, and has recently been expanded to include vessels used for bareboat chartering. Documentation is mandatory for vessels falling into the first three categories, but optional for recreational boats.

Why document a vessel if it isn't required? The value and importance of a system of federal registry is obvious for commercial vessels, but owners of recreational boats will also realize three significant advantages to participating in the documentation program.

The first advantage is simplified and expedited entry into foreign ports. Customs inspectors, immigration officers, and port captains may find state registration and proof of ownership certificates confusing and even suspicious. Conversely, national documenta-

tion is standardized and readily recognized the world over.

The second advantage is legal recognition in foreign and international waters. Property rights to the vessel itself, as well as to property carried aboard, are more clearly defined when the vessel is documented. Disputes arising from accidents are more likely to reach a fair settlement, and accusations of unlawful activity are more easily contested in cases involving documented boats.

Third, documentation represents a great advantage when buying, selling, or financing a boat.

Lenders prefer, and in some cases require, documentation because it provides an unbroken chain of ownership throughout the vessel's life — clear title, as it is often called. This history of ownership allows the issuance of a Preferred Mortgage. This is a document that holds status as a maritime lien, allowing lenders to legally pursue a financially delinquent mortgagee, even in foreign countries.

Simple and affordable

How do I document my vessel?

Establishing recreational documentation is fairly simple and affordable. The first step is to determine that the boat and owners are eligible to participate in the program. The second step is to complete the application and to submit it, along with the correct supporting documents and fees, to the NVDC.

A vessel must measure 5 net tons or more to be eligible for documentation. This value may be established by referencing the builders' specifications or by working the volumetric formula available from the NVDC by mail or through its website. Typically, sailboats 26 feet or more in length meet this requirement.

Next, it must be proven that the boat is legally the property of its owners. A builders' certification form (CG Form 1261) establishes this in the case of a new boat. A certificate of title issued by a state or foreign government is required if the boat was previously owned but not previously documented. If the boat was previously documented, a Coast Guard bill of sale (CG Form 1340) serves as proof of ownership.

Owners must verify that they are U.S. citizens by providing Social Security numbers or other accepted proof of citizenship as established by the NVDC. Partnerships and corporations are considered to be "citizens" if they are registered within the U.S. or if the chief executive and board chair are citizens. Multiple owners must specify a managing owner. This person becomes the point of contact with the NVDC for all matters regarding the vessel.

Application for documentation is made on CG Form 1258. The form, and instructions for completing it, may be obtained by written request from the NVDC or by downloading it from their website. Specific instructions for completing the application vary depending on whether it is intended for first-time documentation, transfer of documentation from a previous owner, or return to documentation from an expired status. It is also important to note that the NVDC will not accept application forms and documents printed on facsimile paper.

> **"Cataloging vessels by name, homeport, and nationality is a practice known commonly as vessel documentation, and is centuries old."**

Various fees

What does it cost?

Fees vary depending upon the type of application. The fee for first-time documentation is $133, while transfers and re-documentation cost $84. Handling fees for documents accompanying the application, such as bills of sale, are currently set at an additional $8 per side of paper, so it would cost $16 for a document printed on both sides. Mortgages are handled for $4 per side. Additional fees, known as endorsements, are required for applications in the fisheries, coastwise, and registry categories, but not for recreational vessels. A schedule of current fees may be viewed on the NVDC website.

Should government red tape be something you choose to avoid, numerous private agencies are ready to handle the documentation process for you. A brief Internet search produced the names of nine such providers, including BoatU.S. All promised quick and easy service, several with online processing options. Fees ranged from $375 to $530 per application.

She's documented — now what?

Once established, vessel documentation must be renewed annually. Presently,

“The boat’s name and hailing port become part of its internationally recognized identity and must therefore be appropriately displayed.”

there is no charge for renewal unless it involves a change of name or hailing port. Renewal forms are automatically mailed to the owner or managing owner as the expiration date nears.

