



The *Star* Project

An experienced sailor and a skilled Maine builder team up to develop a lobster yacht with appeal to lifelong sailors transitioning to powerboating.

Text and photographs by
Kenneth Sigel

As my wife and I approached retirement, we found ourselves in a situation familiar to many sailboat owners looking to spend more time on the water. For 16 years we'd sailed a Valiant 40 more than 2,000 nm of coastal cruising. But our children grew up, and

we had a lot of boat to handle and seemingly endless brightwork to maintain, which cut into either our sailing time or our bank account. It was time to consider a new style of boating that better fit our new circumstances and priorities.

Before we get to the details of our particular boat, builders and service yards looking for new business should note that our situation is not unique. The Census Bureau projected that between 2014 and 2020 there would be a 14% increase in the number of men and women over 65. During the same time, sales of mid-sized sailboats decreased, and sailboat brokerage listings sit on the market longer. Many older affluent adults aren't looking to get out of boating, but, like us, they may be looking for a new experience. Indeed, we'd like more adventure and recreation in our leisure time as our interests shift to visiting more destinations and arriving in greater comfort, all from the same home port and without markedly increasing cruising time.

The answer was a custom powerboat, but choosing the right builder to trust as a partner in this sometimes ticklish collaborative project was far from simple.

For boatbuilders, I hope this account of building *Star*, a 38' x 15' (11.8m x 4.57m) Calvin Beal Special Edition, demonstrates how SW Boatworks (Lamoine, Maine) helped us to realize our goals and avoid some of the perils that could have derailed the project. This story of design and construction exemplifies the client-builder relationship necessary for a successful custom build. I define success this way: the owner is proud of his boat; it has general appeal and resale value; and the owner and builder become friends in the end.

When We Talk About Comfort

The "greater comfort" we sought meant a flat, stable ride with minimal pitch and roll and being able to operate comfortably while seated in a wheelhouse permanently

enclosed by solid glass windows with windshield wipers. This was in contrast to our sailing experience of suiting up in full foul-weather gear and alternately hiding behind and then peering over a canvas dodger with distorted plastic windows.

Equally important was the capacity to remain on the boat at anchor or on a mooring without the intrusive noise of a generator.

At the boat shows we saw products that promised greater comfort and convenience—powered glass window-walls on wheelhouses, engine hatches that lifted with the touch of a button, and shore-power cords that retracted automatically. We identified these and similar frills as expensive and vulnerable to failure. We confirmed their poor service performance and short operating lives in discussions with our service yard and several marine surveyors. We wanted a boat, not a condo. We wanted to go places, not fix things.

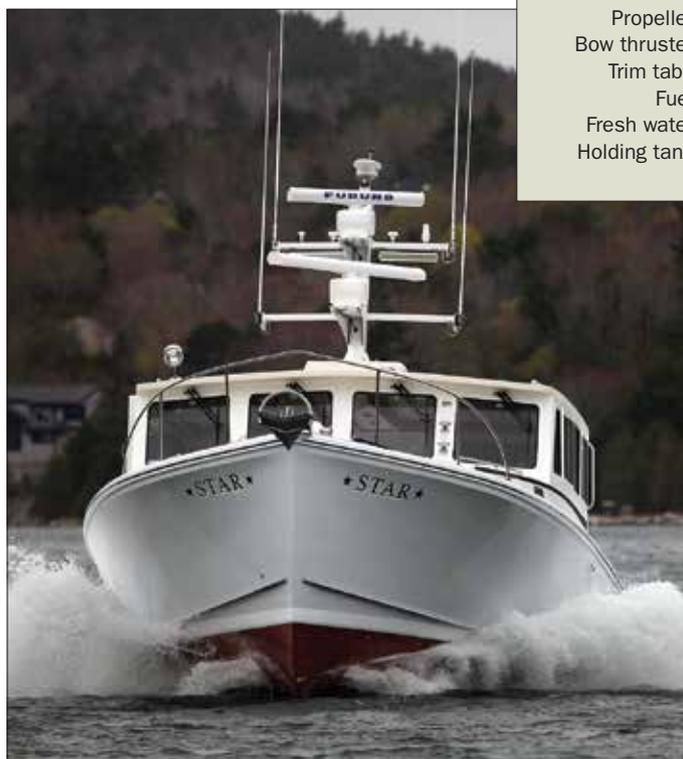
We definitely knew what we did *not* want. At 8 knots we had

