Good Old Boat

The sailing magazine for the rest of us!

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March/April 2004
Issue 35
www.goodoldboat.com

7^{00} (Canada 9^{95} CDN)

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0 7447 0 97035 4

On newsstand until April 30

This issue

For the love of sailboats

Speaking seriously

Just for fun

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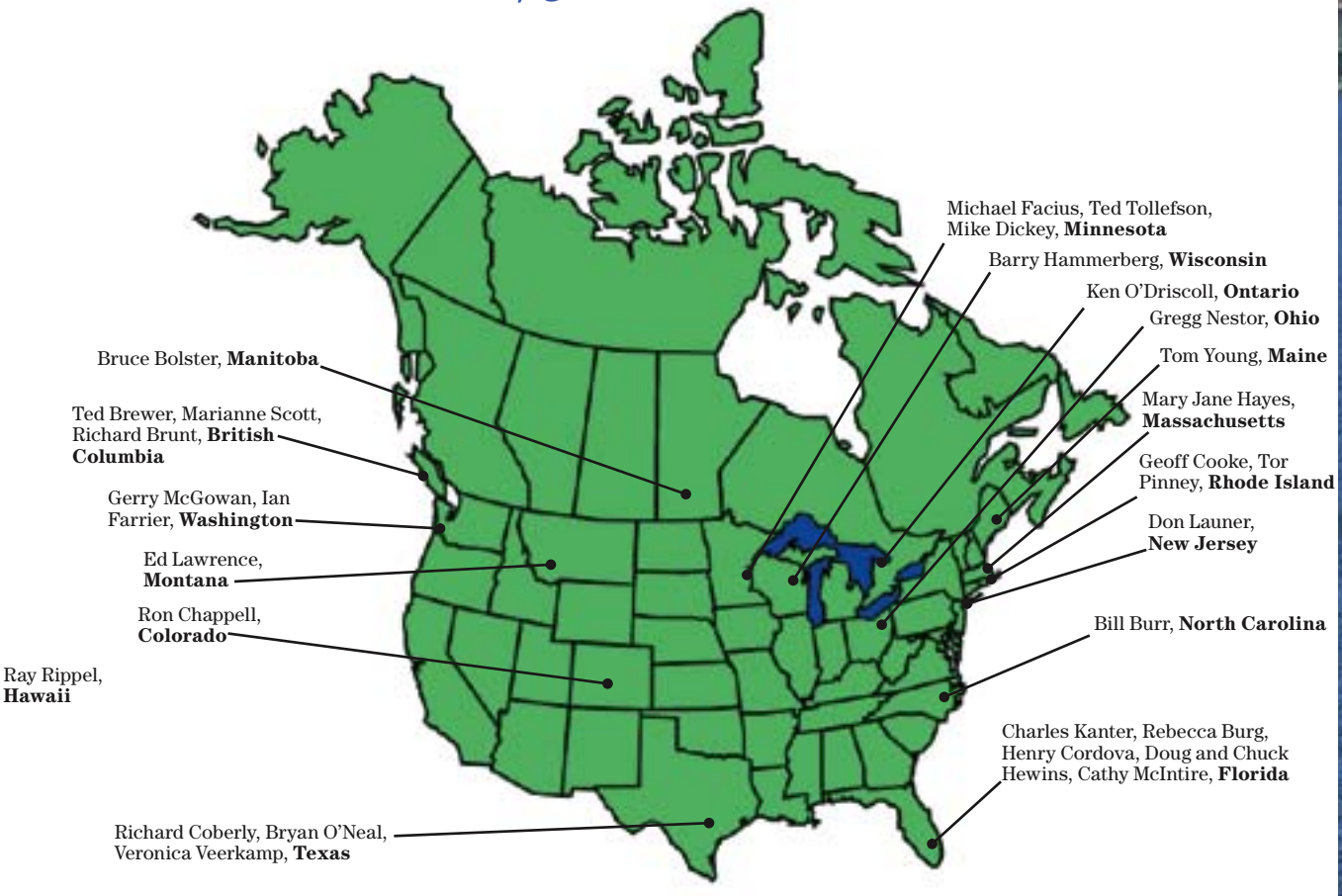
Whereabouts of good old sailors in this issue



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Our contributors

After 20 years of renovating and sailing trailerables, **Ron Chappell** (*Pacific Seacraft 25*, Page 4) and his wife, Terrel, have found they are, more than ever, caught up in the wonder of cruising the more sparsely settled coastlines of the continent. While they call Colorado home, Alaska and Baja have become their favorite cruising grounds.

Ray Rippel (*Choosing the right boat*, Page 9) is a professional soldier, amateur sailor, and freelance writer based in O'ahu, Hawaii. He sails a Pacific Seacraft Flicka and is building a 15-foot skerry in his carport. He and his wife, Kathleen, intend to buy their next boat as soon as possible and move aboard in five years.

Geoff Cooke (*Crash, bang, boom*, Page 15) sails a 1975 Tartan 30, *Meander*, out of Bristol, R.I., with his wife, Carol. He does all the maintenance, upgrades and repairs himself and likes to find the most economical solution to a given problem. He also designs and builds TillerTenders for good old boats with tiller steering. See <http://www.TillerTender.com>.

Ted Brewer (*Gastronomy afloat*, Page 19) 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.

Tor Pinney (*A last chance tripline*, Page 23) is a cruising sailor and writer. He holds a Coast Guard Merchant Marine Officer Master's License and has logged nearly 150,000 nautical miles under sail during the past few decades. His articles appear often in boating magazines around the world.

Ed Lawrence (*Let there be light*, Page 26) is a contributing editor with *Good Old Boat*. Adam the grizzly is a celebrity bear (and neighbor in the Montana outback) who occasionally looks over Ed's shoulder during the editing process.

Gregg Nestor (*Doctoring the outboard*, Page 29; *Quick and easy: Dousing the headsail*, Page 88) is a trailersailor who has written on a variety of sailing subjects. He also maintains an 18-year-old, two-cycle outboard motor as his sailboat's auxiliary.

Rebecca Burg (*How it all begins*, Page 32) has enjoyed boats since childhood. She lives aboard and singlehands a Bayfield cutter. She's cruised the Great Lakes, Gulf of Mexico, and the Caribbean. Her other sailboat is a 16-foot racing trimaran.

Richard Coberly (*The restoration of* Ravensail, Page 33) is a photographer and videographer. He can bring a boat back to the "nearly new" from the "very nearly gone." Visit his site at <http://www.windwardmedia.net>.

Don Launer (*GPS 101*, Page 38; *Simple solutions: Sound off!*, Page 82) is a *Good Old Boat* contributing editor. He built his two-masted schooner, *Delphinus*, from a bare hull and sails it on the East Coast from his home on Barnegat Bay in New Jersey.

Marianne Scott (*Doing it right the first time*, Page 40) started writing about marine subjects when she and her husband, David, sailed from Victoria, British Columbia, to Bora Bora on *Starkindred*, a Niagara 35. She's the author of *Naturally Salty: Coastal Characters of the Pacific Northwest*.

Gerry McGowan (*Simple cockpit grating*, Page 46) started sailing when a skiing accident ended that passion and caused him to hobble to a neighbor's 10-foot sailing dinghy. A series of 11 sailboats from 9 to 46 feet brought him and his wife, Marolyn, to their present 1978 Nor'West 33.

Mary Jane Hayes (*Center spread*, Page 48) 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*.

Ken O'Driscoll (*Unsinkable Sirius 21*, Page 50) and his wife, Pat, sailed the Niagara 35 featured in *Good Old Boat* in November 1998. They began sailing with a Sirius 21 and moved to a C&C 30 before falling in love with the Niagara.

By 1994 **Charles Kanter** (*Two PDQ catamarans*, Page 53) had sailed or surveyed every production catamaran traded in the U.S. He and his wife, Corrine, live in the Florida Keys and sail their 32-foot custom-built catamaran.

Tom Young (*Recessed sinkboard*, Page 57), a lifelong sailor, lives on the coast of Maine. Tom and his wife, Mary Ann, have sailed to the Exumas, Bahamas. They enjoy sailing the New England coast with their two children in *Christmas*, a 1961 38-foot Alden Challenger yawl.

Cathy McIntire (*Taking time for teak*, Page 61) is cruising the East Coast with her husband, Ken, and their boat dog, Cutter, a toy poodle. They moved aboard in 2001 and traveled the Mississippi and Tombigbee waterways from Lake Pepin (between Minnesota and Wisconsin) before reaching salt water at Mobile, Alabama.

Henry Cordova (*A visit from the boat fairies*, Page 66) is a geographer/cartographer who has been a sailor of the military persuasion (U.S. Naval Reserve on the USS *Dewey*) and of the recreational variety (a San Francisco Pelican and a MacGregor 22) for most of his life.

Richard Brunt (*Simple solutions: Deck repair*, Page 80) is a freelance writer living in Victoria, British Columbia. After finally getting his Watkins 27 exactly the way he wanted it, he sold it (and instantly regretted doing so). There will be another fixer-upper in the slip soon.

In high school, **Barry Hammerberg** (*Quick and easy: Unseen hazard*, Page 85) rebuilt a Snipe and learned to sail. Later he built fiberglass canoes and kayaks. He and his wife, Ruth, live aboard *Another Adventure* six months a year.

Michael Facius (*Quick and easy: Improve impeller access*, Page 86) is *Good Old Boat*'s advertising manager and sails a 1979 C&C 30 named *Callisto* out of Bayfield, Wisconsin, on Lake Superior. He and his wife, Patty, have been sailing since 1986, beginning with an O'Day 20.

Bill Burr (*Quick and easy: A clearer view*, Page 87) spent a year selling coatings and compounds in a marine store as part of his reserach for his book, *Boat Maintenance: The Essential Guide to Cleaning, Painting, and Cosmetics*.

Bruce Bolster (*Reflections: Boatyard fever*, Page 97) lives near Petersfield, Manitoba. He helped his father bring a wooden Snipe back to life and learned to sail her in the years that followed. These days he sails a 26-foot Gary Mull-designed cold-molded wooden sloop with his wife, Donna Sutherland, on Lake Winnipeg in the company of eagles, bears, moose, wolves, and pelicans.

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35 – Volume 7, Number 2 *Good Old Boat*
(ISSN 1099-6354; USPS 019327), published
six times a year by:
Partnership for Excellence, Inc.
7340 Niagara Ln. N.
Maple Grove, MN 55311-2655
Phone: 763-420-8923; Fax: 763-420-8921
www.goodoldboat.com

Periodicals Postage Paid at Osseo, MN 55369,
and at additional entry points.

POSTMASTER, send address changes to:
Good Old Boat
7340 Niagara Ln. N.
Maple Grove, MN 55311-2655

Editorial contributions are handled with
care, but no liability is accepted. **Opinions**
expressed by the writers are not necessarily
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Subscription rates:
One year/two years/three years:
U.S. and Canada – $39.95/$74.95/$110US
Overseas – $49.95/$95.95US

About the cover . . .

Doug Hewins was aboard his Pacific Seacraft 25, in Sarasota, Florida, while Chuck Hewins snapped this shot from the Siesta Key Bridge. For more, please turn to Page 4.

Local knowledge

Bluewater or coastal, weather controls all

WEATHER CELLS MOVE THROUGH OUR cruising grounds in about three days in summer and closer to two days in fall and spring. If you sail a coastal cruiser on Lake Superior, that is probably the most important thing that you can know. It is certainly more important than any single piece of safety or navigation gear you could have.

The second most important thing that you can know is that if you want to travel safely and comfortably on the lake, you need to have a "weather window" planned at each end of the cruise …up to three days. Plan your crossings accordingly. Weather controls all.

Where you cruise, it may be different, but to take a line from *The Music Man*, "Ya gotta know the territory."

We recently cruised for a few days with friends in Washington's San Juan Islands… in December. We sailed from the John Wayne Marina in Sequim, crossed the Strait of Juan de Fuca, enjoyed a handful of destinations in the islands, hit Cattle Pass at slack water, crossed the strait again, and returned to the marina refreshed and impressed. Our friend, Durkee Richards, was our skipper. He planned the cruise based on the weather and tides. First we sat out 70-knot winds in the sound. We didn't even go down to the boat until that blew through. Then we made the crossing and tucked in for the next blow.

You have to know when to move and when to sit tight.

Last summer another friend of ours passed on a quick cruise his boat partner was planning. Our friend had good instincts. When he described his partner's intended cruise, it sounded like a plan for travel by automobile in good weather: leave at this time, go there, go somewhere else, leave for the crossing back at that time, and be back at this time because the boat is scheduled for a charter right after that. There were no weather windows in the plan. As it turned out, the charterers were disappointed. The boat did not even return to the intended port. One crewmember was hospitalized. There were insurance claims for busted gear. This was the cruise from hell…no weather windows. Just a tight schedule.

In theory, the difference between a coastal cruiser and a bluewater boat is that the coastal cruiser must travel in good weather between ports while the bluewater boat makes long offshore voyages and takes the weather at sea as it comes. I understand this theory, but I worry about it. I've seen weather in both the Atlantic and the Pacific bad enough to rough up a 22,000-ton heavy cruiser. Nothing that might be termed a yacht would have done well in those conditions. There is weather out there that will humble any craft, no matter the size. It makes me think that the people who travel safely and comfortably in bluewater boats must be concerned with the weather too.

I sincerely believe that coastal cruisers are a better choice for coastal cruising. They are generally less costly to own and operate and are often faster than bluewater boats of similar size. You get started sailing earlier in life, if you buy a boat that costs like a used car rather than like a new house. There is no question that bluewater boats will make better passages in heavy weather. This is critical for offshore work, but for coastal work I'd bet that experienced crews on bluewater boats don't push the envelope much farther than the crews of coastal cruisers do.

In either case, "Ya gotta know the territory."

Pacific Seacraft 25

A trailerable deep-sea cruiser with an impeccable pedigree

by Ron Chappell

When I leaf through my picture album, I occasionally chance upon a photo that, even after all these years, takes my breath away. It's faded nearly to sepia and peppered with saltwater spots, but I see the scene as clearly as I did on that misty autumn morning on the Seattle docks when I clicked the shutter. I see the rusty hulk of the coastal freighter, *Taku Maru*, 10 days out of Juneau, her cargo crane swinging slowly out over the pier. I see a boat, suspended in the mist, by which I still unconsciously judge all small cruisers: a double-ender of exquisite proportion, her gleaming black hull and crowned house set off by salty teak and bronze fittings. The Pacific Seacraft 25.

In the end, the PS25's only lasting claim to fame may be that she was the "original" Pacific Seacraft sailboat. She was conceived by Henry Mohrschladt, creator and president of the fledgling company, and styled after the well-known no man's land workboats of the late 1800s. These workboats were equally praised by lobstermen and cod fishermen working the Outer Banks in heavy seas and quarrelsome weather.

The little PS25 that these workboats inspired was destined to be the forebear of a respected line of offshore cruisers. It is in this small cruiser that we find the roots of the legendary Pacific Seacraft commitment to excellence, a quality leading *Fortune* magazine, in later years, to name them "One of America's 100 best products" and stating quite simply, "Pacific Seacraft builds the finest cruising sailboats of their size in the world."

My wife and I spent several years, including a year as liveaboards, putting thousands of miles under the keel of a 25. Though distanced now by time, her virtues and frailties are yet fresh in my mind. Was she then the ideal small voyaging boat? In the cold hard light of day, I must admit that she was not. Nor is any other boat her size that I am acquainted with. The juxtaposition of small boats on large oceans for long periods of time is fraught with tradeoffs.

"Our boat took half a day to launch and commission for 'offshore readiness.' That said, we towed her more than 14,000 miles and splashed her down in both oceans time after time."

Not her forte

Contrary to some accounts, she was not a quick boat…certainly not in today's terms. But that was not what she was about. Neither was she fond of slogging to weather unless driven to it, a fault I laid to her shoal draft and cut-away forefoot. Yet these were the very items I praised when rock-strewn waters called for nimble handling or shallow coves offered a quiet anchorage. Held close to the wind in rough water, she could be somewhat wet, a fault common to her design type and one easily alleviated with a dodger and proper weathercloths.

She was designed as an ocean-capable pocket cruiser, one that "could be transported by trailer." She was pushing the envelope as a viable trailerable boat: one that could be dunked in a nearby lake on the weekends. At nearly 7,000 pounds with trailer, it took a full-size, three-quarter-ton pickup to handle the job. Our boat took half a day to launch and commission for "offshore readiness." That said, we towed her more than 14,000 miles and splashed her down in both oceans time after time. We covered cruising grounds so varied it might have taken her many years to travel to them on her own bottom. Our longest continuous voyage was from Washington to the Gulf of Alaska

***Sea Hag,* Doug Hewins' Pacific Seacraft 25, trips the light fantastic in Sarasota, on facing page and on the cover. *Sea Hag*'s deck, at right. A comparison of her deck with that of *Raven,* above, gives an example of the standard boat as delivered and the more expensive version with every available option, including teak seahoods, decks, and cockpit grates…even a private-cabin option with a wonderfully crafted door.**

At left, Ron Chappell watches intently as his PS25, *Raven*, is transferred from her trailer.

and, with the exploring along the way, it took nearly all of one summer, a memorable summer indeed.

The bulk of the PS25 run was manufactured from 1975 through 1980 with our own *Raven*, hull #257, being the last. Early offerings could appear quite plain: sloop rigged and without the signature Pacific Seacraft bowsprit. Even then, however, they featured the heavy layup and furniture-quality joinery that came to epitomize the breed. Bronze opening ports and heavy bronze deck fittings were standard, as were inboard diesels, Yanmars usually.

The BMW D7 was an option, a wonderfully tough and smooth running little engine with but one glaring flaw: its charging system consisted of an internal flywheel-type magneto that required pulling the engine and breaking apart the transmission case to effect replacement. I'll not soon forget wrestling it out and dismantling it on the dock in Ketchikan. That it was a one-person job was in its favor, as the distributor assured me it was not an uncommon chore. There was room in the engine compartment for a two-cylinder engine, of perhaps 12 horsepower, and in the tides and currents of the Pacific Northwest I often thought it would have been an advantage.

Four swing-keelers

There are a few owner-finished boats out there and only recently we learned of a swing-keel model as well. It's said that only four were built. Other options included various hull colors, teak seahoods for teak hatches, teak decks, cockpit grates, and cutter rigs (most later models had them) with club-footed staysails. There was even a private-cabin option with a full forward bulkhead and a wonderfully crafted door.

Her massive stern-hung rudder and stout tiller were of a caliber to make a Viking proud; so massive, in fact, that we elected to unship the rudder for trailering, to avoid stress on the gudgeons. It was all I could do to raise it up in place when re-commissioning. It was supported at the lower end by a heavy bronze gudgeon attached near the bottom of the keel, with just enough of a slot left to catch an occasional crab pot, though it was easily pushed off with a boathook.

"The hull-to-deck joint was built to a standard seldom attained at the time . . . When we were in desperate circumstances, it made my heart grow big just to think of it."

We judged the cockpit to be of nearly perfect size and shape for a seagoing boat, with wonderfully rounded corners for lounging, a roomy stern lazarette, and spacious port-side locker. The footwell was not overly deep and proved to be adequately drained. Engine controls fell close to hand, and I thought the kill switch beside the levers a nice touch.

A bilge-pump panel, mounted on the opposite side of the cockpit, was easily operated while at the tiller. The floor of the cockpit was removable if one cared to undo the umpteen bolts securing it, though if it was not replaced carefully leaks could ensue. Later models did not seem to have that problem, and engine access in this manner could be a godsend in extreme circumstances. All normal service could be performed after removal of the companionway steps. A removable side panel afforded further room to work.

Low bridge deck

The bridge deck on the boat is a tad low at 9 inches. The cure was to keep at least one of the hatchboards in place when under way (two in rough weather) and to lock them in place, of course. In our early exuberance, we personally examined over a dozen PS25s from one coast to the other and conducted sea trials on a number of them. We never encountered one with water intrusion of the core. Factors in this were her nicely crowned cabintop and deck as well as her sturdy, well-bedded fittings. Nor did blistering of the hull seem to be a problem in any but a few minor cases. Roller furling was rare in those days and considered to be a frou-frou addition not to be trusted. I'm sure many are in place today. A modern 135 roller genny would have made life easier by a bunch.

The boat is heavily rigged with oversized chainplates mounted to the outside of the hull, an arrangement I have always admired. All fittings are well backed by stainless plates and nearly impervious to leaks. The hull-to-deck joint was built to a standard seldom attained at the time: mating flanges, bedded in 3M 5200, through-bolted every 6 inches, then glassed on the inside. When we were in desperate circumstances, it made my heart grow big just to think of it. A staysail stay forward and a stout stainless-steel-wire topping lift aft provided some redundancy for the cutter rig and additional peace of mind.

Her keel was wide and flat-bottomed. I recall the time we let *Raven* dry out on a hard mudflat with only the

dinghy oars and whisker poles wedged under her rubrails for support. She sat as solid as a hen on a nest while we did a touch-up of the bottom paint. One of her selling points was the ballast, a 1,750-pound piece of solid-cast, encapsulated lead whose compact mass not only gave superior stability but also left usable space in the bilges the length of the cabin sole.

The deep narrow fuel tank (approximately 20 gallons) was also in the bilge, just forward of the engine compartment, a proper place for a fuel tank in my opinion. Unfortunately, Pacific Seacraft for years insisted on aluminum tanks, and there, deep in the bilge, despite having runners under it, the tank would invariably develop saltwater corrosion and pinhole leaks. This typically occurred at six to eight years, and the job of replacing these tanks became legend in the industry.

Common interior

The interior of the boat is well documented and was a common arrangement of the day, though better finished than most. Her headroom of 5 feet 2 inches was always a non-issue for the mate at 5 foot 1 inch. As for me, I have often said that on a small boat one is only below to eat, sleep, or read a book…none of which I care to do standing up.

All bulkheads and furniture were stoutly bonded to the hull or deck for superior hull strength, stiffness, and accessibility. It was a labor-intensive method seldom seen in today's world of fiberglass interior pans. Her port-side dinette was well thought out and while now considered old-fashioned, we found it to be cozy and livable. It did convert to a double berth should the need arise. The 14-gallon poly water tank was under the longer of the dinette seats and the so-called icebox under the shorter. To delve into the cooler, one found it necessary to hold up the cushion with one's head while extracting the required viands. When sailing northern waters, we kept our perishables in the bilges.

"I have often said that on a small boat one is only below to eat, sleep, or read a book . . . none of which I care to do standing up."

***Raven's* interior, below, is a masterpiece of cozy comfort.**

The starboard quarterberth was described as a sea berth but, as it shared that side with the galley, most of the legroom was under the cockpit sole. It was a bit like getting into a coffin — not for the claustrophobic. The galley itself was of useable size and well laid out with freshwater and seawater hand pumps. It was available with pressure kerosene or alcohol stove, neither of which I can recommend.

The boat's headliner was identical to today's most expensive Pacific Seacrafts and has probably sold more boats for them than any other interior feature. Off-white, of heavy vinyl, impeccably installed with hidden zippers for access to overhead wiring and fittings, it became yet another Pacific Seacraft signature, seldom equaled in the industry. The forward cabin was well planned, with a starboard-side hanging locker and a port-side head. The V-berth proved suitable for those of average stature. We found it to be comfortable, even over a long period of time. While her interior accommodations were in keeping with her size, the addition of a dodger and rain fly could open up the interior of this boat considerably, and I would consider them required equipment for extended cruising.

Handled it with aplomb

Having sailed this boat for extended periods in severe weather and sea conditions (not intentionally I must confess), I am happy to report she handled it all with aplomb. Her pointy

little stern would indeed rise to slice a following sea with buoyancy to spare. She had a fairly light helm and would track like the proverbial train when properly balanced, this in spite of her cutaway forefoot. Light air *did* require every scrap of sail, but in anything over 8 knots she moved surprisingly well. It was not unusual to attain hull speed when reaching in 12 to 14 knots of wind. Being conservative, we would normally tuck in a reef around 16 knots. Initially a bit tender, she stiffened nicely at 10 degrees of heel.

Near to my heart was her ability to lie hove to. With a reefed staysail and triple-reefed main, she would present her shoulder to the sea and ride the waves like a duck.

John Vigor, in his excellent book, *Twenty Small Sailboats to Take You Anywhere*, captured the essence of the PS25 when he called her "sweet natured," a term I had not previously thought to apply to a boat, but one that fits the 25 so perfectly that it should have been the headline for her brochure. The boat's willingness and ease of handling saved our bacon on several occasions in our early days. For those enraptured with the traditional single-handed sailing vessel, she was well suited to the dream.

Brand new in 1980, the *Raven*, with every conceivable option, sold for a bit over $30,000. A more standard version was nearer to $23,000, up some $3,000 over earlier years. Today, a good used example might be had anywhere from $16,000 to $20,000 depending on upgrades and condition. Quite a reasonable price for a boat that can "take you anywhere."

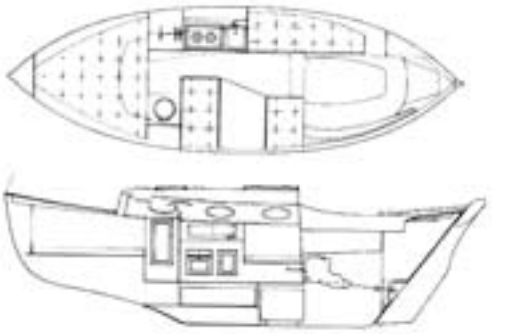
The demise of the PS25 was preordained with the introduction of the Bruce Bingham-drawn Flicka to the Pacific Seacraft line. This 20 footer's standing headroom was only part of her appeal; her masterful use of space and more modern "open concept" interior proved to be the telling factor. I always thought the 25 to be the more elegant and esthetically pleasing of the two. In any case, the Flicka proved a fine addition to the line and worthy to assume the crown.

Some years ago I was informed by the factory that the molds for the little PS25 had been shipped to Japan. Their ultimate fate remains unknown.

***Sea Hag* with Doug Hewins at the tiller.**

Pacific Seacraft 25

Designer: Henry Mohrschladt
LOA: 26 feet 3 inches
LWL: 21 feet 0 inches
Beam: 8 feet 0 inches
Draft: 3 feet 3 inches
Displacement: 4,750 pounds
Sail area: 250 square feet
Ballast: 1,750 pounds



Another viewpoint

Doug Hewins and his brother, Chuck, took some of the color slides for this article. Most of his 60,000 miles at sea were aboard frigates (the non-sailing variety) of both the U.S. Navy and the British Royal Navy. Since leaving the service he has confined his sea trips to small sailing cruisers. His current Pacific Seacraft 25, *Sea Hag*, and her renovation keeps him busy in Sarasota, Florida. Doug is a photographer and contributor to various *National Geographic* publications.

In his impressions of the PS25 he notes: "I've been pleasantly surprised with her ability to reach near hull speed in winds of 10 to 15 knots. With a fully deployed roller-furling headsail and her small, easily handled main, she balances well enough for me to move to the foredeck when required. Her Ratcliffe Marine Design self-steering system works well, even in the light winds I've been exposed to so far. She's a bit tender initially but stiffens dramatically as she heels. I think she sails predictably with either the main or headsail alone, although she doesn't earn many kudos for her pointing abilities under one sail.

"At this point, I would have few reservations about sailing *Sea Hag* on six of the proverbial seven seas. Her deck-stepped mast would keep me out of that seventh sea; otherwise I think she'd relish the bluewater environment. Best of all, I could trailer her to a suitable put-in point if I had a trailer…I'm working on that."

Choosing the right boat

Try this logical, six-step method to eliminate impulse purchases

by Ray Rippel

Is choosing the boat that's right for you like selecting an appliance or more like falling in love? Is it a matter of the head or the heart? When my wife, Kathleen, and I decided to begin our search for the boat we would eventually live aboard and sail, we were determined to attend to the wishes of both the head and the heart. We haven't found her yet, but what we have found is a process to satisfy our practical sides and to make our hearts beat faster.

"This process has six steps. It begins with something as ambiguous as your 'sailing vision' and ends with selecting a specific boat . . ."

For some, what I am about to propose is abhorrent — like making your intended sign a pre-nuptial agreement. If you are the type who goes through life making decisions strictly on gut instinct and first impressions, turn the page quickly, before we get to the really ghastly stuff, like capsize formulas. On the other hand, if you tend to approach things a bit more methodically, you'll find that the system we describe will increase the likelihood that the boat you buy will be the boat of your dreams.

This process has six steps. It begins with something as ambiguous as your "sailing vision" and ends with selecting a specific boat from a list that you have developed. Think of it as a process that narrows the field from tens of thousands to just one. Take these steps, and your final selection will be made with confidence.

Don't hurry, especially with Steps 1 and 2. This is a little like dead reckoning: an error of just a few degrees at the beginning of your journey can result in a big mistake after a few hundred miles. Getting a good start is the best way to ensure a good finish.

Ray and Kathleen's list of attributes

	Seaworthiness	Comfort	Simplicity	Pride of ownership
Required	• capsize formula result less than 2 • D/L ratio over 280 • overbuilt rigging • solid deck-to-hull fastening system	• ability to install sun protection in cockpit • comfortable sleeping berth • comfort index over 30 • 6' 3" headroom in in galley		
Highly-desirable		• ample ventilation • sumptuous interior • cockpit seats big enough to sleep on • comfortable settee • shower	• sloop or cutter	• classic appearance
Nice-to-have		• room for six at dinner • 6' 3" headroom in saloon	• tiller steering	• bowsprit • tumblehome
Prohibited	• spade rudder • fin keel • overlarge port or deadlights		• greater than 40 feet on deck • teak decks • two heads	

STEP 1

Your sailing vision

This first step is the most important; it will form the foundation upon which everything else is built. Think of it as painting a picture of the who, what, when, where, and how of your sailing future. Are you looking to cruise for years, cruise for weeks, daysail, race, or something else? Will your boat be a place to live in, a boat for recreation, a boat to race, or a museum piece? Perhaps you want your boat to be a multi-use vessel. In most cases that's possible. What isn't possible is to do a good job of choosing a boat without knowing exactly what you expect from it.

If this is going to be "our" boat — not just "your" boat — you must include all the people that make up the "our." Kathleen and I had many conversations describing, not what kind of boat we would have, but what we would do with it. The more we talked, the clearer the picture became: we wanted a vessel that two could live aboard comfortably, that was sufficiently seaworthy to make an offshore passage, that could be handled by two, and that was small and simple enough

that maintaining her would be a hobby rather than a full-time job. Equally important, we wanted a boat we could be proud of. (Our current boat is a Pacific Seacraft Flicka, and we have grown accustomed to turning heads. We like that.)

Comfort, seaworthiness, pride of ownership and simplicity of systems doesn't seem all that specific, but these concepts have specific meanings to us. Moving from a sailing vision to a specific list of attributes is what Step 2 is all about.

STEP 2

Step 2: Developing your lists

Using the word picture that you developed in Step 1, compose a short list of items that will be required, highly desired, nice-to-have, and prohibited on your boat. See the table on Page 9 for our list.

You'll notice that some of these attributes are quite specific. Our boat will not have a displacement-to-waterline-length (D/L) ratio of less than 280, for example. Others may appear to be ambiguous, but aren't. Our definition of a comfortable settee is one where people can sit and read without back or neck strain, preferably with their feet up. The sumptuous interior may not mean much to you, but to us it means feeling like we're in our home, not our campsite. The "classic appearance" is probably most difficult to pin down, but in the words of former Supreme Court Justice Potter Stewart, "I know it when I see it."

Two more quick points: first, you'll note that there are no items on the list that could be purchased later. Our boat must have a life raft, an oven, a dinghy, and many other things, but they can be added without major construction. What you see in our list are permanent characteristics. We'll develop a list of accessories later, in Step 4.

Second, we have not tried to make this overly comprehensive (and therefore overly complex). Our boat will have an engine, a head, a mast, a boom, an icebox, a water tank and a sink. Almost all cruising boats do. What we have concentrated on are the differences among the boats under consideration, not what they have in common. When you make your list, look for discriminators.

STEP 3

Go model shopping

Now that you know the critical elements of your ideal boat, it's time to start looking — not for a specific boat but for different models that meet the requirements you established in Step 2. Don't limit yourself to a couple of models you know you like. You will be amazed at how many hulls, some from manufacturers you may have never heard of, can meet your needs. Some may even satisfy your list of attributes better than the models you have thus far considered.

Where do you find good candidates? One of the best sources is the magazine you're holding right now, as well as other sailing publications. Don't just look at the boat reviews, though. Also examine the other articles, photos, classified ads, and corporate advertisements. If the publication doesn't have enough information on a particular model, go to the Internet.

When you're looking for information on a specific boat, try a top-notch search engine like Google <http://www.google.com>. There are tons of owners' associations and other sites

Bayfield 32
Score: 248 **Price: $35,000**

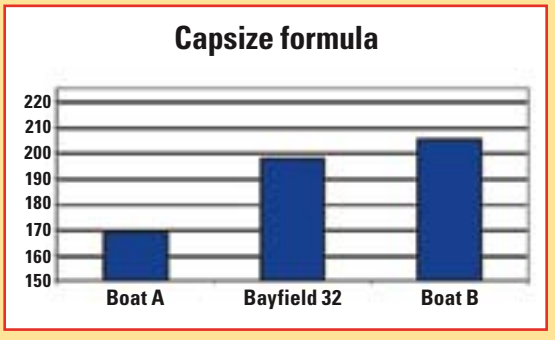
Model specifications	
Rig:	cutter
Length overall:	32
Length on deck:	30
Length waterline:	23.25
Beam:	10.5
Draft:	3.75
Displacement:	9,600
Capsize formula:	1.98
D/L ratio:	341
Comfort index:	25

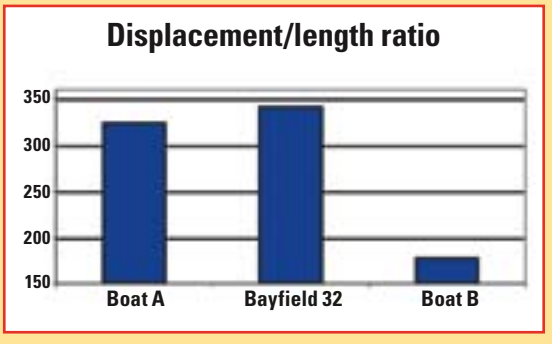
Required items (0 - 30 pts.)	
Ability to install sun protection	20
Comfortable berth	10
Comfortable settee	20
Displace over 280	12
Headroom for Ray in galley	15
Overbuilt rigging	20
Capsize formula < = 2	1
Solid hull-to-deck fastening	20
Comfort index	25

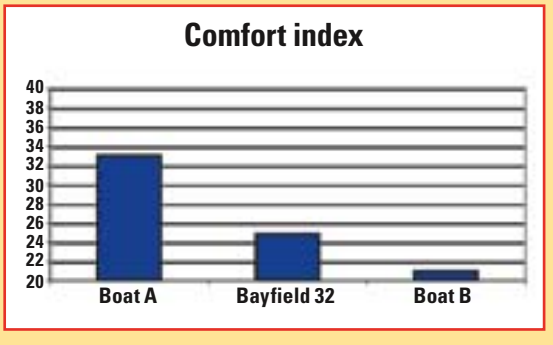
Highly desirable items (0 - 15 pts.)	
Ample ventilation	10
Classic appearance	15
Cockpit seats to sleep on	15
Headroom for Ray in saloon	10
Seating for dinner	15
Shower	5
Sumptuous interior	15

Nice-to-have items (0 - 10 pts.)	
Ventilation in galley	10
Wheel steering	10

Prohibited items (0 - minus 20 pts.)	
Greater than 40 feet LOA	0
Spade rudder	0
Teak deck	0
Two heads	0







that can tell you almost all you need to know, and any good search engine will lead you to them, as will a check of the *Good Old Boat* website <http://www.goodoldboat.com>.

But don't stop there. You can also use the Internet to find additional models. Sites like Boats.com <http://www.boats.com> and Yachtworld <http://www.yachtworld.com> have extensive listings, almost all with photos and specifications. (One word of caution: don't assume that the specifications are always accurate; we've found several errors during our research.)

Don't be overly inflexible when you are accepting or rejecting models, especially if you are having trouble finding models that meet every requirement or if you find ones that excel in most areas but are deficient in just one or two. For example, the Spencer 35 (which, after all, was good enough for Hal and Margaret Roth) scored very high with us except for headroom in the galley. We discovered, however, that one determined first mate had come up with an ingenious seat in the galley, so that the captain (who is 6 feet 3 inches tall) could do his fair share of the dishwashing. We scored it slightly lower, but it still made our list.

Occasionally, you may be unable to determine if a particular model meets a certain requirement. In our search, if we couldn't find line drawings, then we couldn't tell if the berth would be comfortable for a couple. Leave the question unanswered, and leave the model on your list until it proves itself one way or the other.

STEP 4

Go boat shopping

Now that you have your list of models, start looking for specific boats. You know better than I the best local sources, but don't ignore publications such as *Good Old Boat* (especially the website), *Soundings*, *Yacht Finder*, *Latitude 38*, *48° North*, *SpinSheet*, *Northern Breezes*, and *South Winds*. And, of course, don't neglect the Internet.