Documented vessels must be marked in accordance with Coast-Guard regulations. The boat’s name and hailing port become part of its internationally recognized identity and must therefore be appropriately displayed. The Coast Guard sets a 33-character limit on names and prohibits the use of words and phrases it deems to be obscene, profane, racially, or ethnically offensive. Also, words and phrases commonly associated with distress situations, such as “Mayday,” are prohibited. Both the vessel’s name and hailing port must be clearly visible on the exterior of the hull, in letters of Latin, Arabic, or Roman style, at least 4 inches in height, and in a color that contrasts with that of the hull color. The hailing port must be spelled out in all capital letters and include the state or territory in which it is located. Abbreviations of the state or territory are acceptable.

Permanently fixed

A documentation number will also be issued. This number must be clearly displayed in characters not less than 3 inches high and permanently affixed to a structural part of the vessel in a manner that would render its alteration or removal apparent. Usually, this identifying mark is engraved into a structural member such as a permanent bulkhead, deck support beam, or the hull itself.

No more state registration fees?

Well, not so fast …

Documentation does not necessarily relieve boatowners of the requirements of state registration. Most states require documented vessels that are home-ported, or “residing” within their borders for specified periods of time, to also carry state registration. The state may mandate the display of a decal, but may not require permanently affixed numbers or letters. Similarly, foreign governments often require vessels transiting or residing in their waters to obtain cruising permits, or other temporary registration instruments, and to display associated decals.

To document, or not to document?

Should your future sailing plans not include international waters or foreign ports of call, and you love your boat so much you could never even imagine selling her, documentation may represent a redundant and unnecessary expense. On the other hand, if those future sailing plans might involve landfalls beyond our borders or perhaps an eager buyer accompanied by a mortgage broker, current vessel documentation papers should be considered desirable equipment.

Vern Hobbs and his wife, Sally, sail St. Pauli Girl, *their 1974 35-foot Bristol cutter, along Florida’s Atlantic coast and the Intracoastal Waterway. Their day jobs pay the rent, but Vern’s work as a local artist specializing in maritime subjects finances the boat projects.*

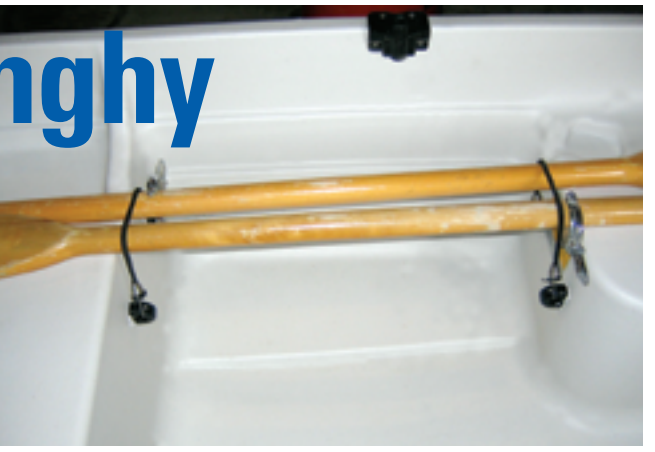
Resources

NVDC
United States Coast Guard
National Vessel Documentation Center
792 T.J. Jackson Drive
Falling Waters, WV 25419
800-799-8362
<http://www.uscg.mil/hq/cg5/nvdc/default.asp>

Make your dinghy hold its own

Stowing oars and more in a plastic tender's slick interior

by Jim Shroeger



Stowed fore-and-aft across the seats, and held there by bungee cords, the dinghy's oars are in their proper place. A pair of fairleads fastened to the forward side of the aft seat secures one cord; another pair on the aft side of the midship seat holds the other.

Back in the days of wooden dinghies, or at least wooden seats in plastic dinghies, a person always had a place to lash down useful "dinghy items." These could be an extra fuel can, yesterday's garbage bag, a set of oars, or even a bucket of laundry that would rock itself clean on the way to the next marina.

