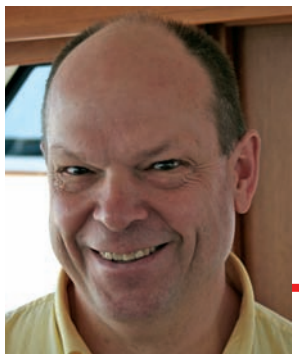
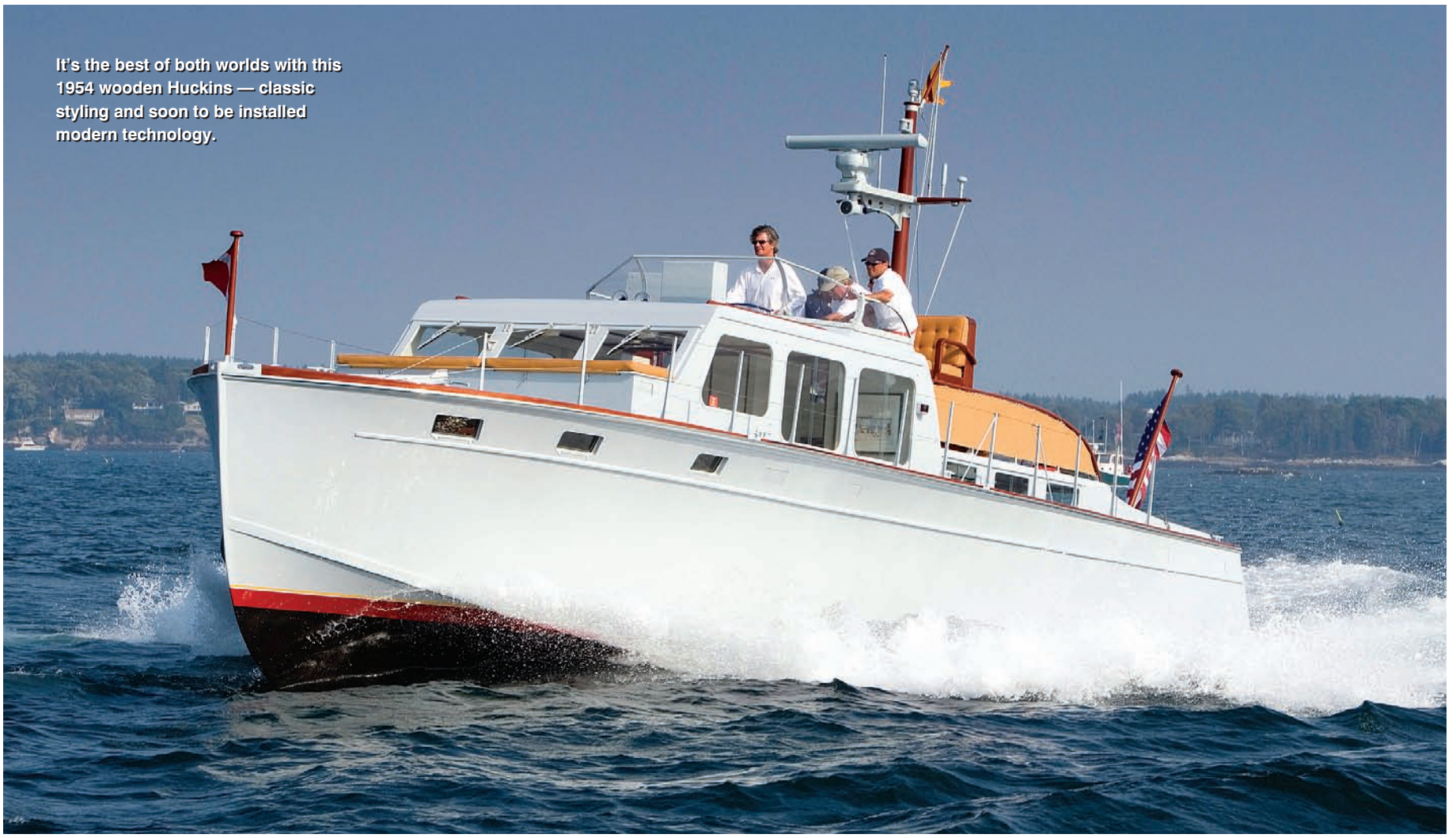


ON POWERBOATS

By Eric Sorensen



It's the best of both worlds with this 1954 wooden Huckins — classic styling and soon to be installed modern technology.