Step 4 is also when you develop

> *"... you run the risk of being blinded by the bells and whistles, while neglecting what's really important."*

that list of "must-have accessories" that I mentioned in Step 2. When I say must-have, I mean anything that you would be forced to add before you put your boat to the intended use you described in Step 1. This list should not include any item that you do not feel is absolutely necessary. A good example, for us, is a watermaker. Watermakers are a handy item on a cruising boat (if you have the power to run them), but we would not feel the need to add one immediately. Therefore, it doesn't make our list of accessories.

Remember, the purpose of this process is to help you choose the right boat. If you include accessories that aren't essential to your vision, you run the risk of being blinded by the bells and whistles, while neglecting what's really important. If it's truly essential, put it on the list; otherwise, leave it off. You'll see the importance of this

Bristol 35
Score: 230 **Price: $26,500**

Model specifications

Rig:	sloop
Length overall:	34.66
Length on deck:	34.66
Length waterline:	23.75
Beam:	10
Draft:	5
Displacement:	12,500
Capsize formula:	1.72
D/L ratio:	417
Comfort index:	33

Required items (0 - 30 pts.)

Ability to install sun protection	12
Comfortable berth	20
Comfortable settee	10
Displace over 280	27
Headroom for Ray in galley	20
Overbuilt rigging	5
Capsize formula < = 2	14
Solid hull-to-deck fastening	10
Comfort index	20

Highly desirable items (0 - 15 pts.)

Ample ventilation	12
Classic appearance	15
Cockpit seats to sleep on	15
Headroom for Ray in saloon	10
Seating for dinner	15
Shower	15
Sumptuous interior	10

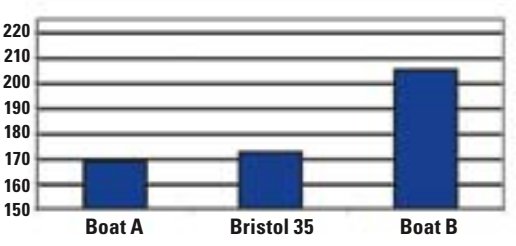
Nice-to-have items (0 - 10 pts.)

Ventilation in galley	0
Wheel steering	10

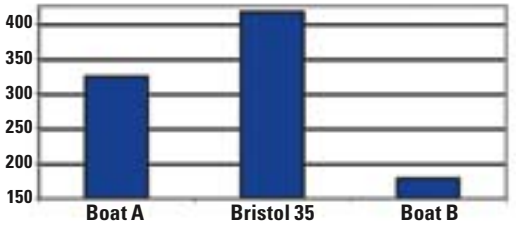
Prohibited items (0 - minus 20 pts.)

Greater than 40 feet LOA	0
Spade rudder	0
Teak deck	0
Two heads	0

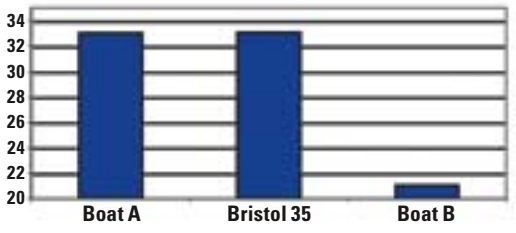
Capsize formula



Displacement/length ratio



Comfort index



during Step 5, when we calculate the adjusted price of your boat. Once you've identified specific vessels that are for sale, perform an initial inspection in order to accomplish two things: to validate the information you've already collected during your model analysis, and to compare what's actually on the boat with your list of accessories. Arrange to spend some time at the boat, and come prepared to do a quality inspection.

We've discovered some useful tools. Since we both are fairly computer literate, we developed a form (actually an Excel spreadsheet) based on our Step 2 list. It calculates the capsize formula, the D/L ratio, and the comfort index automatically. It also gives a graphic comparison in those three areas to two other boats, one that we consider to be a very seaworthy boat (Boat A on the form), and another we consider to be less so (Boat B). There are blocks on the form to score the boat on each of the Step 2 attributes (more on scoring later, and you can download an example of our form at the *Good Old Boat* website by following the link on the home page). That form goes on a clipboard, which we carry along with a tape measure, a digital camera, and a flashlight.

As soon as we arrive at the boat we swing into action. I stand in the galley (important to me) and Kathleen tests out the berth (important to her). We scrutinize the rigging, especially the chainplates, and use the flashlight to determine how the builders attached the deck to the hull. Each item on our Step 2 list gets a score.

Our scoring system is an attempt to impose a little objectivity on what is inherently a very subjective process. Each of our required items gets scores from 0 to 30 points; highly desired items score between 0 and 15 points; nice-to-have items score 0 to 10 points; and prohibited items get a negative score of 0 to -20.

Any galley that I can stand up in automatically gets a 20. We gave the Spencer (with the galley seat installed) a 12. Room for four, instead of the six we'd like, around the saloon table earns 5. We use the same technique for prohibited items. A full teak deck drops the score 20 points. A fiberglass deck with a teak cockpit (we saw an Islander like this) loses 10 points.

> *"Our scoring system is an attempt to impose a little objectivity on what is inherently a very subjective process."*

Once we've scored the boat in each area, and if we haven't discovered anything that out-and-out disqualifies this hull (such as many high-cost, mandatory repairs), we compare our inventory of must-have accessories to what comes with the boat, noting the deficiencies.

Lastly, we interview the owner or broker to determine if there are any big-ticket repair or replacement items that require immediate attention. Do all the sails need to be replaced? The head re-plumbed? New cushions throughout? How about new standing rigging? We also ask ourselves if we can live with the general state of maintenance. Or are we going to have to repaint, re-

Orion 27

Score: 230 **Price: $46,000**

Model specifications

Rig:	sloop
Length overall:	31.92
Length on deck:	27
Length waterline:	22.17
Beam:	9.25
Draft:	4
Displacement:	10,000
Capsize formula:	1.72
D/L ratio:	410
Comfort index:	32

Required items (0 - 30 pts.)

Ability to install sun protection	12
Comfortable berth	10
Comfortable settee	15
Displace over 280	26
Headroom for Ray in galley	10
Overbuilt rigging	20
Capsize formula < = 2	14
Solid hull-to-deck fastening	20
Comfort index	30

Highly desirable items (0 - 15 pts.)

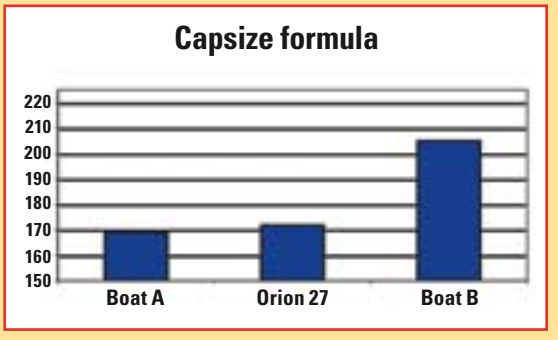
Ample ventilation	10
Classic appearance	15
Cockpit seats to sleep on	0
Headroom for Ray in saloon	10
Seating for dinner	8
Shower	5
Sumptuous interior	15

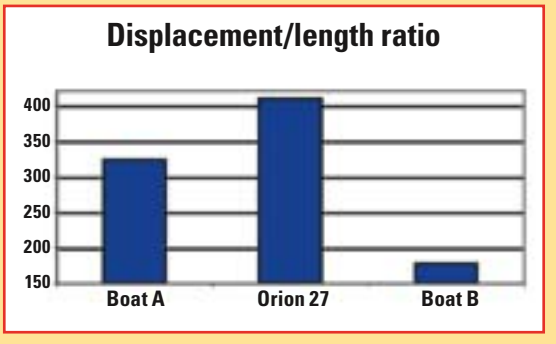
Nice-to-have items (0 - 10 pts.)

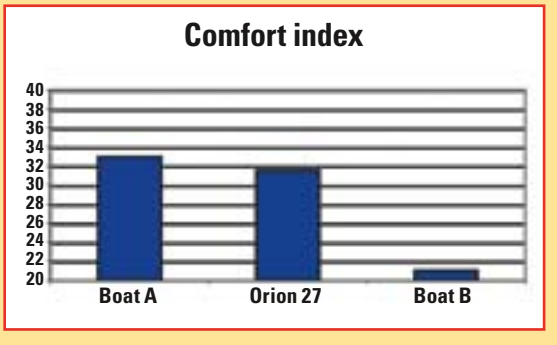
Ventilation in galley	0
Wheel steering	10

Prohibited items (0 - minus 20 pts.)

Greater than 40 feet LOA	0
Spade rudder	0
Teak deck	0
Two heads	0







varnish, and renew the boat?

We've done so many of these inspections that we rarely spend more than an hour for a first look. The next step takes even less time — usually about the time it takes to drive home.

STEP 5

Calculate adjusted price

Calculating the adjusted price of the boat requires four numbers: the lowest amount you believe the owner will accept, the cost of any accessories you'll need to add, the cost of any major repairs or renovations, and the cost of transporting the boat to where you need it. Add those four numbers together and you'll get the adjusted price, which is a far more valuable figure than the asking price. For example, a $25,000 boat that needs a life raft ($8,000), a dinghy ($1,200), new rigging ($3,000), and is floating nearby produces an adjusted price of $37,200.

Using the adjusted price will quickly reveal that a lower-priced boat, without a suit of sails, or requiring $15,000 of work in the boatyard (about a week's worth, in my experience), is not necessarily the best buy. A boat that's 1,000 or 10,000 miles away, but also thousands of dollars less expensive, may be more competitive than you think (see the sidebar on transporting your newly purchased boat on Page 14). The use of an adjusted price allows you to do a proper comparison.

STEP 6

Make an offer

This is where all the work you've done pays off. After a few weeks or months, depending on how much time you have to devote to your search, you should have accumulated many score sheets, each representing a boat you have inspected. When reviewing the score sheets look at two things: first, how high did the boat score, and second, what's the adjusted price? Once you've completed that review, there are several routes you can take.

One approach is to rank all the boats you've inspected, using each boat's total score, and draw a line just below the boat with the lowest score that still meets your needs sufficiently. Then make an offer on the one (above the line) with the lowest adjusted price.

Let's assume that you have looked at 25 boats. You rank them based on their score and decide that you could be happy with any of the top seven. You then review those seven and make an offer on the one with the lowest adjusted price.

A second technique might be to rank the boats and draw your line as you did before, and then concentrate on the boat that is most ready to sail away or best matches your budget.

If you are particularly passionate about a specific boat, your ranking will allow you to see where it stands against the others. Your score sheets will tell you exactly what you're giving up (either in attributes, accessories, or money) to satisfy your passion. Perhaps the same boat that makes your heart beat faster also scored the highest.

Remain flexible even after you've made your offer. Two situations could send you back to your list of boats and their scores (Step 6). First, the price that you thought the owner would accept might be overly optimistic. If that happens, however, you are well prepared to respond, because you know how high you're willing to go. If the counter-offer is $8,000 more, but you have another boat on your list for only $4,000 more, you may want to consider ignoring the counter-offer, and making

Spencer 35
Score: 229 **Price: $34,900**

Model specifications

Rig:	sloop
Length overall:	34.25
Length on deck:	34.25
Length waterline:	25
Beam:	9.5
Draft:	5.25
Displacement:	12,000
Capsize formula:	1.66
D/L ratio:	343
Comfort index:	33

Required items (0 - 30 pts.)

Ability to install sun protection	15
Comfortable berth	15
Comfortable settee	15
Displace over 280	13
Headroom for Ray in galley	10
Overbuilt rigging	15
Capsize formula < = 2	17
Solid hull-to-deck fastening	15
Comfort index	20

Highly desirable items (0 - 15 pts.)

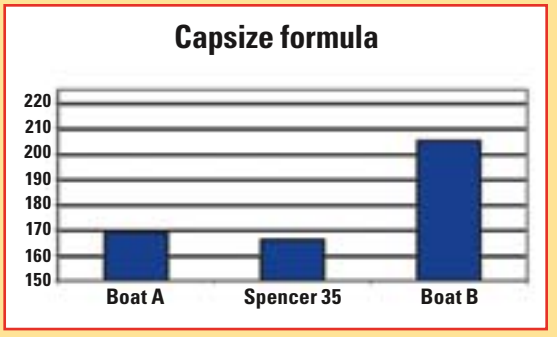
Ample ventilation	10
Classic appearance	10
Cockpit seats to sleep on	15
Headroom for Ray in saloon	12
Seating for dinner	15
Shower	0
Sumptuous interior	12

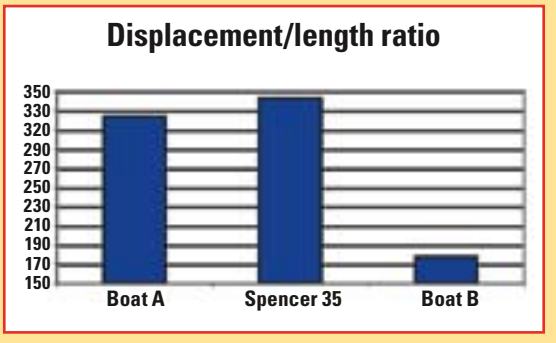
Nice-to-have items (0 - 10 pts.)

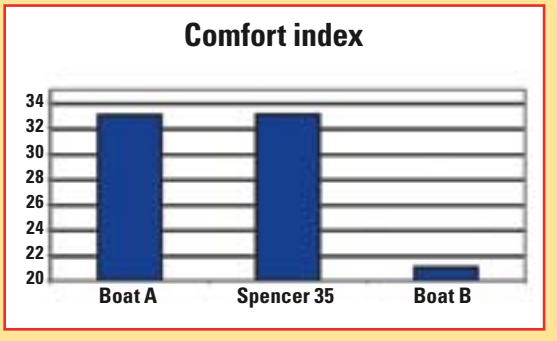
Ventilation in galley	10
Wheel steering	10

Prohibited items (0 - minus 20 pts.)

Greater than 40 feet LOA	0
Spade rudder	0
Teak deck	0
Two heads	0







an offer on a different boat.

The second reason you may want to return to Step 6 is that the results of the survey may significantly change your adjusted price. We are strong believers in obtaining a complete survey, even though they can be costly. It can be discouraging to watch a portion of the funds you've set aside for this purchase dwindle as you survey more than one boat, but nowhere near as disturbing as finding out that the boat you just purchased needs tens of thousands of dollars worth of repairs.

Thanks to the market (the stock market, not the boat market), Kathleen and I suspended our search in the middle of Step 4. We are ready at any time, however, to re-start, thanks to the preparations we've made.

When we do take the plunge (perhaps an unfortunate metaphor, considering the subject), we're confident that our new home will be, in every way that is important to us, the boat of our dreams!

Tayana 37

Score: 254 **Price: $75,000**

Model specifications

Rig:	cutter
Length overall:	42
Length on deck:	36.666
Length waterline:	31
Beam:	11.5
Draft:	5.666
Displacement:	22,500
Capsize formula:	1.63
D/L ratio:	337
Comfort index:	39

Required items (0 - 30 pts.)

Ability to install sun protection	15
Comfortable berth	20
Comfortable settee	20
Displace over 280	11
Headroom for Ray in galley	20
Overbuilt rigging	20
Capsize formula < = 2	19
Solid hull-to-deck fastening	20
Comfort index	20

Highly desirable items (0 - 15 pts.)

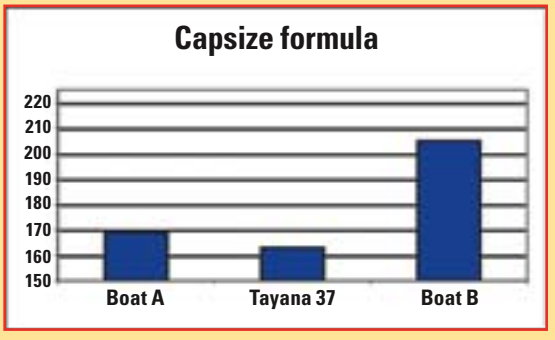
Ample ventilation	12
Classic appearance	15
Cockpit seats to sleep on	0
Headroom for Ray in saloon	12
Seating for dinner	15
Shower	15
Sumptuous interior	15

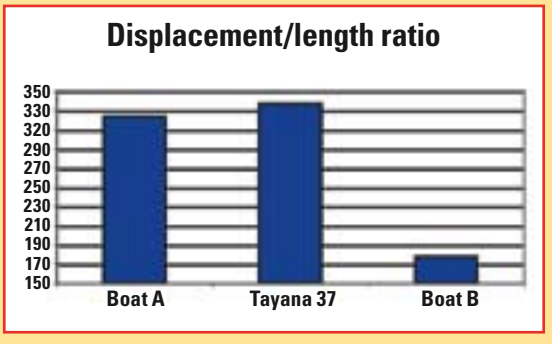
Nice-to-have items (0 - 10 pts.)

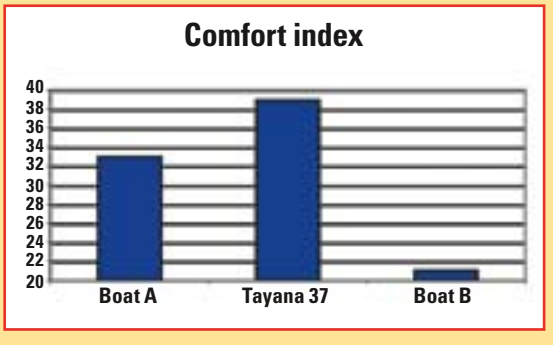
Ventilation in galley	0
Wheel steering	10

Prohibited items (0 - minus 20 pts.)

Greater than 40 feet LOA	0
Spade rudder	0
Teak deck	–5
Two heads	0







Getting her home

When you live in Hawaii, as Kathleen and I do, you're constantly analyzing shipping costs. Is it better to buy that book on the Internet for $15, plus $6 shipping and handling, or to go to the book store and pay $22? More to the point, our search for boats necessarily includes much of the western United States (and occasionally even more distant marinas), so we had to explore just how much it would cost to move a boat to Hawaii, as well as the advantages and disadvantages. Here's what we found for a 30- to 40-foot vessel.

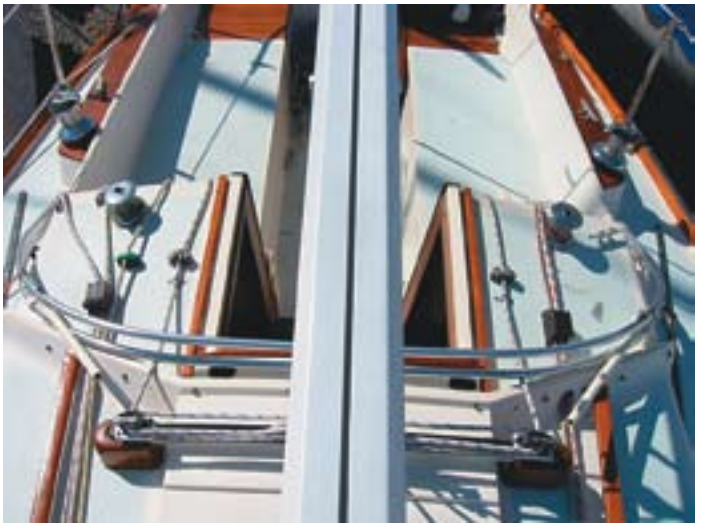
Mode: Truck
Cost: $6,000 to $10,000 (including assembly, disassembly, transport, materials used to prepare the boat, and the cost of getting you to the point of embarkation, assuming a 2,000 mile trip)
Advantages: Speed (when was the last time you were close-hauled at 50 knots?); no need for your boat to be completely seaworthy; no need for good weather; reputable transporters have good insurance.
Disadvantages: Some size and weight limitations; lots of disassembly and assembly (exterior must be stripped to prevent pilferage).

Mode: Delivery captain
Cost: $4,000 to $6,000 (including captain and crew salary, food, and airline tickets, assuming a five-day sail).
Advantages: No disassembly or assembly; boat arrives seaworthy.
Disadvantages: Boat must be seaworthy before departure; weather-dependent.

Mode: Container ship
Cost: $10,000 to $15,000 (including cradle, disassembly, and assembly).
Advantages: Speed (container ships don't care which way the wind is blowing).
Disadvantages: Lots of disassembly and assembly (exterior must be stripped to prevent pilferage); if crossing international borders, tons of paperwork.

***Note**: The prices listed here are estimates based on averages; use them to assist your decision-making, but if two boats are within a few thousand dollars of each other, get some quotes to refine your data.*

Crash, *bang,*



BOOM!

When the noise died down, he needed a new boom

by Geoff Cooke

THERE ARE FEW GOOD reasons to replace your boom. If you want to add capability or features, it's easier and more cost-effective to adapt an existing boom than to replace it. There's no shortage of hardware available from the major manufacturers. However, if your boom gets bent or broken you don't have many options.

A few seconds of inattention by the helmsman while I was at the mast preparing to take in a deep reef, ended in a jibe. The mainsheet was in tight, so this wasn't a crash jibe where the boom swings 12 feet from one side to the other. But even a 2-foot jibe with the wind blowing around 20 knots was more than our boom could take.

> *"Nobody thought having holes in the boom where the mainsheet and vang attached was a good idea."*

The previous owner had converted *Meander*, our 1975 Tartan 30, from end-boom to mid-boom sheeting. The cabintop traveler was one of the features that made us choose *Meander* over other boats when we bought her a few years ago. However a shortcut was taken during the conversion when the mainsheet was fastened to three bails that were bolted through holes in the boom. The increased loads from the mid-boom sheeting, along with the weakening caused by holes, led to the end of our boom's useful life.

So I had a winter boat project and some interesting research to do. I just hoped the bill wouldn't put a big hole in our boating budget.

Any boat more than 20 years old has a number of boom variants: short or long booms; roller, slab, or single-line reefing; end- or mid-boom sheeting. Then there are the modifications made by various owners over the years.

Internet search

I went on the Internet to figure out what sort of boom *Meander* had and what might replace it. I came up with Rig-Rite and their Rig-Rite #6 extrusion. Looking around their site, I also identified the Kenyon E and the Spartan CD-3 as similar extrusions. Many manufacturers of 25- to 33-foot boats have used these booms over the years. Buying a section would cost about $240 plus tax and shipping. All the existing parts would fit so the project would be a quite simple. Rig-Rite offered a number of options for fastening the mainsheet, vang, and preventer, so the boom might be a bit stronger.

I decided that *Meander's* boom needed to be substantially stronger. The jibe that bent it was quite mild. I didn't want to replace the boom twice.

In discussing options for reinforcing the boom with a few machine shops and boatyards, I discovered that welding an aluminum extrusion weakens it substantially. The option of stitching a collar on with pop rivets or machine screws would look horrible and still require cutting holes or

The mid-boom traveler on the cabintop, above, was one of the reasons Geoff Cooke bought his 1975 Tartan 30. What the previous owner (who made the conversion from end-boom to mid-boom sheeting) didn't realize was that a stronger boom should have been installed at the same time. Considering the increased loads it took and the weakening caused by the additional holes drilled in it, the original boom held up remarkably well for many years until one day a mild jibe finished it off.

Geoff laid the two booms (the older damaged Kenyon model and the new Isomat replacement) side by side to measure the locations of fittings. The replacement boom is much beefier than the previous boom which had held up admirably, considering that it wasn't rated for the loads it took once it had been converted from end-boom to mid-boom sheeting. At right, the tie rod on the mast belowdecks helps hold the deck down when vertical loads — such as halyards and shrouds — want to buckle it upward. Once the boom was painted and all previous hardware carefully diagramed, Geoff added reef and outhaul turning blocks, bottom.

slots in the boom to attach the mainsheet and vang. Nobody thought having holes in the boom where the mainsheet and vang attached was a good idea. A boom that didn't require holes to fasten the mainsheet was required, but how strong would it have to be?

To identify the loads on the boom, I used a service offered by Harken. They gave the mainsheet load on a Tartan 30C with end-boom sheeting as 1,400 pounds. Additional research found that mid-boom sheeting increased the load on the mainsheet by 50 percent or more depending on how "mid" the sheeting was. The mainsheet on *Meander* fastens 60 inches aft of the mast on a 132-inch boom. This indicated that a load of 2,800 pounds could be expected. This seemed twice the load the original boom was designed for, so I had been lucky (or cautious) for a few years. Returning to the Rig-Rite website, I looked for booms that were at least *twice* as strong as the original.

Moments of inertia

Strength in beams is stated in moments of inertia, which is basically the strength in the horizontal and vertical axis. The numbers for the old boom were Ixx of 2.70 and Iyy of 1.20. I would be looking for a boom section with numbers like Ixx of 5.00 or more and Iyy of 2.4 or more that didn't require cutting holes to fasten the mainsheet and vang.

The choices narrowed to the Isomat NB-32 and Z-Spar Z-360. Both have a similar hexagonal profile that includes a track into the bottom to hold a very strong-looking bail assembly. The tracks in the top and bottom add substantial stiffness and strength. As an additional check, I again used the Harken site to compare *Meander's* boom loading with that of the various boats that had used these extrusions. It seemed either would provide a comfortable margin of strength (see illustration on Page 17).

This project reminded me of the saying, "Good, fast, cheap: pick two." I could go with the "good, fast" approach and call a rigging company. Quotes from two companies ran between $1,200 and $1,400 plus tax and shipping. Lines for the reefing would be extra. I wonder what it costs to ship a 12-foot boom?

I could go with the "fast, cheap" option like the previous owner, but that's what got the boom bent in the first place. (In all honesty, after many years of sailing.)

What I wanted was a "good, cheap" method that would require some work on my part.

Looking up the boom extrusions proposed by the various rigging shops on the Rig-Rite website, I saw that the proposals were basically doubling the strength of the

boom and increasing its weight to 2.5 pounds per foot. This gave me great confidence in the Isomat extrusion, which was substantially stronger and lighter than any proposed boom.

Consignment shops

Wherever there are sailboats there are boating consignment shops. These provide a great opportunity to save money as well as to recycle. I visited a few shops with a tape measure and the information from Rig-Rite in hand. At one I found an Isomat NB-32 boom with the mast-mount casting that could be purchased for $240. It was 30 inches longer than needed and had a variety of outhaul and reefing lines wrapped around it. The gooseneck pin was nowhere to be seen and would have to be figured out later.

So for less than $250 I had a nice strong boom that could be shortened and modfiied to fit *Meander*. I strapped it to the roof and drove home … slowly.

A boom can have attachments for a topping lift, reefing arrangements, an outhaul, lazy-jacks, a vang, a mainsheet, and a preventer. Each has an ideal location. Shifting one even a few inches can be a bad idea. *Meander* had all of these, and I wanted to make sure everything ended up it its proper location on the new boom.

With a felt-tip marker, I outlined and labeled every piece of hardware attached to the old boom. I made a drawing of the boom showing dimensions from either end to each attachment. Then I removed the hardware and screws and laid them out on the workbench.

The cast ends of the Isomat boom had been fastened to the extrusion with pop rivets. With a ⅜-inch bit, I drilled the tops off and the cores out. To avoid weakening the boom, I drilled through the first pop rivet with a very small bit. Then I enlarged the hole using gradually larger bits until the rivet could be pushed through. This last drill bit was used to remove the rest of the rivets.

Pulled lines out

After removing both end castings, I pulled and tugged each line until I knew their purpose. I pulled all the lines out and pulled in a messenger line twice the length of the boom, plus a few feet.

"… a shortcut was taken during the conversion … The increased loads from the mid-boom sheeting, and the weakening caused by holes, led to the end of our boom's useful life."

Peering inside the boom, I could see sharp points from sheet metal screws used to fasten the minor attachments. These points would catch any line inside the boom. I removed the attachments and threw the screws out. I would drill and tap for machine screws to fasten things back together.

To remove the four sheaves from each end casting, I slipped a metal ruler between the sheaves and against the axle and tapped gently with a small hammer. All the parts were checked, cleaned, and tested for ease of operation. Some of the sheaves had nicks in them, but by being careful during reassembly, these nicks were placed against the outer edge of the casting, preventing any future problems.

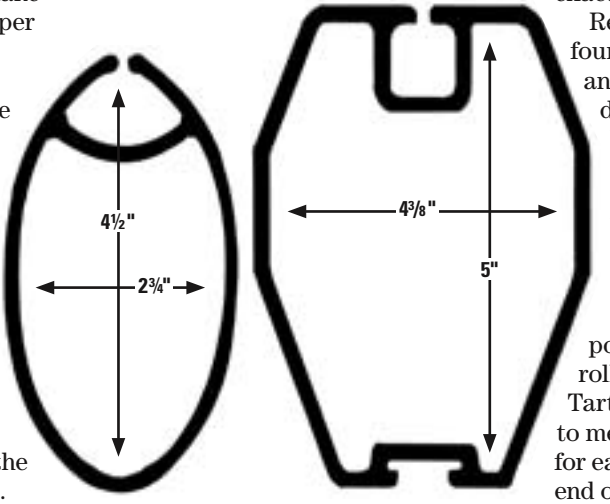
With all the hardware and lines removed, this was a perfect time to paint the boom. The Isomat was raw aluminum and scruffy looking, while *Meander* had white spars. It would have been nice to get a professional two-part paint job done, but that wasn't in the budget. In my experience a very durable finish for aluminum can be achieved with lowly Tremclad enamel. I've sprayed and brushed this on aluminum in the past, and it lasted for years. I prefer the satin finish as it hides minor imperfections while still giving a little shine. So the boom was scrubbed with a citrus cleaner and sanded with 320-grit paper to remove the top oxide. A few coats of spray paint made it look good as new. The end castings also got a few light coats of black to freshen them up.

All-internal lines

Meander's boom was set up for two jiffy reefs with pad-eyes, cheek blocks, and cleats mounted on the outside of the boom. The Isomat had no external reefing attachments; all lines were inside the boom, and there were four sheaves at either end. I was unclear on exactly how this was intended to work.

Returning to my web search, I found a number of reefing methods and discussions on each. I also discussed the methods with members of the Tartan list on SailNet. This is a great resource. One Tartan 31 owner with an Isomat boom copied the reefing page in his manual and emailed it to me for comparison.

The Isomat boom would support any reefing method, except roller reefing. The drawing from the Tartan 31 seemed the best approach to me. With this method, a single line for each reef comes out of the forward end of the boom and is either cleated there or run back to the cockpit. *Meander* is a tall-rig Tartan 30. While this provides very nice performance in light to medium air, she really needs a reef when the wind hits 15 knots and another before 20 knots. With this in mind, I had already decided to rig for a single deep reef for the next season. The ability to take in and shake out a deep reef from the cockpit would be a major improvement as I frequently sail singlehanded.



The Kenyon E and the Spartan CD-3, shown at left, are similar extrusions. The Tartan's original boom was of this type. Since mid-boom sheeting increases the load on the mainsheet by 50 percent or more, Geoff opted for a stronger replacement extrusion, the Isomat NB-32, shown at right. His research showed that another option was a Z-Spar Z-360.

This was a great opportunity to simplify and improve all facets of mainsail handling. For example, the lazy-jacks never caught the leech of the sail properly, the outhaul was impossible to reach from the cockpit and was rarely used, the preventer used a mainsheet bail that wasn't far enough aft, and the Cunningham arrangement I used had no purchase. I'd fix all these annoyances.

The used boom was a bargain, but the pin for the gooseneck was missing. A new pin was one of the last additions.

Moved attachments

I moved the aft lazy-jack attachment forward 10 inches and the middle one aft 2 inches. Shortening the boom by 30 inches would free up enough outhaul line to reach the cockpit (30 inches with a 4:1 purchase meant 10 feet of extra line). I'd use the reefing bail for the preventer and mount padeyes on the side of the boom for the leech reefing attachment. The outhaul from the old boom was used as a Cunningham. It looked like replacing the boom was a stroke of genius. Accidental genius, perhaps, but isn't most genius accidental?

All the research and discussion, schemes and dreams, sketches and drawings were done; it was time to shorten the boom. "Shorten" sounds so safe and easy. What it really meant was chopping a few feet off of an expensive piece of hardware. I wanted to be sure it was the right amount.

My original intention was to cut both ends of the extrusion to provide clean ends for fastening the end caps. This would require removing and remounting the outhaul attachment and, as there seemed to be little gain in this, I decided to just cut the aft end.

Because *Meander's* gooseneck fitting and the Isomat fitting were very different, it wasn't possible to simply cut the new extrusion to the same length as the old extrusion. To measure the correct length, I temporarily reassembled both booms and placed them on sawhorses. I measured the length from the mast to the end of the old extrusion and transferred that to the new extrusion.

I marked the placement of each piece of hardware on the new extrusion in pencil. I didn't want to ruin the new paint job. Each measurement was checked several times from both ends of the boom. It wasn't paranoia, merely caution, and totally appropriate.

" 'Shorten' sounds so safe and easy. What it really meant was chopping a few feet off of an expensive piece of hardware. I wanted to be sure it was the right amount."

During this process, I discovered the aft end of the Isomat extrusion was cut ¼ inch out of square. This seemed to be intentional, as it allowed the aft casting, with its reefing and outhaul sheaves, to tip forward. Once I had confidence that the situation was understood, I carefully drew a cut line.

Removed the end

By practicing on the end that was going to be removed, I developed a tipping-in technique with the saber saw that worked well. Using a fine-tooth blade, I removed the end of the extrusion and then filed the cut smooth.

Now each piece of hardware was fastened to the new extrusion. 10 x 24 x ⅜-inch machine screws were used for the smaller pieces such as the lazy-jacks and topping lift. Larger items, such as the reefing pads and bails, used ¼ x 20 x ⅜-inch machine screws. I used Tef-Gel anti-seize compound on all fasteners to prevent galvanic corrosion, but Loctite makes a similar product.

When fastening each item, I carefully marked, drilled, and tapped an initial hole. I then fastened each item to the boom and made any additional holes one at a time, inserting and tightening the screws as I went. This made sure that each item was fastened properly the first time. Using two rechargeable drills, one for drilling and the other for tapping, speeded up the whole process. (Note: When you use an electric drill to tap threads in aluminum, use a very low speed.)

Now I pulled each line back inside the extrusion with the messenger line, running the ends of each line through the appropriate sheaves on the end caps. Each line was also marked as to function and destination. I drilled, tapped, and fastened the end caps with ¼ x 20 x ⅜-inch screws, following the earlier process.

The only item left was the gooseneck pin. To find a machine shop able to drill and cut some ⅞-inch bar stock, I did an Internet search for "metal welding Bristol RI." This found Luther's Welding and Fabricating. Luther's had no problem following the picture from Rig-Rite and making it fit the gooseneck casting.

The new boom was finished and ready for fitting in the spring. Mounting would need six drilled and tapped holes in the mast and only take 15 minutes. The new boom would be a substantial improvement in safety and convenience. I could hardly wait.

Of course, this meant a few new projects. I'd have to add turning blocks at the mast base for the reefing line and outhaul, add line organizers and cabintop line stoppers to handle two extra lines to the cockpit, and make backing plates for all the new hardware. I'd even add the cabinroof tie that I'd been planning for the last two years. There's nothing like messing around in boats…or in the winter, messing around in the basement.

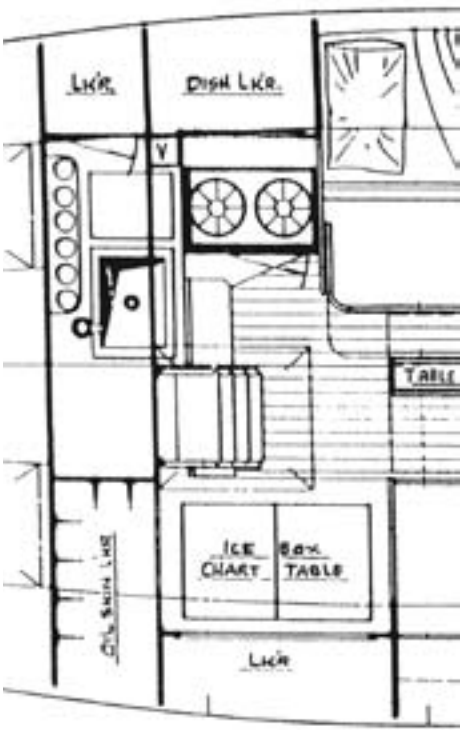
For further reading…

Read more about spars and rigging in Richard Henderson's *Understanding Rigs and Rigging* (1991), available at <http://www.goodoldboat.com/bookshelf.html> or by calling 763-420-8923.

Gastronomy afloat

Don't blame the cook if the galley's no good

by Ted Brewer



The 32, at left, shows a typical small-boat galley of the 1960s with the icebox doubling as the chart table. The 34-foot cutter, at right, features a roomy, workable, and safe galley. Note the ice-loading hatch on the bridge deck.

NAPOLEON ONCE SAID THAT AN ARMY marches on its stomach. If that is true, a ship *floats* on its stomach. A well-fed crew is always a happy crew. I could tell you about one Trans-Pac Race where the galley was very complete, and the cook — nay, the chef— was a magician. We lived like kings for 11 days on delicious salads, roasts, chops, and fresh-baked pies! That said, the galley of even a small yacht is a vital component of the vessel and, as such, it deserves every bit as much thought as the deck layout or the sailplan.