rocked and rolled in popular pseudo-tugs, and sometimes even at the dock. We had pounded along at 25 knots in sportfishermen. At boat shows we'd also rolled at the dock in some sleek rounded-bottom jet-drive hulls, and we tried to imagine what it would be like to go forward to grab a mooring pick-up buoy on boats with streamlined euro-style hulls and no hand-holds.

The search confirmed some core principles for us: wide, moderately flat-bottom boats roll less; a proper skeg adds directional stability; a sleek, flared bow makes for a smooth entry in rough seas; and moderate-height covering boards enable easy boarding.

Star Specifications

LOA	38'9" (11.8m)
Beam	15' (4.57m)
Draft	4' (1.21m)
Weight	19 gross tons, 15 net tons
Hull construction	solid fiberglass, no core
Hull type	semi-displacement with keel and skeg rudder
Engine	single-screw diesel Cummins QSC8.3 500 hp (368 kW)
Gear	Twin Disc Model 5075A
Propeller	32 x 31 x 4 (LH)
Bow thruster	Side-Power
Trim tabs	Lenco
Fuel	600 gal (2,271 l)
Fresh water	100 gal (378.5 l)
Holding tank	18 gal (68.14 l)



Facing page—The 38'9" (11.8m) Calvin Beal-designed lobster yacht *Star* emerges from the build shop at SW Boatworks (Lamoine, Maine). **Left**—The author's quest for an able and seaworthy power cruiser led him to a proven workboat hull with ample flare in the bow, moderate volume for accommodations, and an efficient semi-displacement hullform.



Left—Star’s fully enclosed wheelhouse met Sigel’s comfort criteria that he be able to make passages in inclement weather without donning full foul weather gear and covering behind a dodger as he did for decades on a series of cruising sailboats.

Right—Reliable pantograph wipers are essential operating equipment on such a vessel, necessary even on clear days when seas are up and spray is flying.

Performance and Maintenance Requirements

Given that we would be operating between Rhode Island and the Maine–Canada border, stability and seakeeping considerations won out over speed. However, we were not content to travel at 7 to 10 kts on a trawler—those were sailboat speeds. It seemed that a 14-kt cruising speed with a 20-kt top end would give us our ideal range and transit times. A ± 400 -nm range at cruising speed would allow us to create float plans based on where we wanted to go, not where we could get fuel.

Beyond performance, we wanted a boat with classic appearance that could be easily maintained. That meant no brightwork and a single, low-rpm engine. We opted for a gelcoated hull and deck instead of paint; nonskid on the cockpit sole, not teak; plus easy access to the engine and electrical systems.

For an accommodation plan as seakindly as the ride, we drew on our experience with offshore sailboats. The classic layout of opposing settees with a table between them had served us well on our other boats. We saw no reason to change that. It meant plenty

of handholds, a galley where we could prepare a full meal under way, berths that could be used while en route, and a boat we could safely move about in during rough weather. Simply put, the boat needed to be rugged, functional, and comfortable, and we needed to be able to run with two crew in berths and two on watch.

Our desire for “full-size accommodations” meant twin- and queen-sized

berths, ample space around the engine, walk-in access to electronic/electrical equipment, and plenty of storage space. The galley had to be a true food-prep workspace, not just a sink and a cooktop. And in the main saloon, I applied this principle: For a person to use the head during dinner, no one should have to stand on the settees to open a path.

We’ve cruised enough to know that



Generous utility space around the main engine installation provides easy access and encourages frequent maintenance of onboard systems like the fuel filters seen here. Much of that elbowroom was secured by forgoing an onboard generator in favor of solar panels.