BILLY BLACK

A 1950s boat with 21st century power

It's no small task to repower a wooden Huckins with Volvo's IPS propulsion — here's how it's being done

If ever there was a great boat tale involving a blend of old and new technologies, this has got to be it. Take one classic 1954 Huckins motoryacht built of two layers of 3/8-inch mahogany planking laid out diagonally, screwed to oak framing and fiberglass-sheathed on the outside. Add Volvo's IPS pod drive propulsion, the modern, efficient, maneuverable planing-hull propulsion system. Shake, stir, whittle and chisel — and out comes a much better boat than the original. That is this project — and its rationale — in a nutshell.

This is a great story on a number of levels. The left-brain skeptic asks who would want to take a 56-year-old wooden boat and put a pair of IPS drives in it? I asked myself the same question and it is quite easily and convincingly answered: 1) It's never been done before; 2) the boat is built of wood, and restoring the hull structurally and integrating the IPS drives takes more skill, deliberation and intelligence to do well than a fiberglass hull would; 3) a difficult job done well is its own reward; 4) the boat has a pedigree and a history that make it worth restoring; 5) it looks nothing whatsoever like anything else out there (except another Huckins) — a definite upcheck when considering the bloated me-too tubs populating marinas today; 6) it has a wonderfully accommodating layout that uses space efficiently and smartly; 7) the interior is flooded with natural light through many large windows; and 8) there is no hint of the lamentable trend to cram just one more couch or icemaker or cedar-veneered locker into every cubic foot of interior space.

And with a yard that has the talent and technology to pull off the job, why not? After all, this boat will be good for at least another 50 years when these guys have finished their work, assuming she's well taken care of.

Let's roll back the tape a few years. The Huckins was in Florida when the previous owner bought it in 2005. It was in rough shape, so the owner took it to the Huckins yard in Jacksonville for restoration (*www.huckinsyacht.com*). Though Huckins builds fiberglass boats today, it still has wooden-boat craftsmen capable of restoring its classics. Bill Morong, the head of Yachting Solutions, the Rockport, Maine-based primary contractor on this project, was hired as project manager. With only eight boats to manage back in Rockport at the time, he was able to spend six months at Huckins overseeing the work.

And that work was extensive, with 80 percent of the keel, garboard and broad strakes (the two planks abutting the keel), along with the lower portions of