In the good old days of large yachts and paid crew, the galley was often placed forward in the vessel, but the usual location in the small yacht is aft, close to the companionway. Indeed, in more than 40 years in this business I've only designed one boat in which the owner requested the galley forward, and that was for a large charter yacht. The big advantages of the galley aft are that it is convenient to both the cockpit and the saloon and, as a bonus, in heavy weather there is considerably less motion aft than forward. That definitely eases the chef's job of feeding a hungry crew.

> *"Galley sinks must be quite deep, as the all-too-usual 5- to 6-inch-deep sink is useless at any reasonable angle of heel."*

Stoves

Other than the galley location, the very first decision that must be made when designing or rebuilding a galley is the choice of stove fuel.

Alcohol: The old mainstay was the pressure alcohol stove, which had to be primed to start in order to pre-heat the fuel. Overpriming was the cause of many glorious flareups and scorched overheads. Those pressure stoves are largely things of the past. Today's non-pressurized alcohol stove was pioneered by Origo, a Swedish firm. It uses a wick contained in a canister to absorb the fuel and is available as two-burner fixed or gimbaled stoves. The latter is available with an oven.

I've had no experience with pressure alcohol stoves, except to gobble down whatever the cook created on them, but I have had Origos on three boats and grew to love them. They are simple, almost foolproof and work surprisingly well, boiling a quart of water in about six minutes. I say "almost" foolproof, since overfilling the canister can produce sensational results, as my good wife found out to her dismay. Fortunately, alcohol fires can be extinguished with water. This is one of their great safety features.

One problem with the alcohol stove is that the fuel gives the least heat per buck, is costly, and is not readily available everywhere. This should not bother the coastal cruiser as a two-week vacation and a few long weekends afloat will not break the bank as far as fuel costs are concerned. I doubt if we ever spent more than $25 for alcohol in a summer's cruising. However, alcohol is not a fuel I would recommend for the bluewater cruiser, due to cost and scarcity in third-world countries.

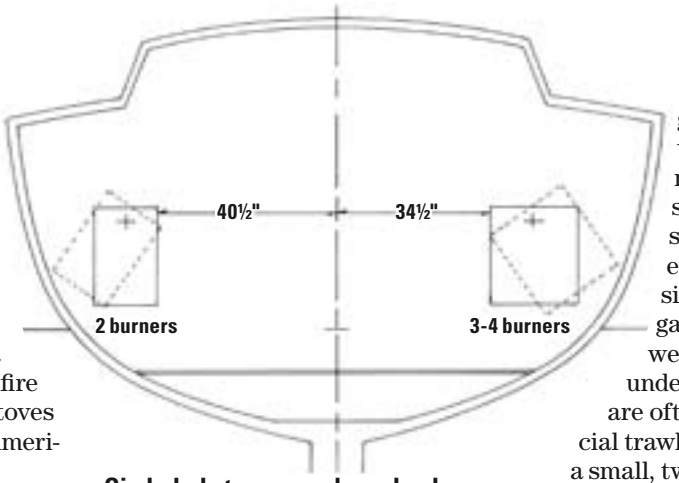
Kerosene: Called paraffin in the British Isles and other countries, this is the hottest fuel and is available in most areas. The stove has to be primed, so there is still a flareup problem, and the fuel smells so bad that some sailors are sickened by it. Since a spill is difficult to clean up and a fire is hard to extinguish, kerosene stoves have gone out of favor in North American yachts.

Liquified petroleum gas (LPG): This is the favorite stove fuel for larger craft. It is hot, available, economical, convenient, and familiar; just like the gas stove at home. The tanks are available in 5- to 20-pound sizes and are quickly refilled or exchanged for a full tank when empty. The usual practice is to carry two tanks and switch over when the first empties, then refill or exchange the empty one for a full one as soon as it is convenient.

The danger of LPG is that it is heavier than air. Spills that drift down into the bilge become highly explosive when mixed with air. This has resulted in many deaths and injuries over the years. Obviously, LPG must be stored and handled carefully. Here are some rules to follow:

- LPG bottles must be stowed in a compartment that is isolated from the yacht's interior and that drains any spilled fuel overboard. The safest place for the bottle is a vented locker above deck.
- A gas "sniffer" should be fitted to warn of any leaks into the hull.
- An electric solenoid must be fitted at the bottle so the cook can turn on the gas from the galley. The solenoid should automatically turn off the gas if the power is interrupted or if the switch is turned off. Systems are available that will also turn off the gas if a dangerous concentration is detected, and these are highly recommended.

Compressed natural gas (CNG): This is safer than LPG as the gas is lighter than air, so it will not concentrate in the bilge. It is more costly than LPG, is not as available outside North America, and is hard to find in North America compared to LPG. In addition, less fuel can be stored per cylinder. Despite its safety advantages, CNG has never become popular.



Gimbaled stoves need ample clearance (shown gimbaled to 35 degrees).

LPG and CNG gas cylinders are usually steel, but these rust eventually. Aluminum cylinders are available but may not be accepted in some countries since they are not considered to be as strong as steel. In the long run it's probably cheaper to replace the rusted steel cylinders.

"I recall a trip to Bermuda in the early 1960s when the batteries died, the pressure system went out, and we had to unbolt the top of the water tank to dip out the precious fluid."

Diesel: Diesel stoves have several advantages. The fuel is economical and burns efficiently. There is no need for two different fuels aboard, as you can draw right off your engine fuel tank, and the stove gives off welcome dry heat for those cold, raw days in our northern latitudes. Coils can be fitted to provide a good supply of hot water, even when the engine is not running. Disadvantages are that the diesel stove gives off lots of undesirable heat in the tropics as well, and it needs a large-diameter smokestack, which means the stove cannot be gimbaled. Dickinson is a well-known maker of diesel stoves, and most of their products have ovens. Not being gimbaled, they are fitted with high-sea rails and must be fitted so the cook stands fore or aft of the stove for safety. The smallest Dickinson is about the size of a small two-burner gas stove with oven. It works well on craft to 30 feet and under, while their larger models are often fitted to large commercial trawlers. It's common to carry a small, two-burner LPG camp stove and use it on top of the cold diesel stove when the weather gets hot and muggy.

Location: Obviously a non-gimbaled stove must be fitted to face fore-and-aft so the cook stands out of line with any scalding spills. Such a stove also needs high sea rails plus a high dam on the inboard side to prevent spills from burning any passing crewmember. The gimbaled stove is, with few exceptions, fitted to face athwartship but must be located far enough inboard that it can swing to 30 or 35 degrees as the yacht heels. Indeed some designers recommend that it can swing to 45 degrees! Even then the cook must wear foul weather gear in heavy seas for protection against spills as a scalding burn at sea can prove fatal.

Any stove should have a fixed guard, usually a stainless-steel tube, so cooks cannot fall into the stove in a seaway, plus a safety belt, so they cannot be thrown off their feet while holding a hot utensil. The safety belt may pose its own problem though, as a belted-in cook cannot easily skip out of the way of a spill. Wearing complete foul weather gear does reduce that danger. The stove should have a lock to prevent gimbaling at anchor and a lock to keep the oven door closed if you are cooking a roast or casserole in heavy weather. Of course the stove space should be completely lined with sheet metal, usually stainless steel or aluminum, to prevent a fire in case there is a spill of fuel or burning fats.

Sinks

Galley sinks must be quite deep as the all-too-usual 5-inch- to 6-inch-deep sink is useless at any reasonable angle of heel. Indeed, one 9-inch- to 10-inch-deep sink is much better than two shallow sinks, but two deep sinks are better yet. A too-small sink is almost

as bad as one that's too shallow. A sink with a 13-inch by 17-inch outside dimension, including the flange, works well. The shallow round basin that is often seen in smaller craft is almost useless. It should be relegated to the head, rather than built into the galley.

Sinks are usually located as high and as close to the centerline as possible so they will drain properly. However, sinks can be fitted with a positive manual pumpout, hand- or foot-operated, and will then work well in any location or heel angle. A good diaphragm foot pump is recommended as it is less likely to be clogged by grease or food particles than a vane pump. The drain is very rarely fitted with a proper trap, but it should be. You don't want the loose diamond from your ring to plop into 600, or even 60, feet of water. The galley drain must always have a proper seacock where it exits the hull, of course, and the seacock should be readily accessible and have a wooden plug handy in case of a hose rupture.

The galley should have two faucets, one providing fresh water and the other hooked to sea (or lake) water, as this will conserve the freshwater supply. The seawater pump should be fitted with a strainer as well as a two-way valve so it can provide fresh water in case the pressure system goes kaput. I recall a trip to Bermuda in the early 1960s when the batteries died, the pressure system went out, and we had to unbolt the top of the water tank to dip out the precious fluid. That was a good lesson for a designer.

For manually operated galley faucets, I prefer the Whale or a similar foot pump to a hand pump. With the foot pump, you can have the water running and still have two hands free to hold and scrub a pot. Pressure systems can be the simple on-demand type where the water flows as you open the faucet and are capable of handling two to three faucets at a time. For such systems I recommend the diaphragm-type pumps that can be run dry without damage and a small pressure accumulator that will reduce cycling and pump noise.

"The typical small cruiser will have an icebox, not a true refrigerator, as the machinery required for the latter can be quite expensive and temperamental as well."

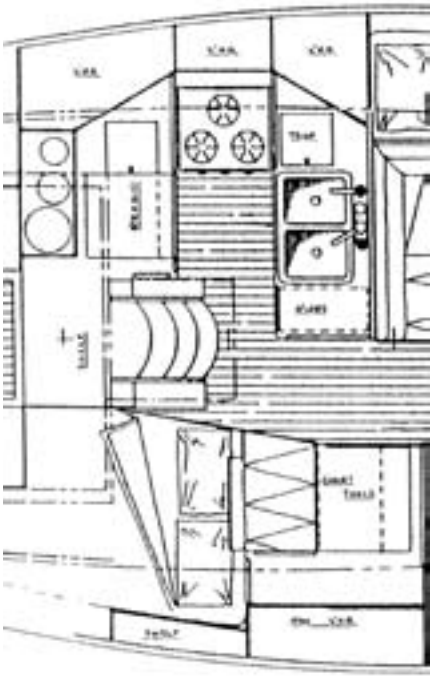
Larger yachts will require a more sophisticated and expensive system, such as the Paragon or Groco, complete with a large pressure tank, in order to handle the greater requirements of multiple faucets, showers, and so on. Where freshwater tankage is moderate, spring-loaded faucets will conserve water on a pressure system.

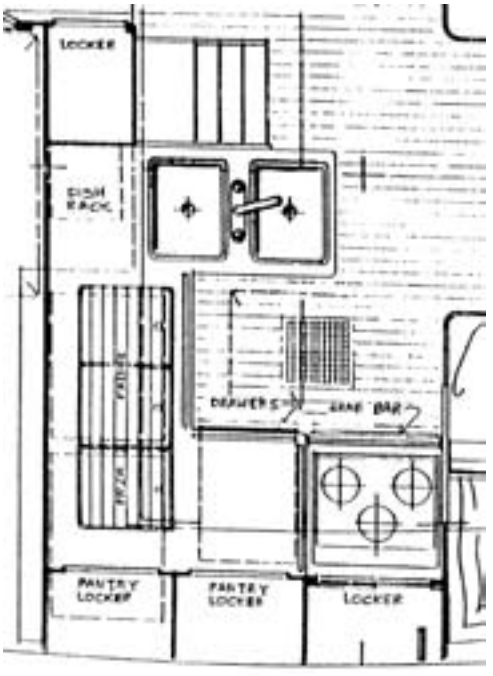
Refrigeration

The typical small cruiser will have an icebox, not a true refrigerator, as the machinery required for the latter can be quite expensive and temperamental as well. A good icebox liner will be of stainless steel or fiberglass, but the most important thing is the insulation. The best insulation is freezer grade polyurethane foam, 4 inches or thicker, and with a vapor barrier, such as a polyethylene sheet, on the warm side of the box.

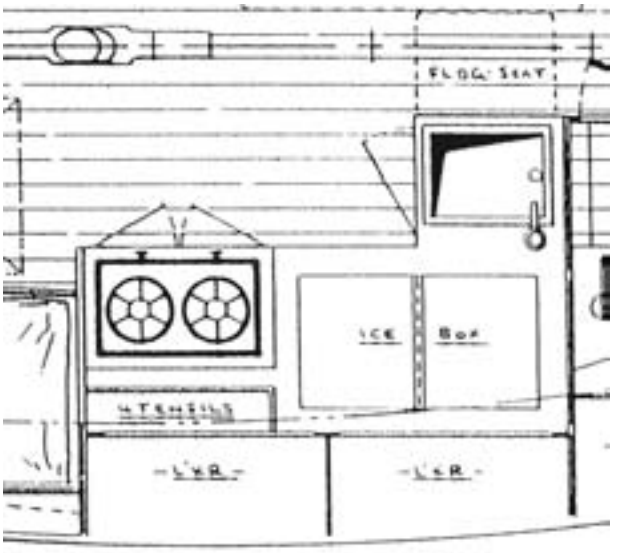
Access to the box contents is usually attained by top opening, as this spills less cold air in theory and, in turn, conserves the ice. Still, a front opening box is handy as it gives much better access to the items in the bottom of the box. In the long run, it may spill less cold than dragging everything out to get at whatever's buried deep in the bottom. If the box faces athwartships, the shelves should have a deep lip to prevent spills when the door is opened at any heel angle. The perfect icebox would have top and front openings, in my opinion.

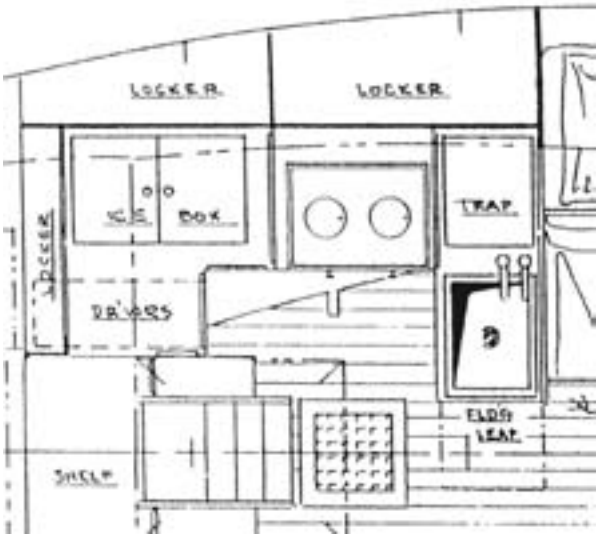
Few iceboxes in stock production boats have much in the way of shelves, yet a few well-placed shelves can do so much to keep the contents in order. Shelving can be of stainless-steel wire, expanded aluminum, or traditional ash. A neat feature, seen on far too few yachts, is a deck-loading hatch, usually through the bridge deck, that plops the ice into a bunker part of the box (see illustration on Page 19). One essential is a good icebox drain to get rid of the melt water. This can be a simple tube leading to a container in the bilge that can be lifted out and drained overboard or a small bilge pump fitted in the box to pump the ice water into the galley sink. Whatever you do, don't drain the melt water into the bilge as





The U-shaped galley of the 38, at left, is typical of many, but the cook had better wear foul weather gear in any heavy sea or risk a scald. The galley on the 44, at right, shows the advantage of size: safety, convenience, and stowage.





Quarter berths port and starboard on the 32-footer, at left, force the galley to be fitted amidships, along the starboard side. A starboard quarter berth forces the galley to port but works well on the 32-foot cutter, at right, allowing the cook to squeeze out of the line of scalding spills.

ice usually contains small organisms that will die, decay, and stink.

Electrical refrigerators for small yachts can be the simple 12-volt DC/115-volt AC units, similar to small household refrigerators, offered by Norcold and similar makers. We have used these on our boats with very good results. The current draw is high, but running the engine a few hours a day handles it. We've found they will hold the cold overnight, plus the units can be run on 115-volt AC when you're parked at the marina. They're very useful for the weekend cruiser in areas where ice is not readily available.

The even smaller electric ice chest run on the thermocouple principle can make sense for the very small yacht. We have one we run in our car on cross-country trips; it definitely beats hunting for ice every day. Since it runs on both 12 and 115 volts, we take it into a motel at night and plug it in. The same could be done at a marina, of course. The one advantage of these units is they are portable; you can take them ashore to clean or refill them and chill them at home before you head out for the weekend on the boat.

The refrigerator and freezer on larger yachts can be mechanical and run off the engine by a vee belt with an electric clutch, or it can be completely electrical. The latter may be 12-, 24- or 115-volt, depending on the yacht's system. I prefer boat voltages to 115-volt AC as, with a large battery bank, you can still go ashore for a day or two to tour the area. With 115-volt AC, the engine must be started periodically to bring the box temperature down, and this may be inconvenient if the boat is at anchor.

Large refrigeration units usually have holdover plates so the engine only needs to be run an hour or two a day to charge them. They are ideal for bluewater cruisers provided they have adequate power generation and large battery banks. Like most yacht designers, I'm not a refrigeration expert so I tell clients wanting such a unit to consult with a professional accustomed to dealing with marine refrigeration and its many problems.

"A trash bin in the galley is convenient, but it won't suffice for anything more than a weekend voyage."

The cabinets

Galley cabinets should be about 36 to 38 inches high if the boat has standing headroom and 12 to 13 inches above the seat cushion if the boat has only sitting headroom. The galley top is usually Formica, but some prefer stainless steel. My feeling about stainless steel is that you might as well fit your dishes with roller skates in any kind of a seaway. Matte Formica works much better, and a rubber nonslip pad can be used in heavier going to keep things in place.

The final dish saver is a high fiddle of teak or ash, about 1½ inch, strongly through-bolted and shaped to provide a hand grab for the cook in extreme conditions. The corners should be open for an inch or two so that crumbs and other crud can be cleaned off easily with a damp rag. I have often extolled the beauties of a maple or ash counter top, and they are pretty, but in these days of increased concern about hygiene, I think I'll pass on that. A food preparation surface should be of a material that is more easily cleaned and disinfected if you are to avoid severe digestive problems at sea.

A big part of galley stowage is the trash. When harbor hopping, you can be charged $2 or more to dump a bag of trash. A trash bin in the galley is convenient, but it won't suffice for anything more than a weekend voyage. My recommendation for a long ocean voyage is to carry plastic and heavy paper bags. Separate the plastic, store it in a plastic bag and, where possible, drop it off ashore where garbage can be properly handled.

If you are making offshore passages, decomposable items can be placed in a heavy paper bag and dumped at sea…way out at sea. Know the discharge regulations and be in compliance with them. Punch the bag with multiple holes so it will sink and weight it so it will sink quickly. I've sailed with some engines that would make a good weight. Failing that, take along a supply of heavy beach rocks.

That's it. A good galley takes a great deal of thought. I didn't know just how much until I started to write about it and put down much of what I've learned the hard way over the years. Even now, I've just scratched the surface.

A last chance tripline

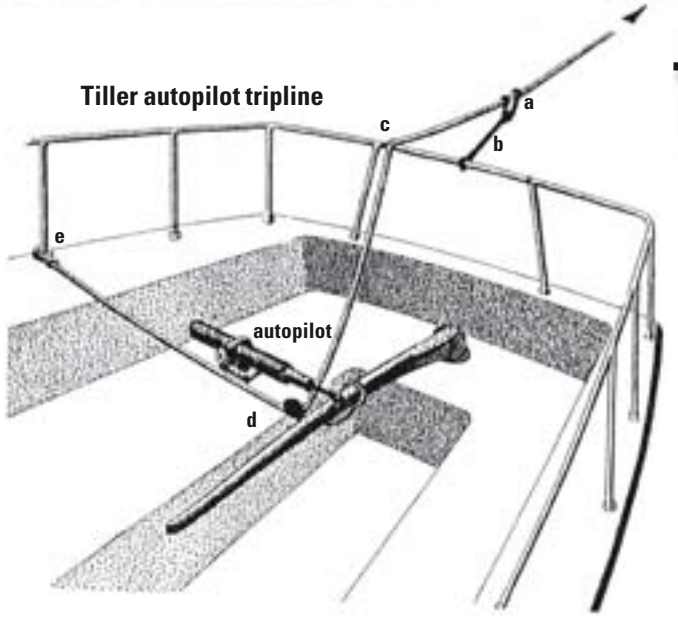


Illustration by Mike Dickey

Shorthanded or sailing solo, this trailing line could save your life

by Tor Pinney

Anyone who has ever sailed offshore shares a common dread: falling overboard and helplessly watching the boat sail away. No matter how many shipmates you have resting belowdecks, if you're alone on deck, you're at risk just as much as the singlehanded sailor. No one will hear your calls.

Most passagemakers take the obvious precautions: maintaining pulpits and stanchions with continuous lifelines around the yacht's rail and running jacklines along the sidedecks to clip on the safety harness that we wear most of the time. Some even tow a so-called "safety line" astern. Still, every so often we hear of the ultimate tragedy: some sailor has fallen overboard and been lost at sea.

I've singlehanded quite a bit and, over time have given the problem serious consideration. I came up with a solution that I've tested and used for years. If this system were used by more sailors, it could save some lives. It's a simple, inexpensive lone-sailor-overboard rescue device that I call Captain Tor's Last Chance Tripline.

If you were to grab a simple "safety line" trailing behind a boat sailing at 5 or 6 knots, you'd have a tough time trying to haul yourself forward on it while being dragged through the water. Fully clothed, it would be nearly impossible. Eventually, you'd tire out and let go. But the result of grabbing the Last Chance Tripline is that the boat will almost immediately come to a near or complete halt, giving you an opportunity to regain the ship. It will work aboard any boat, providing one last chance to save yourself if the nightmare ever comes true and you find yourself overboard and alone while underway.

Floating line

The tripline consists of about 200 feet of ½-inch, yellow, floating polypropylene line, a Styrofoam ball float of the kind lobstermen use to mark their traps, at least two 5-foot pieces of 5/16- or 3/8-inch elastic shock cord with a plastic hook at one end, and one or two ½-inch blocks on lanyards. It'll also require a bit of trial-and-error experimentation because precisely how this equipment is assembled will vary from boat to boat. What follows is the basic idea.

> *"It will work aboard any boat, providing one last chance to save yourself if the nightmare ever comes true and you find yourself overboard and alone while underway."*

The buoyant tripline, which has half hitches tied in it every 6 feet or so for better gripping, trails behind the boat while voyaging offshore. The Styrofoam float marks the "bitter end" (pun intended), while the inboard end is led in such a way that increased drag on the trailing line will disengage the self-steering mechanism or engine throttle. In the case of a vessel under sail, it will then steer the boat up into the wind to stall it. Once you've worked out the right adjustments for your boat, you can set up your tripline in a couple of minutes anytime you're heading out to sea.

The normal line tension created by towing is countered by the shock cord, hooked to a bight in the line two or three feet abaft the stern rail. Because of this, the inboard portion of the tripline remains just barely slack until the weight of a dragging person overcomes the shock cord to exert force on the inboard end of the line.

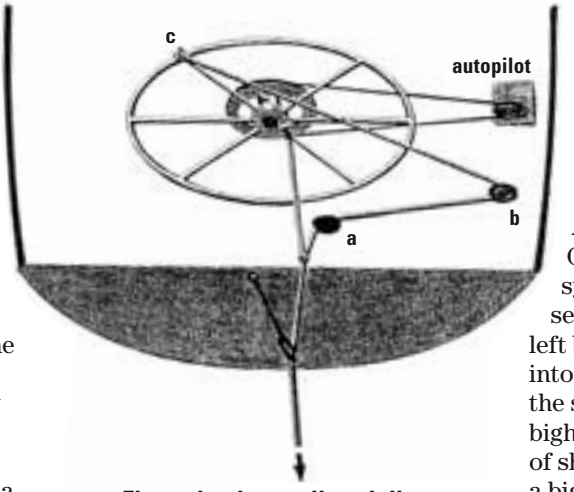
There are several ways to accomplish the goal of stopping the boat. The first is to disconnect the autopilot.

Tiller autopilot

The external autopilot on a sailboat's tiller (see illustration above) is the easiest to disengage — all it takes

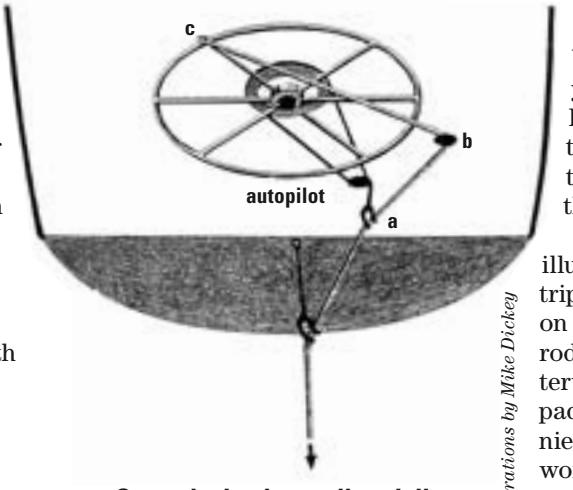
is a light lifting motion to jerk its drive arm off the tiller-attachment knob. To do this, the inboard end of the tripline runs from the bight (a), to which the shock cord (b) is attached, over the pushpit rail (c) to give it some height, then through a block (d) lashed to the tiller immediately aft of the attachment point of the autopilot drive arm. The block hangs by its lanyard just a few inches below the tiller. Finally, the tripline runs across the cockpit and slightly forward to the lee rail where it is tied to a strong attachment point (e) that is only slightly higher than the tiller. This end is secured, taking up almost all the slack in the tripline, but still allowing the shock cord to take the entire pulling force of the line trailing aft.

Because of the shock cord, the inboard end of the line remains slack (but just barely so), exerting no force on the autopilot or the tiller. But if someone in the water were to grab that tripline and drag behind the boat on it, the increased line tension would stretch the shock cord, putting tension directly on the tripline inboard of the bight. The taut tripline will raise the block, lifting the autopilot drive arm off the tiller and simultaneously pulling the tiller to leeward. The boat will head up, luff the sails, and stall. If the jib is trimmed for windward sailing, it will likely back, temporarily causing the boat to heave to. If the sails are trimmed for a reach, they'll likely continue luffing even if the boat falls off again. In any case, the person overboard has time to reach the stalled boat.



First wheel autopilot tripline

"Once you've worked out the right adjustments for your boat, you can set up your tripline in a couple of minutes anytime you're heading out to sea."



Second wheel autopilot tripline

Illustrations by Mike Dickey

Wheel autopilot

Disengaging autopilots on boats with wheel steering requires variations of this principle, depending on the autopilot system used and how it is installed (see first wheel autopilot tripline above). It may be necessary to run the tripline through a block on a short lanyard (a) tied to the autopilot's clutch knob so that it will, under tension, pull out the knob to disengage the self steering. The same principle applies to both wheel-hub clutches and to foot-level clutches. From the clutch block, the line passes through a second block (b) stationed to port or starboard of the helm, and then across to the wheel's rim (c) in order to have the ability to turn the boat. If the second block is on the lee side of the cockpit, the line's attachment point along the rim will be at the farthest (windward) spoke below the wheel's horizontal center plane. If the block is on the windward side, the line must be led to pull on the farthest (leeward) high spoke in order to turn the boat into the wind. Again, the shock cord aft holds the inboard line section barely slack until a strong pulling force is applied to the outboard end of the tripline.

An easier system

On some boats a line-and-lanyard system might be easier to use (see second wheel autopilot tripline at left below). Simply tie a second bight into the tripline, anywhere between the side block and the shock cord's bight. Lanyards or short lengths of shock cord can be easily led off a bight to pull clutch knobs and switches. Whatever directional pull it takes for a tripline to disengage the self-steering unit and/or head your boat into the wind can be engineered with blocks, shock cords, lanyards and a bit of ingenuity.

With internal autopilot units, a lanyard coming off the tripline may be led so that it flips a toggle switch that turns off the unit, allowing the tripline to turn the helm. Better still, a tug on the tripline could be rigged to activate an electric override switch that will cause the autopilot to steer the boat sharply to windward. The same switch could also activate an alarm to arouse sleeping crew, but keeping it simple and self-reliant is probably best.

Windvane tripline

Windvanes pose no problem once you grasp the general idea of the Last Chance Tripline, but rather than disengaging the windvane, the trick here may be to use it to steer the boat into the wind.

On a Monitor windvane (see illustration on facing page), the tripline passes first through a block on a lanyard (a), then between the rods holding the vane's lead counterweight, which is below the wind paddle (b), and finally ties to a convenient part of the windvane's framework (c) or ship's hardware. Once again, the shock cord (d) is attached to the tripline at the outboard bight, in this case just aft of the block. Because the shock cord keeps tension off the inboard section of the line, the windvane is free to operate unimpeded — until someone pulls on the tripline. Then the cocked windvane will steer the boat up into the wind, stalling her. By having the block on a lanyard, it's easy to shift its position and experiment to determine the correct angle of pull on the windvane's

counterweight. This changes as the windvane paddle is swiveled for different points of sail. In this manner, you control which way the windvane will turn the boat when the tripline is pulled.

Lastly, stopping a boat that is motoring is as simple as rigging the line or lanyard to pull back the throttle, the throttle and gearshift levers, or the engine shut-off knob. After reviewing the above variations of leading and balancing the tripline, an engine-stopper should be easy to figure out aboard your own boat.

"… stopping a boat that is motoring is as simple as rigging the line or lanyard to pull back the throttle, the throttle and gearshift levers, or the engine shut-off knob."

As a boat's sailing speed increases, it may be necessary to adjust (tighten) the shock cord. Otherwise, the increased drag on the line could overcome the shock cord and trip the system. The tension of the shock cord is adjusted from the inboard end so that it continues to barely overcome the pulling force of the dragging tripline. But beware! Too short a shock cord will not have enough stretch left in it to allow the tripline to work when needed. When adjusting for increased boat speed, it's generally better to re-tie the shock cord farther forward rather than to shorten it. If this still isn't enough to overcome the drag or if the shock cord is stretched nearly to its limit, then double up on the shock cord with a second piece. Ultimately, the shock cord must absorb the towing force with elasticity to spare.

Testing the system

Your tripline system is easy to test without throwing your mate overboard. Just reach over the stern rail, beyond the shock cord, and haul firmly and steadily on the line. A safer alternative is to tie a bight in the line just abaft the shock cord attachment point, slide the end of a boathook into it, and push to create the drag effect. If the ultimate result is that the boat comes to a halt, you got it right.

Once the tripline has done its job and allowed the lone sailor to get back to the boat, there's still the problem of climbing aboard unassisted. A permanent ladder or steps installed at the transom or a means for a swimmer to pull down a stern boarding ladder will ensure a happy ending to the crew-overboard self-rescue.

By the way, the polypropylene tripline and shock cord should be stored out of the sun when not in use. Otherwise, they will deteriorate rapidly from exposure to ultraviolet rays.

You might argue that at night the tripline and shock cord could be difficult to find quickly enough for a frightened person grappling in the dark or that it's useless to an unconscious man overboard. You can also insist that nothing takes the place of exercising proper caution to ensure that crewmembers don't fall off the boat in the first place. You'd be right. The tripline is no substitute for wearing your safety harness while on deck, nor is it a 100-percent-guaranteed lifesaver in every situation. But for the lone mariner who suddenly goes overboard while the boat sails on relentlessly, the Last Chance Tripline is a whole lot better than the alternative — no chance at all.

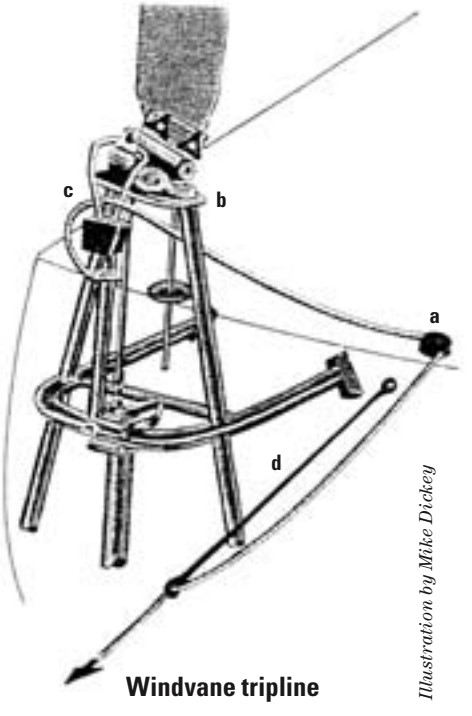


Illustration by Mike Dickey

Windvane tripline

Let there be light

And there was light: from Alpenglow on high, in the Montana Rockies

by Ed Lawrence

You know how difficult it can be to reach Someone In Authority (SIA) on the phone. It typically requires negotiating an automated phone tree that may eventually route you to a human being, usually not the person you're attempting to reach.

The opposite occurred when I attempted to reach Bob and Marie Stoeckley, co-SIAs at Alpenglow Marine Lights, to schedule a meeting at their facility in Montana. Bob answered the phone after two rings, extended an invitation to visit, then worked hard to fit me into his busy schedule.

Me: "What's your schedule in July?"
Bob: "We'll be gone sailing in the San Juan Islands."
Me: "How about August?"
Bob: "We have a family reunion in Indiana."
Me: "So when *will* you be working?"
Bob: "By early September."

Presto! Directions to the factory followed. Bob asked, "Got a pencil and piece of paper?"

A big piece of paper, as it turned out. The first step involved finding Eureka, Montana, in the northwest corner of the state within a stone's throw of the Canadian border. The closest body of water is Lake Koocan-usa (Kootenai River + Canada + USA). An 80-mile long reservoir, Lake Koocanusa can produce a wonderful downwind sail, if the wind cooperates.

"The problem with the lake is that it's so narrow that winds swirl. I've sailed a 360-degree course without touching the sheets," Bob says.

Closing in

More directions: "Go south of town two miles to a junction and look for a Fire Route sign on a tree…" When I eventually found Forest Service Road 3668, I was closing in on the target. At the end of the road sits a two-story house in the center of a compound surrounded by 160 acres of trees and mountain greenery, two sailboats under protective covers, a road grader, and other assorted machinery.

The antithesis of a Fortune 500 company, Alpenglow is a small dot on the map of boat-accessory manufacturers in the U.S. The company produces interior lights that are among the finest in the marketplace. Unlike mass-produced fixtures, each Alpenglow light is handcrafted by Bob and several part-time workers.

The factory occupies four structures and four outdoor tables that serve as open-air tanning booths. A garage has been converted to a cabinet shop occupied by an assortment of power saws, welding tools, and a wood-burning stove. Here Bob's crew cuts, planes, and sands sections of mahogany and teak, converting them from slabs of wood to precisely joined furniture. "After machining and sanding, teak often has light and dark splotches, and sometimes even salmon and green colors," Bob notes. "It can be quite ugly. The nice color we associate with teak is the result of oxidation which is accelerated in the presence of ultraviolet light."

So frames and other wood components are placed on "sunning tables," something of a euphemism between December and March. There, for days or months, they are exposed to the sun to produce the typical teak look. In theory, the objective is to tan a year's worth of frames during the sunny months. Then winter months are spent installing the components required to produce the finished product. The company also produces shiny brass reading lights with wooden bases.

Alpenglow's reading lamp, above. Marie holds a completed cabin light, at right, while others await their turn on the sunning table. Company co-founders and sailors, Bob and Marie Stoeckley, on facing page with their Kent Ranger.

Spray booth

Even the couple's residence and guest house get into the act. A corner of the guest house is partitioned off with a thick plastic tarp, creating a spray booth where the interior of each fixture is sprayed with a reflective paint. What had been the family room doubles as an assembly shop, and Bob has been known to handle the firm's accounting chores on a computer in the master bedroom.

That Alpenglow's manufacturing operation is located in the northern Rockies — rather than Marblehead or Taiwan — is of no consequence. Its location, though, speaks volumes about the couple's ability to combine their professional goals with a lifestyle choice.

Bob's sailing life began at age 12 on lakes in Indiana. In 1982, he and Marie purchased a 23-foot Venture of Newport (see the *Ravensail* article on Page 33), which lives under a blue tarp. They named it *Alpenglow*. In 1993, when the family grew too large for the Venture, they added a trailerable 26-foot Kent Ranger, named *Tumbleweed*, that occupies a wood-framed shed.

While Bob received an undergraduate degree from Michigan State, majoring in physical geography and education with postgraduate studies in forest recreation, Marie received a degree in interior design and housing. Following graduation they loaded up the buggy "and spent a year on the road." They scoured the west before landing in Montana which, Marie says, offered "mountains, a summer garden, and skiing."

Neighborhood guru

After beginning work with the U.S. Forest Service as an engineering technician in 1975, Bob transferred to Eureka two years later. At that point, he also became the neighborhood's electrical guru, since the bare land the couple purchased was so far from an electrical outlet that adding power lines was a budget buster.

As a consequence, lighting their new home became the responsibility of the "Bob and Marie Stoeckley Power Company," which solved the problem with a combination of solar energy and a generator.

"That's when we began building 12-volt lights," Bob says. "We wanted lights that were highly efficient, attractive, very durable, and which

produced a pleasant light similar to incandescent bulbs. For several years we tried just about everything available but found none that were satisfactory. We eventually began building our own [fluorescent lights], using the latest and best components available. These lights are now the primary light source for many alternative-energy homes in this area, and the owners won't consider using anything else."