Modeled loosely on the Sigels' earlier Valiant 40 sailboat, the finished galley space on Star is functional, well appointed, and practical for cooking full meals while under way.

we are not dock people; we almost always anchored or stayed on a mooring. Ashore, our home is too close to our neighbors. While aboard we did not want to be even closer to others. Being away from the dock was a major design driver in *Star's* build sheet. She had to be electrically self-sufficient without a generator, even with refrigeration running. (Relying on her solar panels after launching in May 2018, *Star* has yet to be plugged into shore power.)

Then there was the aesthetic aspect. On our travels we had always admired the working boats like tugs, trawlers, and lobsterboats, but the trawlers were



slow, and popular tug-styled yachts had no appeal. That left us to look hard at lobsterboats. To be clear, I don't mean boats with just a Downeast look

but hulls designed to be out working, often in rough seas and high winds. These boats need to provide a stable platform for hauling hundreds of



Stewart Workman, owner of SW Boatworks specializes in building Downeast workboat hulls in solid fiberglass. He sells many as hull kits to fishermen and other builders to finish, but he completes some in-house with practical finishes done to high standards.

heavy lobster traps daily. We started looking for a builder of working boats with the capability to build a yacht.

Connecting with SW Boatworks

Through a mutual friend we were introduced to Stewart Workman of SW Boatworks in Lamoine, Maine. Online research reveals that Workman is a highly reputable builder of GRP

fishing and pleasure boats to proven hull designs by Calvin Beal and Ernest Libby. The boats range from 30' to 50' (9.14m to 15.24m), all based on working models that have been actively fishing for decades. Even his pleasure-boat clients tend toward the sportfishing, not the teak and Topsiders, set—the initial indicators were all good. With our due diligence done, it was time for the true chemistry test:

discussing our still notional project with the man we thought might help us make it a reality.

The initial stages of any project must include a period when builder and owner gain confidence in one another. If things are awkward or contentious, or there are communication problems at this initial phase, it's time for everyone to take a long, hard look and decide if it is in their long-term best interest to proceed.

From the builder's perspective, Workman summed it up this way: "Once you decide a customer is serious, you have to ask two more questions: 'How well does the customer really know what they want?' and 'How much effort is he willing to put in the project?'" He added, "Translating the customer's want list into the specifics of the

Listening and Planning Before the Build



From its shop in Lamoine, Maine, SW Boatworks molds a range of hulls between 30' and 50' (9.14m and 15.24m) designed by Calvin Beal and by Ernest Libby. Much of SW's business is selling hulls and tops for finishing by other shops for the lobster fishery. Of the boats that come out of SW's finish bays, half are for the fishery, and the other half are a mixture of yachts, law-enforcement vessels, and research boats.

To better understand how SW maintains satisfied customers across that broadly diverse spectrum, I asked Stewart Workman to talk about some of the specifics of his approach. One disclaimer: At Workman's request I have edited the questions and answers so that, as he suggested, "It will read like we were both wearing suits but still telling the truth." What follows is the slightly sanitized "truthful, suit-wearing" version of our interview.

Sigel and Workman pause during one of the frequent on-site discussions of options and details going into the new build.



Left—The support grid of beams and stringers prior to deck installation reveals the mechanical systems and ample tankage space below the broad, open cockpit. **Right**—Full-size mock-ups helped inform final decisions like the one to not carry two Rocna anchors on bow rollers.



boat takes significant face time, and the willingness of both parties to build it on paper and mock-ups first. Go slow to go fast. Pencil erasers are cheap; fiberglass erasers cost way more. The greater the owner's boating experience, the easier this is."

In the early going we asked Workman about the pros and cons of

engaging a naval architect. He said it would add an unnecessary level of complexity and cost to the project. As we would essentially be varying the fit-out and finish of a Calvin Beal 38, a proven design he had built many times before, Workman suggested that frequent meetings with us would be the best approach to getting the boat we

wanted. We started by further refining the goals mentioned above, and then got into specifying equipment and systems and finally detailed mock-ups. For example, during the mock-up process we gave up on the idea of carrying two Rocna anchors on the bow, and we significantly changed the configuration of the helm.

Kenneth Sigel: What is the biggest challenge for your crew in moving back and forth between the boat types—fishery, recreational, research, and law enforcement?