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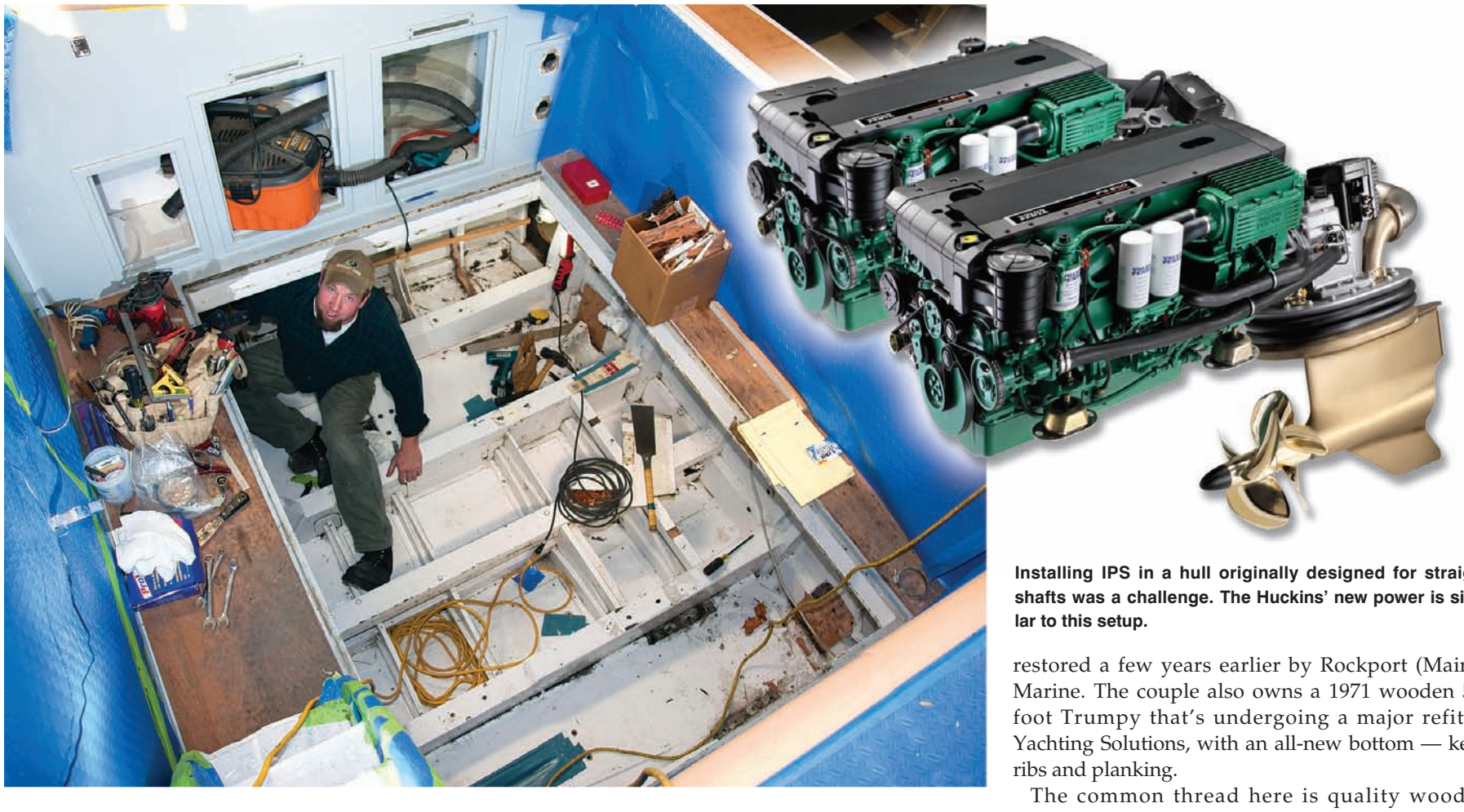


Installing IPS in a hull originally designed for straight shafts was a challenge. The Huckins' new power is similar to this setup.

BILLY BLACK (LEFT)

ON POWERBOATS *from Page 38*

all frames, replaced. Sheathing a wooden boat with fiberglass adds strength, as well as abrasion and impact resistance, but it also hides whatever's happening in the wood substrate. This made the restoration more challenging, with surprises cropping up as things went along. New castings were made to duplicate the original Huckins bronze and aluminum deck hardware, restoring the boat to something very close to its original appearance.

With the exterior overhaul complete, Morong brought the boat to Rockport and had the interior completely gutted and replaced, including new overheads, bulkhead paint, new heads, flooring, upholstery and interior varnish, along with new wiring and plumbing runs. Once the remake was completed, the boat's owner ran her for three seasons in Maine, then put her on the market.

Enter Sam Rowse and Martha Coolidge, accomplished sailors who race competitively and whose 1932 Sparkman & Stephens-designed Six Meter was restored a few years earlier by Rockport (Maine) Marine. The couple also owns a 1971 wooden 58-foot Trumpy that's undergoing a major refit at Yachting Solutions, with an all-new bottom — keel, ribs and planking.

The common thread here is quality wooden boats that are worth giving a new lease on life. Consider that a well-built wooden boat can easily last 50 years with proper care, and can then be rebuilt to last another 50 years. With that in mind, the rationale for a person who loves the soul, quirks and individuality of a well-drawn, intelligently designed and well-built wooden boat becomes clear.

Rowse and Coolidge had seen the Huckins during the last few seasons in the Rockport area, where they have a home, and liked the lines and

One-stop shopping at Yachting Solutions

If you've ever wished you could buy a boat and have it repowered or restored, berthed in a slip, crewed by the day (or week or month), maintained, winterized, stored and eventually resold — all by the same company — read on.

Yachting Solutions, of Rockport, Maine, is the brainchild of former yacht captain Bill Morong. Eight years ago, Morong was working for a number of affluent Camden, Maine-area island residents who used their boats for pleasure and commuting to and from their island homes. Since they didn't need full-time crews, Morong provided a concierge service providing part-time crew as needed. Along with running the boats, he also provided seasonal maintenance and detailing.