> *"The company produces custom interior lights that are justifiably considered among the finest in the marketplace."*

Envisioning a future world filled with low-voltage lighting and enamored of the area, the couple declined the Forest Service's offer of another transfer in 1987. Instead, they opened the doors of Alpenglow Marine Lights.

"It took six months to design the components and a fixture specifically for marine use, so we were able to begin offering lights to the marine community in 1988. I was immediately told by the owner of a marina in Montana that the product was too expensive," Bob recalls.

Planets converged

They were undeterred. "We offered the prototype to Rick Proctor, owner of the Cruising Equipment Company in Seattle, who immediately came aboard as our first dealer," Marie says. "Our first order came from the advertising manager for a magazine who ordered the lights after selling an ad to Bob."

Then in a short period of time several planets converged, and Alpenglow became a star. A sample mailed to *Practical Sailor* resulted in two positive results: a favorable review was published and Bob's criteria for evaluating lights became the publication's standard. Attendance at a series of boat shows resulted in positive acceptance of the product and invitations for Bob to conduct seminars on boat power systems.

Eventually the lights became standard equipment on new Valiants and the Samuel Morse-built Bristol Channel Cutters and Falmouth Cutters. They were also offered as upgrade options on several other boats being manufactured, including Pacific Seacrafts and Osprey Offshore Yachts. The phone began ringing off the hook, and it hasn't stopped.

Sitting on a porch sheltered from the mid-day sun, Bob and Marie share a swing and a view to a marsh while listening to a squirrel chattering in a tree as Bob conducts a half-day discussion on boat lights. In the process, I learn that there's more to the subject than toggling a switch and accepting the result.

"Cabin lights can be divided into two basic types: area lighting and spot lighting. Round dome lights and most fluorescent lights are examples of area lighting.

"High-intensity lights, reading lights, and swivel lights are examples of spot lighting. Spot lighting is a good choice when only one person needs light for a task at a specific location or if you need very intense light for detailed work," he says. Spot lights are also vital when the captain wants to snooze while the first mate is engrossed in the latest from John Grisham.

Spots create contrast

"If light is required at more than one spot at a time, area lighting is usually more effective than using several spot lights, because spot lights create contrast that can cause eyestrain. Area lighting is accomplished with a fixture mounted overhead, which greatly reduces shadows."




The staff at Alpenglow Marine Lights from left: Makenzie, Renee, Gary, and Lyle. Hard-working executives Marie and Bob, below.

A marine environment adds two additional challenges: the lights must work in damp or wet conditions without failing, and power consumption must be minimized.

Bob's lights are equipped with an innovative compact fluorescent bulb that produces color rendition nearly identical to standard bulbs, so a saloon won't have the feel of an all-night truck stop. Those bulbs use less power than incandescents and may have a life span of 5,000 to 10,000 hours. Add state-of-the-art electronic ballasts built by the company that provided the lighting for Sky Lab, and the starting delay and flickering associated with fluorescent tubes is eliminated.

Bob also developed a new night-vision option using light-emitting diodes (LEDs) that produce a red light bright enough for reading that requires ½₀ the amount of power of a comparable incandescent. "Power consumption is less than ¹⁄₁₀ amp. It would take 2 amps to get the same red light from an incandescent bulb. But I am still not convinced the technology of white LEDs is as good as necessary," he says.

"While red LEDs are far more efficient than even compact fluorescents, it is a common misconception that the same is true of white LEDs," he explains. "They are about twice as efficient as incandescents, making them ideal replacements for many things that would otherwise use incandescent bulbs, such as flashlights, small spotlights, courtesy lights, and anchor lights.

"For large amounts of light, however, where other sources (like compact fluorescent) can be used, white LEDs are only about half as efficient. The leading manufacturer of high-power white LEDs states an efficiency of 25 lumens per watt, while compact fluorescents typically exceed 60 lumens per watt." He concludes, "White LEDs will continue to improve, and I anticipate we will eventually offer an LED version of our reading light once the efficiency and color quality have improved sufficiently."

"Teak frames mounted overhead on a wood or fiberglass deck liner add to an interior's nautical appearance."

Fewer shadows

Since light transmission can be reduced by some lenses, Bob has designed a highly efficient thermoformed lens.

"Our philosophy for area lighting is to brighten the whole cabin, not just a spot in the center of the table. The benefit of a wide-angle lens is fewer shadows because the wide-angle light bounces off bulkheads and cabin sides. We accomplish this by using a lens designed for extreme wide-angle illumination combined with a prismatic pattern that is very effective in scattering light rays," he says.

As anyone who has ever purchased boat accessories knows, high-tech products carry a higher price tag, and Alpenglow's products are no exception. There is a reason for this, of course. The raw materials include ballasts, compact fluorescent tubes, switches, sockets, a backplate Bob manufactures from aluminum sheets, and a circuit board. The assembly of each unit requires more than 100 individual tasks that are completed by hand.

The good news is that they are as attractive as they are efficient. Teak frames mounted overhead on a wooden or fiberglass deck liner add to an interior's nautical appearance. A brass fixture on a bulkhead adds a shiny accent piece to a stateroom.

And a red light saves a navigator's eyes. Fifteen years after forming the business, it's no surprise that Alpenglow fixtures are found on so many notable boats. "The USS *Constellation*, sistership of *Old Ironsides*, has about 120 of them," Bob says. Other

Continued on Page 68

Resources

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Doctoring the outboard

An annual physical keeps the auxiliary running fit and well

by Gregg Nestor

Since the main powerplant on a sailboat is its sails, the engine on a sailboat is correctly described when it is referred to as an auxiliary. When compared to a powerboat of similar size, a sailboat has a very small engine.

Just as the in-the-water sailor has slip rent and crane fees, the freedom and versatility enjoyed by the trailer-sailor has its price: the trailer and, to a much greater extent, the infamous two-cycle outboard motor.

Most engine-equipped trailerable sailboats, those up to about 28 feet, rely on outboard motors as their auxiliaries. However, not just any outboard motor will do. Most standard outboards are designed for the high-speed operation required by powerboats. (We sailors know this all too well.) Outboards specifically designed for sailboat applications have slower turning, high-torque propellers. Also, they often have longer shafts that enable them to reach the proper water depth. When correctly matched to the sailboat, an outboard can easily move a displacement sailboat at hull speed.

Outboard motors are mounted on sailboats in one of two fashions: in a motor well or on the transom, either fastened on directly or with the aid of an adjustable bracket. Transom-mounted outboards are the most common. They offer the advantage of being able to be tilted out of the way, thus eliminating prop drag when under sail. As on a typical powerboat, they can be easily steered. Also, since they are totally exposed, access for repairs and maintenance is excellent.

Outboards mounted in wells are less common but give a sailboat a better overall appearance than transom-mounted units. Since they are in a fixed position, their lower portions are ready to apply power at any time. However, this creates drag when under sail. One common problem associated with outboards mounted in wells is their tendency to become starved for air while under load. In some instances, the motor will choke on its own exhaust.

> *"Bigger is not better . . . Operating for extended periods at half throttle or less invites spark-plug fouling."*

Today's outboard motors are much more reliable than their predecessors of even a few years ago. Computerized ignitions, oil injection and, of course, the crème de la crème four-cycle outboards have eclipsed the earlier two-cycle outboards, which seemed to work on the "internal destruction principle." However, even advances in technology cannot overcome the problems associated with typical sailboat auxiliary operation, namely infrequent use and slow-speed use. Here are a few things that you can do to minimize these problems.

Size it right

Outboards are designed to operate best at about three-quarter throttle or more. Therefore, it is important to size the outboard so that the sailboat can achieve hull speed at three-quarter throttle. The tendency to use too much horsepower is common. Bigger is not better. Over-horsepowering often results in the sailboat reaching hull speed at half throttle. Operating for extended periods at half throttle or less invites spark-plug fouling. Leaning out the air-fuel mixture may help, but some degree of fouling is inevitable, and this tinkering with the ratio can adversely affect engine temperature as well as high- and/or low-speed operation.

Quality fuel

The fuel of a two-cycle outboard also serves the function of lubrication. This is accomplished by mixing two-cycle oil with gasoline, either directly in the fuel tank in a fairly precise ratio or by means of an oil-injection system. In

Most often, a good old trailersailer is equipped with an outboard motor of the same vintage, such as the aging engine shown above. With a little TLC, these older engines can be reliable auxiliaries. Outboard motors mounted in wells, at left, are less common than transom-mounted models. One common problem associated with well-mounted units is their tendency to become starved for air while under load.

operation, the fuel-oil mixture enters the carburetor and is mixed with air. From here it is drawn into the crankcase, where some of the oily mist settles out, lubricating the crankshaft and connecting rods. The rest of the mixture enters the combustion chamber to lubricate the piston, rings, and cylinder wall. The fuel-oil-air mixture is then burned during the combustion process.

Using less than the specified amount of two-cycle oil can result in poor lubrication and excessive engine wear. Using too much two-cycle oil causes spark plug fouling, excessive smoking, and erratic carburetion. Most two-cycle outboard motors utilize a 50:1 fuel-oil mixture (16 ounces of two-cycle oil to 6 gallons of gasoline). However there are many exceptions, so follow the engine manufacturer's mixing instructions to obtain the recommended fuel-oil mixture.

In addition to a proper fuel-oil ratio, fuel quality is another key factor. Even the smallest particle of dirt can result in carburetor problems. Cleanliness is of prime importance. Always use fresh gasoline. Gasoline that has been stored for more than 60 days, even under ideal conditions, begins to form gum and varnish. This sour fuel can form restrictive deposits and can also be a source of spark-plug fouling.

Annual maintenance

Routine annual maintenance is another means by which to increase dependability, maintain good performance, and extend the life of the outboard. Problems are more apt to develop during the off-season. A few simple steps can help avoid this likelihood. Precise maintenance steps are usually detailed in the owner's manual. While some maintenance procedures for a particular make of outboard motor may be different, the following is a standard routine for preparing the average two-cycle outboard motor for the off-season.

- Assemble 1 gallon of gasoline/two-cycle oil mixture, 1 ounce of fuel conditioner/stabilizer, and 4 ounces of fogging oil.
- Start the outboard (operate the motor while in the water), and allow it to warm up and circulate the stabilized fuel throughout the engine.
- Stop the motor after approximately five minutes of running time.
- Remove the spark plugs and discard them or set them aside if they are to be reused.
- Spray a liberal amount of fogging oil into each cylinder via the spark-plug holes.
- Rotate the flywheel clockwise several rotations. This distributes the fogging oil throughout the cylinder.
- Remove the motor from the water, keep it vertical, and rotate the flywheel clockwise several more rotations. This will drain the water from the water pump. If the outboard motor is used in salt water, this is the time to flush it with fresh water. Also wash the exterior of the motor with fresh water.
- Clean and regap or replace the spark plugs.
- Drain the fuel from the tank.
- Drain and refill the lower unit with gear oil.
- Lubricate the following with marine-grade grease: the tilt-lock mechanism; the throttle-to-shaft gears; the carburetor linkage; the magneto linkage; the swivel bracket; and the motor cover latch.
- Remove and check the condition of the propeller. Clean and lubricate the propeller shaft. Reinstall the propeller using a new cotter pin.
- Clean all external surfaces with an all-purpose marine cleaner. Allow the engine to dry thoroughly.
- Paint over any nicks and scratches. Do not paint over sacrificial anodes.
- Inspect sacrificial anodes; replace any that are less than two-thirds their original size.
- Apply a good-quality marine polish.
- Store the outboard in an upright position, in a dry, well-ventilated area.

The major consideration in preparing an outboard motor for storage is twofold: to protect it from corrosion and to have it ready for next season's operation.

"Routine annual maintenance is another means by which to increase dependability, maintain good performance, and extend the life of the outboard."

Troubleshooting

Proper fuel, lubrication, and maintenance will reduce the need for trouble-

The two-cycle Sailmaster outboard, top, is specifically designed for sailboat applications. It has a slower turning, high-torque propeller and a long shaft. Today's outboards are much more reliable than their predecessors of even a few years ago. The two-cycle unit by Suzuki, at left, has both computerized ignition and oil injection. The long shaft of the Evinrude outboard, at right, enables this motor's propeller to reach adequate water depth.

shooting. However, even with the best of care, a two-cycle outboard motor is prone to problems and will eventually require troubleshooting. The following section lists some typical starting, fuel, and ignition system problems along with probable causes and solutions.

Engine won't start

Fuel system troubleshooting should start at the fuel tank and work through the system, reserving the carburetor as the final point.

- Fuel tank is empty.
- Fuel tank vent is closed/clogged.
- Fuel line fittings not properly connected to the tank and/or engine.
- Engine not primed.
- Engine flooded (look for fuel overflow).
- Clogged fuel filter or fuel line.
- Spark plug wires disconnected or reversed.
- Spark plug gap too wide.

Loss of power

Don't automatically assume that the carburetor is at fault when the outboard does not run properly. While fuel system problems are not uncommon, carburetor adjustment is seldom the answer. Unnecessary carburetor adjustments will only compound the problem.

Here are some other possible causes:

- Too much oil in the fuel mix.
- Fuel hose kinked.
- Slight blockage in the fuel line or fuel filter.
- Fouled propeller.
- Fuel/air mix too rich.

"Even though today's outboard motors are much more reliable than their predecessors, nothing can substitute for using quality fuel and performing timely maintenance."

Starter motor won't work

If the outboard motor is equipped with electric start, keep in mind that the electrical system is the weakest link in the operational chain.

More problems result from electrical malfunction than from any other source.

- Gear shift not in neutral.
- Defective starter switch.
- Battery low or dead.
- Battery connections loose or dirty.

Motor misfires

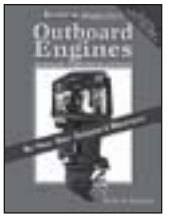
If misfiring occurs only while under heavy load, as when accelerating, it is usually the result of a defective spark plug. Operate the engine at night to check for spark leaks along the plug wires.

- Spark plug damaged.
- Spark plug loose.
- Plug wires broken.
- Spark plug incorrect.
- Poor quality fuel.
- Fuel/air mixture too lean (outboard backfires).

While some repairs may require a trained mechanic, it's surprising how often a little knowledgeable investigating will uncover the nature of the problem and get the outboard motor quickly back into operation.

Even though today's outboard motors are much more reliable than their predecessors, nothing can substitute for using quality fuel and performing timely maintenance. Only then will you have the assurance that the auxiliary will be ready to perform when needed.

For further reading...



One great resource for the do-it-yourself mechanic is Ed Sherman's *Outboard Engines: Troubleshooting, Maintenance and Repair* (1997), which can be found at <http://www.goodoldboat.com/bookshelf.html> or by calling 763-420-8923.

The combination of a fixed bracket and the short shaft outboard, at left, often results in a condition known as cavitation. A partial vacuum is created if the propeller is not deep enough in the water. Since the propeller does not get a good "bite" on the water, the motor overspeeds, which can damage the engine and/or result in pitting the propeller blades. The crème de la crème of outboard motor technology is the four-cycle, electric start, with alternator. A Yamaha four-cycle model is shown in center photo. At right, a novel rudder-mounted outboard allows for easy steering, but the tiller is a bit heavy to handle.

How it all begins

It was just Rebecca and the sailboat — then sudden unconditional love

by Rebecca Burg

"FOR SALE" READ THE FADED handwritten sign on her pulpit. Looking forlorn and out of place, she was huddled against oversized pilings in a muddy slip with odoriferous commercial fishing boats for neighbors. I wrinkled my nose. Standing at the base of the pier, I studied her from a distance. The elderly blue 1978 Bayfield 29 was obviously suffering from neglect. Earlier, when I'd contacted the owner over the phone, I learned that the sailboat had been his father's. The son had no interest in the orphaned cruiser and was too busy with other endeavors to bother. He didn't sail and knew little about her.

> *" 'You don't pick your boat,' a salty old sailor once told me. 'She picks you.' "*

Feeling unusually shy, I stared at the lonely sailboat from a distance. A "handyman's special" was not high on my list. I entertained the thought of turning around and leaving but, for some inexplicable reason, I couldn't. The Bayfield seemed to notice my mental anguish. Suddenly drifting forward in an unseen current, spring lines straining, she bobbed her bowsprit over the pier like a lost child desperately trying to be noticed.

"Hello?" I called toward the slip. "Anyone there?"

An awkward silence followed. No one appeared. It was just the sailboat and me, staring at each other.

She had been for sale for a long time. Perhaps no one wanted to contend with an ailing old boat plagued with numerous old-boat problems. Birds had soiled her once-shiny decks, and she wept gray stains from her ports. Later, I'd discover a surly crab living in her damp bilges and an army of roaches infesting her mildewed, water-damaged interior. There were scars on her sides and tatters in her ancient sails. She was slowly dying, and no one seemed to care.

Struggling to remain detached about the business of boat buying, I shook my head. Still standing at a distance, I knew that as soon as I stepped closer all emotional restraint would be lost. Unlike the scores of used sailboats that were within my small budget and were in far better condition, the sad orphan in the muddy slip captivated me. I couldn't explain how or why.

In no hurry

The search for the right used sailboat had taken well over a year, and I was in no hurry. An experienced sailor and liveaboard singlehander, my goals had seemed realistic enough. If anything, I thought that I was being overly selective in the lengthy quest for just the right sailboat. Sighing, I gave the Bayfield a suspicious sideways glance. She loudly squeaked her fender against the piling. I looked away. Intense,

Continued on Page 69

***Angel*, a 1978 Bayfield 29, above, shows her full profile. Before and after photos of the interior and engine compartment, at left and right, tell the story of Rebecca Burg's enthusiasm and commitment. In a recent note, Rebecca tells us that she and *Angel* usually cruise companionably with singlehander Bill Robinson and his 1974 Morgan Out Island ketch, *Defiant*.**

The restoration of Ravensail

It was love at first sight — then the hard labor began

by Richard Coberly

THE FIRST TIME I SAW ONE OF THESE BOATS, I asked the owner who built it and whether his was for sale. This was a most unusual craft: only 23 feet long, with a cutter rig, bowsprit, wooden taffrail, and beautiful classic hull and deck shape. The problem was that it was yellow. Very, *very* yellow. This was a problem I knew could be solved with some carefully chosen paint but, sadly, the boat was not for sale. Looking beyond the yellow, I could see that this could be a beautiful boat.

The boat was a Venture of Newport 23, built by MacGregor in the 1970s. Ah, the '70s. No *wonder* it was yellow. This is the same era that brought us the Ford Pinto with the flowered vinyl top, harvest-gold appliances, and shag carpet. Since they only built about 2,000 of these boats over several years, I assumed my chances of finding one worth having would be very slim. My assumption proved to be right.

These boats also came in blue and red, I learned. The original sales brochure stated that the Venture 23 "is a modern replica of the famous English and American pilot cutters of the late 1800s. Fleets

***Ravensail*, a 1974 MacGregor Venture of Newport 23 (also referred to as a Venture 23), makes her inaugural sail after three sailors rescued her from an uncertain fate. They invested $500, an untold quantity of materials, and many hours of labor. They were rewarded with the boat of their dreams.**

of these swift little ships sailed from the seaports of England and North America to meet incoming transatlantic sailing ships. On the outbound trip, the fastest cutters carried the pilots who would guide the square-riggers into the crowded harbors. On the return trip, the cutters carried priority passengers and light cargo to avoid the many hours, and often days, required to bring the big ships the last miles into port."

Over the next few years, I kept my eye out for the funky little boats, finding only a few for sale, generally in a very sad state of neglect and disrepair. Those that had been "restored" or "upgraded" were often not much better. It seemed that many of the boats had simply evolved, gradually turning into something less and less resembling the original craft. All appeared to be projects so large and costly I knew they would probably never be finished. This did not diminish my desire to own one of these elusive boats.

Monumental project

In 1999, a derelict Venture of Newport appeared in the storage yard near my house. She was for sale for $500 with a mostly useless, patched-together trailer. This was a project boat of monumental proportions. We would be buying a stripped hull, a deck, and a mast. There were only a few pieces of usable wood or hardware inside or out and an interior full of trash, broken wood, and rotting cushions, not to mention many gallons of stagnant water.

But the hull, deck, and keel appeared to be sound. My friend, Bryan O'Neal, and I formed a partnership to breathe life into this hulk. We gleefully hauled our new project to my house, parked it in the driveway, and prepared to work our magic. Our work was cut out for us.

When author, Richard Coberly, and friends, Bryan O'Neal and Veronica Veerkamp, purchased their Venture in 1999, the inside was filled with trash, broken wood, stagnant water, gold shag carpet, and rotting cushions. With know-how and fortitude, they converted the discouraging picture, top left, to a much more pleasing one, top right. The exterior underwent a similar remarkable transformation, as the photos below show.

You know you've really bitten off a lot when your neighbors all stop to ask you about your "project" with knowing smirks. Comments like, "Do you think you'll ever finish it?" fell on deaf ears. Bryan and I, along with Veronica Veerkamp, my partner, were on a mission. This boat would sail and would be beautiful, one way or the other!

The first order of business was to completely strip the hull and deck of everything. Every screw, nut, and bolt was placed in a plastic bag and marked for later identification. All the hardware and usable wood was also marked. It's too easy to forget where something went, especially if you pile it all up in the garage and then move it a few times. Although a good theory, this would later prove to be somewhat less useful than I had hoped.

After the obvious cleaning inside and out, including the removal of rotting gold shag carpet from the inside of the hull and hatch cover, we set about repairing fiberglass. Every nick and crack was filled, sanded, and faired with epoxy. With only three holes of any real size to repair, this process took us less than a week. The

hard part, we would soon discover, was yet to come. Sanding the hull down to the old gelcoat seemed like a good idea at the start. This was not an easy task; it turned out to be all but impossible. Beneath the topcoat of blue paint were various coats of red and more blue, each one tougher than the last. We considered using chemical paint removers, but tests proved them to be all but useless. To do the entire job, we would have ended up with a toxic spill reminiscent of the *Exxon Valdez*. Common sense took hold. We agreed that, since it sure wasn't going to come off anyway, it was unnecessary to do more than sand the old paint smooth.

"You know you've really bitten off a lot when your neighbors all stop to ask you about your 'project' with knowing smirks. Comments like, 'Do you think you'll ever finish it?' fell on deaf ears."

Sanded and primed

Our next painting task was the interior. Veronica and Bryan sanded and primed with Interlux Brightside Primer. They then brush-painted it with two coats of off-white Interlux single-part polyurethane. We decided that the original finish on the cabin liner (seats and floor) was in good enough shape to leave without repainting. We would be covering all the horizontal surfaces with new cushions and teak-and-holly flooring anyway.

The most difficult painting job was the deck. The biggest problem was that with no scaffolding we had a difficult time reaching some of the areas in the cockpit and in the middle of the deck without walking on fresh paint. This was generally solved with ladders and extra hands handling the air hose. Spraying the finish seemed mandatory. In spite of what Interlux tells you about the ease of brushing, all the complex curves and the amount of surface area make spraying a preferred method. True, there is the clean-up factor of the spray gun, but the quality of the finished paint job is well worth the extra effort. After priming and sanding, one full coat of offwhite Interlux two-part polyurethane was applied to the entire deck.

While applying the second coat, we painted everything except the nonskid surfaces, allowing as much overspray onto them as possible. This left a slightly rough surface on the non-skid areas. After the deck paint was sufficiently dry, we taped off the nonskid areas, then rolled on an additional coat of paint mixed with Interlux flattening agent. This left a very even, ever-so-slightly-textured nonskid. The matte finish contrasted nicely with the glossy deck, giving it a very subtle visual difference. The combination of the original texture and the overspray worked great. The nonskid functions properly and is still easy to clean. We chose not to use sand additives. They are difficult to apply evenly, retain dirt, wear away quickly (taking paint with them), and are not very "skin friendly." We are pleased with the results and with ourselves for being so clever.

Dramatic change

Painting the hull had to be the most dramatic and rewarding change in the overall look of the boat. After priming and sanding, we applied two coats of black Interlux two-part polyurethane down to the waterline. Last, we applied a couple of coats of red bottom paint.

Now the neighbors were stopping again but this time to congratulate us on our beautiful boat. We patted ourselves on the back and admired our handiwork. All fine and dandy, but many tedious tasks still lay ahead.

Now it was time to put the boat back together. One minor error in judgment had been to remove the aluminum rubrail without re-bolting the deck and hull together. Having the rail off had made painting easier, but when we began reassembly, the deck and hull had shifted sufficiently to make

Like the remainder of the interior and exterior of the project boat, the cockpit, above, was a mess. At left, the new cockpit gleamed once the cleaning and painting were finished and the new wheel was installed. Although they also painted the interior, the hull, and the bottom, the most difficult painting job, Richard says, was the deck, since some areas of the cockpit were difficult to reach and nonskid is tricky. Painting the hull was the most rewarding of the painting projects.

inserting the new bolts more difficult than it really needed to be. It was an annoyance that could have been avoided.

Then we got another unpleasant surprise. Remember all those carefully bagged and labeled nuts and bolts? Unfortunately, the only reusable bolts turned out to be the ones used to attach the chainplates and the bowsprit. Seems that, at the MacGregor factory they used long bolts almost everywhere, and then cut off the excess length as necessary with bolt cutters. Anyone who's ever tried to screw a nut back onto a cut bolt will tell you there's no practical way. Granted, we now knew how long each new bolt should be and how many to get, but almost every screw and bolt on the boat had to be replaced. The upside to this is being able to use new Philips-head bolts instead of the old slotted ones.

All-synthetic carpet

While the paint cured, we got to work finishing the interior. To cover the inside of the hull, we chose an all-synthetic marine carpet. The original plan was to use padded marine grade vinyl, but the interior hull was so rough, we were concerned about the unwanted texture showing through. After some discussion and research, we determined that the vinyl would be better suited to cushions and that the carpet would offer more insulation, soundproofing, and durability, not to mention being much easier to install.

Over the next few months, we methodically fabricated each piece of wood for the taffrail, bowsprit, and all interior bulkheads out of mahogany. Veronica turned the spindles for the taffrail on a small lathe, and we redesigned the bowsprit to accommodate an anchor roller and to better match the width of the bow pulpit. We also cut teak-and-holly plywood for the cabin floor and for lids to be used on the molded-in storage areas.

All three interior bulkheads and the dinette table were cut from ⅝-inch mahogany plywood. The forward bulkhead was redesigned to be shorter than the original, helping make the small interior seem a bit more open and roomy. The dinette table was designed to drop into place between the seats, forming a berth. The removable table leg and two pop-top stanchions store in 1-inch clips on the underside of the table. We finished all the interior wood with Minwax satin urethane. We custom-

"This is a prime example of an over-improved boat. But it's not about the money. You only have to go sailing to make it all worthwhile."

Just the facts

Boat name: *Ravensail*
Year manufactured: 1974
Model: Venture of Newport 23 (later brochures referred only to Venture 23)
Manufacturer: MacGregor
Total cost (new): $3,395
Current investment: Equal to national debt of a small country
Cockpit length: 6 feet
Bunks: On paper, 5. For real, 2.
Length: 22 feet 7 inches (excluding bowsprit)
Beam: 7 feet 2 inches
Weight: 2,000 pounds
Draft: Keel down, 5 feet 6 inches; keel up, 18 inches
Keel weight: 600 pounds (steel)
Rig: Cutter-rigged sloop
Sail area: Original, 263 square feet; now, 270 square feet

made every piece of wood except the grabrails, which we ordered through our local MacGregor dealer.

We got to know Frank Grizzaffi of Sail Venture Yachts quite well. Among other things, he helped us locate and order a new keel winch, sails, roller furling, and stanchions. He also made new standing rigging. His years of experience as a MacGregor dealer were invaluable, as were his frequent words of encouragement. He even gave us an original sales brochure for the boat.

Fresh mounting holes

Slowly each component of the running and standing rigging was installed, each one requiring fresh mounting holes, careful alignment, and a bit of engineering. With the mast stepped, one last bit of business was installing new tanbark sails. We chose sails by Hong Kong Sailmakers. Their quality was superb.

New winches, running lights, Windex, stereo, interior lighting, and wiring all had to be installed as well. Routing the wiring proved to be a challenge, but we finally accomplished that with the help of some flexible conduit. Switch panels and a bilge pump also had to be installed, and we fabricated a battery compartment out of the way under the starboard seat. A friend who was replacing interior lights in his Pacific Seacraft Orion donated all of his old fixtures to our project.

All that remained now was steering. Since the boat had had two wheel steering systems installed previously, we decided to go all-out and put in a new Edson Small Boat Steering system. This is a redesigned push/pull system that works like a dream. It's also the only one that would fit into such a small boat. We installed the system in a couple of days without very much trouble. We located a great little classic-style wooden wheel, adapted it with some carefully crafted spacers (the Edson shaft was a little long for this wheel), and were ready for a test sail. This would be our finest hour.

Lost all power

Ideally, on an inaugural sail, you motor out, carefully set the sails one at a time, check to see that everything is working, then slip away into the distance with a huge smile on

your face. Unfortunately, just as we motored into the mouth of our busy channel, we lost all forward power. Visions of hidden pilings, jagged rocks, scraped paint, sunken boats, and the general indignity of such occurrences raced through our heads. Without panic, but with a sense of extreme urgency, we did a "rapid sail deployment."

As luck would have it, everything functioned properly, the wind was just right, and we were able to sail quietly away, keeping ourselves off the rocks and pilings. Turns out we had snagged a large plastic bag on the prop. After removing the offending plastic bag, the rest of the sail went off without a hitch, smiles and all.

Although some old boats, and even some newer ones, might seem better suited to life as a dive site or restaurant sign, it was evident to me from the beginning that the Venture of Newport 23 is not one of them. There is a lot of satisfaction in saving a deserving old boat, especially one with as much character and potential as this one. This is a prime example of an over-improved boat. But it's not about the money. You only have to go sailing to make it all worthwhile. The bonus is to have other boaters chase you down to tell you what a beautiful boat you have. In fact, the only time I really think about how much work we all put into her is when I consider doing it again.

The trio of sailors installed an impromptu painting booth of sorts, above, and sprayed two-part polyurethane on the hull and the deck. *Ravensail* lives up to her name, below, and she does it with grace and charm. Part of the joy of bringing a boat back, Richard says, is having other boaters chase you down to tell you what a beautiful boat you have. Pride of ownership and pride of workmanship? You bet.

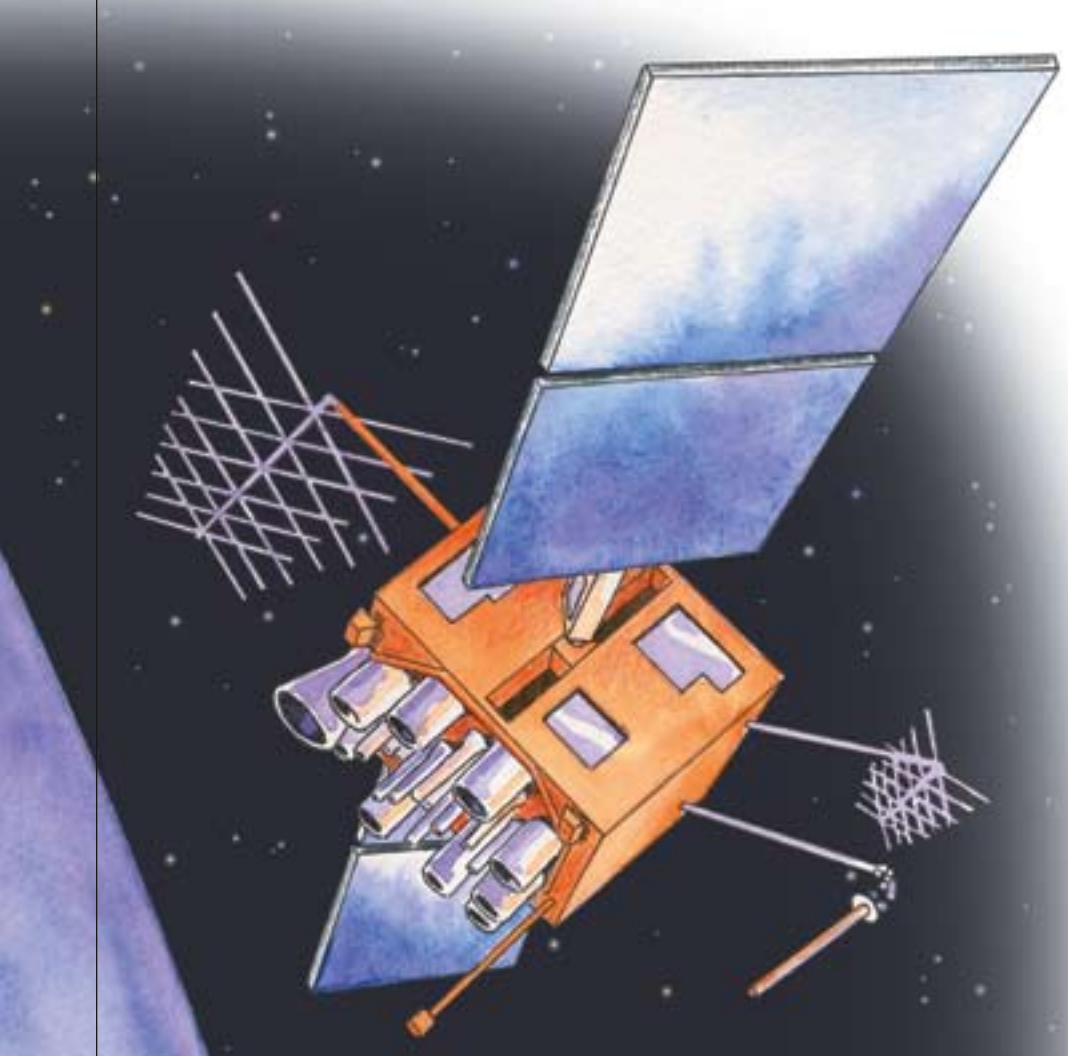
GPS, the system that supports your navigational eyes in the sky

by Don Launer

In October 1957, the first man-made satellite was thrust into orbit around the earth. The USSR's tiny *Sputnik* had beaten the United States into space. The United States, in an effort to learn as much about *Sputnik* as possible, monitored the beeping signal it transmitted and was able to determine its location through the Doppler effect. This was the genesis of using man-made satellites to determine navigational information. But it wasn't until the 1970s that the satellite navigation system, as we now know it, began to take shape.

The Global Positioning System (GPS) is a satellite navigation system that was designed for, and is operated by, the U.S. military, but it is now also used by millions of civilians worldwide. The basic space segment of this system, known as the GPS Operational Constellation, consists of 24 satellites that orbit the earth twice a day. However, there are often more than 24 in space as new ones are placed in orbit to replace those that have exhausted their fuel.

There are six separate satellite orbits, usually with four satellites traveling in each orbital path. These orbits are spaced around the equator 60 degrees apart, and their orbital planes are canted about 55 degrees to the equatorial plane. Thus, a user at any point on earth has five or more satellites visible at any time (see illustration on Page 39). With access to just three satellites, a two-dimensional fix (latitude and longitude) can be determined. When in contact with four satellites, GPS receivers can compute a location in three dimensions — latitude, longitude, and altitude. This makes the GPS navigation system ideal for aircraft, as well as for boats, ground transportation, and hikers.



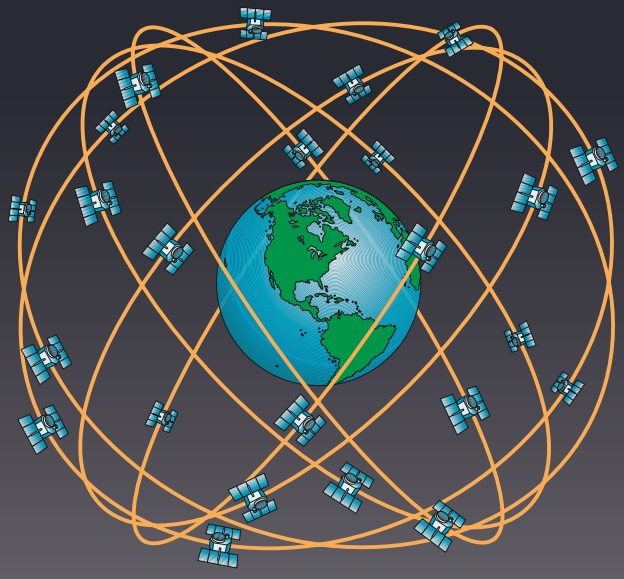
Atomic clocks

Each GPS satellite contains an atomic clock and, by measuring the time interval between the transmission and reception of a satellite signal, a spherical "line-of-position" is created around each satellite. The intersection of these spherical lines-of-position determines your location.

The satellites transmit in the microwave spectrum. At these frequencies, the wavelength is very short and the receiving antenna can consequently be very small. One of the problems with this frequency is that it does not easily pass through things such as house roofs, cabintops, or people. If you're holding a hand-held GPS at waist height, the receiver has difficulty acquiring a satellite on the other side of your body.

