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39 Must-Know Seamanship Skills

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Marine-Engine Myths Explained

The Marlow 62E
Evolves the Art of Boatbuilding

CROSSING THE PACIFIC
ON A NORDHAVN 120

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SEPTEMBER 2014

In It for the LONG HAUL

WHILE SOME COMPANIES DON'T SEEM TO MIND IF THEIR BOATS ARE A FLASH IN THE PAN, **MARLOW CREATED THE 62E** TO BE A FUTURE HALL-OF-FAMER. **BY CAPT. RICHARD THIEL**

LOA: 70'2"
BEAM: 19'4"
DRAFT: 4'10"
DISPL.: 75,000 lb.
FUEL: 2,280 gal.
WATER: 500 gal.
STANDARD POWER: 2/715-hp Caterpillar C12 ACERT diesel inboards
TEST POWER: 2/1,015-hp Caterpillar C18 ACERT diesels
OPTIONAL POWER: 2/1,135-hp Caterpillar C18 ACERT diesels; MAN and MTU available on request
TRANSMISSIONS: ZF500A with 2.57:1 gear ratio
PROPELLERS: 39x44 5-blade Nibral
GENERATOR: 20-kW Cummins Onan
BASE PRICE: $1,850,000
PRICE AS TESTED: $2,350,000

In sports, and especially in professional sports, the athletes who make it to the hall of fame are those who exhibit two qualities: performance and longevity. An athlete who breaks records in one or two seasons and then fades into mediocrity, whether because of injury or lack of focus, is soon forgotten. The lasting laurels usually fall only to those who maintain a high level of performance season after season.

The same is true in boats. We're all familiar with the new model that sets the industry on its ear for a season and then quickly fades, to be replaced by "the next big thing." Rare it is that a boat model can endure for more than a few seasons before it's deemed stale and outdated.

In this light, consider the models from Marlow Marine. The 78 enjoyed a 13-year run, the 65 went 12 years, and the 57 lasted 11 years. Such longevity is unheard of in a business where style so often trumps substance. Indeed, when Marlow does replace a model, the newer version is often surprisingly similar to the old one. Take the new 62E. It replaces the 61E—which having been introduced in 2004 has had a lengthy run of its own—and yet there are no groundbreaking changes. Mainly,

Tip #7

REACH OUT: If you're unsure of a commercial vessel's intentions and course, give them a shout on Channel 16 or Channel 13 if you're relatively close. AIS has reduced the guessing game, but if you want to determine which side to pass a tug and barge, the captain will gladly tell you.

ROBERT HOLLAND

Tip #8

KNOW BEFORE YOU GO: Take the time and input your route and/or waypoints while at the dock. Doing so while lost in the fog is not the way to navigate. Trust me, I've done it too many times. —*George Sass Jr.*

Tip #9

STAY THE COURSE: Don't forget about your compass. And remember a compass indicates your course. GPS indicates your position. Make sure you have an updated compass deviation card.

PHOTOS BY ALLEN CLARK/ PHOTOBOAT.COM

Marlow's distinctive, traditional feel applies to the interior as well. Of note, the teak here all comes from the same log, for consistency's sake.

The country kitchen setup on the main deck offers access to the pilothouse and the saloon, which lends the boat a warm, inviting ambiance (inset).

there are two: The transom now has the stylish compound curvature that is found on other new Marlows, which allows for a more convenient center staircase down to the fixed bathing platform, a larger lazarette/rudder room, and the addition of two L-shaped settees on the aft deck, each with its own table. The other is lamination using the second iteration of the builder's vacuum infusion process. In Marlow's world, this is the more important change.

By now most everyone is familiar with both the mechanics and advantages of resin infusion. Essentially the process places a laminate in an enclosed container, introduces a vacuum, and then injects resin, which is drawn through the laminate by the vacuum. Compared to conventional layup, resin infusion results in much more consistent saturation of the laminate while using substantially less resin, which increases strength and reduces weight. (It is the lamination material—be it coring or fibers—that provides strength, not the resin.) All Marlow yachts have been resin-infused from the first hull in 2000.

But David Marlow has never been one to be satisfied with the status quo. He realized some time ago that resin infusion is limited by the amount of vacuum applied to the laminate: The higher the vacuum, the more effective the dispersion of resin and the more consistent the strength of the laminate. In turn, the amount of vacuum that can be applied is limited by the centipoise of the resin. (Centipoise is the amount of force required to move a layer of liquid in relation to another liquid. It is closely related to viscosity and in fact is measured with a viscometer.)

Working with his supplier, Marlow has been able to source a resin of significantly lower centipoise, which has allowed him to apply a higher vacuum to laminates—on the order of 4,000 pounds per square foot. He has combined this with a totally automated infusion process that he says allows him to infuse a 78-foot hull in less than an hour using just three 55-gallon barrels of resin—roughly 35 percent of the resin required by hand lamination.

All of this means a boat that is not only stronger but also lighter. Less weight means more efficiency, and efficiency—be it in performance underway or in the speed of construction—is a David Marlow obsession. Lighter also means less draft: Despite having a foot more LOA, 1 foot, 2 inches more beam, and 760 gallons more in fuel capacity, the 62E draws an inch less water than the 61E. Additionally, according to Marlow, the 62E exceeds the 61E in speed by five percent and in fuel efficiency by 10 percent.