Customers told their neighbors about the service, and the business steadily grew. As more families were added to his roster, Morong started to tap into a network of yacht crews he'd developed when working in the Florida market. In 2006, he asked Chris Lawton, who grew up in Rockport and had been a captain in the large-yacht business for a dozen years, to come back to Maine and help run the business. Chris was ready to come ashore and he joined the company as a partner.

"It's very difficult to teach someone to run a boat or yacht and also have the attitude and people skills that it takes to successfully build a loyal clientele," says Morong, 37, who in addition to business development also handles new-boat sales, restoration and repower projects, slip rentals and winter storage. "Chris thinks like I do about these things, so he was a natural and he already knew a lot of the same people in the area."

Lawton, 35, started by focusing on the crew services side of the business and then, as the yard grew, on daily operations both on the shop floor and on the water. Yachting Solutions now has more than 60 clients, providing each boat owner services that range from annual hauling, winterizing and launching to complete turnkey yacht care, including providing a slip, crew on demand, and registration renewal. The company also offers project management services for owners having boats built or restored elsewhere.

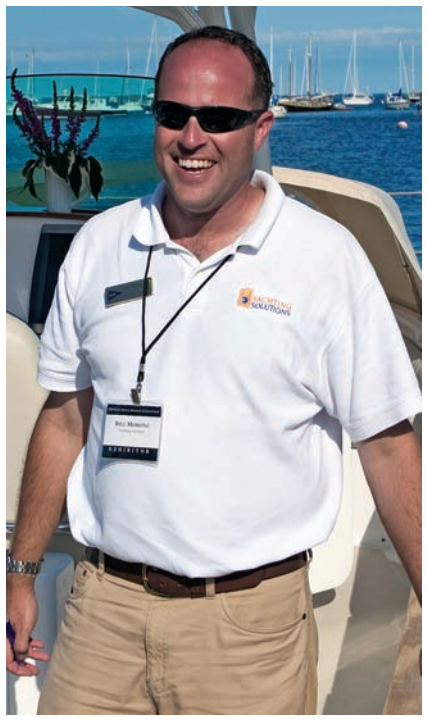
Yacht Response is the fast-reaction repair component of the business, offered exclusively to Yachting Solutions customers. Available 24/7, the business has three support boats based in Penobscot Bay, along with vans in Rockport and Mystic, Conn., that provide support from Nova Scotia to Delaware Bay.

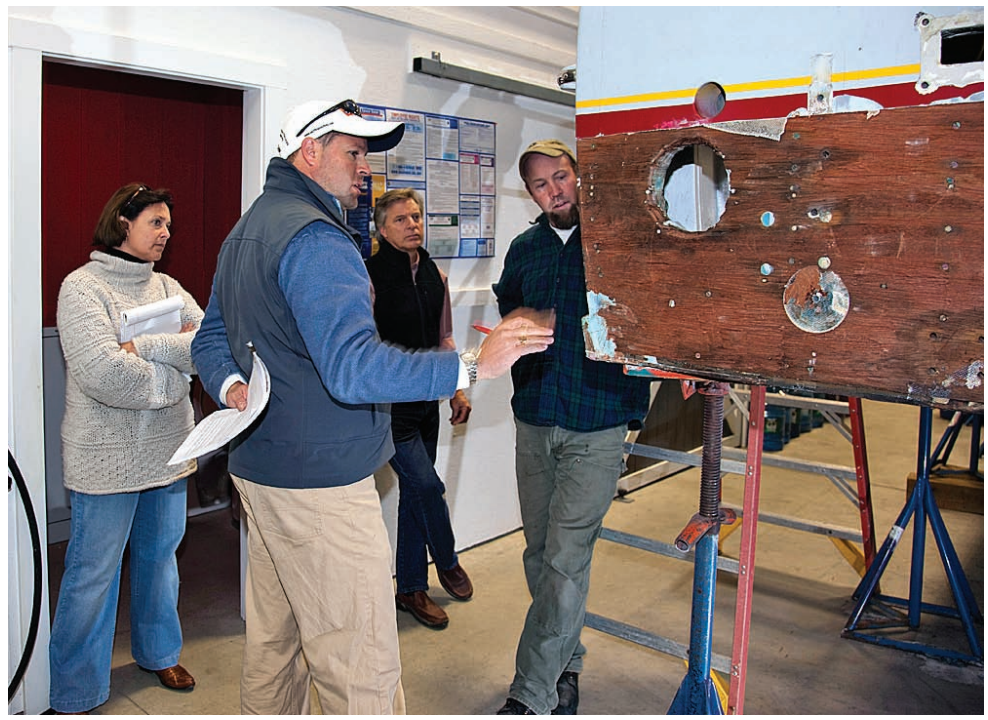
Yachting Solutions services and stores boats homeported from Maine to Nantucket, Mass., and Long Island Sound. Their owners can get service anywhere they happen to be along this stretch of the East Coast as part of one customer care package by calling (877) YACHT-911. Yacht Response also provides first responder repair and warranty service in the Northeast for such vendors as Wesmar thrusters and stabilizers, RGM Industries, which makes the ISIS Integrated Ship Information System, Steyr Diesel, Bass power distribution systems, and Nautical Structures, manufacturer of yacht davits and cranes.