Each GPS satellite contains an atomic clock, and by measuring the time interval between the transmission and reception of a satellite signal, a spherical "line-of-position" is created around each satellite.

Layout and illustrations by Ted Tollefson



GPS nominal constellation
24 satellites in 6 orbital planes
4 satellites in each plane
20,200 km altitudes, 55-degree inclination

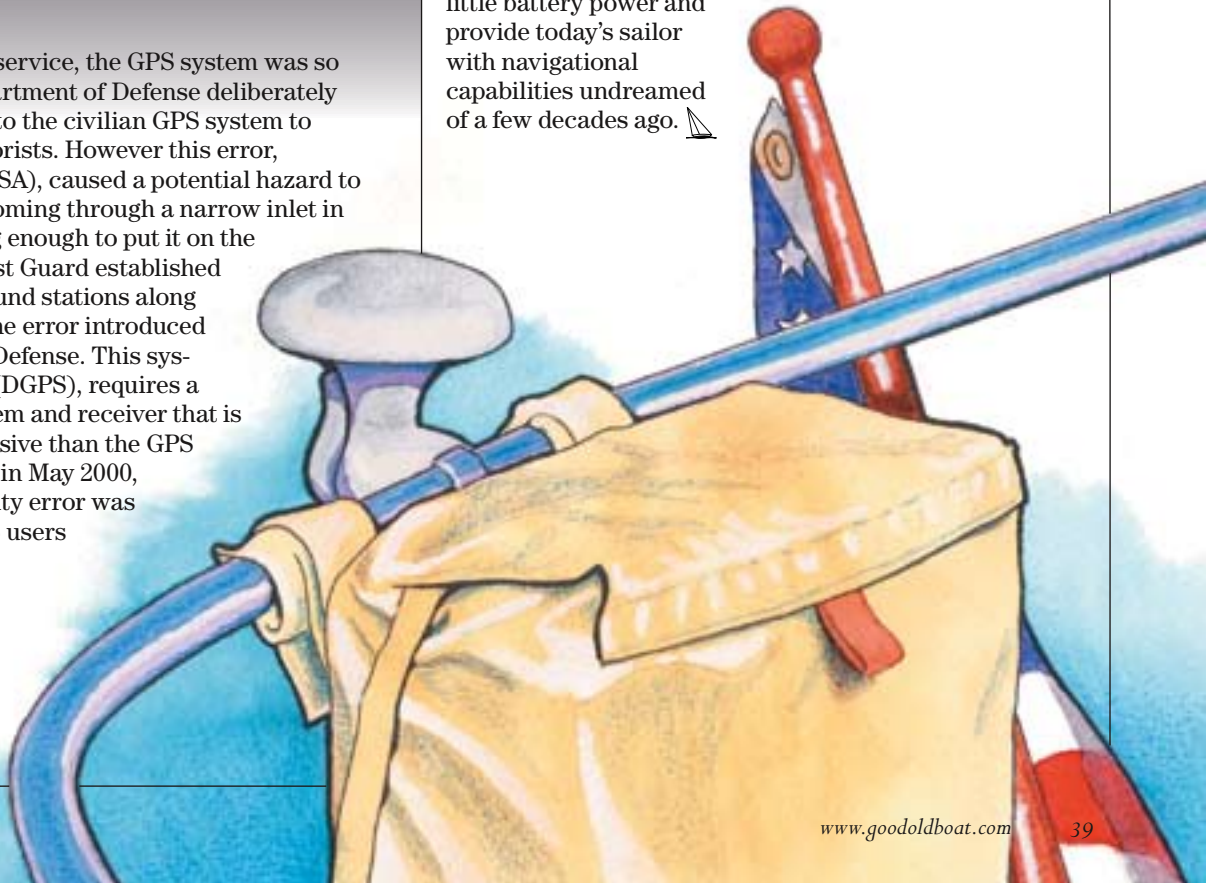
When first put into service, the GPS system was so accurate that the Department of Defense deliberately introduced an error into the civilian GPS system to prevent its use by terrorists. However this error, Selective Availability (SA), caused a potential hazard to users. If a boat were coming through a narrow inlet in a fog, the error was big enough to put it on the rocks. So the U.S. Coast Guard established low-frequency AM ground stations along the coast to take out the error introduced by the Department of Defense. This system, Differential GPS (DGPS), requires a separate antenna system and receiver that is frequently more expensive than the GPS receiver itself. Finally, in May 2000, the Selective Availability error was discontinued, and GPS users all over the world enjoyed a dramatically more accurate system.

However, there were still potential errors in the system — such as clock errors, ionospheric and tropospheric delays as the signal travels from the satellites to earth, earth reflections, satellite orbital drifts, and control errors. The DGPS ground stations could reduce most of these errors but they had limited range and were subject to noise and fading.

Same frequency band

Eventually, geostationary satellites operating in the same frequency band as the GPS satellites were put into orbit, and these new "stationary" satellites provided corrections that could be received directly on a GPS antenna without the need for a separate receiver and antenna system. This improved correction system is known as the Wide Area Augmentation System (WAAS).

As improvements continue, consumer prices for GPS receivers keep dropping, while accuracy, operational simplicity, and extra features are expanding. GPS receivers have the ability to communicate with other electronic equipment on board, such as electronic chart plotters, autopilots, VHF-FM radios, radar, and so on. The current communication protocol is known as NMEA 0183. Newer receivers that combine a GPS and chart plotter use very little battery power and provide today's sailor with navigational capabilities undreamed of a few decades ago.



A GPS antenna resembles a mushroom.

Doing it right *the* first time

Multihull designer Ian Farrier popularized the concept of trimarans

by Marianne Scott

Photo by Marianne Scott

If not the inventor of the trailerable folding trimaran, Ian Farrier, 56, has done more than any other designer to popularize it, with more than 2,000 boats, both production and home-built.

The wind was blowing only 13 to 14 knots in Canterbury Bight off Timaru on New Zealand's South Island, yet we were ripping along at nearly 10 knots over the turquoise water on an F-9A/F-31, one of multihull designer Ian Farrier's well-known folding trimarans. It's the first time I'd sailed without a heavy lump of lead hanging below me. My host, Ken Wood, who was building Farrier's 36-foot trimarans at his local plant, had parked me on the netting between the main hull and starboard float (or ama as the Polynesians call them). Lying on my stomach, I watched the water flash below me. "Am I in a NASCAR race?" I wondered.

It seemed most natural to experience the thrill of sailing a trimaran during our down-under holiday, because 800 to 1,000 years ago these islands were colonized by skilled sailors who arrived there from Southeast Asia in proas and outrigger canoes. Moreover, Timaru is only a few miles south of the major New Zealand city of Christchurch, where multihull designer Ian Farrier was born in 1947, lived his young years, and grew enamored of boats. And it was particularly the speed of tri's — or "troi's" as Ian calls them in his soft Kiwi accent — which kindled his love of multihulls.

Learning the ropes

Ian learned to sail early. His father was "into powerboats," but when Ian was about 10, the family bought a "bach" — the New Zealand term for cottage — on Charteris Bay, not far from Christchurch. The bach came with a Takapuna-class dinghy, a heavy, gaff-rigged, 14-foot wooden boat. Ian remembers how a neighbor, Harold Smart, showed him and his brother, Peter, the ropes, although the dinghy was rigged with rusty steel wire and "other nightmare stuff."

> *"I was attracted to trimarans because, to some degree, they look like airplanes. I like fast cars, and I like fast boats."*

When Ian's father noted his sons' zeal for sailing, he decided they should build something nimbler — a Cherub, a New Zealand class designed by John Spencer. Plans were purchased and the garage converted into a boat shop. The elder Farrier enlisted a Dutch carpenter named Henk to help the kids on weekends. "Henk showed us how to construct a plywood dinghy," Ian remembers. "We built the frame, mixed the glue, and bent the plywood. That's how I learned the basics of boatbuilding. I couldn't have had a better teacher than that Dutchman."

Ian enjoyed sailing the Cherub, the first boat he could get up again after capsizing. But the 14-footer required a crew of two, so Ian opted to build a 12-foot Zephyr, a cold-molded dinghy resembling a Laser, which he raced in a one-design fleet. "Small monohulls are great fun," says Ian. "I'd rather sail a monohull than a small cat; monohulls are responsive and more comfortable because you can sit in, rather than on, them. I don't like Hobie Cats and other small catamarans because they won't tack, but a dinghy can flick around and tack out."

Life changed significantly for Ian when his father died of a brain tumor

in 1966. New Zealand had death duties, and Ian's mother was forced to sell the bach and downsize the family home to pay the taxes. "I think they took about a third of the assets," Ian says with a wry shrug. "It certainly ended my sailing days in Charteris Bay." All this took place during Ian's second year of mechanical engineering studies at the University of Christchurch. An unhappy student, he found bridge-building tedious, and felt "bored out of my brains."

In retrospect, Ian believes he had a touch of what is now called attention deficit disorder. He struggled to concentrate on lectures. "I could do the work but found it very hard. Even now, if I go to a lecture or a symposium, it just drives me nuts. Fortunately, if I need to learn something, I can get a book and grasp the material with no problem but only on that particular subject. If it covers anything else, I'm not interested. There should be a university for people like me."

His first trimaran

Ian left the university in 1967, raced cars as a hobby, and worked at various jobs until the boatbuilding bug bit again. He dreamed of traveling and began searching for a boat. Around this time he chanced on an article touting trimarans in the popular British magazine, *Practical Boat Owner*, so when a local man advertised an unfinished tri for sale, he investigated. "I was attracted to trimarans because, to some degree, they look like airplanes. I like fast cars, and I like fast boats." He also liked the deck space, shallow draft, and easy handling, so after surveying the unfinished tri, which was on a mooring, he shelled out $700 — a modest purchase, perhaps, but one that transformed his life.

"He teamed up with a mate, saying, 'It's going to be hell today — 45 knots at least — so let's go out there and break the thing.' "

The trimaran was based on a design by Arthur Piver, the California yacht designer who popularized plywood trimarans during the 1960s and whose plans allowed amateurs to build them using lumberyard- and hardware store-grade materials. "Piver put tri's on the map," Ian says. "He sailed one across the Atlantic and to New Zealand. He was also a promoter, putting out tons of publicity about tri's and what they could do. It both irritated and converted a lot of people."

Ian's new boat was only a shell and needed work. He pulled it out of the water, rented space, and spent two years finishing it. To finance the project, he worked as a toolmaker, a skill he acquired quickly. "I've always done well with my hands, so toolmaking came easy. And handy. I fabricated chain plates, rudders, and other pieces in the shop. And I learned to run the machines, lathes, and presses — that became valuable when I designed the folding trimaran, which used lots of metal."

In 1969, having rebuilt his trimaran, it was time to put her to the test in the famous Roaring Forties. The way Ian tells it, his shakedowns would give nightmares to all parents of intrepid, 22-year-old sons. He teamed up with a mate, saying, "It's going to be hell today — 45 knots at least — so let's go out there and break the thing." A southerly "buster" (Kiwi for sudden gale) was forecast. In New Zealand, southerly busters are preceded by strong northwest winds. While the pair was belting along with all sails up, the southerly hit from the opposite direction at 70 knots. The boat flew up in the air and the rig sheared off, which

Continued on Page 43

A brief history of multihulls

No one knows when multihulls were first built, but most people agree the concept originated thousands of years ago in Southeast Asia. The boats were lightweight, fast, stable, capable of carrying cargo, and may have been up to 80 feet long. In its simplest form, the early multihull was probably nothing more than a dugout canoe with an outrigger. Some form of multihull likely carried the first colonizers to Australia, New Zealand, the South Pacific's numerous islands, the Philippines, and Hawaii.

According to some sources, Sir William Petty launched the first western catamaran in Dublin in 1662. King Charles II named the boat, with its twin cylindrical hulls, *The Experiment*.

Fast forward to the 19th century. In 1868, John Mikes built *Nonpareil*, rigged her as a schooner with a tent between the masts, and sailed the 25-foot rubber-hulled trimaran across the Atlantic in an unheard of 51 days. Next came legendary yacht designer Nathaniel Herreshoff, whose 24-foot catamaran, *Amaryllis*, sailed at nearly 20 knots and handily won the New York Yacht Club's Centennial Regatta in 1876. Henceforth, Herreshoff was strictly forbidden to race catamarans at the venerable club.

Woody Brown, who learned about multihulls during his World War II service in the Pacific, was next in line to make multihulls popular. He affiliated with boatbuilder Alfred Kumalae, designer Rudy Choy, and Warren Seaman to found C/S/K Catamarans. In 1947 they launched the 38-foot plywood *Manu Kai*, the world's first modern asymmetrical catamaran. Many others experimented with multihulls, but Arthur Piver is credited with popularizing trimarans after he crossed the Atlantic in his 30-foot *Nimble* in 1960.

Over the next decades, other designers and builders, notably Jim Brown, Lock Crowther, Derek Kelsall, Dick Newick, Prout Marine, Hobie Alter, Bill and Ricky Symons, and Tony Smith, helped to convince a skeptical public that multihulls are just as safe as monohulls. The fact that a cruising catamaran heels just a few degrees and trimarans only about 15, reduces the fear factor for a lot of people. Their expansive decks are appealing also, and the large accommodations of cruising catamarans have made them a favorite of yacht charter companies. Sailboat shows today exhibit an ever-increasing number of multihulls, proof that they are no longer considered unsafe or odd. They are indeed appreciated for their many virtues, foremost of which are speed and size.

History of Farrier trimarans

1973
Ian Farrier invents new trimaran folding system and applies for patents.

1974
The original Trailertri prototype is built and launched in Australia.

With his wife, Alicia, watching, Ian tests the stability of an early Trailertri in the folded position.

1975
Farrier Folding System™ patent granted.

1976
Ian builds the first Trailertri 18.

First 18-foot Brisbane folder Trailertri prototype, with Ian aboard.

1977
Ian builds the first Trailertri 680.

1980
The first production fiberglass Farrier trimaran — the Tramp — built by Haines Hunter.

Haines Hunter production line was building six copies a week.

1983
Trailertri 720 introduced.

1984
Ian moves to the U.S. to set up Corsair Marine and design the F-27.

First F-27 prototype, 1984.

May 1985
The prototype F-27 *Super Fox* is launched.

June 1987
The first ocean crossing by an F-27.

Introduced in 1985, about 450 F-27s were built before it was replaced by the F-28.

April 1989
The Corsair F-27 wins the multihull division of the Newport-to-Ensenada Race.

March 1991
Ian leaves Corsair Marine.

1991
The F-9A becomes the production F-31 under license to Australian builder OSTAC, and is launched in 1992. It wins Australian Sailboat of the Year.

The F-31, in Sydney Australia.

November 1992
The F-31 is licensed to Corsair, but the relationship breaks down again.

January 1993
First F-25A is launched.

The F-25 built in Australia.

April 1994
Corsair is sold to Paul Koch.
The F-31 and F-24 become successful.

February 1995
The F-25C — a high performance epoxy/carbon kit boat — is launched.

January 1996
The F-36 is launched.

October 1996
F-31R introduced, featuring a taller rotating carbon fiber wing mast.

Ian considers the F-36 to be his first fully capable offshore yacht.

February 1997
The first F-28 is launched.

February 1998
An F-28 wins *Sailing World's* 1998 Performance Multihull Sailboat of the Year award.

December 2000
Ian separates again from Corsair Marine.

October 2001
Work begins on the F-33.

January 2003
The F-33 is launched in Australia.

These days, Ian is concentrating on the F-33.

Continued from Page 41

Ian reckons kept them from capsizing.

He disliked the fact that his tri, at slow speed, "wouldn't tack worth a damn."

"Piver had added little winglets to the floats," explains Ian, "but all later trimaran designers added a dagger-board or centerboard to the main hull to improve the ability to point and tack."

Ian's mooring in Littleton Harbour was highly exposed and, if the boat wasn't pointed in the right direction, she'd accelerate right onto the rocks. Nevertheless, it was the speed he found intoxicating. "You become your own worst enemy because you're flying at 20 knots. Everything seems fine until you push it too hard and you pitchpole. You've got to keep yourself back from the edge."

The safety issue

The tales of these foolhardy trials lead naturally to the persistent questions about multihull safety and their alleged inclination for turning turtle. Victoria, British Columbia, veteran multihull racer Nick Banks claims, only partially tongue-in-cheek, that "a monohull is happiest on the bottom, while a multihull is happiest upside-down." Banks also adds that Ian's boats are "wonderful designs, exciting to race, but leave little room for error. Like all multihulls, there's little to counterbalance the load on the sails. The load translates into forward speed, creating massive acceleration. Like a high-powered automobile, you can push it beyond the limits, so if you're racing the boat too hard, it'll 'assume the position.'"

Ian has countered safety questions for decades. His website, <http://www.f-boat.com>, asserts that "all Farrier designs are totally unsinkable, even with all hulls flooded." One can certainly capsize multihulls, he explains, but you have to be doing something "completely stupid." No one should go out with the family, put full sail up — including the spinnaker — and go 25 knots.

"When we raced in Australia," he remembers, "we'd be out in 50 knots, which kicked the boat right up. But I'd never do that with my wife aboard." An F-27, for example, can go 18 to 20 knots before you are pushing it, he states. With the spinnaker, it can do 20 to 25 knots, but you need someone on the sheet to release it when you're nearing the "ragged edge." He cautions that these speeds are only for racing, not cruising. He also believes that multihulls get a bad rap because any accident gets reported in "crash and burn headlines," while monohulls, well, their accidents are taken for granted and ascribed to other causes.

"Even with the growing popularity of cats, he believes that trimarans sail better in all conditions, handle better, and go faster."

Ian also believes that during storms, his trimarans, unlike many monohulls, can lie ahull in most conditions without capsizing. He stipulates that the floats must be sensibly sized and curved down on the sides so they'll keep on surfing. Nor can the boat be overloaded. He recalls that during at least two storms, he took down all sails and allowed his trimaran to drift sideways to the waves. The vessel would crest each wave, then skim down. "If a breaking wave hits the boat, there's a big bang, then the boat shoots off sideways." He refers to Nigel Tetley, whose 40-foot *Victress* was the first trimaran to round Cape Horn. "His sole storm tactic," Ian says, "was to take everything down and go below while the boat slid sideways down the waves."

Having tested his trimaran as far as Auckland, on New Zealand's North Island, and having weathered more storms, Ian decided not to risk going farther offshore. He became a "seagull" — a day worker on the wharves — unloading freighters in Wellington and Napier. Then, in 1970, with a few dollars in his pocket, he joined two others on a 38-foot Woollacott ketch and sailed off to Tonga. Ian quickly learned that a monohull's behavior in a storm isn't necessarily any better than a trimaran's and found the ride "damned uncomfortable." He disliked the weight of the monohull's full keel, her tendency to broach, and most of all, her top speed of only 6.5 knots. "That's what converted me permanently to trimarans," he says.

The Trailertri is born

Ian flew to Sydney, Australia, signed on again as a toolmaker and took a second job selling swimming pools to build up a nest egg. In 1972, he married Alicia Clephane, a nurse whom he'd been courting for some time, and the couple moved to Brisbane. Ian "tried a bunch of jobs like you do when you're young," even selling real estate, while Alicia continued her nursing. Six months later, another trimaran intervened in his life. An ad asked for someone to teach Fred Howard, the new owner of a 30-foot Piver Nimble, to sail his boat. Ian answered the ad and thus gained the opportunity to sail regularly on Brisbane's Morton Bay.

One day he found himself sailing

The F-27 was the first of Ian's Corsair Marine boats. At its introduction, it captured the attention and passion of many a sailor. Approximately 450 have been built.

through a group of monohull trailersailers. He concluded that a trailerable trimaran was unusual enough to be a good bet: it would sail well, it was unique, it was fast, and it was a good business opportunity. Although without formal yacht design training, Ian was fully confident he could design and build what he called the Trailertri. He bought L. Francis Herreshoff's book, *Common Sense of Yacht Design*. "He's a man I like," explains Ian. "Like me, he believed that if it looks right, it's going to be right. Just by looking at it, I can see if something's going to work or break. Afterward, I check it engineering-wise, and 99 percent of the time I'm right."

To make trimarans better able to point and tack, he added a centerboard to his model — an addition made to all his subsequent boats. His next challenge was to map out how the trimaran could be folded to fit onto a trailer. He knew about an English "swing-wing" folding system designed by John Westell but thought it lacked structural integrity. He also rejected the approach Tony Smith was developing for folding his Telstar 26-foot trimaran, because the system folded the floats below the waterline.

So, while sitting in an old armchair, Ian dreamed up new folding systems, discarding many because, in his mind's eye, he could see them flop, bend, or break. After playing around with the geometry, he built a plywood model and was delighted that when he "folded it, it folded." He obtained patent protection for his folding system and built an 18-foot prototype under his house, which, like most Brisbane homes, was built on stilts ("stumps" in Australian). "My wife was very supportive," he recalls. "She worked full-time as a nurse and was paying all the bills."

After testing and retesting his prototypes ("it must be strong, dependable — it must be right"), he teamed up with Brisbane boatbuilder Haines Hunter. Calling his new design the Tramp, about 300 fiberglass copies were built. It won the Australian 1981 Boat of the Year award.

Corsair Marine comes calling

Then, in 1983, John Walton, scion of the Wal-Mart empire, invited Ian to build his boats in the United States. Ian accepted the job, with the stipulation that he could manage the plant.

Six F-33s have been built at Keals Marine in Australia and 25 more are on order.

"He also believes that multihulls get a bad rap because any accident gets reported in 'crash and burn headlines,' while monohulls, well, their accidents are taken for granted and ascribed to other causes."

So he and Alicia, along with their sons, 10-year-old Michael and 6-year-old Stephen, moved to San Diego, with Ian heading up Walton's newly founded Corsair Marine — serving as designer, builder, and marketer. The first F-27, called *Super Fox*, was launched in 1985, and Ian set a record in the Two Men Around the Catalinas Race, beating a 65-foot maxi monohull. Two years later, Mark Robson's *Killer Frog* completed the Transpac, and in 1990, the F-27 was recognized as an official class by the Nippon Ocean Racing Club, the first trimaran to be thus acknowledged.

About 450 F-27s were built and their success established Ian's North American reputation as a quality trimaran designer and builder and solidified the trimaran as a viable part of the sailing scene. It also confirmed Ian's desire to stick with trimaran design (he's only designed one catamaran: the F-41, which has not yet become a production boat). Even with the growing popularity of cats, he believes that trimarans sail better in all conditions, handle better, and go faster. He also cites the ease of their trailerability, thus extending range. And, of course, a foldable trimaran on a trailer "can save you hundreds of dollars a month in moorage fees alone," he says emphatically.

In 1991, Ian and Corsair Marine parted ways. He'd run into the controversies dogging every yacht designer: he wanted to design a certain range of boats and wanted them built to his specifications. "Basically," he says, "we disagreed on where the company should go." Both Ian and the company wanted to develop the F-24, but their views differed on how it should be built. Although Ian could understand the company's position ("they were paying the bills"), both parties wanted to control the company's direction. So Ian got out. As designer Robert Perry says of this familiar conflict, "It's an ongoing war. You do what you can to make the yard conform to your specs, but in the end, the yard always wins."

Ian moved to Seattle and formed Farrier Marine, while Corsair continued production of its version of the F-24. Meanwhile, Ian began working with OSTAC, an Australian boatbuilder which launched a production F-31 the following year. Success Down Under led Ian to take another chance on licensing the F-31 to Corsair for North American production, but new controversies over what Ian calls "Corsair's penchant to redesign" again severed the relationship.

When, in 1994, John Walton sold Corsair to an old friend of Ian's, Australian Paul Koch, Ian resumed working with the firm. The F-24 and F-31 production models sold well — about 200 and 300 copies respectively — and the F-31 won the 1992 Australian Sailboat of the Year award. Ian also designed the F-36, which he considers his first fully capable offshore yacht (despite the fact that many smaller Farriers have crossed oceans), and a

few were built under license in New Zealand. He then created his first catamaran — a 41-footer — of which 38 are being built by amateurs and yards — followed by the F-44, another trimaran. He licensed production of the F-28 to Corsair and the F-25 to MPG Marine. His various models continue to win numerous races and awards for innovative and influential design.

Corsair and Ian divorced again in 2000, disagreeing about quality and design features. Corsair is still building trimarans but no longer under the Farrier name. Although the parting of the ways was loudly announced in various publications, the details are sketchy. Ian doesn't like to discuss the breakups, partly because he wants to avoid legal problems. It seems that Ian doesn't bend easily to compromises in construction, especially when the boat has his name on it.

"Boatbuilders and designers always differ on quality issues," says Ian. "Designers worry because if something fails, it's their neck." He subscribes to the tenets of W. Edwards Deming, the American quality-control engineer whose "doing it right the first time" concepts revolutionized postwar Japanese industrial production. "Even though I'm not a perfectionist to the extreme," says Ian, "building quality is cheaper. The old saw of 'measure twice and cut once' speaks to me. I tend to measure three times and cut once. If you build it right the first time, you don't have to go back and fix it."

New designs keep coming

Today, more than 2,000 Farrier designs are afloat on the world's waters. Their owners tend to be Farrier aficionados. Victoria, British Columbia, sailor Dennis Morgan is a recent convert. After sailing a J/27 for years, he and his wife, Cheryl, bought an F-9A in 2003. "We wanted something bigger," says Morgan. "I wasn't looking for a tri. But then I went for a ride. Terrific! The design detail is amazing. And its trailerability is attractive. We bought it to cruise, not race. But the boat is exciting enough to keep our children — and their friends — interested in sailing with us. It gets us places quickly. To us, the Farrier is the perfect family boat."

Ian and his wife, Alicia, fold an early prototype. Alicia paid the bills while Ian developed his ama folding system and early boats.

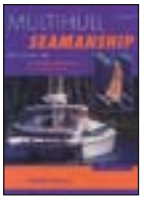
"One can certainly capsize multihulls, he explains, but you have to be doing something 'completely stupid.' No one should go out with the family, put full sail up — including the spinnaker — and go 25 knots."

Ian stresses that his boats are always designed as cruisers with places for people to sleep. "I create the maximum livable space inside and then concentrate on the boat's performance. My boats are fast, but they're not racers. Racers are impractical." He sees his legacy as having popularized a folding, trailerable trimaran, a family boat that provides outstanding performance. He also thinks of his F-27 as true proof that trimarans are viable. He's now concentrating on the F-33, of which six have been built at Keals Marine in Australia, with another 25 on order. He travels around the world, an extensive checklist in hand, to supervise the assembly of each new exemplar as it leaves its container. Wryly recalling how often early trimarans were the subject of ridicule, not only in Australia but around the world, he's convinced that few people laugh today when they see triple hulls in the water.

He's hoping to have enough time in 2004 to develop his latest, the F-22. In the meantime, Ian speculates that the time for multihulls is coming. "People sail on a multihull and are amazed how it can do 15 knots with everyone dry and unafraid. I can see them going away, shaking their heads and saying, 'There must be a catch somewhere.'"

For further reading...

For more in-depth discussion on multihulls, both catamarans and trimarans, there are several good books available. Notable among these are Rick White's *Multihull Cruising Fundamentals* (1997), Gavin LeSeuer's *Multihull Seamanship Illustrated* (1997), Kevin Jeffrey's *Sailor's Multihull Guide to the Best Cruising Catamarans & Trimarans* (1997) and Chris White's *The Cruising Multihull* (1996). These are all available at <http://www.goodoldboat.com/bookshelf.html> or by calling 763-420-8923.



In addition, several out-of-print books offer information you might find interesting. These include Thomas Firth Jones' *Multihull Voyaging* (1994), Jim Brown's *The Case for the Cruising Trimaran* (1979), David Palmer's *The Atlantic Challenge: The Story of Trimaran FT* (1977) and Michael McMullen's *Multihull Seamanship* (1976). *Good Old Boat* can help you track down hard-to-find or out-of-print books like these. Just call Mark Busta at 763-420-8923, or email <mark@goodoldboat.com>.

Simple cockpit grating

Keep your feet dry with a simple, non-skid wooden floor

by Gerry McGowan

Our boat, a 1979 Nor'West 33, came with a very beat-up, warped, and decrepit cockpit grating. During our trip home with the boat I discovered its utility. When the boat heeled, a small amount of water would enter and slosh around the corner of the cockpit. The grating kept our feet dry and provided secure footing. After replacing some of the screws holding the grating together, it provided functional service for another year.

One of the major shortcomings of our boat was the limited, or rather impossible, access to several key components aft of the engine, namely the stuffing box and steering quadrant. Access was very poor in the beginning, and accessories added over the years had essentially blocked that portion of the boat off for anyone except a tiny contortionist, who might reach these components after disassembling portions of the boat.

When we found water up to the floorboards on our first cruise, I didn't really have time to disassemble the boat. The leak was traced to the rudder stuffing-box hose, which I could see only by hanging upside down in the sail locker. I was just able to reach the hose clamps to snug them up and decided that I must provide better access to this area. I installed a pair of 6-inch access ports in the cockpit sole, one on either side of the rudderpost and just in front of it. This provided good access to the rudder, and I was able to remove the steering quadrant and replace the rusted hose clamps easily the following spring. I also added an 8-inch pop-out port in the cockpit sole over the stuffing box.

A few months later, I replaced this with an 8- by 12-inch plastic hatch so I could get both arms through to work on the stuffing box and shaft coupling. The original grating had to be cut in half and large chunks routed out of its underside to access these ports and allow the grating to sit evenly on the cabin sole. Finally, I decided that it was time for a new grating.

Twenty years old

The original grating had been made of Philippine mahogany and had served well for as long as 20 years perhaps. It was a simple grating with 2-inch-wide slats running the length of the cockpit screwed to cross members that sat on the cockpit sole. Only the cross members supporting the grating showed any sign of softness, although the long slats had warped in some cases.

It was very difficult to remove, since it covered the entire cockpit sole and I had to rotate it and lift it clear of

The cockpit with no grating, above. Notice the access ports, hatch, fuel fill, rudderpost, and pedestal that must be worked around. The slats were screwed to the cross members from the bottom side, at left, top. This complex arrangement of cross members, center, was needed to clear all the cockpit obstructions. The removable center section of the grating, bottom.

The finished grating, as two pieces, at top right. The center section of grating, center right, has been lifted out to obtain access to the fuel fill and hatch over the stuffing box. The finished grating installed in the cockpit, bottom right.

the steering pedestal and rudder post while I was lying on the cockpit seats. It was not something I wanted to do in the middle of Puget Sound if water started rushing in through the stuffing box. This was not a theoretical problem, since we had encountered it a few months previously, but that's another story.

I toyed with the idea of a traditional dovetailed cockpit grating but discarded the idea because of the number of obstacles on the cockpit sole and the desire to make a lift-off section in order to get to the essential access ports in a hurry. It would have been a lot of additional work and would have used a lot more material. Besides, I was just going to walk on it, scuff it up, and allow it to sit exposed year-round to rain and occasional sun and snow. A work of art was unnecessary.

"It was a pretty simple project, and for less than $70 … a very cost-effective and attractive cover-up for a particularly ugly cockpit sole."

Teak, the traditional material for cockpit gratings, is wonderful, but its cost is prohibitive. A trip to the local wood store revealed iroko (also known as "poor man's teak") selling at less than $5 a board foot compared to teak at $13 a board foot. The durability of iroko is similar to that of teak, although its grain is a little coarser and somewhat less attractive. I returned home with $50 worth of 1-inch nominal (13/16-inch finished) iroko and a box of 1¼-inch #8 stainless, flat-head, square-drive screws.

Narrow slats

I ripped the iroko into narrow slats about 2 inches wide. The exact width, chosen to minimize wastage on the boards I bought, ended up at 1 15/16-inch. For cross members, I used whatever scraps of suitable hardwood (mahogany) I could find, along with leftover pieces of iroko and marine plywood. All these were resawn to a thickness sufficient to clear the obstructions on the cabin sole, 5/8-inch thick. The cross members were cut away or had recesses cut into them to clear the obstructions where necessary. I carefully laid out cross members at locations that avoided the cockpit sole obstructions, provided for water drainage, and allowed for the location of a removable center section.

I began cutting the slats into the required shape, mitering the ends to correspond to the taper of the cockpit sole and rounding the top edges using a ¼-inch roundover bit in a router. I didn't spend a lot of time sanding the slats as I was just going to walk on them anyway. I worked in pairs, from the outer edge in, fastening the slats to the cross members using a single screw from the cross member into the bottom of the slat.

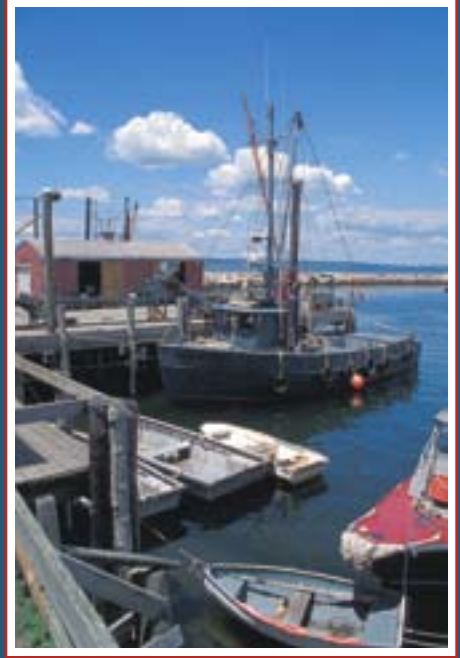
This way, no screws are visible when the grating is in place. Because of the tapered shape and many cross members, the grating was quite rigid. If the shape were rectangular, diagonal braces would have been required to prevent racking. The second and all additional pairs of slats were installed using ¼-inch plywood spacers placed temporarily next to the installed slats to establish uniform spacing.

The spacers were removed after the slats were screwed in place. The inner slats were made in three sections to allow the center portion to be assembled as an easily removable hatch. The aft end of the center hatch has a cross member that rests on the sole, while the forward end has a member that rests on top of the grating. The rather complex cross member arrangement apparent in the photographs on Page 46 is due to the limited clear cabin sole available to support the grating.

Three tapered slats

The inner three slats were tapered using a taper jig on the table saw and fitted using the same ¼-inch plywood spacers. Several small partial cross-members were necessary to hold

Continued on Page 59

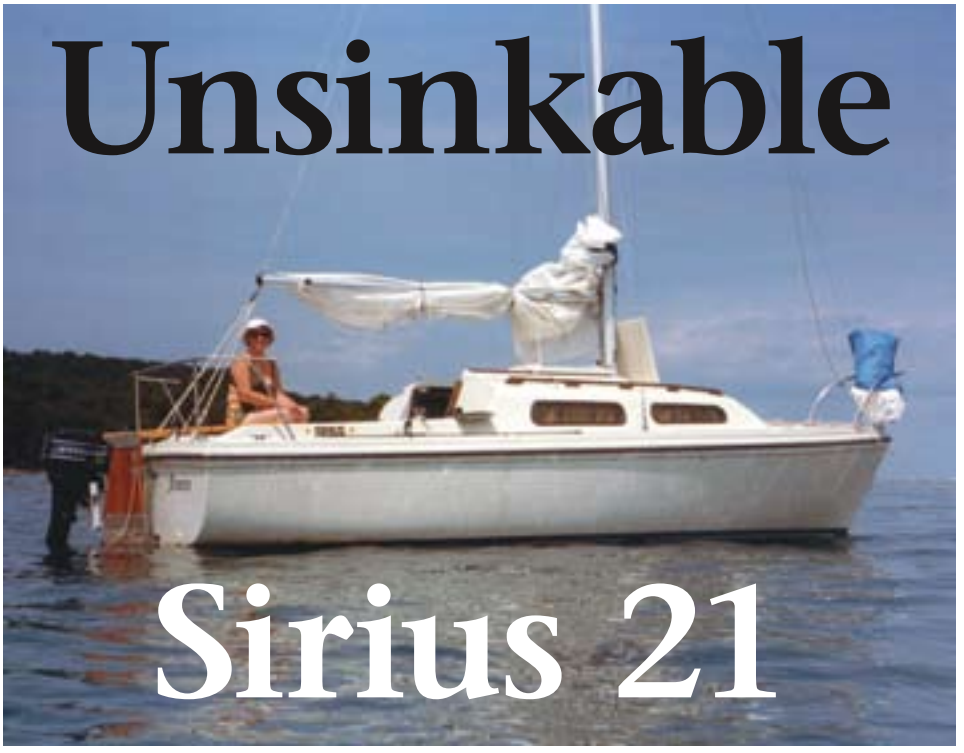


A day in Rhode Island

photography by
Mary Jane Hayes


SCRIMSHANDER

Unsinkable Sirius 21



Here's a safe trailersailer and beach cruiser for a small family

by Ken O'Driscoll

Author Ken O'Driscoll and his wife, Pat, spent many happy hours sailing their Sirius 21, *Fineen*, at left and on facing page, on Lake Huron's Georgian Bay and North Channel. They owned the boat for two years before moving on to a C&C 30 and finally to a Niagara 35. Ken notes that, thanks to the swing keel, he was standing in waist-deep water when he shot the photo at left. A copy of the original sales brochure, below.

