

Cats In The Hatt

Judging from this Hatteras 54C, Caterpillar's new 1,200-hp 3412 is going to be very popular in sportfishing boats.

Charles A. Gardner—Charley to his friends—is living proof of the proposition that most boats, especially expensive boats, are bought by experienced boatmen. Charley has harbored a love affair with boats for most of his life. Like most of us he started small, graduated to a Chris-Craft 38, then to a series of Bertrams, culminating in a 43 convertible. Also like most buyers in this class, Charley didn't need a new boat, but when Sonny Middleton of Dog River Marine in Mobile, Alabama introduced him to the Hatteras 54 convertible—well, it was you-know-what at first sight.

Charley Gardner is like most experienced boatmen in another way, too. Successful in business, he knows what he wants, is used to getting it, and isn't interested in compromising. In this instance he determined that three things were of prime importance. Extensive cruising, particularly in the Keys and Bahamas, was high on the menu, so moderate draft was important. Seemingly, that would eliminate the Hatteras 54, since it draws 5'10".

But most anything is possible when you've got a knowledgeable dealer representing a customer-oriented builder. Sonny

called the Hatteras factory in New Bern, North Carolina, explained the problem, and Hatteras engineers responded by "simply" molding a pair of styrofoam inserts for the hull mold. Viola! The world's first Hatt 54C with prop pockets—and a five-foot draft fully loaded.

Charley also wanted only quality electronics, like a Furuno LC-90 loran, GP-70 GPS, 1411 48-mile radar, and fishfinder, plus a Robertson autopilot. Equally important, he wanted them in a clean, customized helm console, not bolted to a bunch of brackets. This time Sonny's dealership responded by crafting a custom console top in which everything is secure and in easy reach, yet there's still plenty of work area.

Finally there was the matter of power. Charley, retired from his successful electrical contracting business in Peoria, Illinois, had done some work for Caterpillar, and had been inside its engine facility in nearby Mossberg. He told me he was "impressed by the way they do things and their obvious dedication to quality." So, Charley

wanted Caterpillars in his Hatteras, and that's where the story gets really interesting.

What happened next is what sociologists call a "confluence of events" and what the rest of us would term a stroke of damn fine luck. For it happens that as Charley was negotiating to buy his Hatteras he ran smack into the notorious 10-percent excise tax on boats. Like many other boatmen, Charley had the money to pay the fee but refused on principal. "I just wasn't going to give the government money it didn't deserve." It appeared the deal was doomed, until events commenced to confluence.

At about the same time Charley and Sonny were confabbing in Mobile, the engineers at Caterpillar were putting the finishing touches on their new 1,200-hp 3412 V-12s. Being a painfully conservative bunch, they wanted to install two pairs of pre-production engines into consumers' boats for some long-term, real-world testing to see what, if anything, might need improvement. Specifically, they wanted to lend some engines to a couple of owners for a year while they monitored and, if necessary, repaired or modified them.

Going, Going, Gone! Terna G under full-throttle acceleration. Note the absence of visible smoke.



PHOTOS: RICHARD THIEL

Then, Caterpillar would either pull the engines or sell them to the owner at an attractive price. One pair of engines went into the Magnum 53 we tested last July and Charley got the other.

I entered the story last August after Caterpillar and Hatteras invited me to test the final product in—of all places—Peoria, on the Illinois River which, as you might suspect, doesn't see many Hatteras 54s. Charley's captain had brought the boat, like all his boats christened *Terna G*, from New



With Caterpillar's Electronic Control Module a service technician can tell just about anything you need to know about an engine.

Bern, down the east coast to Stuart, Florida, across the Okeechobee Waterway and Gulf of Mexico, up the Tombigbee Waterway and Ohio River, to the Illinois River and Peoria. With the exception of some monster seas (Charley says 12-footers) off the Carolinas, the trip was uneventful.

I knew these engines were strong but didn't expect any remarkable numbers, if only because we were testing in fresh water, which usually produces speeds a knot or two slower than salt water because the latter is more buoyant. Moreover, my expectations were further diminished when I noted *Terna G* was not only full of fuel and water on test day, but was loaded with nine people. Yet when all the testing was done, we'd chalked up a two-way average top speed of just under 40 mph and a calculated maximum range of over 470 miles.

You don't have to be an engineer to figure out that these are strong engines. To

get the extra horsepower, Cat didn't just crank up the fuel system; it basically re-engineered everything but the basic long block. The 1,200-hp 3412 has a reconfigured fuel system; water-cooled exhaust system from manifold to and including turbos (instead of just water-cooled manifolds alone); redesigned pistons with a cast-in oil gallery at the ring land into which oil is injected for cooling; larger, watercooled turbochargers; new oversized heat exchanger that according to Cat can withstand up to 30 percent fouling and still maintain its effectiveness; standard Airsep closed crankcase system; and more sophisticated electronic engine controls that connect to a fully electronic helm display with just four wires.

Among the virtues of the new electronic control module (ECM) are the ability to

program it for maximum trolling rpm anywhere between 900 and 1200 rpm. Thus, with a flip of a switch the captain enjoys full throttle range yet cannot exceed the predetermined maximum rpm.

Also part of this system is a rheostat which sends throttle-position information to the governor. Not only does that mean more accurate throttle control, it means the system can be mated to virtually any brand or type of throttle system. Moreover, both engines can be programmed to run off one sensor, eliminating the need for a separate engine synchronizer.