Using the same service infrastructure, the company offers mobile repair service based on territory — for Volvo-Penta, from Connecticut to Maine, and for Volvo-powered Hunt and Lazzara yachts anywhere. They are the new Maine representative for Steyr, the Austrian diesel manufacturer, and are attempting to build the brand's presence and reputation in that area.

Yachting Solutions also is the Maine agent — and a service center — for Hunt Yachts, whose boats make ideal island commuters, given their superb ride. Yacht Response is the Northeast repair rep for Lazzara

the way she went through the water. When Rowse saw the boat out behind Yachting Solutions' storage building, he asked Morong about it. Morong told him that the owner had just put it up for sale and within a few days Rowse had an agreement to purchase the Huckins.





Bill Morong and his team at Yachting Solutions in Rockport, Maine, are spearheading the repower.

BILLY BLACK

PROJECT SUITABILITY

While the yacht was in good basic shape structurally and cosmetically, the propulsion system was another matter. She had a pair of vintage Cummins 4-cylinder diesels with V-drive transmissions and shafts at a very steep 16-degree angle. The engines were inherently unbalanced, so they rattled and shook to beat the band, especially at low speeds.

That was OK, because Rowse was excited about Volvo Penta pod power and, in fact, bought the Huckins with Volvo's IPS in mind. What he really liked about IPS was the ability to gain efficiency through technology, and this translates into greater range. He also wanted family members to be able to run the boat and Volvo's joystick control makes it possible for an amateur to handle an IPS-powered 60-footer after just a few hours at the helm.

In my own testing, I've found IPS to be the most efficient pod system on the market. Also, it does not require propeller pockets, so installation in an existing boat is considerably simplified for the builder. And without pockets, there is no corresponding loss of buoyancy and dynamic lift, which is a big help since these boats tend to run bow-high if left to their own devices.

Rowse contacted Paul Waring, of Stephens, Waring and White Yacht Design (*www.swwyachtdesign.com*) in Brooklin, Maine, to start reviewing the boat plans for IPS suitability. They also looked at Zeus and ZF pod drives. Waring, who had done design work for Rowse and Coolidge on previous projects and had built a 56-foot cold-molded Sparkman & Stephens sloop through his firm's affiliate Brooklin Boat Yard, did a feasibility study.

In the end, everyone on the team had the most confidence in IPS, both the drive itself and the engineering support for boatbuilders. "Volvo really has their engineering together," says Morong. "They provide real-time engineering data, real-time speed and trim projections. Their in-house engineering is very well organized and we felt confident that this would be a successful project with Volvo's expertise behind us."

And ordering an IPS system is greatly simplified. Volvo is the only vendor and one part number covers the whole system, with all parts and costs documented in detail. Volvo also offers engine-room design services, including auxiliary equipment layout and wiring and plumbing runs. This soup-to-nuts service is good business for Volvo, as it eliminates much of the opportunity for IPS failure that might otherwise exist, and it makes builders much more comfortable with the process and, therefore, more willing to shift over to the IPS system in the first place.