The advent of all-plastic dinghies has caused new dinghy owners to re-think the dinghy as a storage/transportation area for items that should not, or would not, fit in onboard lockers. Why is this so? Simply because there is no place to lash anything down in a one-piece, all-plastic dinghy.

Just look at any new plastic dinghy you can find today: the hull is one piece and the liner is one piece with no cleats or tie-downs to be found anywhere. The only exceptions are the oarlocks and bow and stern eyes, and these offer no tie-down possibilities at all.

How, then, can a plastic dinghy ever be used for anything other than the tail end of a very short nautical parade?

The answer is simple: add a few fairleads, several hooks, and a bit of bungee cord, and you have the problem solved.

Securing the oars

Fasten two fairleads to the front of the stern seat and the corresponding fairleads to the back of the midship seat to create attachment points for two bungee cords. Use #8 1½-inch stainless-steel sheet-metal screws to fasten the fairleads to the seats, and bed them in 3M 4000.

Cut two pieces of bungee cord and attach a stainless-steel bungee-cord hook to each end. Make the length such that the cord will be stretched tight when it is attached to one fairlead, passed over the oars, and secured to the second fairlead.

Be sure to place the oars in such a position that the oarlock inserts do not rub each other or any part of the dinghy.

And there you have it: oars that are easily accessible and will stay where you put them until you need them.

Now that the oars are secure, how about your dirty socks and underwear?

Making a washing machine

You can create a simple and convenient dinghy washer by using a 5-gallon bucket with a sealable lid. Secure it to the front of the midship seat with two more fairleads and a bit more bungee cord, using the same method you used to secure the oars.

To use, half-fill the bucket with water, add laundry detergent, and toss in your soiled items. Seal the lid on the bucket, secure it to the dinghy seat with the bungee cords, and let the motion of the ocean do the rest. After a day's sail remove your laundry, rinse, and hang to dry. You now have clean wash with little effort on your part.

The expense for this little project is less than $20. You can easily save that much in Laundromat costs, let alone the money you'll save by not having to replace the oars that you left on the dock because you forgot to put them back in the lazarette hatch.

How about that? Clean underwear . . . and you get to keep your oars!

Jim Shroeger is a retired teacher (special education and administration). He owned and ran a residential construction business simultaneously with his school career. His special love is woodworking, which has come in handy with a series of boats to maintain. He and his wife, Barb, currently own Sundew, *a 1978 Watkins 27. They cruise between Traverse City, Michigan, and the Cheneaux Islands, 200 miles to the north.*

A shelf of many purposes

Nav table, galley counter, and spray shield

by Don Launer

When the shelf is locked in the open position with barrel-bolts, it is handy as a nav table or as additional galley workspace and a serving area for meals in the cockpit.

Just above the starboard quarter berth and just under the sidedeck, we have a slide-out shelf. This shelf is adjacent to the companionway. It can be locked in the closed or open position with barrel-bolts.

Immediately above this shelf, mounted on a swinging arm on the aft bulkhead, is our radar. When this sliding shelf is out, it can be used as part of the galley countertop when preparing meals — a time when we never seem to have enough counter space. It is also handy when serving food or drinks to people in the cockpit. This shelf can also serve as a nav table. We can lay out charts and mark our courses. On those occasions, the radar, just above the shelf, is in direct view. For viewing the radar from the helmsman's position, the radar is swung out into the companionway opening. There, it can be easily seen from the steering position and is out of the sun and rain.

We've also found an unexpected use for the sliding shelf: rain or spray can fall in the face of someone who is sleeping in the starboard quarter berth when a crewmember opens the companionway hatch in bad weather. But with the shelf out, the starboard quarter berth is nicely protected with a "roof."

Don Launer's bio can be found on Page 17.

The shelf is out of the way, at left. The swinging radar screen, above, can serve a navigator who is belowdecks as easily as the helmsman in the cockpit.

A closer attachment

How to get the most out of your halyard

by Paul Campbell

The method of attaching a halyard or outhaul to a sail sometimes limits the distance to which a sail can be stretched. With double-braided line, the space that would normally be occupied by a splice or a bowline can be reduced to zero by separating the core from the cover and tying them together with a square knot within the thimble.