When I finally got my turn at the wheel of *Terna G*, I realized precisely what all this means in the real world. This Cat-powered Hatteras impressed me in two particular areas. One is acceleration. Thanks to electronic engine controls, you

HATTERAS 54 CONVERTIBLE

Boat type: convertible sportfisherman

Base price: N/A

Standard power: 2/870-hp DDC 12V-71TA diesel inboards

Optional power: 2/1,040-hp DDC 12V-92TA diesel inboards

Notable standard equipment: pulpit; boarding steps; portable air storage tank; duplex fuel filters; 5 auto

bilge pumps; oil change system; 240VAC battery charger; 12-point systems monitor; SSB ground screen.

Hull type: warped-plane, modified-V

Designer: Hatteras design team

Construction: hand-laid FRP using isophthalic gelcoats; Blistergard gelcoat; Dupont Imron on topsides, superstructure, feature stripes, and nonskid

SPECIFICATIONS

LOA: 54'11" **Beam:** 17'4"

Draft: 5'0" (w/pockets)

Approx. displacement: 70,000 lbs. (dry)

Bridge clearance: 14'8"

to top of flying bridge

Maximum saloon headroom: 6'8"

Fuel capacity: 1,330 gal.

Water capacity: 200 gal.

Sleeping capacity: 6/8

DRIVE TRAIN

Test engines: 2/1,200-hp

Caterpillar 3142 diesel inboards

Transmission: ZF 195

Reduction ratio: 3:1

Propellers: 38x63 5-

blade Nibral

Steering: Teleflex

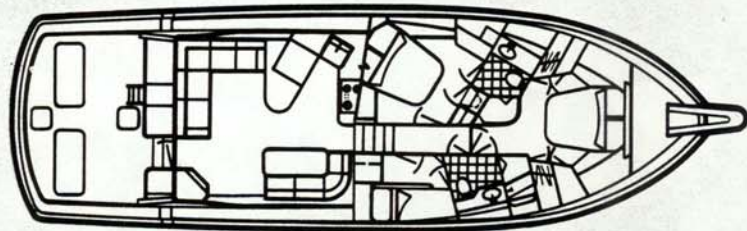
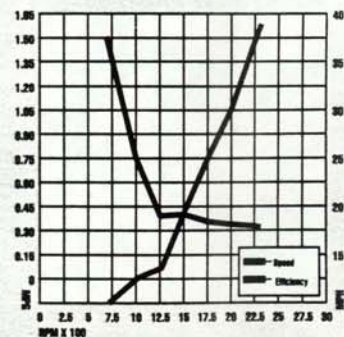
Controls: Teleflex

Trim tabs: Bennett

TEST RESULTS: Conditions: temperature: 75°; humidity: 60%; wind: calm; seas: flat; load: 9/10ths fuel, full water, 11 persons, minimum gear.

Indicated rpm	mph/ (knots)	Total gph	mpg/ (nmpg)	Range (miles)
700	10.1/(8.8)	6.7	1.5/(1.3)	1791
1000	12.7/(11.0)	17.0	0.8/(0.7)	888
1250	13.7/(11.0)	34.7	0.4/(0.3)	469
1500	19.8/(17.5)	49.8	0.4/(0.3)	472
2000	30.3/(26.6)	69.6	0.4/(0.3)	432
2250	37.4/(32.7)	114.2	0.3/(0.3)	389
2310	39.1/(33.8)	121.6	0.3/(0.3)	382

Speeds are two-way average, measured with Decatur digital radar gun. Fuel flow obtained via digital instruments. Usable range is 90% of total advertised capacity.



TECHNICAL ILLUSTRATION: AUDREY SIANI

ENGINES

can simply firewall the throttles and the engines do the rest. No hesitation, no over-fueling, and virtually no smoke (see photos). Just a brutal pull all the way up to 2300 rpm.

The other impression is one of flexibility. Shove the throttles forward then pull them back, and the engines respond immediately and precisely. Flip the trolling switch and you can pick your speed to the tenth of a mile per hour.

A couple of other things that bear mentioning are the Caterpillar electronic instrument cluster and service tool. Of the former, I can only say that I am not a fan of digital displays. They too often provide *too much* data, thus confusing the helmsman, and they can be difficult, if not impossible, to read in changing light. While my preference for good old needles and dials hasn't changed, I admit that Cat's system is the best of the type I've seen. Clearly the company has put a lot of design and programming time into it, and it shows. One small example: flip the trolling switch and the scale on the tachometers automatically changes, too. And from what I could judge

on test day, the display, which brightens and dims automatically according to ambient light, remains easy to read in a wide variety of light conditions.

The Caterpillar service tool is really a keyboard with digital readout, and with it a service technician can tell just about anything you need to know about an engine, right down to exhaust temperatures and fuel burn. Like the most sophisticated systems today, it remembers malfunction events, making diagnosis a lot easier, and it is an interactive system. A number of operational parameters like trolling speed can be programmed by the technician to suit a particular installation.

As for the Hatteras 54, it only benefits from the installation. I wasn't able to wring the boat out on test day since the conditions on the Illinois River tend to be consistently sedate, but I do know from past experience that this is one of Hatteras's best hulls. The addition of prop pockets seems to have done nothing to change that, except that the boat now travels around at full speed with a 12-foot high roostertail behind it.

Often when you combine a strong-willed owner with a conservative boat-builder and an equally conservative engine builder the results are bruised egos and a customer whose hopes are less than fulfilled. In this case the result is quite to the contrary—I think it fair to say Charley, Hatteras, and especially Caterpillar are all *very* pleased with the results of their efforts. And at least part of the credit for all the satisfaction must go to Sonny Middleton, for as most of us know, the right dealer can make all the difference. And in this case it surely did. □

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