Although the Huckins repower team was sold on IPS, Volvo had to be sold on the Huckins. A few years ago, Volvo opened an 18,500-square-foot Boat and Engine Integration Center on the Intracoastal Waterway in Chesapeake, Va. The BEIC staff includes engineers and fiberglass experts who manage IPS installations in custom yachts and in the first hull of a series to be produced by a builder.

While a new boat is still in the design phase, Volvo gets a copy of the plans and reviews them for

Yachts, which should give these owners a warm and fuzzy feeling about bringing their big, expensive boats — a growing number of them Volvo IPS-powered — from Florida to Maine in the summer. Conrad Herrmann, who joined the firm recently to grow its boat sales business, spent 35 years at Lazzara as vice president of customer service, making this relationship a natural fit.

The yacht management side of Yachting Solutions includes crew recruiting and training, maintenance, developing and administering operating budgets, insurance arrangements, fueling, provisioning and storm response. In other words, it takes all the work out of owning a boat; the owner just writes a check once a contract is signed specifying the level of care to be provided.

The company is headquartered on Route 1, the main road in this part of coastal Maine. A 6,000-square-foot building out back is used for storage and restoration, repower and painting projects, including the Huckins IPS repower discussed here.

Maintenance is a big part of the firm's business, so Morong and his partners recently bought 2.5 acres adjoining their location. Starting late this year, this land will be used to establish a yacht maintenance campus of sorts, with vessels to 80 feet accommodated in heated, lighted structures. Rack storage, a first in this area, will be included. In fact, it's not the building that limits the size of the yachts serviced, but the roads leading from the nearest launching facility in Rockport.

Morong and company also recently established the nearby Trident Yacht Basin in Rockland harbor. This deep-water facility has 250 feet of pier space with a 13-foot controlling depth and 16 slips, soon to be expanded to 60. The location is ideal for the private commuter boats servicing the nearby islands. Clients can tie up at the dock and then hop into a gassed-up-and-waiting courtesy vehicle for local shopping and reprovisioning. Transportation to a local airport for flights to Boston also is provided. Two restaurants, restrooms and a laundry are on the property and the docks are equipped with shore power and pumpout.

Lastly, Yachting Solutions' acquisition of brokerage firm Cannell, Payne and Page (*www.cppyacht.com*), which specializes in classic sailing and motoryachts, is helping to round business. "Diversification is key to our strategy," says Morong. "It's the reason for these acquisitions, both to protect us in down times and to offer a comprehensive yacht ownership service."

Morong says so much of the marine industry is segmented — boatyard, brokerage, slips, repower — so his strategy is a one-stop approach. "The best car dealers offer a clean, late-model loaner car, service your car and they even clean it before returning it," he says. "In short, they have a good attitude and they do more than they have to or even promise to. That's what we're trying to do in the boat business."

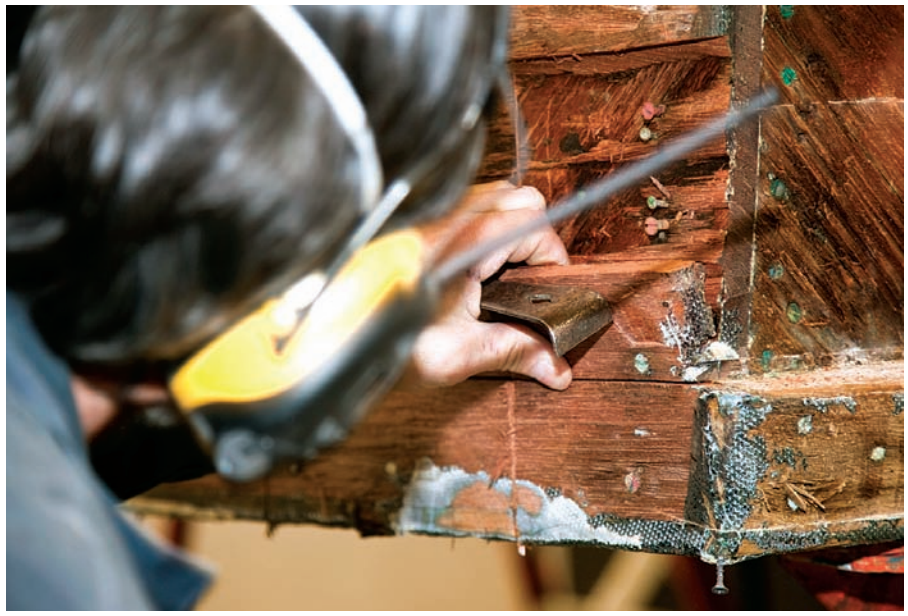
Morong would like to grow to around 90 clients, but that's it. "We want to stay small enough so Chris and I can be the primary face of the company for all of our clients," he says. "We run a very personalized operation and if we got much bigger we'd have to hire a couple of service managers and that's something we'd rather not do. It works very well for just the two of us to be in this role on an interchangeable basis. We can give our personal attention to all of our clients, most of whom are seasonal residents, and we can make decisions on the spot, committing resources and time slots depending on our schedule."

