



## NOT A GIMMICK ANYMORE

*Gyro stabilization is becoming the norm for new builds and refits*

BY KARL ANDERSON

Boatbuilders continually evolve and use new technology, materials and construction techniques to meet the needs of their customers. When doing so, every once in a while there is a universal element all builders integrate into their boats that becomes the norm. Perhaps three of the biggest in the history of the sport-fishing boat — besides hull design — are the flying bridge, tuna tower and mezzanine. But now, a fourth is changing the game: gyro stabilization. If builders want to sell a new boat these days, they'd better darn sure plan on installing a gyro.

### NOT A NEW IDEA

The first experimental gyros were developed in the late 1860s and into the early 1900s, with less than desirable results. Several large ships used the technology, including USS *Henderson*, a military transport ship, in 1917, which had two 25-ton units, and an Italian cruise liner utilized three large units in 1930. The cost and weight of the systems were prohibitive, and other forms of stabilization became more readily available. External fin stabilization, which used the speed of the vessel to help create anti-roll stabilization, became more popular, but by no means more practical — especially in sport-fishers.

### HOW IT WORKS

The gyro stabilizes the boat through the energy it creates spinning a flywheel at high revolutions per minute (RPM). The subsequent angular momentum, or stabilizing power, is determined by the weight, diameter and RPM of the flywheel and measured in Newton meters — a unit of torque. The output

*Boatbuilders such as Viking now incorporate gyros as an integral piece of the design process, with a designated location should an owner want to add one.*

rating in Newton meters is the amount of power the unit is capable of generating to stabilize the boat. The more output, the more anti-rolling torque generated by the gyro to stabilize the boat.

### SEAKEEPER EXPANDS PRODUCT LINE

Several companies make gyros for sport-fishing boats, and they have units to fit almost any application in the sport-fishing industry. Seakeeper, the fastest-growing brand, offers units for practically every size sport-fishing boat made today. In a 10-year period, it not only created demand in the new-boat market but retrofit all kinds of boats as well.

An aggressive new period of product development advanced technological qualities as well as reduced the overall size of each unit and reduced costs. The company's latest offerings include

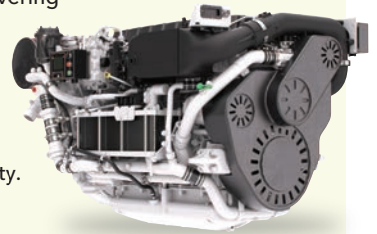
the Seakeeper 5 for boats 30 to 50 feet and up to 20 tons, the Seakeeper 9 for 50- to 65-footers up to 35 tons, the Seakeeper 16 for 65- to 80-foot boats up to 70 tons, the Seakeeper 26 for boats from 80 to 100 feet and up to 100 tons, and the Seakeeper 35 for vessels over 100 feet and 100 tons. The additional compact designs allow for multiple-unit installation to meet tonnage requirements and space limitations of most boats, and they can also be mounted off the centerline to fit a variety of applications.

Perhaps the most exciting is its smallest offering, the Seakeeper 3DC. The 3DC is a game changer for the small sport-fishing and center-console boat market. As its nomenclature suggests, it is the first DC battery-powered unit for the company and fits boats from 30 to 40 feet. Weighing only 790 pounds, it shares the same footprint as the Seakeeper 5, but the 3DC doesn't need a generator to operate because it only draws between 500 and 1,000 watts depending on sea



## CAT RELEASES C12.9

Caterpillar released a new high-performance engine for recreational and commercial marine applications. The C12.9 is offered in two power ratings: 850 hp and 1,000 hp at 2,300 rpm. The C12.9 is compliant with EPA Tier 3, IMO II and EU Stage IIIA regulations at both ratings. It offers high torque at low speeds, with rapid acceleration throughout the speed range due to its air-system design with a series of integrated turbochargers and a supercharger. Coupled with its common-rail fuel system, the C12.9 offers quiet operation, reduced emissions and optimum engine performance. The C12.9 also can be integrated with the Cat Three60 Precision Control shaft-line maneuvering and engine-control system, as well as other marine-industry throttle controls. It is perfect for new-build and refit applications; we ran a 55-foot Jarrett Bay with a pair of C12.9 engines and noted the quietness, zero smoke and rapid acceleration, along with excellent slow-speed maneuvering ability.



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conditions. Seakeeper does require a raw-water cooling system for its units, as well as DC power and AC power through an inverter to power the controls.

#### MITSUBISHI'S OFFERINGS

Mitsubishi Heavy Industries also manufactures anti-roll gyros for the sport-fishing market. Its unit is completely self-contained, with no external moving parts and no need for raw-water cooling. Mitsubishi offers four units: the ARG125T for boats from 10 to 15 tons, the ARG175T for applications from 15 to 25 tons, the ARG250T for 30- to 40-ton boats, and the ARG375T for boats up to 60 tons. The ARG375T is the largest unit, but a pair of ARG250T gyros can be combined for boats up to 135 feet.

Each company's recommended installation procedure must be adhered to for the units to work properly. The torque generated

by the flywheel requires the units to become an integral part of the boat and be tied into the main stringers and



*Mitsubishi's gyros are self-contained, with no external parts or need for raw-water cooling. Four models are available to fit a variety of vessel sizes.*

strengthened areas of the boat. This makes retrofits difficult. Only the original builder or an experienced boatyard should do this kind of work because they have the capability to integrate the mounting system into the structure of the boat. However, a large portion of Seakeeper business is retrofits, so the opportunity is readily available.

#### THE EXPERIENCE

I have ridden several boats with gyros and most recently spent time on a new 66-foot Viking. The boat reacted as expected in a beam sea, with some roll and snap, while sitting with the unit on standby. Once the Seakeeper unit switch was flipped, she tightened up and bobbed like a cork, with little roll or yaw. As I said before, it will be hard to sell a boat without an anti-roll gyro from here on out. If you're ordering a new boat, bite the bullet and install a unit. It'll make days on the water more enjoyable and help your resale. 🌊

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