

**By Grid Michal**  
t used to be that “gas or diesel?” was an easy question. If you had a behemoth boat, you needed a behemoth engine, ergo, a diesel. A big diesel — one that scared the barnacles off the boat’s hull when it started. If you had a smaller boat, you had smaller gas engines.

Then the industry began weirding out, and here came 50-foot Chris-Crafts with 427 Ford gas engines. More recently we have 25-foot center consoles with high-speed Yanmar diesels. I thought I was

awake, but apparently I’ve regressed to prep school days. So what was once an easy question to answer with “yes” or “no” has now morphed into “depends.” The reasons to choose a gas engine or a diesel engine depends on you, how frequently you use your boat, how fast you want to go and a slew of other considerations.

Even though it’s yet another thing you have to decide on, the fact that manufacturers are increasingly offering the choice of diesel or gas in stern drives works to your advantage.

### CASE IN POINT

The typical talk around the marina or boat yard is that diesels are longer lasting, more efficient and cost less to operate than gas engines with comparable power, but they are also heavier and cost nearly twice as much. Gas engines, on the other hand, are lighter given the same amount of horsepower and cost less to buy, but they tend to burn out quicker and cost quite a bit more to operate.

For example, consider a recent magazine test of a 40-foot Formula Super Sport

with twin diesel 350 hp Volvo stern drives. At a leisurely 2,700 rpm, the Volvos pushed the luxu-cruiser 33 mph, achieving a fuel consumption of 1.4 mpg. The same boat with 8.1 big-block gas Volvo engines got 1.1 mpg at 36 mph. Top speed for the diesels was 45.6 and top speed for the gas engines was 52 mph.

Given these numbers, a 100-mile trip with the diesels would take three hours, two minutes and would consume 71.43 gallons of diesel fuel (\$146 at pump prices as of this writing). The same trip for the gas engines would take two hours, 47 minutes and would use 90.91 gallons of high-octane unleaded (\$204 at current prices). So it would take only 15 minutes more for the diesel trip and save nearly 60 bucks. It would cost 80 cents a minute to run the diesel engines and \$1.22 a minute to run the gas engines, or 42 cents a minute more to run the boat with the gas engines.

### A LINE ON LONGEVITY

Regardless of whether you go with gas or diesel, one fact is that engines that are used more often last longer. It might not sound logical, but engines are made to run and their longevity increases with how much they’re used.

Consider a marina resident who has a 35-foot sportfisher with twin 5.7 GM gas inboards. He religiously has them serviced

at 100-hour intervals (oil and filter changes, routine maintenance). At 2,500 hours he has the manifolds changed, along with the risers and recirculating and raw-water pumps. After about four years (and 5,000 hours total) he replaces the engines.

Given the typical 100-hours-per-year most boaters rack up on their engine, they will be looking at replacing the same twin engines 15 years later after only running up 1,500 hours. What’s the difference? The first owner gets his “50 years” of ownership accomplished in four years.

So how about the diesels? Will they last at least twice as long as a gas engine if used frequently? That’s a yes, and constant use can bring as much as 10,000 hours with religious maintenance. Will they last three times as long if they aren’t used frequently? More than likely.

But these are all generalities. Like we said before, determining whether a gas engine or a diesel engine is right for you depends on the boat you’re looking at and what you plan to do with it.

### DECISIONS, DECISIONS

What a conundrum. You’d think it would be easier to get a straightforward answer. The first place to start is the boat itself.