Makes and models of yachts and their needs, of course, vary widely. Yachting Solutions' Safe Haven Program is tiered in three different levels with a number of features at each level. Options such as indoor heated storage vs. indoor cold or outdoor storage are some of the variables that go into pricing, as each package is tailored to the customer. As an example, the annual cost for the average 35-foot lobster yacht can range in price from $7,000 to $37,000 depending on the level of service, program protections, finishes, summer slip requirements, insurance and storage options.

For information, contact Yachting Solutions at (207) 236-8100 or visit *www.yachtingsolutions.com*.

compatibility with IPS. The shape of the bottom, appendages such as keels and strakes, the longitudinal center of gravity, the boat's displacement and the location of its fuel and water tanks are all scrutinized, and modifications are made while it's still easy to do so. After IPS is installed in the first hull or prototype of a series, techs rig a temporary helm and run the boat, verifying performance data before shipping it back to the builder.

Volvo BEIC general manager Ed Szilagyi made the trip to Maine to inspect the Huckins and make sure IPS would work in her wooden hull. Not only did the hull design and condition have to be a fit, but Szilagyi wanted to be confident that the yard had the technical competence and skills to integrate the wood hull and the fiberglass pod structure so there would be no weak links. The boat and the Yachting Solutions team passed muster and it was on to the next phase.



Much of the boat's 3/8-inch mahogany planking had to be replaced.

"Yachting Solutions was already a Volvo repair facility and we had made a commitment to IPS training with our Lazzara Yachts affiliation, so it was a natural fit from that perspective as well," says Morong.

Pod power creates altogether different loads on the hull than a conventional inclined-shaft inboard drive. The IPS engines sit on beds, usually part of and continuous with the hull's stringer system, but the mounts don't have to absorb the propeller thrust, just the weight of the engines. This allows them to float more freely, reducing structure-borne vibrations felt by passengers.

The diesels are connected to the pods with short jackshafts that transmit the engine's power. The pods themselves are mounted directly to collars built into the hull. This support structure is critical, since they have to be able to withstand not only the thousands of pounds of thrust (and lever arm) developed by the propellers, but also must be able to absorb the shock of running aground at high speed and even tearing the pods off the hull. The pods are designed to shear off and leave a watertight seal behind — a better guarantee than you get with a regular inboard — so the importance of getting this right is pretty clear.

For this reason, the support structure for the engines and pods is specified by Volvo in exacting detail, including its precise lamination schedule. Nothing is left to chance or the boatbuilder's whim or creativity. In the case of existing boats, Volvo either blesses the design as is or requires modifications. The Huckins hull form, appendages and center of gravity were OK as they were, which simplified the process.

Installing IPS in a hull originally designed for straight shafts can be more complicated than it may appear. First, IPS's horizontal thrust angle tends to raise the bow, especially when coming up on plane, so bottom modifications or weight shifts may be needed to compensate. IPS also weighs substantially less than conventional inboards and the system's center of gravity is typically farther aft. And then there's the issue of what to do with all the extra space gained by the IPS's compact size. All of these factors must be taken into account.

PREPPING THE HULL

During a two-day visit to Yachting Solutions, I was invited to sit in on a planning meeting with Rowse, Morong, designer Waring and master craftsman Brad Ellsworth, who is responsible for rebuilding the hull around the engine room and installing the drives. The conversation and debate was very much to the point because it revolved around the extent to which the Huckins was to become a fiberglass boat back aft to support the propulsion system loads.

