

TRIPLE SPEED WIND ROCKET

Born with a world-record heritage, the Ketterman TriFoiler is part trimaran, part hydrofoil and all speed.

BY CHRIS CASWELL; PM Photos by Forest Johnson

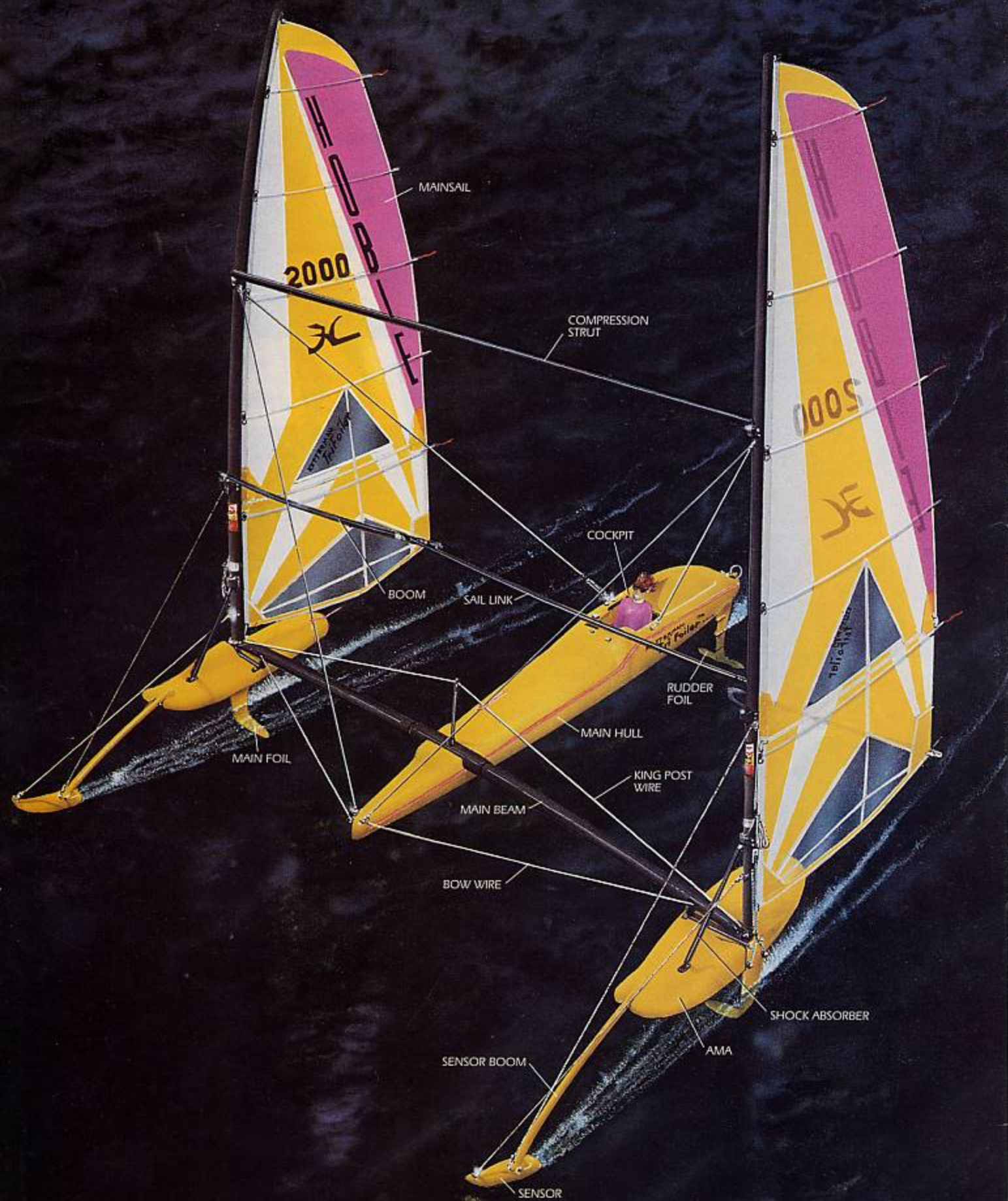
● I now know what the crew of the *Enterprise* feels when Capt. Kirk issues the command "Warp speed, Mr. Sulu." I had just shoved off the beach into Miami's Biscayne Bay and settled into the cockpit of the new Ketterman TriFoiler, when the "Star Trek" image occurred to me. After sorting out the controls and taking a deep breath, I trimmed in the twin sails, and in the blink of an eye, I zoomed to the sailing equivalent of warp speed. I didn't exactly see stars turn to laserlike blurs, but I was instantly skimming above the water on hydrofoils and watching the speedometer climb to 30 miles per hour, a speed most sailors can only dream about.

I pushed the steering pedal hard over and the TriFoiler slammed into a fast jibe. As the sails slapped across, g-forces pinned me to the side of the cockpit. Incredibly, it did the jibe without dropping down off the hydrofoils. Despite a lifetime of sailing fast boats, I was stunned. Without question, no production sailboat in the world is as fast as the Ketterman TriFoiler.