At about 8 inches from the end of the rope, separate the strands of the cover and pull the core out through the opening. Put a whipping around the complete line just before the point of separation.

Paul Campbell has sailed several boats in New England and Florida, including a 25-foot Hinckley, a Cheoy Lee Robb 35, a Krogan 38 cutter, and a 25-foot Beachcomber.

No need for a shackle at the head of this sail with the help of double-braided line and Paul's clever trick.

KAREN LARSON

Measure 8 inches.

Separate the core from the cover.

Whip the line at the separation.

It works at the outhaul too.

Locking pole holders

The Compleat (sailing) Angler

by Joe Orinko

For more than 25 years, I've been doing practical research on the best method for fishing from a sailboat. The result of my accumulated research can be summed up in two words: nothing works. But as the saying goes, "A bad day fishing (on a sailboat) is better than a good day at work."

I manufactured a couple of inexpensive rod holders from some scraps of white 1½-inch (inside diameter) PVC plastic pipe.

First, I used a 1-inch hole saw to drill two big holes in the PVC pipe. Next, I used a sabre saw to cut an L-shaped slot for the starboard holder and a J-shaped slot for the port holder. These cuts were also made in the pipe. I used a file and sandpaper to smooth the cut surfaces.

The rod holder, installed and empty.

The rod holder, with a fishing rod in place.

The L- or J-shaped slot is used to lock an open-face spinning reel into the holder. Slip the rod into the port holder, then rotate the reel 90 degrees. Gravity locks it in place — Lake Erie fish love to brag to each other about pulling rods out of boats.

The slanted end, cut at the bottom of the pipe, matches the aft pulpit rails on my Catalina 30. I mount the pipes to the rails using stainless-steel hose clamps. Every couple of years I spray the pipes with a little white enamel paint.

Now I can troll plugs for bass and walleye while slowly sailing on Lake Erie.

The pole holders are also useful for fully extended boathooks. They hold the boathooks available for quick deployment during docking maneuvers.

Joe Orinko has sailed the waters of Presque Isle Bay and Lake Erie for 26 years, 20 of them in his O'Day 23, and for six seasons on a Catalina 30. Both vessels have been named Unicorn.

Watertight first-aid kit

Practical and economical professional advice

by Ted Rensland

A little preparation helps to ensure a safer, more enjoyable, cruise.

Having spent 35 years in the fire service, with more than half of that time as a Medical First Responder, when it came time to outfit our new boat, one of my first concerns was to equip it with a proper first-aid kit. I was discouraged after checking online and through various marine catalogs. The kits that were available ran the gamut in price and contents from not much more than a few Band-Aids, for an exorbitant price, to complete offshore kits costing hundreds of dollars. Moreover, only the most expensive ones were packaged in watertight containers. With this in mind, I decided to see if I could make up my own kit.

There is a product called Lock & Lock. This is a line of polyethylene containers with locking lids that incorporate a gasket to ensure a watertight seal.

They come in various sizes that are handy for storing cooking and eating utensils and other things. The one that suited me for this purpose was the biggest size, which holds 38 cups (9½ quarts) and measures 11.5 inches by 9 inches by 7.4-inches deep. I bought mine at one of the local discount superstores, although this product may be purchased online. Just look on the Internet for Lock & Lock. The large size sells online for $13 plus shipping.

When I got mine home, I bought a couple of plastic divided boxes, cut them on my band saw, and sanded the edges to fit the bottom of the container, so I could pack the supplies neatly. This added $3. Finally, I bought a small amount of Scotch-Brite reflective tape from my local auto-supply store and used it to make a Red Cross

symbol to stick on the top. As the accompanying picture shows, you can stow a lot in that size of container.

I figure the whole kit including the watertight box, trays, and tape, cost no more than $90. However, the peace of mind it brings is worth much more.

