

# When Push Comes To Shove

*In bow thrusters, sometimes less is more.*

BY CHARLES NICHOLS

**T**his column details the workings of your vessel's "innards" in several different fashions. One is the generic "The Way Things Work" approach, explaining how a system operates *in principle*, without mentioning any specific brand of equipment. Another examines *multiple answers* to a common problem, briefly explaining how each works and how it differs from other solutions. In these instances, a number of brands will usually be cited. On other occasions, I devote the entire column to a *single solution*—one manufacturer's answer to a specific problem.

Whenever I do so, there's inevitably feedback from manufacturers of similar equipment who were not mentioned. They usually state (often quite emphatically, I might add) that the solution discussed is not the *only* one. Well, of course it isn't. Rarely is *any* solution the only viable one. However, when a detailed examination of a single answer to a real problem takes all the space I'm allotted, I think it is fairer to all concerned (and especially to you, the reader) to cover it as fully as possible and leave other answers to future columns. Such is the case this month as we take another look at bow thrusters.

Now, the advantage of an "extra shove" at the bow hardly needs to be explained. Everyone who has ever handled a boat knows how often a friendly push away from the pier can come in handy. And when the vessel is too large for a human shove to be of much help, the built-in push of a bow thruster becomes invaluable. Why? Because, lacking this "extra"

thrust up forward, the bow is really the "tail of the dog" when it comes to maneuvering. That is, nothing happens until the stern swings; the bow just follows along.

#### A UNIVERSAL NEED

I have to confess with a somewhat red face that knowing this truth and putting it to use are not necessarily the same thing. A few years ago, I was involved with the engineering of an 80-foot yacht whose ultimate design parameters eschewed a thruster in favor of other "goodies" the owner thought more important. Because this yacht was going to be very beamy, with the props set far enough apart (nearly 11 feet) to provide extraordinary leverage in "twin-screw" maneuvers, all of us involved felt we were safe in doing without

a bow thruster.

The project manager became the yacht's captain when she was launched. And since he had been steadfastly among the "all of us," he had little right to complain when he discovered at least a couple of occasions in which the leverage of wide-spread props was simply not enough to overcome nature's wind-driven push on the bow—the 80-foot LOA formed a pretty good lever, too!

My embarrassment stems from the fact that I allowed myself to be "out-voted," despite a strong conviction that nearly every yacht over 40 feet is better off with a thruster—an opinion I've held since the late '70s. If I had stuck to my guns, the captain would have had the thruster when he needed it.

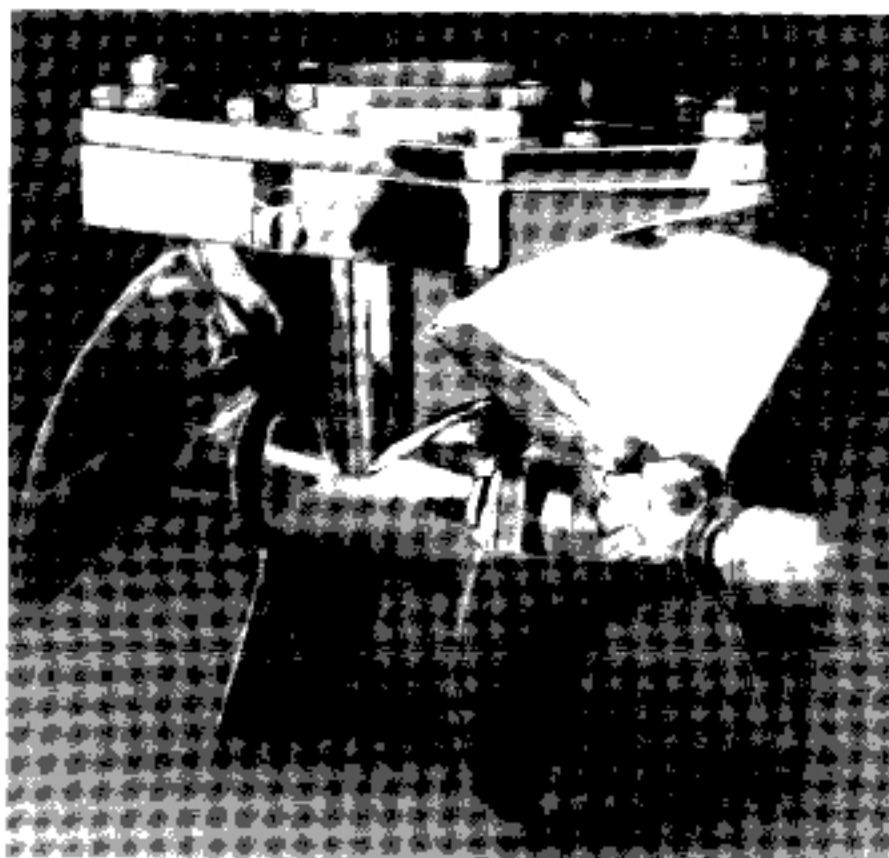
In this case, it was a matter of budgetary priorities that allowed the yacht to be built sans thruster, but there can be other reasons as well. However, the result will inevitably be the same: white-knuckle maneuvering. You may not need a thruster all the time, but when you do, there's no substitute for it.

#### WHY NOT?

"What other reasons could there be?" you ask. Well, if you look back at our recent discussion of anti-roll systems (March, April, and September 1991), you'll recall that *anything* below the waterline that can interfere with performance is a "no-no" to the high-speed set. And the hull openings necessitated by the thruster tunnel can be a detriment to ultimate

performance.

Then, for many boats (particularly those just big enough to benefit from a bow thruster's push), a shallow forefoot



**Twin props offer two advantages: more thrust from smaller tunnels and equally effective thrust both to port and starboard.**