"WHY DON'T WE GO TO THE boat show tomorrow and look at small sailboats?" These innocent words were uttered by my wife, Pat, in September 1977. Little did we know their impact on our future. We had been sailing a Sunfish for the past five years and, as she told me much later, she thought I might enjoy a larger boat. The good thing is that I can always blame her for starting us down the path to where sailing became such a big thing in our lives.

"The first Sirius 21 was launched in 1977 and quickly became popular — more than 100 of them were sold in that first year. Eventually, more than 600 were sold."

I've noticed in recent advertising that 27-foot boats are called "entry-level." But in the 1970s, the term referred to boats in the 20- to 24-foot range. At the show, we were naturally drawn to such boats, and the Sirius 21 quickly caught our fancy. The fact that it was locally made and obviously well designed and engineered figured large in our decision. Given the promise of the salesman that he would come with us on our first sail and literally show us the ropes, we ended up taking delivery of a new one the following spring. Although we didn't know it at the time, it was to be the first of a series of sailboats named *Fineen* (see *Good Old Boat*, November 1998, for a description of *Fineen III, a Niagara 35*). We never trailered it and owned it for only two years, but it provided an excellent platform for learning how to sail, and fond memories of it linger 25 years later.

The Sirius 21 was built by Van de Stadt and McGruer which, for 25 years, was a successful boatbuilding firm in Owen Sound, Ontario. Hubert Van de Stadt is a nephew of the famed Dutch designer E. G. Van de Stadt, and Fraser McGruer comes from a Scottish boatbuilding family. Together they designed and built a series of small boats, beginning with 9-foot dinghies and daysailers and ranging through the Siren (a 17-footer with a jib and a cuddy cabin), the Sirius 21, and finally the Sirius 28. This progression led to careful and successful designs of both the 21- and 28-foot Sirius boats.

Went bankrupt

As was the case with so many fine Canadian and U.S. boatbuilders, the firm closed in bankruptcy in 1988, a victim of soaring material costs and high interest rates. But in the winter when our boat was being made, the Sirius plant employed about two dozen people and was turning out boats at a rapid clip. Since the plant was less than a two-hour drive from our home, we made a visit there in late winter and observed the building process. The hull was laid up in the

mold by first using unidirectional mat of fiberglass roving that was hand-rolled with the application of the liquid resin before curing. A chopping gun was then used to distribute the fiberglass strands and resin. This process allowed a high glass-to-resin ratio, giving the hull extra strength. To my (limited) knowledge, no problems with osmosis have been encountered by Sirius owners.

The first Sirius 21 was launched in 1977 and quickly became popular — more than 100 of them were sold that first year. Eventually, more than 600 were sold. Although the boat is eminently trailerable, most of the owners we have known and met bought the boat because of its small size and good design, rather than because it fits easily on a trailer. Trailersailors I've talked with tell me that the Sirius is quite easy to set up and launch.

On the outside, the Sirius is nicely put together with simple, single-spreader rigging; some boats have a jackstay to support the mast better. There is an anchor locker forward. A bracket on the port transom mounts an outboard. The boat was originally designed with a 4.5- or 7.5-hp long-shaft motor in mind, but many have used a 9.9-hp with no problem. The rudder is outboard and rigged so it can easily be kicked up in shallow water. The centerboard or swing keel is of cast iron, goes down 5 feet and represents just over 25 percent of the 2,000-pound displacement. It can be cranked up to allow sailing in as little as 16 inches and can be locked with a pin when fully up or down. When up, the cast-iron swing keel extends a few inches beyond the fiberglass bottom so grounding causes no problem. This makes the Sirius a delight for gunkholing, since it is possible to go into the shallowest of waters.

Mast tabernacle

The mast is deck-stepped and can be raised easily by two people. The mast rests in a tabernacle that has a J-shaped slot on either side; a stout steel pin runs through the mast and rests securely in the crook of the J — or it should. In a severe wind and high waves that we once endured for four hours, something caused the pin to come adrift; the mast twisted about 30 degrees in the tabernacle and was only saved from falling by the pin jamming against the side of the tabernacle. I replaced the pin with one an inch longer and never had the problem again. The boat's sailing is quite sprightly, easily achieving 5 knots in a small breeze. But in a stronger breeze it develops weather helm that can put a noticeable curve in the tiller unless the main is trimmed carefully.

"With the pop-top up, the entire port-side galley and most of the starboard dinette have 6-foot 3-inch headroom."

It should also be noted that some find the boat's motion uncomfortable in waves of 3 feet or so. This isn't surprising, for one can calculate Ted Brewer's motion comfort index to be a rather low value of 10.0 from the Sirius specifications. It was this physical fact (not the theoretical ratio) that persuaded my wife and me to buy a larger boat after only two years in the Sirius.

The cockpit easily holds four adults, is self-draining, and has two sail lockers and a portable gas supply for the outboard. There are two small winches that are hardly needed to control the 110-square-foot jib but might be needed for the genoa of 156 square feet. The mainsheet comes off the end of the boom as a block and tackle arrangement that ends in a jam cleat on the stern quarter. It easily controls the 93-square-foot mainsail.

Pop-top roof

It is down below that the boat shows the excellence of its design. Begin with the hatch, or rather the pop-top roof that covers it. When raised, a notch on it is supported by a pin on the mast, and so provides plenty of headroom for a six-footer. A small optional tent, fitted around the pop-top, keeps out the rain or bugs at night. With the pop-top up, the entire port-side galley and most of the starboard dinette have 6-foot 3-inch headroom. The dinette can be converted to a double bunk.

Among the design features that impressed us when we bought ours as novices was the foam flotation in the Sirius 21 that made it unsinkable. In fact, with the keel locked in the down position, the boat is self-righting. The foam also results in a stiffer hull and gives a measure of insulation for both sound and heat.

Of course, this also puts a limit on storage space, but the boat still has ample room for weekending or even short cruises. (We knew, but did not envy, a family of two adults and three small children who went coastal cruising aboard a Sirius 21 for two weeks at a time in Georgian Bay.)

The forward V-berth also accommodates six footers, as well as a Porta Potti underneath it. The trim below is teak, and the hull and deck liners give a finished appearance to the interior. With the forward hatch open and the pop-top raised, it is quite airy down below, and two non-opening windows (later replaced by one long window) on each side make it bright inside. Another neat touch is the carefully designed space between the aft quarterberth and the centerboard well, which is the perfect size for a Coleman cooler.

"Among the design features that impressed us when we bought ours as novices was the foam flotation in the Sirius 21 that made it unsinkable. In fact, with the keel locked in the down position, the boat is self-righting."

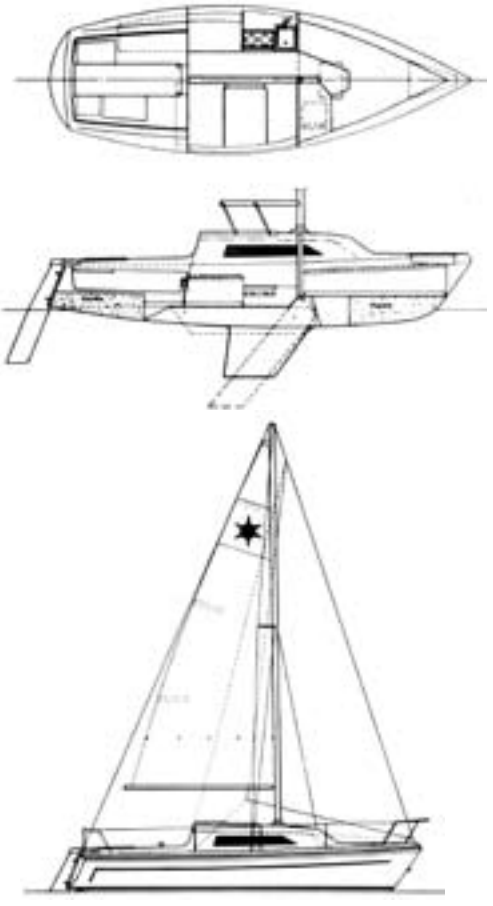
Major fire

In 1984, the Van de Stadt and McGruer plant where the Sirius was made suffered a major fire. The following year, having re-established production, the company introduced the Sirius 22, featuring a redesign of the aft portion of the hull and an optional fixed keel. The hull was lengthened by putting a reverse transom on it. The thought was that it could better bear the weight of the popular 9.9-hp outboard that most buyers chose. The fixed fin keel was a lead casting with a National Advisory Committee for Aeronautics (NACA) profile and had a draft of 3 feet 6 inches. Otherwise, the Sirius 22 was identical to the 21. Unfortunately, the demise of the company a short time later meant that few of the 22-foot versions were made.

When the boat was first on the market in 1977, it could be bought for roughly $5,300 U.S. However, the list of options for the boat was quite long, which is a charitable way of saying that the original owner could greatly reduce the cost by buying a stripped-down version. Among the more obvious items that were *options*, and might therefore be missing from a resale today, are lifelines, bow and stern pulpits, a galley sink, a 5-gallon water tank, a compass, navigation and interior lights, and electronics such as a distance log and VHF radio.

These days, at any given time, a small number of Sirius 21s can be found listed on the Internet, most of them in Canada but some in the United States. Prices seem to range from $4,500 to $8,300 depending on age and condition. Note that the Internet ads do not always specify whether or not a trailer is included in the price.

(I would like to acknowledge Ted Youngs for his help in researching some of the information in this article. Ted and his wife, Fern, are "very Sirius sailors," and he kept much of the original literature from their Sirius 21 when they bought their present Sirius 28.)



Sirius 21 vital statistics

LOA: 21 feet 2 inches
LWL: 18 feet 9 inches
Beam: 7 feet 11 inches
Draft: 16 inches to 5 feet 0 inches
Weight: 2,000 pounds
Ballast: 525 pounds
Mainsail: 93 square feet
Jib: 110 square feet
Mast height: 24 feet 6 inches
Headroom: 4 feet 9 inches to 6 feet 3 inches (pop-top)

Two PDQ catamarans

Taking a look at a 32-footer and a 36-footer from the same stable

by Charles Kanter

***Allez Cat*, a PDQ 36, in Spa Creek on its way to the Annapolis Boat Show.**

PDQ stands for Pretty Darned Quick. And that's what PDQ catamaran yachts were designed to be. The Canadian boatbuilder's first real production cruising boat was the PDQ 34, but that was modified in 1991 with a two-foot stern extension to become the PDQ 36, one of the two models we're taking a look at here. It became known as the PDQ Cappella or Classic.

The other model is the PDQ 32, which was introduced two years later with many advances in layout. It soon became the Mark II and finally the Altair.

The pedigree of both boats stretches back to 1987, when three extraordinary men got together to build the first PDQ yacht. Allan Slater, enthusiast and leader of the Canadian Multihull Association, was chief engineer and steadfast believer in catamarans; Harvey Griggs, an MIT graduate in structural engineering, commissioned the first yacht; and Simon Slater, Allan's son, created the deck design and was the brawn behind the construction. In 1988, PDQ was born and has been going strong ever since.

Before we get into the specifics of each boat, let's examine some general characteristics they share. Both the boats under review come in two versions, the classic (with twin 9.9-hp outboard motors) and the long-range cruiser (LRC) with twin diesel engines.

Rigging

The 32 had a masthead rig up to hull #27, which was made in 1997. After that the 32 has had a 7/8ths fractional rig. Both variations have single-spreader diamond shrouds for mast stiffness and a pair of uppers led far enough aft to eliminate the need for a backstay. Because of the wide sheeting base of the cat, the upper shrouds don't need spreaders, and because their aft lead eliminates the backstay, the full-battened main can support a modest roach and still tack sweetly, swinging through the space normally blocked by the backstay. These are rigging characteristics that the wide stance of the multihull make possible.

> *"Both models have adequate clearance under the center console to avoid the slap, bang, crash, and pound of water hitting the bridge deck, and both have narrow sterns that leave little wake."*

The 36 has also had two rigging designs. Earlier boats, up to hull #85, made in 2002, had a masthead rig with a headstay, two cap shrouds, and two backstays, all at the top of the mast. The backstays were brought to the deck about four feet abaft the mast. Intermediate mast support came from two lowers and a baby stay. Newer boats get mid-mast support from double diamond shrouds, eliminating the baby stay and two lowers of the earlier design. As with the 32, the elimination of the single aft backstay commonly found on monohulls allows full battens to support a larger roach.

Both models have adequate clearance under the center console to avoid the slap, bang, crash, and pound of water hitting the bridge deck, and both have narrow sterns that leave little wake.

Wake is drag, and drag is wasted energy. But while slim sterns avoid this penalty and afford better speed, they create another problem: a significant loss of carrying capacity. Hulls with fine ends and a hull-to-beam ratio of 12:1 or better have little reserve buoyancy. You must monitor carefully the weight of everything you bring aboard. And that includes diesel engines.

In my opinion the use of two diesel engines and sail drives in PDQ's long-range models is an inappropriate use of technology. Simply put, two 9.9-hp Yamaha outboards weigh 210 pounds total, including drives, props, and so on. They are ideally positioned at almost the exact center of fore and aft rotation and thus are not subject

to the problems of stern-mounted outboards. They are also outside the boat. They can be maintained through cockpit lockers.

On the other hand, two diesels, with sail drives and their related gear, weigh in at about 700 pounds. They are installed under the bunks toward the stern, thus changing the boat's balance and taking valuable space. Thus, 500 pounds of carrying capacity is lost. In a boat designed to be a long-range cruiser, that is a lot of provisions to forfeit.

Worse, the two largest storage lockers under the rear bunks are now taken up with engines and engine-handling equipment such as through-hulls, mufflers, strainers, and so on, making those lockers, normally used for lightweight items like bedding or clothing, unavailable. Then, of course, there is the ritual of tearing apart one's bed to check or change the oil.

Special Yamahas

The choice of diesel engines is even more contentious when you realize that Yamaha came out with a new outboard in the 1980s, a 9.9-hp, four-stroke, extra-long-shaft, big-prop, geared-down muscle machine called the Jack of One Trade.

This engine was purposefully designed to be an auxiliary for sailboats. PDQ, Sea Wind, Condor, and other manufacturers saw the inherent virtue of these ultra-quiet, powerful, fuel-miserly engines and immediately incorporated them into their vessels: thus the PDQ Classic.

The PDQ answer to the question of how to handle these outboards efficiently, without drowning, cavitation, or ventilating is a design innovation close to genius. Two central cockpit lockers hold the engines. The engines pivot at the fore and aft rotational center of the boat, thus eliminating ventilation and cavitation.

Outboard motors also have their downsides, of course, but most are mitigated by low weight, low cost, easy repair or replacement, and best of all, complete withdrawal from the water, thus dramatically reducing drag while sailing and corrosion while moored.

Sailing and handling

The PDQ 36 has skeg-hung rudders and low-aspect-ratio keels. This is excellent for protecting the bottom and keeping various lines and assorted trash from jamming the rudders. My experience with the boat is that it sails well, tacks securely, usually within 90 degrees, and goes to windward reasonably well. It is a swift boat, living up to its PDQ name.

"The PDQ 32 should be considered a 'big 32,' whereas the 36 should be considered a 'small 36' when compared with other catamarans."

However, because of its emphasis on performance, it comes up short on room and weight-carrying capacity for modern conveniences. I recently surveyed a PDQ 36 long-range cruiser which had every possible amenity and convenience installed.

The AC and extra refrigeration/freezer units used up all available space under the dinette seats, the engines took all the space under the bunks, and various other accessories took all the nooks and crannies to the extent that there was not a locker anywhere large enough to stow a case or two of beverage.

The PDQ 32 has spade rudders and low-aspect-ratio keels, but is deeper than the PDQ 36 by 6 inches. It, too, has good sailing and handling characteristics. It should be considered a "big 32," whereas the 36 should be considered a "small 36" when compared with other catamarans.

Construction

Both vessels are constructed of vacuum-bagged foam core to the waterline, using hand-laid knit FRP and Core-Cell foam. Keels are sacrificial, rudders are foam/FRP sandwiches with stainless-steel rudder stocks and webs. Masts are made of extruded aluminum. Bottom blistering has not been a problem in the vessels I have surveyed.

Crawling around the innards of these vessels, the surveyor usually finds that there is little or no sloppy construction, no loose FRP ends to cut unwary fingers or any construction debris remaining in the farthest corners of the bilges. Bulkhead joints all look well tabbed according to the best industry standards.

It is tough to find any shortcuts taken. Decks feel solid underfoot, portlights and hatches are installed properly, and one gets a sense of painstakingly meticulous workmanship. The hull-deck joint is well done, glassing over the joint to make the structure a true monocoque.

The genesis of catamarans

THE MODERN PLEASUREBOAT INDUSTRY began in earnest after WWII. Prior to that, cruising sailboats were mostly built of carvel-planked wood, had cotton sails, required professional maintenance, and were the province of the patrician class. Privately owned cruising boats, owned by folks of average means, were few and far between. Marinas were non-existent. Advances in materials — first plywood, then FRP, extruded aluminum, Dacron, acrylics, and so on — allowed the industry to burgeon. By the 1960s many sailboat designs vied for a consumer market. Most of these boats were purpose-built and designed under rules that promulgated racing performance first and amenities a poor second.

In England, a hotbed of multihull producers almost surpassed the number of monohull producers. Legendary names such as Roland Prout, Tony Smith, Rod McAlpine-Downey, Reg White, Tom Lack, and many others designed vessels such as the Catalac, the Iroquois, and the Apache that still command premium prices today. It was there and then that the Amateur Yacht Research Society (AYRS) was born.

In the late 1980s, the French introduced an entirely new concept to catamaran design by building boats that were luxury-oriented and had a dramatically new aesthetic principle, looking more like spaceships than boats. The public loved it, and the far-flung catamaran charter business moved into high gear. By the mid 1990s, these vessels were the majority of charter yachts worldwide. They influenced all sailing vessels, especially in the realm of creature comforts. The cats proved you could have performance, luxury, privacy, and stability in the same boat.

Layout of the PDQ 36

As you'll see from the accompanying artist's cutaway view, the 36 has many characteristics that are important for a true cruising boat, especially for long passages. First is the helm layout, which is in the cockpit in close proximity to the deck activity. The person at the helm can easily see all four corners of the boat, which is a confidence-builder when maneuvering in close places.

A unique feature is the rear cabin with twin bunks, upper and lower. Families love it. The two mirror-image cabins forward of the bridge deck, close to the rotational center of the vessel, assure the best night's sleep possible in a rough anchorage. They are full-size staterooms.

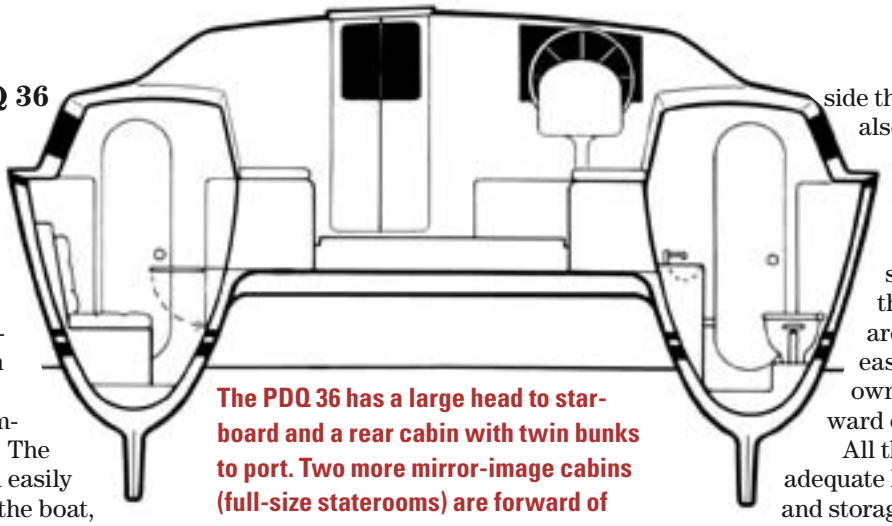
The galley, down on the port side, has more counter space than many shoreside condos. It has a double sink, a full-sized LPG range with an oven, and an eye-level, front-opening refrigerator. The earlier models had LPG refrigerators, which worked very well, and most people love them. As the models progressed, they eventually switched to 12-volt DC Danfoss-style units that are so efficient they can be powered exclusively by solar panels (certain geographic areas excluded).

The LPG models were cleverly installed in the forward sail-locker bulkhead, so all the working parts were outside the living area, thus protecting occupants from the highly overrated dangers of these units. Some other models with separate compressors took up too much locker space, and some were placed in insufficiently vented lockers, something to watch for when considering a purchase.

The head is really a full-sized bathroom with a full-sized stall shower, glass door and all. It is in the aft section of the starboard hull, thus not creating any traffic through the galley or navigation area, a prudent location. The holding tank is aft of the head, behind a watertight bulkhead and outside the living quarters, also a prudent location.

The navigation section is amidships on the starboard side. All the control panels are there and within easy reach of the owner's cabin just forward of it.

All three cabins have adequate hanging lockers and storage space.



The PDQ 36 has a large head to starboard and a rear cabin with twin bunks to port. Two more mirror-image cabins (full-size staterooms) are forward of the bridge deck, close to the rotational center of the vessel.

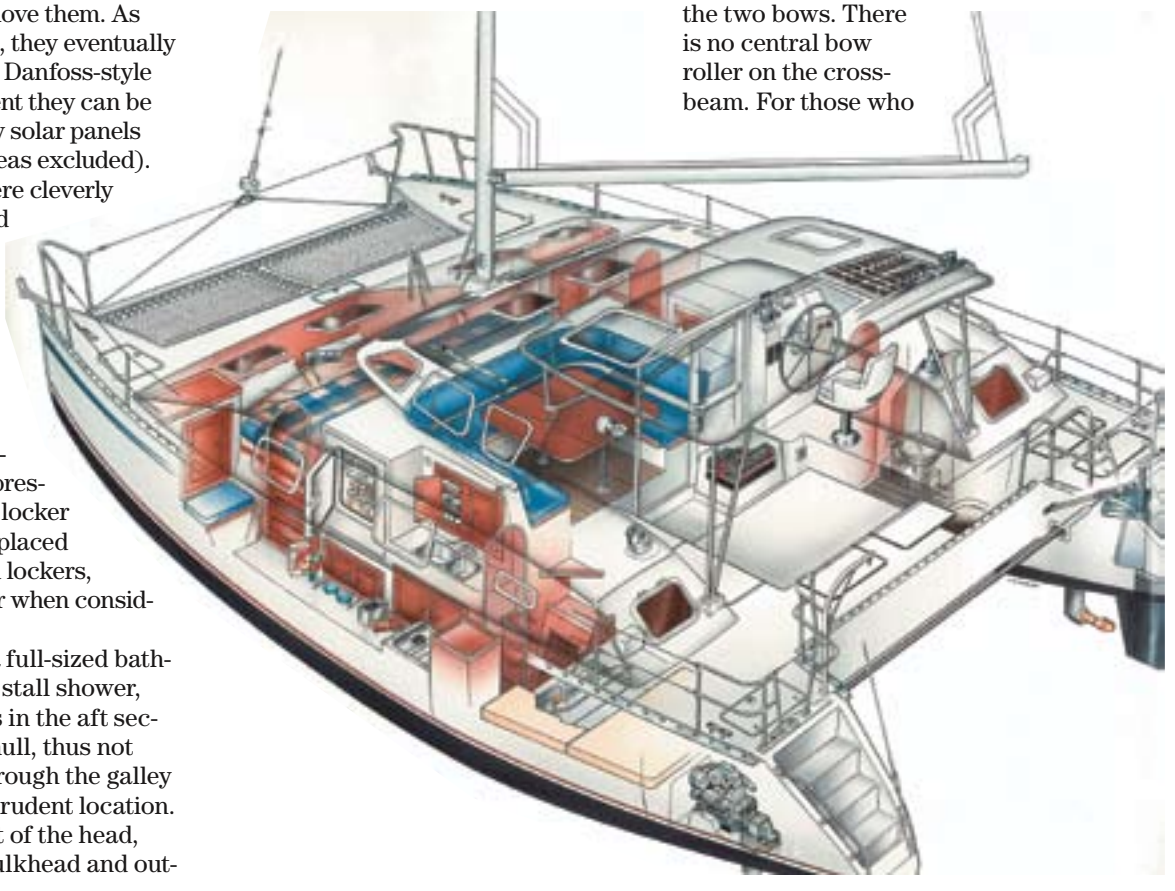
PDQ 36 vital statistics

LOA: 36 feet 5 inches
LWL: 34 feet 4 inches
Beam: 18 feet 3 inches
Draft: 2 feet 10 inches
(LRC: 2 feet 11 inches)
Displacement: 8,000 pounds
(LRC: 8,700 pounds
Sail area: 542 square feet

On deck

Winches are placed so they are easily operated without interference from stanchions or supports. Deck hardware is nicely installed for leading lines to winches conveniently and at good angles. Some models have all the sheets, halyards, and reefing lines led to the cockpit, although I feel this is of dubious value. Raising and lowering sails and trimming them under sail are all easily accomplished. The standard masthead main goes up easily, and it is doubtful that anyone would want to install an electric winch for it.

Ground tackle is handled only from the two bows. There is no central bow roller on the crossbeam. For those who



require a windlass, there is plenty of room in the anchor locker for proper chain fall. Anchoring with a single anchor from one bow is a tried and true method and works well under most conditions. In adverse conditions, when more than one anchor is required, many people simply launch an anchor from each bow. English cats have been doing that for decades. My recommendation is to use modern lightweight anchors and nylon rodes.

Standard hard top

Newer models of the PDQ 36 have the hard top as standard. Some of the earlier models have retrofitted the hard top.

The PDQ 36 deck is not the easiest to negotiate. Sidedecks are smallish, and getting past the forward end of the cabin is difficult in poor conditions. The main deck is a full turtleback configuration and not easy to negotiate.

Forward crossbeams originally were made of FRP and fully molded into the deck mold, giving a split trampoline with a center support. Later models did away with that and used an aluminum spar section as crossbeam but still kept the trampoline in two pieces using the center joint as the tensioning point, a clever idea. Potential purchasers take note: trampolines are a high-maintenance item. Inspect them and their lashings very carefully.

Layout of the PDQ 32

This boat is a center-cockpit vessel. The twin aft staterooms are exceptionally spacious for a boat of this size. Between the staterooms is a locker containing the fuel tank and a manual bilge pump with a selector valve, a very clever arrangement providing easy access to vital gear and additional privacy between cabins. There is also a full-length lazarette in the stern. The center-cockpit configuration makes the cockpit a bit cozier.

From the central saloon, to the right and forward are the navigation station and the head. The galley is down to the left and forward. The galley of the PDQ 32 has many of the features that its larger sister has, but on a reduced scale. Going aft on either side brings you to a stateroom. Both staterooms have large hanging lockers and athwartship double-size beds.

Decks show some similar features, but one really nice extra on the 32 is the bench seat across the cabintop.

Construction of the 32 differs in some interesting ways. Many sections of the installed furniture on the 32 can be easily removed for repair, inspection, or replacement. The hardtop is standard. Standing headroom is gained in the saloon by sliding the large main hatch back into its sea hood.

When surveying these boats, I have not found any structural or user problems.

I would trust either of these two boats for almost any cruising situation. The PDQ 36 is probably the smallest catamaran I would consider for something like an Atlantic crossing, mainly based on carrying capacity. On the other hand, it is about the largest catamaran you can own before you begin to get wide-beam penalties. With an 18-foot beam, you seldom if ever will be denied a marina berth or a haulout in a travel lift. Wider than that, your options drop quickly.

Price history

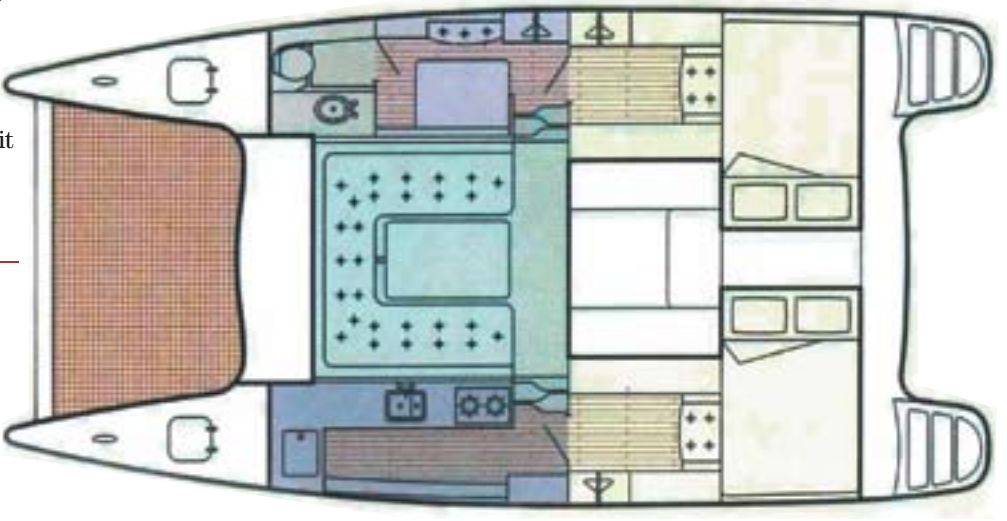
PDQ prices have held up better than certain competitors. Recent searches for boats 10 years old or better show selling prices of $119,000 to $137,000 for the long-range version of the PDQ 32. The PDQ 36 price runs from a low of $129,000 to a high of $159,000.

PDQ 32 vital statistics

LOA: 31 feet 7 inches
LWL: 31 feet 0 inches
Beam: 16 feet 0 inches
Draft: 3 feet 2 inches
Displacement: 7,200 pounds
Sail area: 433 square feet

For further reading ---

Get two very different views on multihulls from Charles E. Kanter's *Cruising in Catamarans* (2002) and Chris White's *Cruising Multihull* (1996). Both can be found at <http://www.goodoldboat.com/bookshelf.html> or by calling 763-420-8923.



The PDQ 32 has exceptionally spacious staterooms for a boat this size. The long galley with ample counter space is a plus as well. At the stern is a full-length lazarette. Another nice feature is a bench seat across the cabintop.

Recessed sinkboard

Improving the galley also improves engine access

by Tom Young

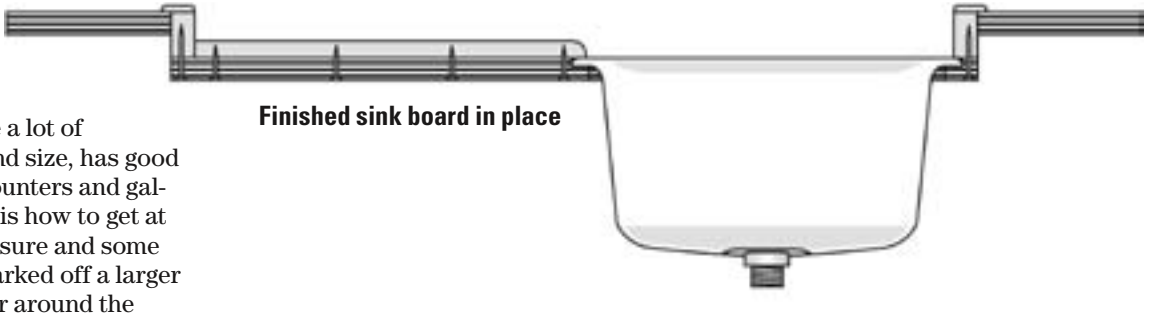
It all started with the starter. I needed to replace the old one on *Christmas*, my 1961 Alden Challenger (see refit article in January 2004 issue). I was changing the alternator, too, and scratching my head as to where to locate a water heater, hoses, new hot-water lines, and a freshwater pump. Engine access is fair to the front and back (through a manhole in the cockpit) but poor on the port side, the side I needed to get to.

My only access to this area was through a tiny door under the counter and the old sink cutout. It was about 12 inches square. I needed a larger access.

Christmas, like a lot of boats of this era and size, has good space under the counters and galley area. The trick is how to get at it. With a tape measure and some masking tape, I marked off a larger hole on the counter around the existing sink cutout. Obviously, structural matters, such as sink and drain depths have to be accounted for. Every boat is different. Finally, after double-checking my measurements, I cut out this section of counter top. I came up with a hole that would solve all these problems.

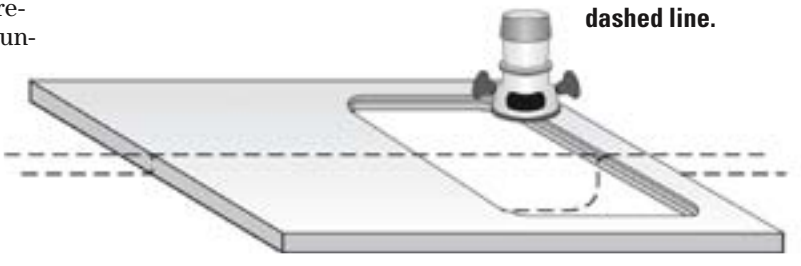
I had easy access to remove the old starter and install the new one. I had great access to the starter wiring, something you need to get to. It made for simple installation of the new alternator, bracket, smart regulator, and wiring…all right in front of me for future adjustments. And I had easy engine hose inspection and replacement. For the first time I was able to look down at the oil fill cap. No more funnels with hoses, tape, rags, and so on.

> "Christmas, *like a lot of boats of this era and size, has good space under the counters and galley area. The trick is how to get at it.*"



Finished sink board in place

Sketches are viewed as if sinkboard and sink are sliced through the dashed line.



The finished (removable) sinkboard, above, simultaneously improved the functionality of the galley and access to the engine compartment.

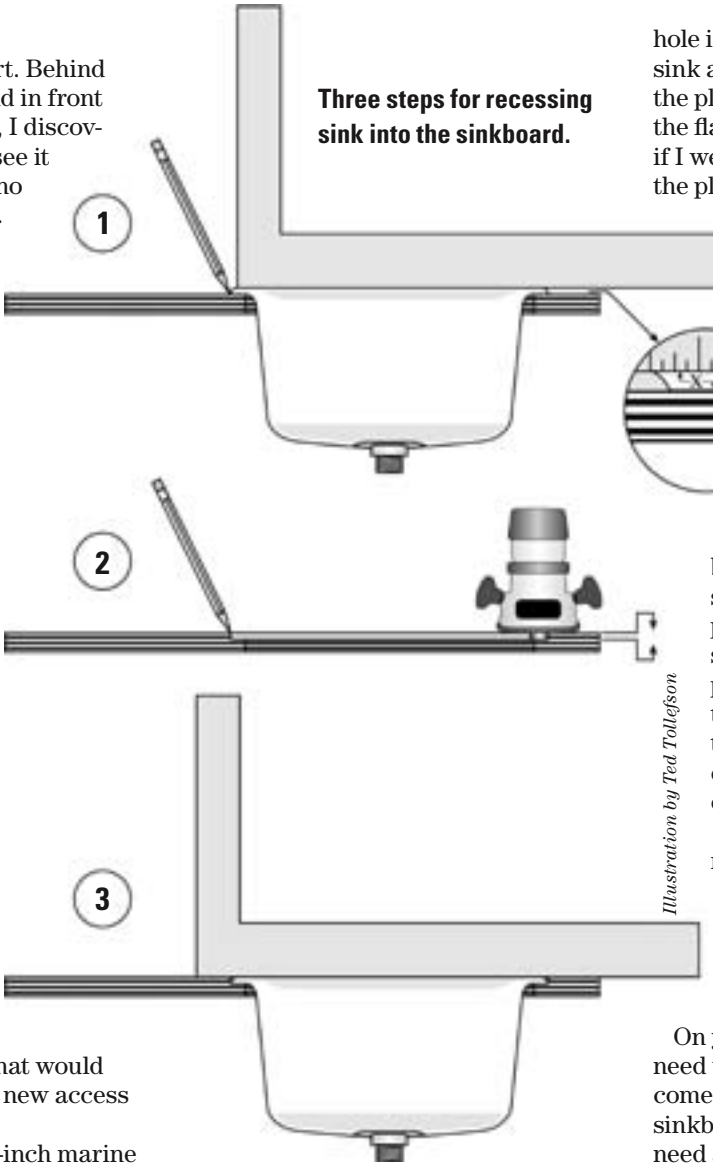
Illustration by Ted Tollefson

Even better

But that's not the best part. Behind a locker in the counter and in front of the cabin bulkhead aft, I discovered dead space. I could see it was there, but there was no way to get to it, until now. The space was just a half-inch wider than the 6-gallon water heater and more than long enough. It was about a foot from the diesel and freshwater cooling hoses. The final hole was just large enough to allow the heater to go down alongside the engine and turn into this space. I fastened it in place there.

With this equipment installed, it was time to refine and build the sinkboard I had been designing in my head. To improve the galley sink, I decided to recess it under the counter material. A sink mounted under a counter top with a high curb or fiddle would make life onboard easier and cleaner. This board would need an outer lip that would rest on the counter in the new access cutout.

First I cut a piece of ¾-inch marine plywood the size of the new access hole in the counter. I positioned the sink and cutout to the correct size in the plywood sinkboard making sure the flange was flat on the plywood, as if I were mounting it on the surface of the plywood.



Three steps for recessing sink into the sinkboard.