Ted Rensland retired in April 2007 after 35 years in the Grand Rapids, Michigan, fire department. He and his first mate, Michelle, sail a 1975 27-foot Hunter sloop, Dragonfly, *out of Muskegon, Michigan.*

First-aid inventory

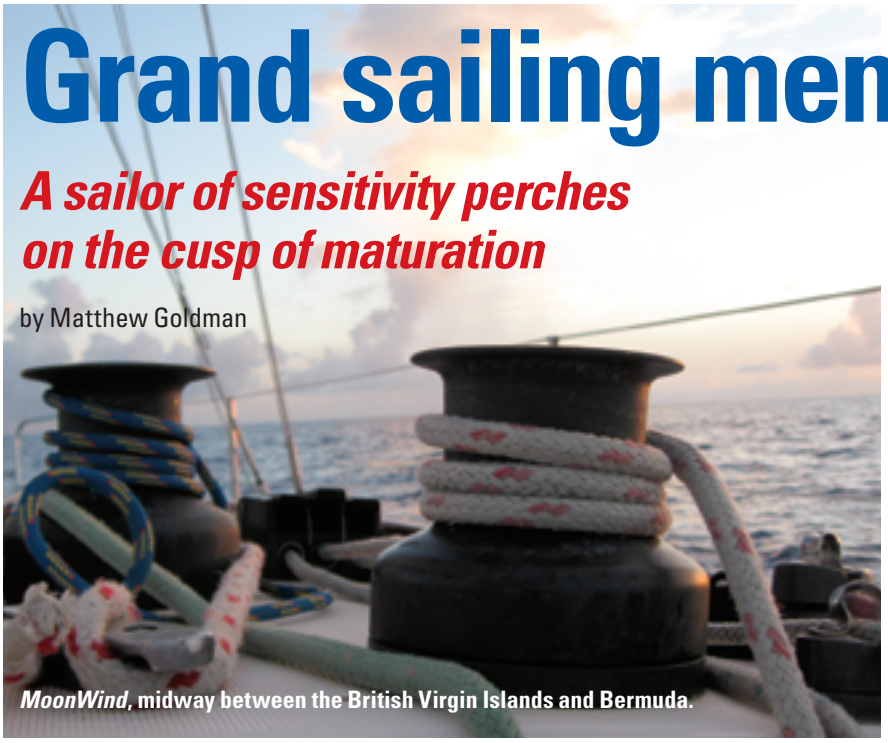
Number	Item
3	5 x 9 combination dressing
3	2 x 4 surgical dressing
1	2 x 6 surgical dressing
2	2 x 8 surgical dressing
1	5 x 9 abdominal pad
1	4 x 4 gauze pad
10	2 x 2 gauze pad
1	4-inch compression bandage
2	3 x 3 adhesive bandage
7	2 x 3 adhesive bandage
10	butterfly closures
12	¾-inch Band-Aids
10	1-inch Band-Aids
1	travel pack Q-Tips
1	⅝-inch x 4 yards tubular gauze
2	Kling flexible gauze
1	3-inch x 6-yard gauze bandage
1	2-inch x 6-yard gauze bandage
1	3-inch Ace bandage
1	roll paper tape
12	throat lozenges
1	tube Lanocaine ointment
1	tube triple antibiotic ointment
1	tube Orajel (for tooth pain)
1	bottle hydrogen peroxide
1	Solarcaine sunburn relief

Number	Item
6	pairs non-sterile rubber gloves
1	1-inch x 5 yards adhesive tape
1	½-inch x 5-yard adhesive tape
1	37 x 37 x 52-inch muslin sling
1	Carmex Lip Salve
1	trial-size hand sanitizer
5	petroleum gauze dressings
12	alcohol prep pads
1	2-inch elastic tape
1	Icy Hot stick applicator
1	bottle eyewash
1	bottle Artificial Tears
1	3cc tincture Merthiolate
1	bottle mecurachrome
1	bottle aspirin
1	bottle ibuprofen
1	trial size Aleve
4	tongue-depressors/finger splints
1	nail clipper with file
1	tweezers
1	bandage scissors
1	hand surgical scrub brush
8	capsules Imodium
2	cold packs
2	heat pads
1	notepad and pen

Grand sailing memories

A sailor of sensitivity perches on the cusp of maturation

by Matthew Goldman



MoonWind, midway between the British Virgin Islands and Bermuda.