(Clockwise from top) One of two Garmin packages onboard. Lots of room for the Cats and twin 20-kW Onan generators. Redundant Racors lend peace of mind.

Yet another benefit of resin infusion is greater interior volume. Because the process creates a stronger laminate, the skin can carry much of the loading, allowing for smaller and fewer stringers and cross members. This monocoque design allows the sole (which being infused is also thinner) to sit lower in the boat creating more interior volume. Internal supports are largely unnecessary; many bulkheads can be simply nonstructural dividers. The upshot is near-7-foot headroom in the saloon, and an engine room so capacious, you expect to see a basketball hoop at one end. Perhaps more important is the resulting lower center of gravity, which means less of a tendency to roll. (Unfortunately we had benign seas on test day so I couldn't experience this first hand.) The 62E also enjoys a relatively low bridge clearance (enhanced by a hinged electronics mast), making it a favorite for those transiting The Great Loop and Atlantic Intracoastal Waterway.

Like all Marlows, the 62E is an engineering tour de force. Besides the proprietary infusion process there's the much-covered Velocijet Strut Keel drive system, of which the 62E's is the second generation, using oil-filled shaft tubes that virtually eliminate vibration as well as the friction produced by conventional cutlass bearings. Another feature that often goes unmentioned is the internal thrust bearings that absorb propeller force and allow the mains to sit level (allowing for more lube-oil capacity) on comparatively soft engine mounts. Engine-generated vibration is virtually banished, something that was palpable during our sea trial.

Two other features on our test boat demand mention. One is the optional separate generator/pump room, located aft and to starboard of the engine room. A big-ship feature, it not only makes for a quieter vessel but one on which it's easier to work on the mains and the gensets, both of which enjoy full walkaround access.

The second feature is the fiberglass fuel tank, a piece of engineering worthy of its own article. It is forward of the engine room where it creates an acoustical buffer isolating the yacht's living spaces from the ER, and its shape mirrors the hull in cross-section maximizing capacity and lowering the center of gravity. The design and execution of this fuel tank is the kind of triple-redundant thinking that is admired and appreciated by the true long-distance voyager and weekend gunk-holer alike. (Understand the heart of Marlow's fuel system in "Better Boat: Built Like a Tank" opposite).

It is this attention to detail and the underlying philosophy of continuous incremental refinement that explains why Marlow yachts stay competitive for so long: They are engineered without compromise so that follow-on models need only evolve, not be redesigned.

Performance and longevity: It's what sets apart the great performers from the also-rans, no matter the game. ❐

Tip #10

LIGHT UP: Make sure there is a small flashlight for every crewmember and one next to every berth. You can never have too many onboard.

▶ *See more photos of the seaworthy,efficient Marlow 62E @ www.pmymag.com*

PHOTOS BY ALLEN CLARK/ PHOTOBOAT.COM

Better Boat: Built Like a Tank

The single fuel tank on the Marlow 62E makes the most of the hull's cross section and lowers the boat's center of gravity. An integral 14-inch-deep baffled sump at the bottom apex provides not only a point of accumulation for contaminants (there's a drain valve at the bottom) but also a reserve of about 100 gallons. With the fuel pickups 4 inches off the sump bottom, 70 gallons of this sump is usable under normal conditions. Without going into too much detail, this design is the reason that David Marlow says he can advise his owners that under conditions of up to a 20-degree roll, maximum safe usable fuel capacity is 2,235 gallons out of a total of 2,280 gallons. The main's fuel pickups are toward the centerline while the return lines are at either outboard corner so that fuel flow creates a continuous washing that keeps contaminants from accumulating on the tank sides. Because all corners are radiused and interior surfaces are gelcoated, contaminants are denied a foothold, Furthermore, the tank is sheathed in coring to minimize interior condensation due to temperature differential. Nevertheless, to facilitate cleaning and/or inspection, a manhole is concealed in the forward end of the saloon sole.

Marlow Yachts, (941) 729-3370; www.marlowyachts.com

RPM	KNOTS	GPH	RANGE	DB(A)
1000	8.8	5.6	3,190	66
1250	**10.0**	**12.2**	**1,667**	**68**
1500	10.8	29.0	756	69
1750	**17.2**	**49.0**	**715**	**70**
2000	21.2	66.6	648	72
2327	**25.8**	**104.0**	**505**	**73**

TEST CONDITIONS: Air temperature: 71°F; humidity: 65%; seas: flat; load: 2,200 gal. fuel, 200 gal. water, 2 persons, 1,000 lb. gear. Speeds are two-way averages measured with shipboard GPS. GPH taken from Caterpillar engine display. Range is based on 90% of advertised fuel capacity. Sound levels measured at the lower helm. 65 dB (A) is the level of normal conversation.

NOTEWORTHY OPTIONS: Second 20-kW generator; 900-gpd Sea Recovery watermaker; two complete sets of Garmin instrumentation; satellite phone and TV; Bose entertainment system; telescoping 1,000-kg electro-hydraulic crane; 15'5" custom Sprite dinghy and Yamaha outboard; leather interior fabrics and custom décor; Sub-Zero wine cooler, ice maker and drawer refrigeration; Dacor commercial-duty four-burner smooth-top stove w/ Marlow potholder system; Flag Blue Awlgrip hull; joystick control system for bow and stern thrusters; concealed cockpit control station; chilled water A/C and heat. (Prices upon request).