Illustration by Ted Tollefson

Here's what happened next:

1. I traced around the outer rim of the sink and measured how "proud" of the surface the flange of the sink was. I did this by laying a straight edge on it and measuring the distance down to the plywood.

2. I set a router with a straight bit to this depth. With some sinks, a straight cutter with a pilot would work nicely. If not, screw guides down around the plywood. In either case, you need to remove the material inside of the line you traced to the depth of the router bit. Make it a little oversized.

3. With this step completed, I replaced the sink in the plywood. A straightedge laid across should touch the sink and counter.

Under-counter clamps

On your boat, you may or may not need the under-counter clamps that come with the sink. You can finish the sinkboard in several ways. All will need a curb with a lip to sit on the counter cutout. I used fir for the curb and counter top on my sinkboard.

I ripped a ¾-inch fir board on a table saw to the depth I wanted the sinkboard to rest below the counter. I then cut the material out to leave a ¼-inch by ¼-inch lip that would rest on the new access cutout. This still left a full ¾ inch for easy fastening to the plywood. Thinner stock will work if you are careful. The fir curb was mitered on the corners and attached to the ¾-inch plywood. I drilled pilot holes and drove screws

Access to the engine starter wiring and other parts was vastly improved with the new countertop cutout for the sinkboard, at left. Author Tom Young's daughter, Mary Jane, makes bread on facing page.

from underneath. I ran the #10 screws through clearance holes in the rim (not shown in drawing). No need for the clamps then. Use a strong adhesive/sealant like 3M 4200 for the curb-to-plywood and curb-to-sink flange joints.

All I had left to do was resaw some fir strips to ½-inch thick — a full ¾ inch looked clunky. I drilled pilot holes from underneath, and used screws to jig the strip-to-curb joint. This joint should also be sealed with an adhesive sealant since these screws can only engage a fraction of the ½-inch strip. Alternately, the strip, curbs, and plywood could be jigged with screws or even aluminum nails and fastened with a waterproof glue or epoxy. Or the curb could be notched to form the top strip. There are lots of ways to do this. I put the board into the access hole and hooked up the drain. I added holddowns to the board for safety.

After one year of use, the recessed sinkboard has proved to be very handy. We do a lot of cooking on board. Underway, the recessed board contains spills while food is being prepared. We cut right on the fir, knead bread dough there, and let dishes drain on it. We rub a little cooking oil in to keep it looking bright. The depth of the sink has been effectively increased as well.

"Underway, the recessed board contains spills while food is being prepared. We cut right on the fir, knead bread dough there, and let dishes drain on it."

What if I need to get to something under there? I grab a large wrench or channel-lock pliers and loosen the nut that attaches the sink basket to the tail piece, catch the rubber washer (keep a few spares), and unlock any hold downs. That's it. I pick the whole thing up and move it out of the way.

Other possibilities

Most sinks are self-rimming and have a flange. Older ones, like mine, are self-rimming and have a flat flange. Either style works well. Many can be covered with a straight cut at the corners. A sink with a sharp radius at the corners may require cutting a curved piece to follow the radius.

I used fir, thinking it would look good in the old wood interior of *Christmas* and would hold up well in this use. That seems to be the case so far. Teak would be great as well. Along with protecting the board and edges with a little cooking oil, I will take it out each spring and give it a quick sanding and oiling.

Corian, adhered to the plywood, would be a good surface material. A wooden or Corian curb could still be used.

The board can be built large enough to allow the faucet to be on the board. In that case, leave enough slack in the supply lines for removal. Coil and tape them out of the way, of course.

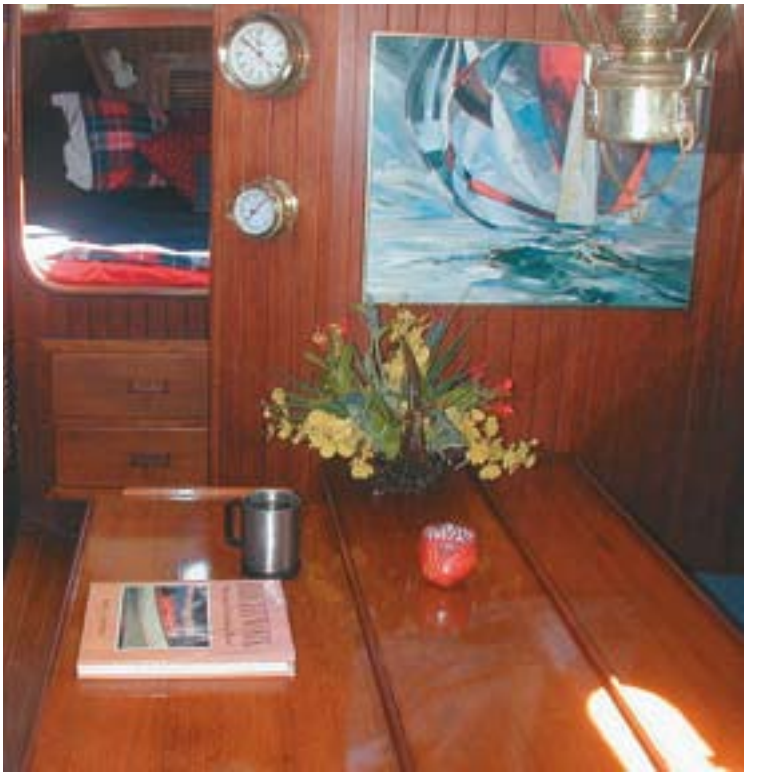
Using this general principle, a lot of configurations are possible. The sinkboard curb could be radiused to the sink. Even a round sink can be used. It's just a matter of your skill level with these tools and what you have to get to underneath.

Simple cockpit grating, Continued from Page 47

everything together and clear the obstructions present. While it looks like a jigsaw puzzle, the actual construction was not particularly difficult. I would estimate the total construction time at less than eight hours.

When it was fully assembled, I took the grating to the boat and, with some trepidation, dropped it in place. Amazingly, it fit perfectly. I took it home again and brushed in two generous soaking coats of teak oil. After drying it for about a week, I installed it in the cockpit and left it there for a very wet winter (Pacific Northwest type). The next spring I brought it home, power-washed it, and brushed in another coat of oil. The pictures were taken after the winter exposure, and it looks none the worse for wear. It will probably outlast me.

It was a pretty simple project, and for less than $70 — including the screws and a pint of teak oil — a very cost-effective and attractive cover-up for a particularly ugly cockpit sole. The only problem is that it looks too pretty to walk on.



Taking time for teak

Here's how to enjoy maintaining your brightwork

by Cathy McIntire

Most good old boats come with at least a little teak. Our 1982 Baba 30 came with lots: teak decks, teak caprails, teak decorative trim on the top edge of the hull, teak bowsprit, teak hatchcovers, teak-and-holly cabin sole, teak bulkheads…not to mention a spruce mast and vertical spruce staving around the cockpit.

My husband, Ken, and I happen to love teak. It's one of the aspects of our traditionally styled, fiberglass-hulled Baba that drew us to purchase her. Along with the commitment to maintain all the boat systems was the requirement that at least one of us would maintain all the wood, inside and out. My mechanical skills are non-existent, while my husband's are excellent. It fell to me to learn how to maintain our exterior brightwork and interior teak.

> *"I discovered that almost everyone has something to say about maintaining teak. The most common advice is: 'Buy fiberglass!' "*

I discovered that almost everyone has something to say about maintaining teak. The most common advice is: "Buy fiberglass!" I'm not about to claim that I've found the perfect method for preserving teak. Instead, I'll share the techniques I found to be most effective and efficient for our purposes as liveaboards. However, far more important than technique is the attitude one needs to adopt if one is to maintain teak year after year and actually enjoy it.

Granted, teak maintenance is not for everyone. That's why there are lovely boats with almost no teak whatsoever. But if you admire teak brightwork, if you love the rich glow of wood in the saloon, if you like the traditional appeal of teak decks, you may discover that "doing wood" is a peaceful, rewarding activity. Maybe not as much fun as romping at the beach or sharing a rum-and-Coke with other cruisers, but pleasant.

All the instructions

I was fortunate early in my wood maintenance career to discover Rebecca Wittman's wonderful book, *Brightwork: The Art of Finishing Wood*. Since I had no experience with wood refinishing, save a minor oak-chest restoration project years ago, her book was ideal, with instructions on how to prepare, varnish, and repair wood finishes. Unlike other books on the subject, *Brightwork* gives detailed instructions and valuable tips, such as how to wrap your fingers with masking tape for trimming the deck caulking with a razor blade, in order to prevent painful chafing of your fingers. In addition to these nitty-gritty instructions, the book includes a history of varnish, comical anecdotes, and gorgeous glossy photos displaying exemplary wood-finishing projects.

I used this book faithfully as I worked on our teak down inside the cabin. When we purchased *Kahlua*, the cabin sole was unfinished and filthy, the holly strips not even distinguishable from the teak. I was delighted with Rebecca's recommendations for treating cabin soles that cannot be removed from the boat: Daly's two-part hydrogen-peroxide bleach. To me, the beauty of this solution is that it's a very effective bleach, yet it is easily removed by hand with a rag using an alcohol and water solution. Sure beats hosing down the interior of the boat. As Rebecca says, it "makes you wonder if the boat fairies came in the night and left you a completely new floor."

Another of her recommendations for the interior is the oil-sanding technique. I found this to be an outstanding way to maintain teak on the bulkheads. The process involves brushing

The well-maintained saloon of author Cathy McIntire's Baba 30, above.

on good quality teak oil using a disposable foam brush, letting it soak in a bit, then sanding it in — with the grain — using wet-or-dry sandpaper. Finally, you buff the wood with a soft cloth. A repeat buffing about 20 minutes later will remove any droplets of oil that "bleed back" through the wood. It is amazing to watch the oil disappear into the wood as you sand. I tend to get carried away, using not only the recommended 400-grit, followed by 600-grit, but sometimes even using 1,000-grit sandpaper. I just can't resist the baby-smooth, glassy finish this technique produces.

You can't rush it

Which brings me to my point about attitude: you can't rush wood. You might think that since we live aboard our boat and are not being paid to maintain our teak, we would want to hurry the process and get it over with.

"I know from experience that if I take my time with each step of the process, the wood will turn out lovely. If I rush or skip steps, I am almost never happy with the results."

I guarantee that if you approach wood maintenance in this way, you will not enjoy it; you will quickly tire of it, and you will likely produce some nasty messes in your haste.

I take a different approach. First, I select wood treatments that produce good, though not necessarily "cream-puff," results. We aren't getting ready for a boat show; we just want our boat to be well-maintained and attractive. Thus, we do not varnish the exterior brightwork, except for the mast. Sorry, Rebecca.

Like many other boatowners, I find that Cetol produces very nice results, lasts well, and is far easier to use when it comes to maintenance coats than varnish. Little to no sanding is required, and I can easily blend it in when touching up areas. Cetol saves me hours and hours of time in exchange for a slight loss of wood clarity. I use the new lighter-colored version of Sikken's Cetol, which sacrifices far less wood clarity than the original, darker-colored Cetol.

I used to finish with Sikken's Cetol Marine Gloss, but I no longer use the gloss coat because, like other cruisers I've talked to, I found the finish is not as durable and is more difficult to repair when it breaks down. The gloss coat soon develops "holes," allowing moisture under the finish to create black spots and requiring complete stripping to repair. Using plain Cetol

New book is an excellent companion

The Brightwork Companion, by Rebecca Wittman (International Marine/McGraw-Hill, 2004; 176 pages; $18.95). **Review by Cathy McIntire**

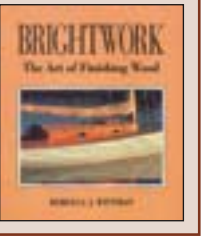
As if there weren't enough decisions to make when trying to decide how best to finish and maintain the wood on our boats, we now have a real dilemma. Rebecca Wittman has followed up her outstanding *Brightwork: The Art of Finishing Wood* with *The Brightwork Companion*.

Do we really *need* both books? Live-aboard cruisers may not want to devote the funds or the space to two books on the same topic. Those who already own Rebecca's first book may wonder what would be gained by purchasing the new one, while those just discovering her may be tempted to skip the first book.

The Brightwork Companion is laid out recipe-style. Chapters cover each step of the process of preparing and finishing wood, including quick reference sections. Directions are laid out in short sections with bold headings, making it easy to locate the information you need. This is a book to refer to during a project. While that is also true of Rebecca's first volume, it is much easier to locate needed information in the *Companion*.

The *Companion* covers the same techniques described in the original *Brightwork* book, but Rebecca also introduces products new to the market since 1990. For example, the *Companion* recommends CitriStrip, a chemical gel stripper which I can verify is a wonderful, easy-to-use product for removing old finish. Throughout the book, she shares her recommendations for the best products to use, including varnish, teak oil, sandpaper, tape, and even which type of toothbrush she uses for wood-cleaning projects. The *Companion* contains a few more specific product recommendations than the first book, such as "3M Fre-Cut sandpaper is the only sandpaper appropriate for use in brightwork." The *Companion* also contains handy charts, such as one on the four phases of sanding, which allows readers to compare and select the most appropriate technique for a project. However, for a more detailed discussion of various materials and techniques, including the reasons behind her recommendations, the reader would need to refer to Rebecca's first book.

Which book should you buy? Both have gorgeous photographs of beautifully finished boats. *The Brightwork Companion* has brief sections on the properties of varnish with a few historical details and flashes of wit, but it can't compare with the breadth of detail and elegant narrative of her first book. *The Brightwork Companion* is just that: an excellent companion volume to her first book. Yes, you can purchase just the *Companion* and have all the information you need to do your wood projects, but then you would miss out on Rebecca's delightful writing and the reasoning behind her recommendations. Along with being a how-to book, *Brightwork: The Art of Finishing Wood* is a book to read, treasure, and display. When you get to the actual work, *The Brightwork Companion* is a better choice. The solution is obvious by now: buy them both.



Cathy McIntire, at left, loves the teak on her boat and says maintaining it is just a matter "attitude." The bulwark on her Baba 30 gets a makeover, below.

allows me to simply sand and re-coat any area needing repair. Even spot touch-ups can easily be blended in so they don't show.

Still caring for them

Likewise, we have found that no finish at all is the most effective and efficient approach to our teak decks. However, that does not mean we don't have to care for them. Initially, we followed Rebecca's recommendations, cleaning and brightening the wood, trimming the deck seams so we could sand effectively, and sanding the decks lightly to get them smooth. Smooth deck wood attracts less dirt and debris as there are fewer crevices for it to collect in. Once the deck was properly cleaned and prepared, we were able to adopt a maintenance routine of washing the decks gently with a mixture of TSP and Joy, or rinsing them nightly with seawater. Either one helps keep the decks lightly bleached.

Besides choosing realistic, time-effective techniques, my most important choice has been to slow down. If I am doing maintenance coats, I decide on a reasonable amount of wood to complete in, say, a morning. I then mask off everything that needs to be protected, taking my time and doing it neatly, which will save lots of time later by preventing messes that must be cleaned or scraped up. Once I have all the pieces masked, I can apply a coat of Cetol in a relatively short amount of time. Could I save time by not masking? Maybe *you* could, but in my experience, I can brush on the Cetol far more quickly and easily if I have masked everything and I don't have to spend time cleaning up blurps.

If I am stripping and completely refinishing a piece, I again slow down. I know that I will first have to strip off the old finish, clean up the mess, clean then brighten the teak, sand and re-sand until the wood is smooth, then coat with two or three coats of Cetol.

Since we are liveaboards, staying at anchor or a mooring most of the time, and have only a small generator, I cannot use a heat gun for stripping. I have had excellent results using CitriStrip, a thick, orange-scented gel that stays where I put it, even on vertical surfaces, and melts away the finish.

Taking it slowly

But again, I slow down. I sit comfortably. I do not plan on doing anything more than stripping the old finish off and maybe cleaning and brightening the wood. I relax, enjoy my surroundings, and do small sections at a time until, before I know it, all the old finish is gone. I take pleasure in watching the old finish peel away from the wood. I love cleaning and then applying the brightener to the grayed wood. I am a fan of TE-KA cleaner and brightener and use them whenever I can get them. I once ran out while doing our teak decks and had to use an alternative product on one side of the boat. The difference was striking. TE-KA outperformed the other reputable brand by a long shot.

I must admit that the part of wood maintenance I like the least is sanding, but here, too, I have learned to slow down. I know from experience that if I take my time with each step of the process, the wood will turn out lovely. If I rush or skip steps, I am almost never happy with the results. Either I leave blemishes in the finish, or I accidentally scar a nearby piece of wood, or the wood is not sanded smooth enough to produce a shiny finish no matter how much Cetol I brush on, or I knock something over and have a nasty mess to clean up. When I go slowly, but steadily, I actually get the job done in less time, and it is done right. What's more, I get to savor the feel of smoothly sanded wood against my fingers, to marvel at the glow of the newly coated teak, and to smile with pleasure in response to the compliments we receive from other boaters.

You may be thinking this slow approach is all well and good for liveaboards, but doesn't work for weekend sailors. I must disagree. I developed this approach while we were still shore-bound, weekend sailors. True, back then a larger proportion of our total time on our boat was spent working on the teak. However, I am still doing teak and still loving it. This, after owning our Baba for eight years, only two of them liveaboard years.

If you own or are considering buying a boat with substantial amounts of teak, I urge you to consider taking a longer view of wood maintenance. If you want to maintain a loving relationship with your boat and your mate, I strongly suggest you cultivate the ability to enjoy working on wood. You are going to have to do it anyway, so why not slow down and make it pleasant? Trust me, it will all get done. Maybe not as strictly on schedule as you planned, but it will get done. Then you'll be able to relax and enjoy sailing and playing on your beautiful boat, free of any nagging dread about having to do the wood again.

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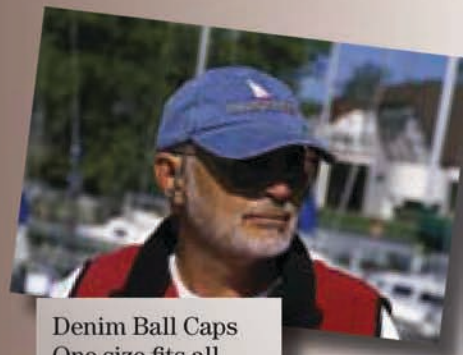

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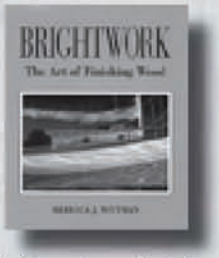

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A Visit from the

An exhausted crewmember hears sweet

"It was glorious music, performed a capella, somewhat like a Gregorian chant, yet different. And so, so, beautiful . . . I didn't want it to stop."

Brave Ulysses headed due east under power with sails furled. It was one of those nights when only the occasional reflection of the yacht's running lights on the calm water gave any evidence of an outside world. The sky was overcast and black. Only a gentle and random motion betrayed the presence of the flat and glassy sea beneath her keel. The skipper and I had the midwatch while the rest of the crew caught up on sleep after a hard afternoon of beating to windward.

While the captain puttered around on deck and prepared for our morning landfall, my own world was restricted to the helm: the red glow from the compass bowl and the distant flash of the lighthouse at the harbor entrance, dead ahead, still hours away. A day's hard sailing had left me exhausted as well, and I was looking forward to greeting my relief and retiring to my damp corner by the companionway. My only duties were to keep her on course and to check the distant light for leeway. Only the throb of the engine and an endless supply of cigarettes was keeping me awake, and I was having trouble staying alert.

The skipper went below to take a fix and try to raise the harbormaster on the radio. There was a shallow and very dangerous bar at the mouth of the harbor ahead, and many boats had been lost on the seas that often broke on it, invisible until too late to those who approached from offshore. Even with this night's gentle conditions, it was only prudent to call ahead and verify the state of the sea at the harbor entrance.

When I first heard the music, I thought the skipper had found a broadcast station instead, or that he was maliciously waking up the crew by playing a tape. But the music! A chorus of men's voices, a hundred of them, harmonizing beautifully in an unearthly song. It was glorious music, performed *a cappella*, somewhat like a Gregorian chant, yet different. And so, so, beautiful…I didn't want it to stop.

Inconsiderate skipper

It swelled so loud that I first thought the skipper was being inconsiderate waking the crew this way. Next I thought how lucky they were to have this to wake up to. Then I realized that it was much too loud for our stereo. I even glanced about to see if there were any other boats nearby that could be the source of the music. There were none. Even in this darkness, it would have been impossible to sneak up on us that way. I glanced about anyway, but the boat drove on into the night alone. And the music went on, louder and ever more beautiful, somehow falling in time with the engine noise.

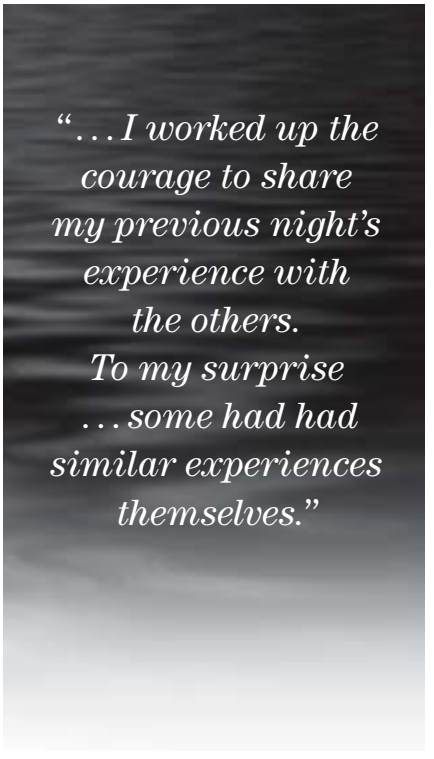
And suddenly it stopped. I was wide awake now, and I realized that the music had somehow followed the varying hum of the motor until it vanished almost exactly when I noticed the dependence of one on the other. For a few seconds I could remember precisely how it had sounded; I could even have hummed the tune. Then, like a dream, it faded from my memory even as I struggled to retain it. I could describe it to myself in general terms, and I could recall my emotional response to it accurately, but the experience itself was gone. There was nothing left but the water gurgling past the hull, the slapping of the halyards against the mast, and the distant rumble of the diesel.

Soon the skipper was back on deck, and our relief crew would follow shortly, rubbing the sleep from their eyes. Below, the morning watch was

Boat Fairies

voices in the night

turning to, coffee was being brewed, and lights were flickering on and off. I stayed on deck long enough to have a cup and another smoke, but I didn't mention anything about my ghostly choir to my shipmates. I was certain I had dreamed it all, yet I kept expecting that someone would mention it, that someone else had heard it, too. Of course, no one had. Normal shipboard routine prevailed until I went below and collapsed on my rack.



Cleaning up

When I awoke, the boat was tied up and the crew was finishing the morning cleanup. During breakfast, I worked up the courage to share my previous night's experience with the others. To my surprise, they had heard of comparable episodes, and some had had similar experiences themselves. There was even a West Coast sailors' term for it: *boat fairies*. The boat fairies came to haunt tired sailors, those who had spent too much time on watch in cold, rough, and monotonous conditions. And not all the hallucinations were auditory. Under the hypnotizing effects of repetitive sounds and glowing compass cards, suggestion sometimes took over, they told me. Stories of horrible monsters lurking below and cries of "Repel boarders!" invoked against hordes of nautical gremlins were not uncommon.

After breakfast, I took a walk through the little town. It appeared to be dominated by two industries — fishing and tourism — with much of the latter provided from the sea as well. Scores of yachts rode at anchor in the bay or were tied up along the waterfront. Fishing boats still in port, as well as the usual seaside fish markets and chandleries, added to the picturesque scene. There was also a memorial. A huge stone in the town square had a large metal plaque on which were inscribed the names and dates of the mariners who had died there. I imagined most of them were victims of the breaking surf at the bar.

Sometimes no amount of seamanship can overcome the temptation to bring a catch to market before it spoils in the hold, even when one's instincts are to stay offshore and wait for the weather to subside. There were dozens of names, many of them repeated. Whole families had drowned there. I felt it overly melodramatic to remove my cap, but I did so anyway, hoping none of the strolling tourists caught the gesture and misunderstood it. I felt I owed it to them. They had sung their song for me.

Let there be light
Continued from Page 28

well-known boats using Alpenglow lights include the *Pride of Baltimore II*, *PlayStation*, *Kalmar Nikel*, *Mahina Tiare*, many large custom-built boats, and of course many good old boats.

Self-contained life

Like Frank Sinatra, the Stoeckleys are "doing it their way." Though they also sell through dealers, experience shows that they are most qualified to extol the virtues and pricing of their products. On a personal level, they enjoy the balance many of us seek, living an essentially self-contained life in idyllic surroundings.

"We're working about as hard as we want to," Bob says of opportunities to increase the firm's production. That the firm is an unlikely takeover candidate is of no importance.

One condition won't change, though: when you telephone the company the odds are very high that you'll be talking with one of the SIAs. Unless, of course, they're sailing. Or just away.

How it all begins,
Continued from Page 32

she seemed to be probing right into my very soul. Intimidated, I stepped closer. The sailboat now sat still, calmly resigned, as if she already knew. At that moment, even before seeing the survey, I knew it too. She was the one.

"You don't pick your boat," a salty old sailor once told me. "She picks you."

***Angel*, a 1978 Bayfield 29, starts life anew.**

Two are transformed

He was right. *Angel*, the cutter-rigged 1978 Bayfield, slowly stretched her dusty wings for the first time in years and sailed home with me. Once again needed and wanted, she began her new life. Little did I know she would drastically change mine as well.

During *Angel's* restoration, I was transformed from someone who relied on the help of others for boat care to a confident, self-reliant keeper. Highly motivated, I sought to learn valuable new skills such as fiberglassing, painting, diesel care, electronics, rigging, and even plumbing. *Angel's* bookshelves filled with how-to publications. A high level of interest, plenty of hard work, time, and socializing with boatyard experts was the key. Earlier, I would never have thought I possessed the wherewithal to install a marine diesel engine or rewire cabin lights. *Angel* proved me wrong.

> *"Still standing at a distance, I knew that as soon as I stepped closer all emotional restraint would be lost."*

Since I started out with little experience and skill, the road to restoring *Angel* was a long and difficult one. However, I wouldn't have changed a thing. The learning experience gained during *Angel's* renewal was the most meaningful thing I'd ever accomplished, and I took great pride in her. She became the love of my life. It was difficult to imagine that the well-built and eloquent little cruiser was once a neglected, unwanted orphan. Toward the end of her stay in the yard, the charismatic little Bayfield began to attract attention. People would stop and comment on her beauty. I grinned like a proud, doting new parent.

Restored, confident, and with a meaningful sense of purpose in life, *Angel* and I sailed to a new horizon. Our love affair had just begun.

For Sale

Eastward Ho 31
Featured in *Good Old Boat*, Nov. '03 issue, Page 36. Westerbeke diesel. Email for details. Fully found. $29,000.
Bill Sandifer
228-255-6098
devilsel@datasync.com

Chris Craft Cherokee 32
This classic Sparkman & Stephens design has been upgraded with a new Universal diesel engine '99. Awlgripped pearl gray hull '03. The bottom gel planed, faired, and coated w/International Interprotect '00. Completely rewired '99. New water heater and water pressure system '00. This classic cruiser has traditional appearance w/very comfortable cruising interior. Stored inside and easily viewable. $24,500.
Torresen Marine
231-759-8596

Ericson 30
1979. Currently a freshwater boat. Yanmar diesel. Self-tailing winches, new rudder '02, new batteries, Furlex RF. Accomodates 6. Topsides ivory w/blue waterline stripe. Bottom VC 17. In Lake Champlain, Vt. $26,000.
Richard Easton
413-625-9515
andoak@valinet.com

Pearson Invicta II 38
1967. Hull #108 of 13 built. Hood main and genoa (on Harken furler) in exc. cond. Extra jib, genoa, drifter, spinnaker. New: Autohelm depth and pressure water. Flag blue Awlgripped hull. Original wood boom. Atomic 4 (starts every time and runs great). This boat is a piece of history in fantastic cond. and only requires modifications to suit owner's needs. In eastern N.C. Recently reduced to $34,000.
Brian Word
252-353-8362
windwordii@aol.com

Boston Whaler Harpoon 5.2
1979. In very good cond. Brand-new North main, 2 jibs, original main, and complete spinnaker gear. Original manual. All new lines. Mariner 4-hp (very reliable). Anchor, Sunbrella seat covers, and Sears galvanized trailer w/new wheels and tires. In Richmond, Va. $4,200 for all.
James Smuts
804-264-2639

Freedom 40
1980. Aft cockpit cat ketch, normal booms, windlass and all chain, new RIB and motor, Furuno radar, new steering, new lines and blocks, AP, stereo, propane, inverter, heavy-duty electrics, new lighting fixtures, A/C, dodger, Bimini, cockpit surround, low-time Perkins 4-108, 2 mizzen staysails and mizzen spinnaker. Excellent cruiser/liveaboard value of $74,000. More info at <http://www.catketch.net>.
Chris Waln
703-327-8363
catketch@yahoo.com

Steel Spray 28
Bruce Roberts design, cutter rigged. Very strong, deep water boat. 6'7" overhead with 11' beam sails. Sextant, radar, wind generator 8-hp diesel motor. Ready to go anywhere. $35,000.
Tom Cellum
979-236-1964

Richardson Golden 31
1959. Cruiser. Wood construction. Twin Gray Marine 170-hp. Boat needs a loving home. $7,500. All offers considered.
Torresen Marine
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peter@torresen.com

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Alberg 35
1967. Yawl-rigged, freshwater boat. Recent sails and Yanmar 3GM diesel 27-hp. AP, D/S. New interior cushions. Imron hull and deck, Dutchman system. Self-tailing winches. On Kentucky Lake. Must sell $32,500.
Dave Rodgers
317-758-5088 or
270-836-8528 (cell)

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Dick Jackson
808-781-5573

Nimble Kodiak 26
1998 pilothouse motorsailer, one owner, like new, sailed only in the Great Lakes for 3 summers and covered during winter. 18-hp Yanmar diesel, 3 tanbark sails, trailer, and many custom improvements/updates: teak cockpit grate, Bimini, new professionally upholstered cushions in and out, quality lighting, new electronics. We hate to give her up, but we have no time to sail. $43,000.
Mark Mow
574-264-2026
mow@elkhart.net

Sea Sprite 28
1981 Luders design, well-maintained sloop. Equipped for cruising. 11-hp Universal diesel. Profurl R/F, new mainsail, dodger w/awning, new electronics including Lowrance chartplotter. On Little River, S.C. $24,500.
John Schwab
843-458-4566
mist@infoave.net

Sea Spite 28
1985. Hull #48. Sailed about 4 weeks each summer. Bristol cond. Virtually all systems new, replaced, or restored. Professionally maintained. Pictures by email. In Sturgeon Bay, Wis. Stored inside during off-season. Asking $32,900. Very lightly used 9-ft. Zodiac (new '01) and Spade #33 anchor negotiable extras.
Peter Schloss
816-792-4242
pmslaw@kc.rr.com

Albin Ballad 30
1978. New diesel, mainsail, dodger, canvas, cockpit cushions, dripless stuffing box, shaft, prop, and Tiller Pilot. Never had a blister. New epoxy bottom and paint. Furuno radar, Garmin 180 chartplotter. 2 VHFs, Profurl, spinnaker pole, new whisker pole. Very good cond. In Texas, $26,500.
Charlie King
281-648-4969
charles.king@halliburton.com

Classified Deadlines

Issue	Date
May 2004	Mar. 1, 2004
July 2004	May 1, 2004
Sept. 2004	July 1, 2004
Nov. 2004	Sept. 1, 2004
Jan. 2005	Nov. 1, 2004
Mar. 2005	Jan. 1, 2005

Lord Nelson 41
If you know boats, you already know about the legendary reputation that Lord Nelson yachts have concerning construction, ease of maintenance and seaworthy attributes. What sets this Lord Nelson apart from the others is its late model, lead ballast, 55-hp Yanmar, and double spreader tall rig, perfect for the Northwest. Lots of cruising equipment included. Located in Roche Harbor, Wash. Asking $184,500. <http://www.rockisland.com/~bradgis/>

Brad Gislason
360-378-4860
bradgis@rockisland.com

Pearson 26
1971. Bill Shaw design. The most popular Pearson model ever. Always stored inside, standing headroom, 7 sails, trifold forstay, marine head, D/S, VHF/FM, compass, 12-hp Evinrude OB, 4 Lewmar winches, SS sink w/freshwater pump, bilge pump, propane stove. New last season: deep cell marine battery w/charger, AC/DC refrig., GPS w/Lake Michigan charts. Sheboygan, Wis. $7,000.

Dave Heilman
920-686-7433
dheilman2000@yahoo.com

MacGregor 26X
1998 *Morning Glory*. One owner, bought new '99. 3 sails, including 150 genoa, furler. 26-hp Johnson OB. 2 fuel tanks for cruising range and speed. D/S, compass. Swim ladder. Whisker pole. Claw anchor on 150-ft. rode, spare Danforth. VC 17 bottom '02. Swing keel. Easy reefing. Mast raising system. Cockpit cushions. Fully screened. Well-kept trailer w/spare, surge brakes. $16,500.

Eric and Debra Dammeyer
952-942-6698
thepromise@cooper.net

Pearson 30
1977. Hull #985. Atomic 4, wheel helm. Mainsail, working jib, 150. New head, new sheets and halyards in '00. Main and working jib cleaned, reconditioned in '02. Sail covers. Sleeps 4. 15-gal. fuel tank, 20-gal. freshwater tank w/whaler pumps. Dual batteries. Clean, good cond. Email for add'l photos. In West Harbor, Lake Erie. Asking $12,900.

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Kathy Malloy
781-585-8021
sailor1@adelphia.net

Gulfstar 41
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Joann Embury
904-284-9986 ext. 2040

Cape Dory 27
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ereiss@mba1974.hbs.edu

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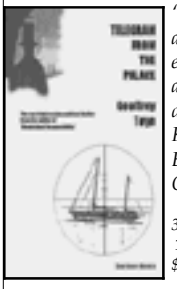

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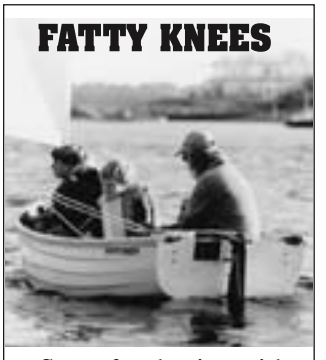

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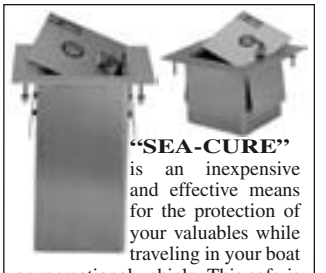

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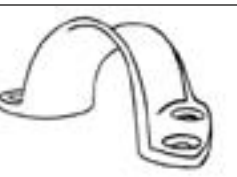

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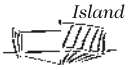

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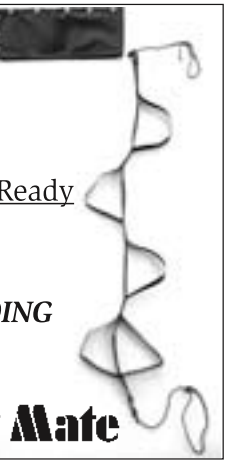

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Deck repair

The solution for simple boats and limited budgets

by Richard Brunt

The finished V-berth overhead, above, has been left without the liner so any future leaks will be easy to detect. Photos on facing page show sections of marine ply ripped to small pieces to replace rotten balsa core and also the addition of one of the stiffener beams used to reinforce the deck.

I had known about my delaminated foredeck for a long time. The surveyor had missed it when I bought the boat, but I discovered it soon afterward. While poking around the anchor locker, I noticed the overhead was discolored. A few taps with a hammer produced the sickening dull thud that indicates problems. After drilling a few small holes through the skin into the core, my worst suspicions were confirmed — the balsa core had turned to a soggy, pulpy mass.

I am a boater who cruises on the extreme low end of the economic spectrum. I refuse to let my boat be a financial millstone around my neck, causing household stress and delaying retirement plans. I was, therefore, a bit nervous when I asked the local pros for quotes on this extensive repair. Their prices hovered around the $5,000 mark — "more if the rot extends to the sidedecks," they said. My trusty 1979 27-foot Watkins is only worth about $10,000. Common sense would indicate alternative action. I had to find a way to get the job done cheaply, yet effectively, or my boating days were numbered.

"The best part was that the repair was completed for less than $500, well within my means."

After reading everything I could on deck repair at the local library, I decided to determine the extent of the damage, replace the core where necessary, and re-fiberglass the areas involved. Don Casey, boat repair guru, states that this problem can be attacked from above or below the deck, depending on the situation. From above you have more space, and gravity is working for you as you apply the messy fiberglass. It also means you have to refinish the entire deck. I chose to work from below.