Speed has been important to sailors ever since the ancient Greeks and Romans built fast ships for naval and merchant fleets. But even as recently as the turn of the century, sailing speeds had yet to climb much above 15 miles per hour.

This began to change in the 1960s when international catamaran

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competitions began to flourish. At one such competition, held in England in 1972, a 60-ft. outrigger called the *Crossbow* set a world record of 26 miles per hour.

What *Crossbow* and other boats revealed about pushing the technological envelope was that solutions had to be found for two primary problems: surface drag and wave action.

Surface drag is simply hydrodynamic friction, and designers reduced it by experimenting with narrow, shallow-draft boats. Wave action, on the other hand, is a more complex problem, because the fastest boats—small conventional hulls—typically bog down between the bow and stern waves.

One California designer, Greg Ketterman, not only came up with a way to minimize drag, but also to solve the wave-action problem. His design, which took six years and roughly \$1 million to make, was skippered by Russell Long in 1992 to a new world speed mark of 50.1 mph. The production version of that boat, manufactured by Hobie Cat (P.O. Box 1008, Oceanside, CA 92051; 619-758-9100), is now called the Ketterman TriFoiler.

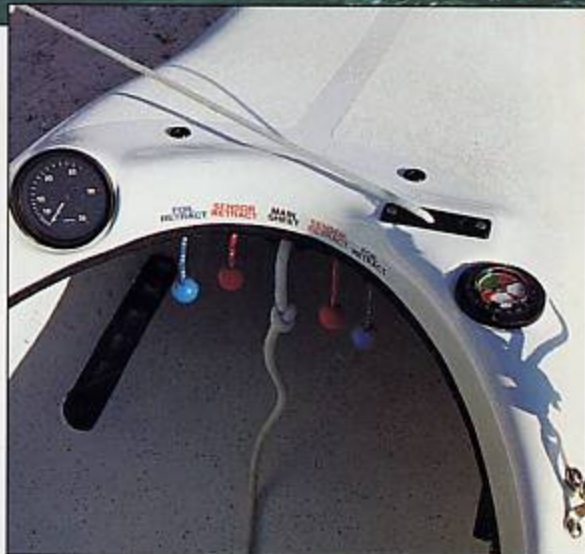
Like all trimarans, the TriFoiler has three distinct hulls: a long main hull and two shorter hulls (amas) connected by aluminum crossbars. Unlike other trimarans, the TriFoiler has a biplane sail rig with two side-by-side sails set 19 ft. apart on anodized-aluminum masts. Each sail measures 107 sq. ft. and operates in air completely undisturbed by the other sail.

While the sail rig appears to be the most distinctive element, a pair of small planing skis attached to the amas are the keys to the TriFoiler's speed. These extensions, called sensors, skim along the surface of the water several feet in front of the amas and help the foils automatically assume the proper position to meet upcoming waves and troughs. They do this by adjusting the running attitude of the amas and foils, and by helping to maintain a hull height of 8 to 10 in. above the water.

In addition, the independently operating sensors neutralize any tendency of the boat to heel over as a result of wind force. Basically, the leeward sensor adds lift when its hull is pressed down.

The three foils consist of two L-shaped fins that extend below the amas and an inverted-T-shaped fin below the rudder.

Typically, the TriFoiler can sail at about twice the wind speed, but it takes a minimum of 9 to 10 knots to get a solo sailor up on the foils. Twelve knots are needed when two



Using pedals and lines in the cockpit (left), Greg Ketterman runs at powerboat speed by raising the TriFoiler's hulls out of the water and onto its fin-shaped foils (above).

in. wide and 18 ft. long.

Testing the TriFoiler in favorable wind conditions, I painlessly learned the new skills necessary to push the boat into the upper performance realms. On a close reach, I eased out the sails and felt the hull start to surge forward. As quickly as possible, I sheeted the sails in and experienced a rush of adrenaline as the hull lifted free of the water.

people are in the cockpit of the boat.

Construction of the cored-fiberglass TriFoiler is solid but light. The main hull weighs just 90 pounds. Completely rigged, the 22-ft.-long and 19-ft.-wide boat weighs 320 pounds.

The cockpit is reminiscent of a bobsled, with its shoulder-high sides and hammock seat that leaves the sailor's upper body exposed. With the sails set off to the side, visibility is superb. A second seat is located behind the driver. Maximum crew weight rating is 400 pounds.

Controls for the TriFoiler consist of lines and cam cleats arranged on a clearly labeled dash panel. The boat is simple for one person to rig and to stow. Folded up on its trailer, the Ketterman TriFoiler is just 46

experienced a rush of adrenaline as the hull lifted free of the water.

Steering gently with my feet to find the optimum groove, a small puff of wind was quickly converted into what felt like warp speed. In just a 15-mph breeze, my speedo was bumping against the 30-mph mark. I wanted to peg the needle at 35 mph while still accelerating, but the breezes didn't cooperate. The boat is clearly capable of doing 40-plus mph in the right conditions.

Priced at \$12,900, the TriFoiler can introduce you to a realm of speed that most sailors will never reach. If you want to be the speed king on your waterway, this is the boat for you.

Beam me up, Scotty, and set a course for the future of sailing. **PM**