Load a heavy boat with a couple of lightweight gas engines and you’ll be

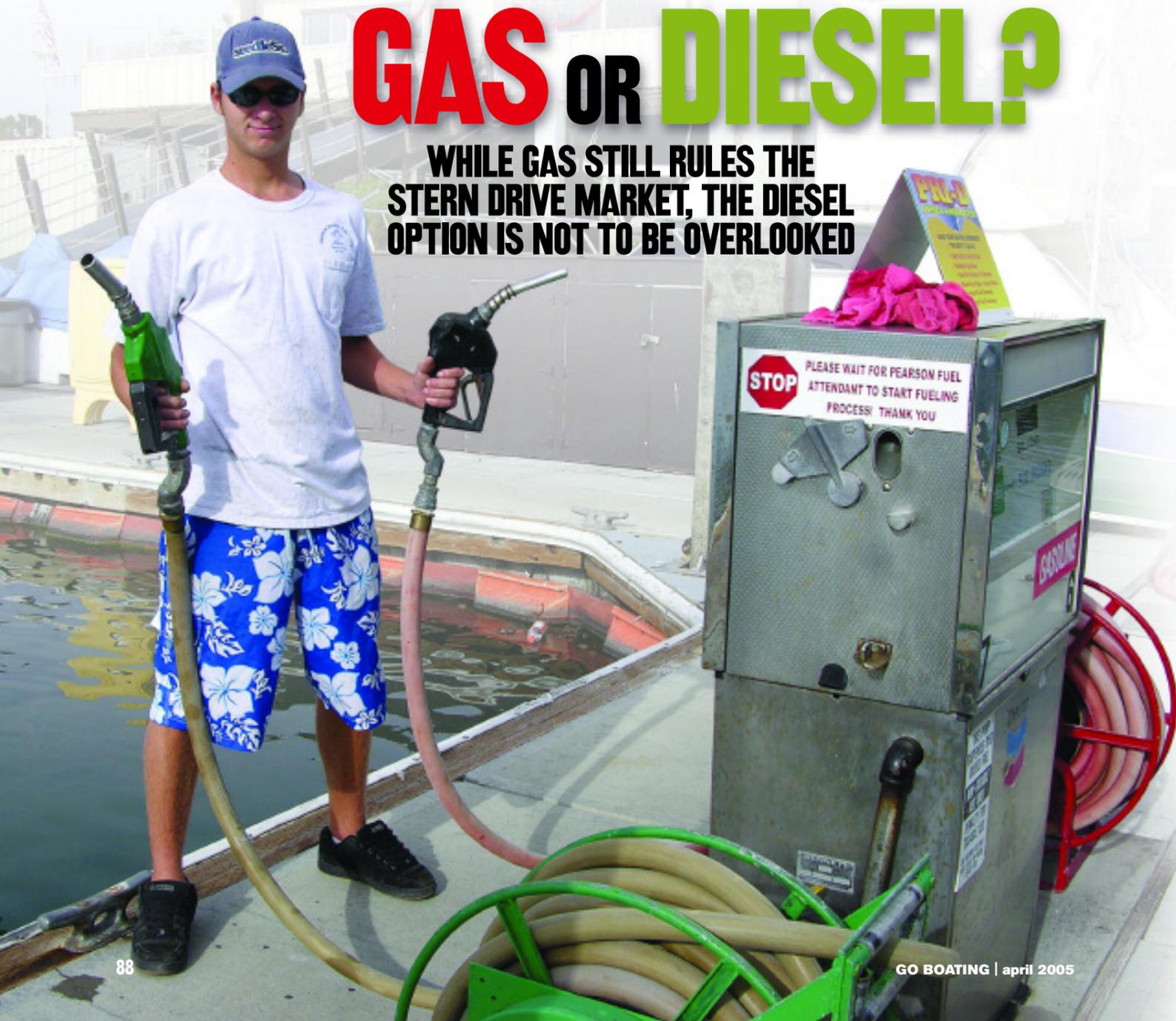
tossing them out frequently. Diesels are designed to hunker down and get the job done with a minimum of fuss — but that’s if you can afford to go with diesel in the first place.

If you’ve got the initial layout of money, lightweight, fast-turning Yanmar, Cummins/MerCruiser, Marine Diesel or Volvo Penta diesel stern drives can offer you the best of both worlds on pocket cruisers, giving you longevity while having the strength to turn bigger props to move the payload. People with larger inboard boats might be interested in Caterpillar, Detroit Diesel/MTU and Man diesel engines, but virtually all of these engines are not practical for stern drive setups. These are heavier and slower turning, but they can more efficiently move a large hull where the smaller, albeit high horsepower, high-speed diesels might not.

While gas engines aren’t exactly a dime a dozen, they are much less expensive than diesel engines and offer better performance and speed in smaller boats (although diesel manufacturers continue to make inroads with lightweight high-performance diesels, see sidebar on next page). But you will pay more at the pump and, if you do plan to use your boat all the time and keep it for the long haul, a diesel can pay for itself over the years.

# GAS OR DIESEL?

**WHILE GAS STILL RULES THE STERN DRIVE MARKET, THE DIESEL OPTION IS NOT TO BE OVERLOOKED**



## Notes on Diesel Emissions

When people think of diesel engines, they typically think of them as smelly and noisy as they are efficient and economical. But that’s changing, thanks primarily to pressure from the federal government. The Environmental Protection Agency’s Tier II emissions regulations will be in full effect in January 2006, so manufacturers of recreational gasoline and diesel engines are working now to be sure they are in compliance.

One strategy diesel manufacturers have had success with is something called common-rail fuel injection, which has long been used for port fuel-injected gasoline engines. By using common-rail injection instead of the traditional individual mechanical fuel injections, the atomized spray of fuel entering the cylinder is considerably finer, which results in a cleaner, more complete combustion with less emission — so that tell-tale diesel stench coming out the back of the boat will all but disappear.

Another technique diesel manufacturers are using is electronic variable injection timing, which can change the amount of fuel going to an individual cylinder depending on load and conditions.

Not only do both of these strategies work to clean up emissions, they also quiet the engine down by as much as 30 percent because there are no more clacking mechanical injectors. Another good sign for the future of diesel is that highway-grade diesel will be required to be ultra-low sulfur when 2006 rolls around, which will substantially reduce sulfur emissions from diesel engines — although this will likely bump up the price of this diesel fuel.



## WHAT TO DO?

There are two areas to think about. One, if you're looking at cruisers offering either gas or diesel, get every test report you can find about the boat that intrigues you and average the findings. Rarely will two reports be the same — you owe it to yourself at 10 grand a foot for upscale hulls to be “on the money” for the power.