Removed overhead

I cut away the overhead liner in the forepeak with a rotary tool (Dremel), using a grinder with a cutting wheel occasionally. The fiberglass skin came away easily — it was delaminated extensively. The rot extended about 4 feet back from the bow, then it was beautiful, clean, new looking balsa. Unfortunately the sidedecks were implicated as well, so I had to remove hardware, stanchions, chainplates, toerail screws, deck fills, cabinets, and parts of the hull liner to excise the damage. At this point I was thinking that working from above might have been the better choice. The balsa core came away easily in most places. The grinder with an abrasion disk took care of the rest. Of course, I used a respirator and goggles for this and had good ventilation.

Next came the fun part. Reaching upward, I applied epoxy, thickened to a dense peanut-butter consistency, all over the underside of the deck where I had removed the core. The original core had been pieces of balsa about 8 inches square. Nobody stocked balsa core in my area, so I ripped marine ply into similar-sized pieces and squeezed them into the gooey epoxy overhead. I smoothed everything out with a squeegee and let it dry. A few days later I again used a grinder to make the repair fairly smooth. A respirator is critical when grinding or sanding epoxy, especially if it has not completely cured. Apparently the small particles finish the curing process in your lungs. Not a nice picture.

Then I applied four layers of 6-ounce cloth to the area. Using epoxy means you can use just cloth for this type of repair, according to Don Casey, you need not bother alternating mat and roving as you would for a repair using polyester resin. This was a messy job; it was hard to keep the resin off of myself and other parts of the boat. Epoxy in my hair was the worst mess I have ever dealt with — be careful!

Still springy

The foredeck of my boat was still slightly springy. I decided to laminate two athwartships and several longitudinal beams to act as stiffeners. The experts say it doesn't matter what material you use for the actual beams because the strength comes from the fiberglass. This reinforced the deck nicely, and it now feels much stiffer than before the repair.

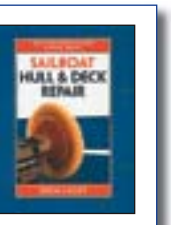
When I was finished with the fiberglass, I sanded all surfaces and applied white marine enamel. It looks pretty good. I can now see the underside of the deck easily, so leaks will be detected before they cause major damage. In my case, the overhead liner was concealing a serious problem, and I'm glad to be rid of it. I carefully re-bedded every screw and fitting, drilling the holes oversize, filling them with epoxy to seal the core, then re-drilling

the proper size for the screw or bolt. This will help ensure that any future leaks do not enter the core to cause further damage. I wondered whether the pros would have been this thorough. Maybe.

It felt good to have solved the problem myself. Although I am not a particularly handy person, the job presented no real difficulties besides being unpleasant and messy. The best part was that the repair was completed for less than $500, well within my means. Although it may or may not look as good as a professional repair, it is every bit as strong and functional. For those of us sailing simple boats with limited budgets, sometimes the only solution is to roll up our sleeves and get the job done ourselves.

For further reading ...

Don Casey's excellent *Sailboat Hull and Deck Repair* (1996), can be found at <http://www.goodoldboat.com/bookshelf.html> or by calling 763-420-8923.



Sound off!

When the fog arrives, it's time to blow your own horn

by Don Launer

Not large, but mighty, the new FogMate performs one of your many fog-related tasks for you.

Operating your boat in a dense fog can be an anxiety-filled experience. You need to maintain a safe course; check your compass, radar, and chart; set up waypoints; listen for other boats; and keep a sharp lookout for anything emerging from the fog. It's not surprising that few recreational boaters, in this situation, remember to sound a foghorn signal every two minutes, even though this is required by law whenever there is restricted visibility.

In 1972 the International Maritime Organization adopted the Convention on the International Regulations for Prevention of Collision at Sea. The regulations adopted by this global convention are known as COLREGS and have been incorporated in the Rules of the Road for the United States and many other countries. Part-D, Rule-35 of these rules define signals that must be used in or near an area of restricted visibility, whether by day or night. Although we usually consider "restricted visibility" to mean fog, the USCG describes this restriction as "any condition in which visibility is restricted by fog, mist, falling snow, heavy rainstorms, sandstorms, smoke, or any other similar causes." (Darkness is not considered a condition of restricted visibility).

Vessels over 12 meters in length (about 39 feet 4½ inches) are required to sound specific signals under these conditions. For vessels under 12 meters in length, the same sound signals are recommended but not required — however, those smaller vessels must still use "efficient sound signals at intervals of not more than two minutes."

Although most boaters consider their radar the ultimate method of preventing collision when visibility is restricted, every year a surprising number of collisions occur in fog when both boats are using radar. Few accidents occur, however, when both boats are using the required sound signals.

Common foghorn signals

Vessel under power

4-6 sec.
at not more than 2-min. intervals

Sailing vessel, vessel engaged in towing, vessel restricted in her ability to maneuver, vessel constrained by draft, vessel engaged in fishing.

4-6 sec. apx. 1 sec. each
at not more than 2-min. intervals

Power vessel that has been underway but is now stopped

4-6 sec. not more than 2 sec. 4-6 sec.
at not more than 2-min. intervals

Distress Signal (S.O.S.)

or

prolonged blast

The radar trap

The collision of the luxury liners *Andea Doria* and *Stockholm*, in which both ships were using radar, is one of the most notable exceptions. On the evening of July 25, 1956, the *Andrea Doria*, a day away from her destination in New York City, collided with the outbound Swedish ship, *Stockholm*, south of Nantucket Lightship. Within minutes the *Andrea Doria* was listing 20 degrees and water was pouring over the open tops of her watertight bulkheads, condemning her to a fate similar to that of the *Titanic*. Ironically, if neither ship had been using and misinterpreting their radar signals, it's probable that there would not have been a collision.

The U.S. Coast Guard regulations prescribe certain sound signals, depending on the vessel's operating characteristics. There are different types of signals for a power-driven vessel that's underway; a power-driven vessel that has stopped; a vessel under sail; a vessel constrained by her draft, restricted in her ability to maneuver, or towing another vessel; a vessel being towed; a vessel at anchor; a vessel aground; or a distress signal (see chart at left). With this multitude of different signals to contend with, many small boat operators just sound none at all.

Unfortunately, in a fog this increases the tension. While you can expect commercial craft to follow the rules, you never know if there is a recreational vessel operating nearby that is keeping silent. This makes it doubly important that you make your own whereabouts known, so other boats nearby know of your presence.

Hailers help

Electronic hailers, found on many powerboats, sometimes have internal circuits that will automatically sound a fog signal. These units are seldom seen aboard sailboats, however. A few years ago I tried to find a module that would do this for my schooner but was unsuccessful. I designed and built a small unit for my boat that would sound the foghorn automatically. It was very basic, built from Radio Shack parts, but it allowed me to sound proper signals while under sail or power, without tak-

ing me away from the duties of navigation, listening, and watching.

Recently, this electronic safety void was filled by TSX Products Corp., which came on the market with a small automatic foghorn at a reasonable price. The FogMate is a tiny module, about half the size of a pack of cigarettes, that can be connected to any existing electric horn to send the various sound patterns specified by the USCG. Although the FogMate is designed for boats that already have electric horns, it's not too big a project to add an electric horn to any boat. The module is wired into your electrical system and has several installation configurations, depending on your specific requirements. Installation can even be made without adding any other additional switches or taking up any additional space on your console. In this configuration, the unit is powered from your navigation lights (which should be on whenever you are in a restricted visibility situation) and the automatic horn pattern is selected by hitting the horn button a specific number of times.

The FogMate is contained in a flame-retardant ABS plastic case, and the electronic circuit is encapsulated in epoxy, making it waterproof. When activated — except for when the horn is blowing — the unit consumes a minuscule 6/1,000 of an ampere; however, the horn relay in the module can handle a hefty 20-amp horn current. The unit can also sound an automated distress sound signal — SOS — that will continue while the crew is preparing to abandon ship.

"...a surprising number of collisions occur in fog when both boats are using radar. Few accidents occur, however, when both boats are using the required sound signals."

In a fog there's the remote possibility that you may not hear another boat's fog signal if the timing of that signal happens to coincide with yours. To eliminate this small possibility, the FogMate varies its horn timing randomly between 100 and 120 seconds.

No matter which system you use, whether you blow your horn manually every two minutes or whether it's done automatically, proper sound signals in restricted-visibility situations can be one of the most effective and inexpensive precautions you can take to ensure the safety of you, your crew, and your boat.

Resources

TSX Products Corp., Marine Electronics Division
249 Vanderbilt Avenue, Norwood, MA 02062;
1-800-879-7763; <http://www.FogMate.com>)

Unseen hazard

A hangover with a dangerous potential

by Barry Hammerberg

A member of the Tuesday-evening racing crew, Dave Michalkiewicz, uses the grill on *Another Adventure*, author Barry Hammerberg's 1990 Hunter Legend 35.5. The propane bottle is stored on the stern pulpit in a mesh bag.

On a sunny Tuesday morning last summer I awoke in our aft berth with a headache for the second time in as many days. Monday's headache I could understand…the skipper in the adjoining slip had been mixing rum-and-Cokes the night before. Not that he makes a strong drink, but the word on the dock is that the Coke cowers beneath rum in a corner of the glass.

I noted that my mate had opened the ports to our aft cabin berth during the night — apparently trying to get some fresh air. She complained that the boat had a faint odor, like wet sweat socks…perhaps a gas leak?

> *"She complained that the boat had a faint odor, like wet sweat socks . . . perhaps a gas leak?"*

Couldn't be gas, we use compressed natural gas (CNG). One of the things I like about it, beyond the hotter flame, is that it's lighter than air; hence it doesn't collect in the bilges or cabin. It must be something fermenting in the bilge, or an odor from the paper mill located nearby.

Seeking the source, I lifted the floorboards. The bilges were all clean — no odor. I checked the valve on the CNG tank under the port settee. The pressure was good and the valve was firmly turned off. I checked the sump under the Yanmar thinking we might be reacting to an accumulation of diesel fuel. It was dry. Puzzled, we left for work and, in the course of the day, forgot about the headaches. Left for work? We live aboard our boat six months a year.

Tuesday evening our crew gathered for the weekly club race. All set about their respective routines for getting us race ready. This is quite a transformation for a "cottage," but nonetheless a serious racing cottage. While stowing mooring lines in the cockpit lazarette, our daughter called out, "There's a little can in here with frost on it. I've seen the can here before, but never with the frost — is that OK?"

Open valve

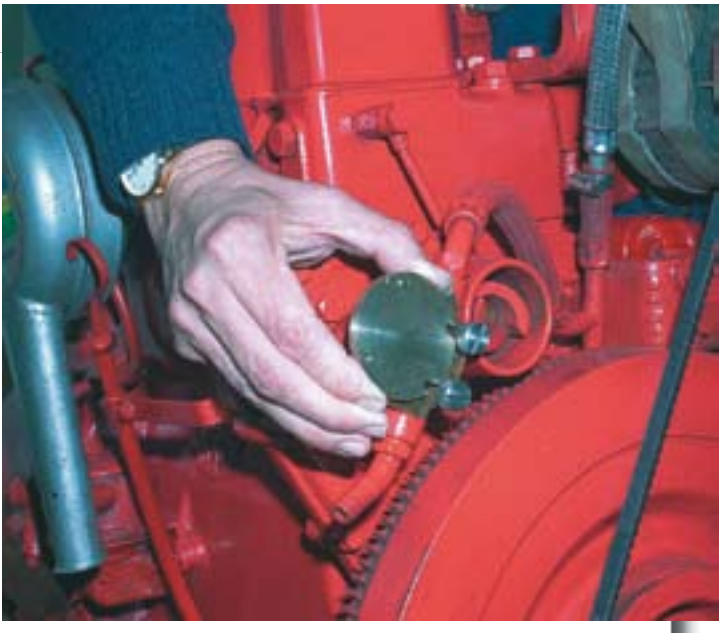
A quick check of the lazarette confirmed the presence of a small propane tank for the gas-fired barbecue. Out of sight, out of mind; the valve had opened slightly, apparently jarred while loading gear in the locker. Gas had collected in the lazarette and, being heavier than air, had somehow found a path to the aft cabin, causing our headaches. Fortunately the gas-to-air ratio in the hull had never become critical — potentially leading to an explosion. I quickly closed the tank valve and banished it to the dock to be dealt with after the race.

We were very lucky that an arc in the refrigeration or air conditioning motors or some other ignition source hadn't touched off an inferno. We learned our lesson. Now propane-grill canisters are stored in a fabric-and-net pouch that hangs off the stern pulpit. Any escaping gas goes directly overboard or out the stern of the open cockpit. We are also much more aware of anything stowed out of sight. What hazards are stored in your boat — both below and above deck?

Improve impeller access

All thumbs? The Speedseal will see you right

by Michael Facius



With a quick-release cover using screws requiring only finger-tightening, Speedseal makes impeller inspections easy and more likely to happen.

If your auxiliary engine uses a water pump with an impeller, inspecting it regularly can prevent serious problems. In 1999, when we purchased our 1979 C&C, one of the first inspections we undertook on our Yanmar 2QM15 was a look at the impeller. To my surprise, the screws on the inspection plate were painted shut.

It became clear why the previous owner had never made the inspection when I had to totally remove the pump from the engine to look at the impeller. The inspection plate faces aft and is accessible only behind an inspection panel, in a cabinet, under the galley sink. I can get either one arm or my head in that space, but not both. The thought of trying to remove six very small screws with only one hand on a pump you cannot see made inspections completely unrealistic.

Then I remembered seeing a product called Speedseal, which was designed for just such a situation. This product is a ¼-inch-thick, naval brass, quick-release cover that uses a maximum of four knurled screws that can be finger-tightened, requiring no tools. It also has a nitrile "O" ring gasket in a machined channel that replaces the paper gasket on the original inspection plate. Two of the screw holes on the plate are slots, which makes removing and reinstalling it easy, even if you can't see them. In fact removing and reinstalling the impeller can be done without seeing what you are doing.

There is an action demo on the Speedseal website <http://www.speedseal.com> that shows the basic process of removing the impeller cover. Also, Alex Parker at Speedseal has a tollfree number, 800-675-1105, before 1 p.m. U.S. Eastern time (Speedseal is in England) and is very helpful in answering any questions you might have.

Speedseal made impeller inspections on our boat easy and therefore much more likely to happen. Even if your impeller cover is easy to get to, the Speedseal will make inspections a lot easier. And should you need to make an emergency change, you will be glad it was so quick and easy.

A clearer view

How to get rid of scratches on plastic windows

by Bill Burr

One of the most vexing problems facing boaters is the appearance of fine scratches on clear plastic windows. The process of removing them from Lexan, acrylic, and flexible vinyl windows has some similarity to the removal of chalk from aged fiberglass. As with fiberglass, in order to bring back the original look, the scratched window surface has to be gently buffed to expose undamaged plastic beneath. A subsequent application of polish will then bring out a clear window look to the newly exposed area.

There are a few concepts to consider before you start. Always wash down the surface at the beginning to remove surface dirt. Rubbing hard particles into the plastic during the cleaning step will do more harm than good. Always use a clean pad, and don't press down too hard until you see the results of the first pass. Avoid using paper towels or stiff brushes that can scratch more than clean.

An industry favorite for removing fine scratches is Meguiar's 17 Clear Cleaner and #10 Clear Polish. Apply a nickel-sized drop of cleaner and disperse it using a foam applicator in a circular motion over a 1-foot by 1-foot area. Once it is spread out, rub in a linear direction for up to a minute, then wipe up the residue with a clean terry cloth towel. Repeat the process two to three times until the results you want appear. The final step is to apply Meguiar's #10 clear polish which puts oils back on the surface, fills in the hairline scratches that reduce light refraction, and gives a protective sheen to the plastic.

> *"Like most other cosmetic maintenance problems, replacement can often be avoided by early intervention."*

Severe scratches and surface crazing are best left to a professional. Power buffing plastic surfaces looks easy but is actually quite difficult to perform without causing further damage from swirls and burning. Professionals are generally well qualified to use high-speed rotary buffers with abrasive compounds that break down into finer and finer particles under heat and pressure.

Internal crazing is all but impossible to prevent or correct. As plastic ages, the polymer tends to break down. Salt and sun add their contributions. Pressure from over-tightening the frame or an unwanted blow can cause distortion, which in turn may create internal crazing. When plastic reaches the point of crazing internally, it is probably best to replace it.

Like most other cosmetic maintenance problems, replacement can often be avoided by early intervention. Try the above cleaning and polishing technique when you first notice fine scratches, instead of letting them accumulate to the point where hiring an expensive professional is the only way to save the window.

As plastic ages, above, crazing is all but impossible to prevent. Catch it early, however, and you can buff fine scratches out and fill in with a clear polish, below.

Dousing the headsail

A jib downhaul clears the foredeck of sails and sailors

by Gregg Nestor

I LEARNED LONG AGO THAT HAVING THREE DOZEN OR SO BRIGHTLY colored lines with three dozen or so purposes not only *did not* impress the first mate, but also complicated what should have been a simple and relaxing sailing experience.

These days when I get that itch to add some new, nice-to-have gear, I first run it by the first mate to help determine if it will make our sailing easier, safer, or more enjoyable.

"Now when I get that itch to add some nice-to-have gear, I run it by the first mate to help determine if it will make our sailing easier, safer, or more enjoyable."

With trailersailers, ease of setup and removal are often negatively impacted by the addition of nice-to-haves. Roller furling, for example, can complicate setup and requires additional time to secure it for highway travel.

We elected instead to install a simple headsail downhaul. We installed one of these on our first boat more than 20 years ago and, according to the current owners, it still works well.

I tied a bowline in the end of a light Dacron line and attached it to the head of the jib. From there, the line is led down through a block located at the stemhead fitting, and back to the cockpit via fairleads, where it is cleated off.

When hoisting the headsail, the downhaul is freed and fed out as the halyard is pulled. To douse the headsail, the process is reversed. Either one of these tasks can be done single-handed. If there are others aboard, a crewmember can gather the sail on deck and either stuff it under the downhaul line or bundle it with shock cords. This temporarily secures the headsail and clears the foredeck for docking or anchoring.

A bowline, tied in the forward end of a Dacron line, below, and to the head of the jib, above, is led to the cockpit and serves as a simple jib downhaul.

Other Irwin 25s

My wife and I have just completed the rebuilding of our 25-foot 1975 Irwin 10/4 sailboat and are very proud of it. Her new name is the *Lady Faye*. We're located in Key West and would be honored to share any information with your readers (call 305-304-1377 or email johnmelohn@msn.com).

John Melohn
Key West, Fla.

Is my boat up to it?

Congratulations on an excellent magazine that so neatly fills the huge void left by your "Hunterteau"-supporting competition. Nearly three years ago I bought a derelict Columbia 43. She was sitting at a marina, barely afloat and unvisited by her owner for 12 years. The marina staff pumped her out several times (it rains a lot here) before evicting her at the insistence of other marina users. I am still working on her but — after pressure washing the inside, replacing the rigging, rebuilding the excellent Perkins 4-107 and other mechanicals, repainting the hull, and refinishing the brightwork — I now use her to take paying guests on sailing cruises in the Gulf Islands, where I live and run a B&B. She is wonderful in light air and beautifully balanced. With her huge flush deck and large cockpit, she's perfect for the job. I look at the prices paid for Bermuda 40s by the same designer and gloat.

However, like most sailboat owners, I have the dream of going south at some point. I have dreamed of seeing Suvarov Atoll since I read *An Island to One's Self*, by Tom Neale nearly 40 years ago. Is this boat strong enough to do long ocean voyages? At approximately 24,000 pounds displacement, she is fairly light for a 43-footer, and I worry that the construction is simply too light for long passages. The deck/hull joint in particular worries me. I also worry that the standing rigging seems rather light at 5/16 with ½-inch turnbuckles.

David Birchall
Galiano Island, British Columbia

Eric White responds

A friend of mine calls them "Benehunterlinas." The 43 was designed as a coastal cruiser, as were most of the Columbias. Some have referred to Columbias as a Chevy of the boating world. Of course, if you kept vital fluids in them and gave them a minimum of care, Chevys of that era would go a long way. When the 43 came out, the first thing that Columbia did was get it entered in ocean races. It had the overall win in the Newport-to-Ensenada and first in class/second overall in the 1971 Transpac. The boat has to do reasonably well offshore to go that fast. It might not have the pure mass of a purpose-built cruiser, but there is no reason you can't take one offshore if it's properly prepared. Yes, the ride might not be as comfortable as a heavier boat, but you will have a little better chance of getting out of the way of the weather than a heavy cruiser.

The hull-deck joint is the Columbia H-joint and was used on most of the Bill Tripp and Bill Crealock Columbias. There is a link to a copy of the diagram on the "how-to page" of the Columbia website at <http://www.Columbia-yachts.com/hjoint.html>. The main beef with this system is that it tends to leak sometimes. Cleaning out the caulk between the joint and the hull and then forcing in fresh caulk usually does the trick. I've heard of a couple of people who glassed over the joint, which seals it once and for all and adds extra strength.

If you are worried about the rig, go up a size and save the old wire and hardware as spares. A lot of people spend a lot of time and money trying to buy and prepare the perfect cruiser, and by the time they get done they are too tired or poor or old to actually go. I've heard it said that the best boat to cruise with is the one you own.

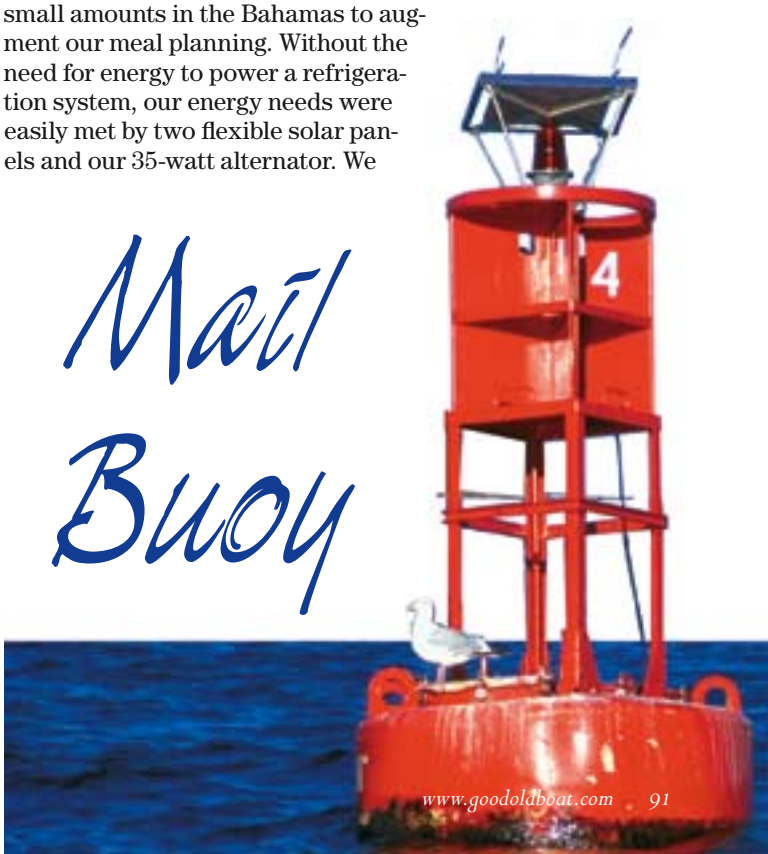
Eric White
Galesville, Md.

Eric sails a Columbia 40 and maintains an independent Columbia owners' website at <http://www.Columbia-yachts.com>.

So who's right?

In the January 2004 issue, we enjoyed the two articles [on cruising necessities] by Dave Martin and Cathy McIntire and especially liked Jerry Powlas' sidebar. Our thoughts on this subject are predictable. We note that the need for electrical energy is one factor that often divides sailors into the two schools of thought highlighted by the two articles. The perceived need for refrigeration seems to be a prime culprit. Between 1996 and 2002, we were pleasantly surprised at how available ice was in the Chesapeake, along the ICW, and in Florida. We were even able to purchase small amounts in the Bahamas to augment our meal planning. Without the need for energy to power a refrigeration system, our energy needs were easily met by two flexible solar panels and our 35-watt alternator. We

Mail Buoy



used our cabin lights, stereo, small color TV, and ham transceiver with little concern.

A second factor is more disturbing. Without attempting to second-guess any of the authors, we continue to be amazed by the current trend to equate safety with gadgetry even within the *Good Old Boat* community. For us, safety lies in a sturdy hull, strong rig, good, simple gear, above-average sailing performance even in less-than-ideal conditions and, most importantly, faith in each other. We trust our boats and our skills, recognize that there is no shame in changing plans with conditions, and prefer to set our own itinerary and schedule. Kudos to you and the two authors for producing and presenting contrasting views on such important subjects.

Dave Chase
Holland, Mich.

We are reminded

Steve Shor of the National Children's Leukemia Foundation reminds those of us with older boats that donations of these boats to a good cause (and there are many) makes the donors partners in life-saving achievements and results in a tax write-off. For more information about the National Children's Leukemia Foundation and how these boats are used in the fight against leukemia and cancer, contact Steve at 800-448-3467 or visit their site at <http://www.leukemiafoundation.org>.

News from Porter Case

We recently heard from sailor and subscriber Gary Pond, who created a wheeled traveling system for gear called Porter Case. (*Good Old Boat* founders Karen Larson and Jerry Powlas regularly use one of these earlier models for camera equipment when on the road. It's terrific!) Gary's latest innovation, however, is a soft-sided case that is even more useful for jet-setting sailors, since the bag works better than a hard one once they get to the boat. The new bag is called the Rolling Softie. To contact Gary, call: 800-356-8348 or visit <http://www.portercase.com>.

More inventors

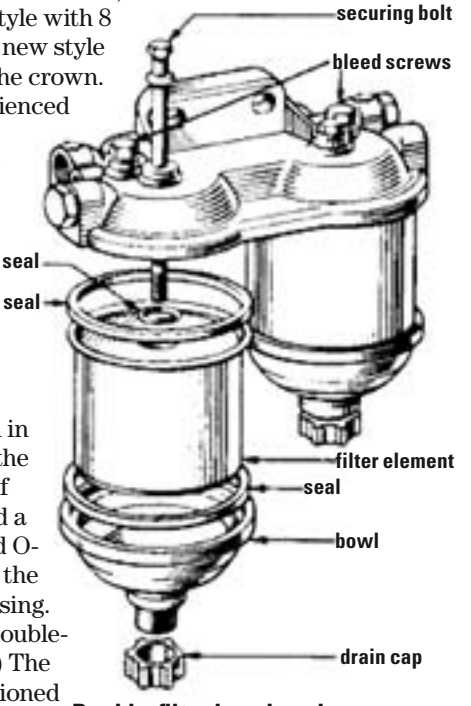
And another subscriber, John Hollenbeck, has come up with a gimbaled yacht vase, so you don't have to have potted plants sitting out on the galley table like they do in the boat shows *(Don't those boats ever heel? Oops, excuse us. There we go again.)* The vase is manufactured by Weems & Plath, who say it is available in two sizes that fit into Weems & Plath's yacht lamp gimbals, #705 and #605, and that it can stand independently on a table or countertop. The brass is hand-polished and lacquered so it will not tarnish and is easy to wipe clean with a damp cloth. For more: 800-638-0428; <http://www.weems-plath.com>.

About those diesel hiccups

Marty Chin of Bay Marine Diesel helped us understand why Bill Sandifer couldn't get any fuel through the secondary filter on his Westerbeke 30 diesel (as explained by Bill in an article in the September 2003 issue). Marty writes:

The problem Bill experienced with his engine-mounted secondary fuel filter element is very common for customers unfamiliar with this type of element. We ran across similar problems on two occasions this summer, one filter installed by a customer and another installed by a mechanic. The CAV secondary fuel filter shown in Bill's photographs is used on many English-made engines, including Perkins. Another very similar filter assembly using the same replacement element is the SIMMS, which is more common on Ford/Lehman and other Ford-based engines.

The fuel starvation is not related to the hole size or number of holes in the top of the filter. The top or crown of the filter, as noted in Bill's article, can either be the old style with 8 D-shaped holes or the new style with a fuel groove in the crown. The problem he experienced was caused by incorrect reassembly of the fuel housing. During disassembly, take a mirror and flashlight and look at the underside of the upper filter assembly. You should see a center tube with an O-ring about 1 inch in diameter and around the underside perimeter of the upper housing, and a large square-sectioned O-ring which fits up into the outer grove of the housing. (See illustration of a double-filter housing at right.) The perimeter square-sectioned O-ring can be removed with a sharp hook or by



Double-filter housing shown. Bill's engine has a single filter.

placing a small screwdriver on the O-ring and working it free.

Reassembly is where you can get into trouble. I would judge from the article that the upper square-sectioned O-ring was placed in the crown of the filter element covering the fuel transfer groove, which shut off the flow of fuel. Instead, this O-ring must go into the upper housing O-ring groove. When this O-ring is properly installed, the rim of the crown of the filter element rests in the center of the O-ring.

Before installing the upper housing square-sectioned O-ring in the underside of the upper housing rim, use a mirror to inspect the groove in the rim of the upper housing for damage and to make sure the old O-ring has been removed. Place one edge of the new O-ring into the groove with one hand and use the other hand or other finger of the same hand to work the O-ring up into the grove. Use a mirror and light to make sure the square O-ring did not twist as it was installed. If it did, carefully work it free with a screwdriver and reinstall.

Note: There are two large square-sectioned O-rings of different diameters supplied with all replacement elements. If both are the same diameter, take the filter back and get a replacement. The larger of the two O-rings is to be installed in the upper housing, the smaller one goes into a groove in the bottom bowl.

Marty Chin
Alameda, Calif.

Bill responds:

The engine is a Westerbeke 30 (old model 4-91), vintage 1978. We did not understand at the time that we had been given the wrong gaskets with the replacement filter. Marty clears this up when he says you need a large and a small gasket. We had two small ones. I appreciate the fact, now, that I needed to return the filter for one with the correct size gasket, but when one is at the dock with the filter disassembled (drain swamp, alligators, etc.), the nearest Westerbeke dealer is 70 miles away, it is Sunday, and you are working upside down in a confined space doing everything with mirrors, it's no wonder we punched some holes in the darned thing and used the gasket we were given. I hope we can save our readers from the same hassle.

Bill Sandifer
Diamondhead, Miss.

Folkboats forever

What a great magazine you have! Coming from Europe, I had never seen it before and as far as I know there isn't anything like it over there. A lot of the boating/sailing magazines in Europe are more or less the same, be it in different languages. Of course I visited your website and found this wonderful article on the Folkboat (September 2002). Although the International Folkboat was the starting point for the article, the Nordic Folkboat and its interesting history was well covered.

A few years ago my wife and I cycled through Nova Scotia and liked it so much that we decided to go and live there as soon as we'd have the chance. We moved last January. I brought my Folkboat with me and figured that she would be very well suited for these waters. Last summer it turned out I was right about that.

Before I moved I made an agreement with Erik Andreasen of Folkboat Centralen in Denmark about representing them here in North America. Folkboat Atlantic was born. The wonderful and legendary Folkboat is alive, as you already knew, but is very much available as well, right here, right now. Have a look at <http://www.folkboatatlantic.com>; or call 902-764-3000.

Toon Nagtegaal
Riverport, Nova Scotia

Skipjacks reborn

It was great to see the lines of our Chesapeake Bay Skipjacks reborn in your "Building the Skipjack" article in the January 2004 edition. My good old boat was built with the same endearment in the mid-1960s by the gifted John Layng.

Earle (Roo) Wood
Easton, Md.

January 2004 cover

It turns out we were only partly right about *Zodiac*, the lovely schooner on the cover of the January 2004 issue. She's owned by 12 sailors who bought the vessel in 1976 and offer charters aboard. For more, go to <http://www.schoonerzodiac.com> or call 877-831-7427.

Editors

50 + 80 = 130!

As one who has been sailing for 50 years, and my father (yes, he has a subscription as well) who has been sailing for 80 years, we feel that your magazine truly captures the spirit of the boating community.

Mark Thomas
Torrence, Calif.

Two-foot-itis never struck

Dick Pattison sent photos of projects he's done on his 26-foot Grampian, such as the clever hinge he put in his tiller so that it can be swung out of the way when using the autopilot. But his concluding remarks really got our attention:

I am one of the few people who does *not* have "two-foot-itis." I am happy with my Grampian, and it has served me well. This summer I went around Vancouver Island for the 14th time. My 63-year-old *daughter* came along as mate and (thankfully) cook.

Dick Pattison
Salt Spring Island, British Columbia

Salty dogs

Thought you might enjoy seeing this picture of Bonnie on our sailboat, *Fling*, a 1970 Douglas 31, hull #6, this past summer. Bonnie's checking out the harbor at Smith Cove, Gloucester, Mass.

Gordon and Ev Dunn
Westford, Mass.

Bonnie certainly seems at home aboard. We thought others might enjoy the photo along with a reminder that summer is on the way.

His and hers

Subscriber Marlene Dietz signed off an email message to us with the following:

PS: My husband steals my new issues of *Good Old Boat* out of the mailbox before I see them. He says it is his favorite magazine. Think I should get him his own subscription?

We, of course, are not in a position to offer unbiased advice and told Marlene so. To which she wrote "the rest of the story" as follows:

I thought you might like to know how I came to subscribe to *Good Old Boat*. My husband (fiancé at the time in 1999) owned a 1975 Newport 28, tiller operated, powered with an Atomic 4, which he had for 28 years. He then found the boat of his dreams, a Baba 30, bought it, had it shipped to Portland, mast redone, paint, etc., and moored in the same marina. He promised then to sell the Newport…a year passed…two years passed…Meanwhile, I had the Newport moored across the bay at a friend's dock (the friend was boatless) for a small fee.

Since my husband insists on paying cash for toys, I had loaned him a "small amount" to complete the sale. After two years and a few feeble attempts at selling, I finally asked him what he would let his Newport go for, and he said basically the amount he owed me. So I said, "Give me the title, and we are square." Bingo, sale complete.

So now "my boat" is moored just opposite "his boat," nose to nose, because he had all the tools needed for restoration of both boats. As a footnote to this sale, when we want to go sailing, we mostly use my Newport because the Baba is still being restored: engine overhaul, sanding and refinishing, engine work, sanding and refinishing, engine work, painting, more engine work…

Knowing nothing about boat maintenance, sailing, etc., I went online looking for information. Presto, *Good Old Boat* to the rescue. I immediately subscribed and have since enjoyed many articles pertaining to my needs to restore this boat. My husband read the first issue and since then I have to hunt all over to read "my magazine." I love the *Good Old Boat* articles and the website. It's very inspiring to learn from the experiences of others and know that anything is possible if you just persevere.

Marlene Dietz
Aloha, Ore.

Send questions and comments to Good Old Boat, *7340 Niagara Ln. N., Maple Grove, MN 55311-2655, or by email to jerry@goodoldboat. com. Please limit messages to 150 or fewer words. We reserve the right to edit.*

The significance of string

No string, no knots — but is that good?

by Karen Larson

It happened within my lifetime, but I hardly noticed. I surely wasn't aware of the significance of the trend. In my grandmother's time, string was an important part of life. It was used to tie up all kinds of important packages and storage items from the kitchen to the workshop. String collectors saved huge balls of the stuff, remember? Well, people had to know how to tie knots then.

But over time string was replaced by tape, rubber bands, and all sorts of handy gadgets: clips and twist-ties and more. There's no ball of string in my kitchen anymore. And I seldom tie a knot at home.

We have a ball of string in our garage. It has one function only. We tie flattened cardboard boxes together for recycling. String in the workshop has been replaced by a universe of handy gadgets, so knots are no longer necessary.

The trend is coming (has arrived?) in boating too. Bungies substitute for many ropes and knots. There are little widgets to attach fenders to lifelines or toerails. We've got shackles and clips. There are loops and tie-up schemes galore so we won't need to tie a knot.

I pride myself on being able to tie a bowline (and Jerry can do it one-handed behind his back). We still tie our fenders to the toerail with half hitches. But the trend is taking over our C&C 30 as well. When we bought her, the jib sheets were tied on with large clunky (lethal in a blow) bowlines. We changed that system to shackles we clip on. The anchor rode was a huge unmanageable snake 200 feet long. Jerry shortened it to two 100-foot pieces with carabiners at four ends. It's much easier to deal with. Either end of either piece can be attached to the anchor or the boat or the other piece of rode. Carabiners, in fact, are all over our boat, substituting for less-reliable knots and the additional time it takes to make them fast.

But are we better off without knots? I remain skeptical.

Boatyard fever

by Bruce Bolster

I must go down to the boatyard dear,
where the hauled-out wooden sloop lies
To strip off her paint and sand her hull
and smoke while her varnish dries
And the dust and the damp and cold gray light
of a late winter morning breaking
To scrape and to fill and to feather and brush
and come home with my lower back aching.

I must go down to the yard again,
though I know that the kids are complaining
That they haven't seen much of their dad these days,
and I know that today it is raining
And we ought to go out to a movie or such,
and they're probably raising a rumpus
And wondering why their computer's so old
while the boat has a shiny new compass.

But I must go down to the yard very soon
and haul her back down to the shore
And launch her and rig her and stow all the gear
so she floats like she did before
And you'll scramble aboard and you'll cast off her lines
and empty the bilge with the bailer
As the shore drops away with the lee rail down
and be glad that old dad is a sailor.