One comes to wonder, after a careful while, whence it all comes; whither it all may tend; whether there be any sense, design, or relevance in all or any of it. I know that time is something we only borrow piecemeal; that to tear off huge gobbets of it and expect to sate ourselves is mindless gluttony. I want to savor the bits, the morsels, the spangled bioluminescence left in the wake of those of you with agendas.

I have just returned from sailing some 1,500 nautical miles, having made a passage as straight and constrained as wind and sea might allow. (Steer small; keep the edge of your spinnaker taut; don't extravagate past the margin of expedition; tune your weather backstay until the mast is arched to give you minimum draft. There. I think we've gained another tenth of a knot. Maybe two.)

Hour after hour. Day after day. Through crystal nights when the stars proved too, too many and through nights of driving rain. And when our hull speed dropped to under 3 knots, we started the motor.

(At only half throttle, we should be able to maintain 4 knots and consume but a third of a gallon of diesel per hour, per hour, per hour. But remember: we have but diesel enough to take us 300 miles.)

Every day a century plus

We made two runs of about a week: Spanish Town, Virgin Gorda to St. George's Harbor, Bermuda; thence, two days later, to Casco Bay, Maine, just within Portland Head. We attempted never to have a day's run of less than 100 miles. Our best run, our first day out, was 150. We allowed eight days to reach St. George's; we did it in seven and a half. We allowed seven days to reach Casco Bay, and made it to our mooring in six and a half. Were we efficient, concerted, productive, and copacetic — or what?

Yes — or *what?*

I've determined I don't care to spend my sailing by racing the clock, the wind, the tide, the season. I want to proceed in a desultory, relaxed, serendipitous fashion. Rather than spoon my cereal into my ear while bracing my leg against the leeward portlight, I want to sit at a level table while anchored in some by-water; to sip my French roast; to write in my journal; to delight in the passage of Earth through Heaven without regretting the 14 nautical miles I might have made good had I raised my sails with the budding light and fled the wind instead of waiting until my dishes were washed.

So here I perch on the cusp of maturation, keeping my body in reserve for the best that is yet to come. I have no running backstays to adjust, no spinnaker to demand untoward vigilance. I do know how to tweak my traveler, get more lift from my jib, and make my morning last until the afternoon. More than this I cannot be responsible for, nor wish to be, for morning and afternoon and night are entities that need to be savored separately and garnished with that appreciation that comes of taking small bites.

A nautical raconteur

I look forward to being on the water again as a waterman, not a racer; as a raconteur, not as a logger of miles; as a connoisseur of the dip and pivot of pinion, slant of sunbeam, gurgle of ebb, and decant of foam from vintage hull through the water.

To those of you who must be up at three to take the wheel, I wish you well. There is no thrill like the molten sea streaming astern at 7 knots as you lean beneath constellations in the hugeness of tropic nights. When I feel such urge, I shall cast off *MoonWind's* pendant and follow the plunging moon toward the far-fringed dawn.

But morning will find me anchored in some still harbor. I shall breakfast with birds; hear the pilings creak; turn to the breeze that mated the upwind roses. I shall watch the steeds of Helios ascend the steep, steep sky; embrace the day; remember to breathe; await the turn of the tide.

Matthew Goldman *grew up in Hadlyme, Connecticut, by the lovely Connecticut River. Once having gotten his feet wet, he demanded a boat and, ever since, has been adrift. His recent book,* The Journals of Constant Waterman, *is a collection of nautical memoirs. He repairs boats to support his sailing habit, and sails his Chris-Craft Pawnee,* MoonWind, *to support his writing habit.*

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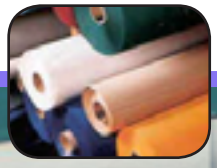

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