

Grand Banks 42

BY JACK W. SARIN P.E.



GRAND BANKS 42 — Grand Banks 44 Heritage EU — Grand Banks 47 Heritage EU.

If you're confused about the names of the Grand Banks models, don't be. Perhaps I can shed some light on the evolution of this popular icon of yachts.

What we're really dealing with here is a redesign and improvements on a product, and more specifically, the hull. Why would a company with arguably the most popular production motoryacht design in history want to make a change? Well, the simple answer is "welcome to the 21st century; this isn't your grandpa's world anymore." A whole new generation of boaters has come along with a wish list of upgrades and improvements, and topping the list is increased speed.

I've always admired the simplicity of the design of the Grand Banks 42. Considering this boat was conceived back in the early 1960s, her popularity is a testament to the staying power of the original concept of the designer

and builder and the fierce loyalty of legions of owners.

A LOYAL FOLLOWING

The original design, with few changes, lasted until 1991 when Grand Banks revised the initial concept with a little more beam and with slightly more rake to the stem. Even with the revisions the changes were subtle enough not to turn off loyal fans. In fact, only the most careful observers could detect that any changes had occurred at all. But, it was always about the look — speed performance was largely ignored.

Several years ago I had the pleasure of visiting Grand Banks' building yard in Pasir Gudang, Malaysia, just across the Straits of Johor from Singapore. I was surprised as I had not expected to see such a huge and modern facility, which was then turning out Grand Banks 42s along with the company's Eastbay models.

The facility had separate production areas for hulls, decks and superstructures, joiner work, metal work and for the final assembly. Also, the yard had a large cafeteria for hundreds of employees as well as an impressive office staff area. Each aspect of the building of the Grand Banks 42 was planned and followed on a posted schedule board detailing the job description down to the nuts, bolts and screws that were needed for each task.

At the time of my visit the number of Grand Banks 42s built was somewhere in the 1,400s and counting. While I was able to closely inspect the building methods, my main focus was on the shape of the hull.

I noted the warped bottom forming almost a flat or horizontal transom deadrise, the deep keel and the small rudders — I couldn't help wonder why this model had been so successful for so many years. Certainly owners didn't champion the slower speeds that the hull shape offered, or maybe they just didn't realize how much horsepower

they were losing with the inefficiency of the hull design.

My conclusion was that the typical Grand Banks 42 owner didn't care much about speed and that it was the aura of the overall design and attention to detail that sold the boat.

FASTER, BIGGER

Times changed and the competition began offering faster and more efficient hulls, while customers asked for more interior space. Grand Banks made the decision to meet the needs of a new generation of boaters. In order to accomplish this push into a more modern product they turned to the design firm, Sparkman & Stephens. Thus was born the Grand Banks 44 Heritage EU.

Sparkman & Stephens made some of the same observations I had and designed a new hull that was 14 inches wider than the original Grand Banks 42, while increasing the overall length to 44 feet, 6 inches and adding 6 inches



of waterline length. Even with a little more rake to the stem and a little more flare in the bow, the overall appearance was hardly a radical departure from the venerable Grand Banks 42. Not surprisingly, the extra beam, deeper-V bottom and additional length added up to a displacement gain of close to 30 percent. Here the solution was to just add more horsepower.

What catches my eye are the differences in the shapes of the hull bottoms. As I noted before, the old Grand Banks 42 had a rather conventional V-

shaped bottom forward, but as the centerline of the hull proceeded aft it became nearly parallel with the chine producing a warped bottom surface and almost zero deadrise at the stern, all combining to create a very inefficient running surface.

The new hull eliminated the warping of the bottom into a flat transom by carrying a V section to the stern. So what, you say. Well, the designers gave the

Grand Banks 44 a much improved running bottom compared to the 40-year-old design of the 42 without upsetting the traditionalists by making only subtle changes to the outward appearance. Well done!