One option discussed was to fiberglass the inside of the hull sides from the chine up to the sheer. This was nixed for two reasons. First, the wooden hullside structure, already sheathed on the outside in fiberglass, was deemed strong enough to support the loads, in large part due to the inherent strength of the diagonal planking, which distributes and attenuates stresses effectively.

Second, when you sheath wood on both sides, you can't see what's happening to it, and the wood can't breathe, which invites trouble. If water were allowed through tiny cracks in the bottom over time, you basically would have oatmeal mush for planking in 10 years. And you wouldn't know it until you came down to the boat some morning to find it sitting on the bottom, though a surveyor could find it

with the right moisture-sensing tools.

There's another, simple reason for not going crazy with the glass: The owner wants to retain as much of the original structure as is practical.

One trick with this job is to distribute the pod propulsion loads to the hull not only locally but also globally, in a macro sense. If you simply stop a thick fiberglass laminate at a certain spot in the hull, the edge or perimeter of the glass creates hard spots or stress points in the surrounding wood structure. So the strategy involves following Volvo's laminate schedule, which tapers the epoxy-saturated fiberglass gradually from the pod collars out to the chines and then 12 inches up the hull sides to a new longitudinal stringer that will run from the transom to the engine room bulkhead on each side of the boat.

New ribs will be installed from this stringer on each side up to the sheer clamp and these ribs and the diagonal hull-side planking will distribute the loads to the deck. The bulkhead will also be stiffened by a new ring frame around its perimeter.

During the discussion, glassing up to the sheer on the inside of the hull was being debated, since this would have been an easy way to rebond some of the frames to the planking. This was being considered because the alternative was refastening the planking to the frames from the outside, which would have meant an expensive paint job on a hull that did not need repainting. However, Rowse felt the right approach was to replace the framing (with slightly larger ribs to make them easier to fasten to) and fasten them from the outside of the hull, readily accepting the new paint job.

The forward engine-room bulkhead is about 9 feet forward of the transom. Rather than rebuild the hull bottom to this point, Waring and the team opted to continue forward 3 more feet, tying in to the original planking with the new wood being supported by more of the hull's framing forward in the hull. While the original mahogany bottom planking was solid, it was diesel- and lube oil-soaked from years of use, so the epoxy resin's bond would have been tenuous, at best.

The inner and outer chine logs to starboard and the outer chine log to port will also be replaced, as will the bottom third of the transom, which had gotten a little punky through the years. The outside of the hull bottom will be resheathed with fiberglass set in epoxy resin.

The 300-hp Volvo IPS 400 D4 diesels sit a little higher than the Cummins diesels, so the aft deck is being raised 4 inches. This boat has a great deal of freeboard that continues all the way to the stern, which serves to strengthen and stiffen the hull. The raised deck is going to have a one-piece hatch, hinged at the aft end, that will open to the engine room for access. A deep gutter with large drain lines and a flange around the edge of the hatch will keep things dry down below. An 8-kW generator will sit between the Volvos. That's a small genset for a 21st century 45-footer, but just right for this more practical 1954 model.

THE SEQUEL

I'm going to follow up on this project after the boat is launched in the spring. The Huckins had a 16-knot cruise and 21-knot top speed with the Cummins V-drives. With the Volvo IPS setup, a cruise of 25 knots and top end of 30 knots is expected. We'll look at before-and-after performance charts showing speed, fuel flow and nautical miles per gallon, and also take a walk through the boat.

One thing that makes this boat so well-suited to IPS power is that it already has an aft engine room, which is where an IPS setup goes. The inherent beauty of this 56-year-old cruiser, and a primary reason for its suitability for an IPS repower, is that the machinery is isolated acoustically and vibration-wise from the accommodations. Riding in the main saloon or forward cabin in this boat has got to be whisper quiet as a result.

This Huckins, designed before boats lugged along granite countertops and washer/dryers, is meant to be cruised on, but in a much different way than we see today aboard your typical condo-esque creation.

Stay tuned … ■

Eric Sorensen was founding director of the J.D. Power and Associates marine practice and is the author of "Sorensen's Guide to Powerboats: How to Evaluate Design, Construction and Performance." A longtime licensed captain, he can be reached at eric@sorensensguide.com.