Second, if you're repowering, you'll want to do your homework if you're replacing gas engines with diesel solely for the economy. Your boat might have been designed for the weight of one type of engine and drive, and installing the other might be an expensive mistake without the help of a naval engineer. Also consider changes that might have to be made to the fuel tank, stringers, exhaust, air intake ducting and driveline/transmission. You've really gotta love your old boat to sink that kind of money into a repower project.

It's not impossible to swap your current gas engine for a diesel — in fact, outfits like Marine Diesel specialize in making “drop in” replacement engines for smaller boat stern drive applications. Just be sure to do your homework.

At the end of the day you probably won't have much problem deciding on gas or diesel, especially in a smaller boat. But, as you find yourself upgrading to larger and larger boats as the condition known as “two-foot-itis” takes hold, deciding between gas or diesel will become more and more of a consideration. **GO**

# GAS VS. DIESEL

**W**e scoured the world of stern drives to come up with some kind of comparison chart that highlights the major differences of similar powered gas and diesel engines. It's immediately apparent that gas engines are as much as 30 percent lighter than their diesel counterparts, which, taken together with the gas engines' higher rpm ratings, shows why gas engines can deliver punchier performance. The initial purchase price difference is also evident, but remember that the cost of operating a diesel is less and can actually more than cover the initial price difference over the life of the engine. Another thing to keep in mind is that, in terms of cruising performance in which either engine will be turning at about 3,200 rpm, one can actually use a lower horsepower diesel to get the same performance as a higher horsepower gas engine.

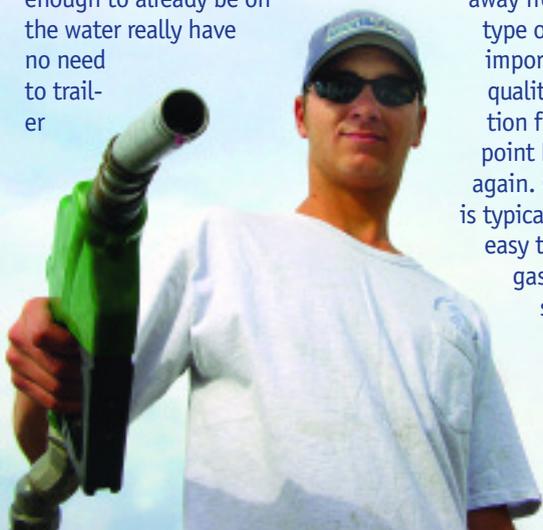
ENGINE**	HP	RATED RPM	LENGTH (IN.)	WIDTH (IN.)	HT. (IN.)	WT. (LBS. - INCL. DRIVE)	PRICE*
<b>Gas</b>							
MerCruiser 5.0 MPI (w/Bravo One drive)	260	4,800	32	30	22	993	\$11,943
Volvo Penta 5.0 GXi (w/dual prop drive)	270	5,000	36.9	28.8	31.5	1,040	\$14,680
<b>Diesel</b>							
Cummins/MerCruiser 4.2 ES 250 (w/Bravo One X Diesel drive)	250	3,600	49	31	31	1,275	\$26,633
Volvo Penta D4 (w/dual prop drive)	260	3,500	38.7	29.6	31	1455	\$28,385
Yanmar 6LPA-DTZP (w/Bravo One X Diesel drive)	260	3,800	47.4	27.6	32	1,076	\$26,187
Marine Diesel Stingray MD250SC (w/Bravo One X Diesel drive)	250	3,600	30.7	32.2	30.7	1,125	\$26,483
Steyr M0256H45 (w/Bravo One X Diesel drive)	250	2,800	40.67	26.34	30.63	821	n/a

\*Prices vary due to differences in outdrives, included operation and control accessories and area where engine is purchased \*\*Volkswagen also makes marine diesels that can be used with a stern drive, but so far the highest horsepower is only 150.

## PERSONALITY PROFILES

**Here's the question:** “Who would want a gas-powered boat and who would want a diesel-powered unit?”

Let's look at some of the needs of boaters. Those lucky enough to already be on the water really have no need to trailer



their boats anywhere.

Whether it's off to nearby islands for some camping or to a big city marina, most people look at their 28- to 34-foot pocket cruiser as a home away from home. The type of power isn't as important as the quality of the transition from point A to point B, and back again. Gasoline power is typical, but it's an easy transition from gasoline to the steady reliability of diesel.

And the savings in fuel costs over the years will add up nicely.

Those not fortunate enough to have the tides at the edge of their yard have the pressure of trailering their boats. Many of these folks are well-paid hard-working people who put a high value on time.

Boats, like their lives, are fast and full. Whatever will fit on a trailer that their SUV will tow works. Go-fasts, pocket cruisers and anything under 8.5 feet in beam is game. These are all gasoline-powered, daringly towed in and out of gas sta-

tions, searching for the lowest gas prices, unwilling to pay the premium prices at the gas dock.

Only a few hours a weekend can be allotted to “relaxation” on the water, so launch times and time spent racing to raftings are kept to a minimum. Hook it up, fill it up, drop it in, race about, load it up, fill it up, flush it, park it, do it again next weekend. The boats just described don't have a decent return on investment when powered by diesels, so a gasoline engine is the norm.