Stewart Workman: I lean on the crew pretty hard about finish details on the yachts. I have to make sure they can step back, as needed, when building a working lobsterboat. The systems and running gear always have to be 100%, but lobstermen accept some exposed wiring and piping that a yacht owner would not like, for example.

K.S.: What are the similarities in the two markets?

S.W.: My lobstermen customers have years of experience, and each one fishes his own way. They can be just as particular as the yachtsmen. That's why I always spend lots of time listening, and building on paper.

K.S.: How do you size up a potential customer? How do you know you can both come out satisfied with the result?

S.W.: Of course, this is a business situation, so we do have to start talking budget. If their budget is in range, I quickly

take our discussion to how they want to use the boat. The more experience and knowledge they have, the better. When every decision is based on cost, I get concerned. All owners want to spend more money in one place than another. For example, I think the order for *Star* cleaned out the Furuno warehouse, but that's what you wanted. You wanted to find and pinpoint wrecks for diving. But when a customer wants everything as cheap, cheap as possible I get worried they won't be happy in the end.

K.S.: What advice would you give a powerboat builder in building for a long-time sailor?

S.W.: It is good to get them out on a sistership both to experience the handling and get a sense of what it's like to spend time aboard one. Many cruising sailboats have lots of fussy detailing. It's not really part of the true Downeast style. Those details are expensive. As a builder you need to see if that's where the customer wants to spend their money. Pictures of their former boats showing what they liked help. *Star's* galley is based on the one on your Valiant 40. Seeing those pictures made it easy to scale it up.

Diesel Selection

Early in the plan, one of the most essential decisions was the main engine. Fortunately, we wanted the same basic propulsion system most lobsterboats have: a single-screw diesel. When asked how he arrived at the Cummins QSC8.3 specifically for *Star*, Workman said, “The first thing I look at is the client’s target speed and range. *Star* uses about 1.2 gal (4.54 l) per nm at 15 kts. With her two 300-gal [1,135.6-l] tanks she has about a 450-nm range. Next, I was very aware of noise. That’s were the 3” [76mm] of Sounddown came in. Finally, I wanted to be sure there was a good service network for the engine and systems in the areas in which she would be operating.”



Above—A single prop and a skeg-hung rudder are in *Star*’s workboat DNA and on Sigel’s priorities list. **Right**—Workman suggested the QSC 8.3 diesel based on Sigel’s speed and sound requirements, and the fact that in any single-engine installation, reliability and simplicity are essential.

Cummins QSC8.3 4-stroke diesel
 6 cylinders, 8.3 l (505 cu in)
 2,600 rpm
 368 kW (500 hp)
 Turbocharged with aftercooler
 High-pressure common fuel rail
 Weight 896 kg (1,975 lbs)



K.S.: What’s a red flag? When do you say no to someone?

S.W.: For me it all comes down to trust and listening. It goes both ways. If someone can’t trust me, or doesn’t want to listen and get my input, then I won’t build a boat for them. This, in fact, has happened once. I had to return a deposit. I think we were both better off.

K.S.: What would you tell a customer is the best way for them to make detailed decisions during the build process?

S.W.: There are times when we need the customer to make decisions. This is very true in the finishwork. There



Workman advocates for having the customer on board to see and touch actual mock-ups in plywood and blue tape before making final installations.

is no substitute for the customer to be on the boat and lay out with blue tape, or mock up, the details. It saves time, money, and avoids reworks.

K.S.: So you’re starting a new build, what’s round one?

S.W.: Once I know they are serious, then I focus on what they want. Remember, *Star* started out as a 36’ [10.97m] boat, but we quickly came to realize it just wasn’t going to be what you wanted. We needed the extra beam and length. So, I focused on building the boat you wanted on paper. That got us to a price. Then we tested some of our decisions and got to the right boat. Boats are expensive; that’s reality. But when someone spends a lot of money on a boat and it is not what they want, that’s when you get an unhappy customer. I always start with getting to the boat they want.

K.S.: Anything else?

S.W.: I think our approach is pretty solid. You and I are now good friends. That says something. The overwhelmingly positive response to *Star* at the 2018 and 2019 Newport International Boat Show, and the positive attentions she gets wherever she is says lots to broad appeal and resale value.