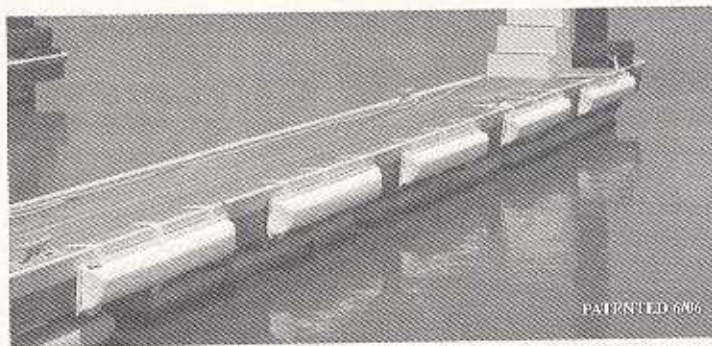
Next, in order not to compromise the increased efficiency of the new bottom, the old-style full-depth keel was replaced with a more modern shallow-depth version. This type of keel acts in a number of ways. (1) It provides directional stability when under way; (2) it act as a longitudinal strength member in the hull

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The interior of this perennial Grand Banks deserves plenty of credit for the boat's storied success. The open and inviting salon gives as much attention to practicality as it does to classic styling. The engine room provides a decent amount of space to poke around, and the flybridge makes fair-weather cruising a joy.

bottom; (3) it provides a landing area for haulouts; (4) it eliminates unnecessary resistance for better speed and fuel efficiency and (5) it offers better maneuverability and turning ability.

The old bracketed swim step was eliminated in favor of a molded-in one, which increased the waterline length another couple of feet — a calculated move made to increase hull speed and to put a smile on the designer's face.

TUNNELING FOR A BETTER DESIGN

Sparkman & Stephens also incorporated propeller tunnels into the hull. This allowed the designers to maintain a reasonable shaft angle while increasing the prop diameters for increased efficiency and allowing the engines to be positioned farther aft in the boat.

The assumption here was that the weight distribution of the boat had been precalculated and the hull had been designed so that the faster hull would have its center of buoyancy farther aft than its slower predecessor. An added advantage to placing the engines far-

ther aft is that the arrangement offered some additional living space forward of the engine room. In addition, prop tunnels allowed the designers to shallow up the draft by raising the position of the propellers, thus decreasing the draft between the tips of the props to the sea bottom. Of course, this decreased draft allowed the boat to operate in much shallower waters, great for places such as the Caribbean.

The introduction of tunnels to the Grand Banks 44 might be considered a new and modern concept to some. Architects have been incorporating tunnels in the vast majority of their designs for more than 25 years — through the use of tank testing they have been able to refine the various shapes that work well for hulls suited for different objectives. This sometimes might involve designing three different tunnel inserts that can be swapped and fitted to the parent hull model and then tested under increasing speeds and simulated sea conditions to determine minimum resistance and the most efficient running angles.

Probably the most important aspects to the design of the tunnels is consideration of the water flow at the entry point, the depth in relation to the waterline, the tip clearance of the props to

the hull, the distance from the transom, corner relief and the angle of exit. These points, plus other considerations too numerous to mention here, are crucial to the ultimate success of the project and should be carefully thought-out during the initial hull design before going to the tank for testing.

I am often asked why naval architects have to test new models to refine and "de-bug" the hull lines. The reason is that each hull has a different mission, and it's fairly cheap insurance for the owner to know that his other design is going to properly perform before the expensive project is launched. In the case of the Grand Banks, the extensive tank testing of the new hull design was imperative as the company was committing a very large amount of money for all the tooling that went into a production project as big as this.

1,500 AND COUNTING

We finally get to the Grand Banks 47 Heritage. The model is still the "old" Grand Banks 44 — the company decided last year to adopt the American Boat and Yacht Council (ABYC) standards for boat measurement. With the addition of the molded-in swim platform the new length is 46 feet, 8 inches, thus the model becomes a Grand Banks 47.

For all those naysayers who are shaking their heads and fretting that Grand Banks has deserted the concept of cruising at a leisurely pace by opting for the modern, faster hull, I wouldn't be too concerned. Your options may be to just throttle back on the new bigger engine model or buy a used Grand Banks. After all, there are more than 1,500 of the similar-looking Grand Banks 42s out there cruising the world to choose from. Visit www.grandbanks.com for more information. ♡



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