—Kenneth Sigel

Big Solar

Perhaps *Star's* most unique single feature is the charging system, a combination of dual alternators and a 1.12-kW solar array on the wheelhouse roof. This allowed us to avoid installing a generator, which freed up more space in the engineroom and makes for less maintenance, a lighter boat, and a silent charging system. With the solar panels,

Star's batteries are constantly charging, even in low light. Note that in consideration of resale, the fuel taps, tankage, and full foundations for a generator are there should the next owner feel compelled to install one.

Relying on my own mission-critical electrical background and in consultation with Kramp Electronics (electrical and electronics contractor) and

Right—To eliminate a generator, high-output alternators on the main engine and a large-scale solar energy system on the cabintop were installed. **Far right**—A clean electrical system from Sigel and Kramp Electronics meets ABYC standards; all wiring connections to the panel circuit are labeled





As master electrician, Sigel oversaw installation of the complex wire runs in the pilothouse. After the overhead is finished, only the full-length longitudinal grabrails will be left exposed.

Ocean Planet Energy Inc. (equipment vendor) we translated my initial electrical-power-system design into a working onboard system. On the engine-driven side, *Star* is fitted with two 130-amp alternators feeding four 8D absorbed-glass-mat (AGM) batteries. One pair feeds a service bus through individual on-off switches, and the second pair feeds the engine

bus in the same way. Each bus has a dedicated alternator. We installed Blue Sea Systems remote switches controlled from the electrical panel. The only connection between the two buses is a manual emergency switch in the engine compartment. This is intentionally located away from the panel to prevent accidental combination of the two buses. This double-ended system

allows any battery, solar array, or alternator to be routed to either bus. A defective unit can be isolated from service in the same way.

One solar array consists of eight 125-watt Solbian SP-125L-JB (53" x 21"/1.35m x 0.5m) panels dedicated to the ship's service bus. The second is a 112-watt Solbian SP-112Q-JB (33" x 31"/0.84m x 0.79m) dedicated to the engine start batteries. The panels feed through individual Victron charge controllers to minimize the impact of shading. This allows for the system to function, albeit at lower capacity, if only some of the panels have the necessary sunlight. Running through a

single controller, significant shading of one or two panels could shut the whole system down. (See Nigel Calder's "Advances in Onboard Solar," *Professional BoatBuilder* No. 182.)

Workman: "The solar equipment is relatively new to us in our market. It has performed way beyond our expectations. I started out thinking this would be a fill-in system, but it has turned out to be the primary system. Even with long periods of dark, cloudy weather the batteries are maintained, and the refrigeration keeps running. Compared to a generator, it saved weight, space, and money, and there is zero noise. But my biggest surprise was *Star* winning the Green Boat Award at the 2018 Newport Boat Show. I think we got the award because we used the system to solve a practical problem, as opposed to using bamboo flooring and cleats made from recycled hubcaps."

Conclusion

For my wife and me the biggest surprises also came from the Newport International Boat Show when one visitor asked, "If you had to do this all over again, what would you change?" My wife and I looked at one another and simultaneously said, "Really nothing." Of course, we have refined our storage plan over these first 500 hours onboard, but the boat is perfectly fine just the way it is. At that same show, we

were surprised at the overwhelmingly positive response to *Star*. Time and time again we heard, "Wow, this is the first real boat I've seen today. I could see myself on board in bad weather."

We had two genuine serious offers to buy her on the spot, but *Star* is not for sale. Perhaps that says the most.

PBB

About the Author: *Kenneth Sigel is a retired master electrician with marine, industrial, and technical construction experience. He has renovated and sailed (offshore and coastal) a Rhodes 41, Hinckley 38, and Valiant 40. He currently works on marine systems in the shipyard at the Mystic (Connecticut) Seaport Museum.*

Resources

Blue Sea Systems: blueseasystems.com
Cummins: cummins.com
Kramp Electronics: marineelectronics.com
OceanPlanet Energy Inc.: oceanplanetenergy.com
Rocna Anchors: rocna.com
Solbian: solbian.eu
SW Boatworks: swboatworks.com
Victron Energy: victronenergy.com