

Ethanol fuel mix has boat owners sputtering

By [Asjlynn Loder](#), Times Staff Writer

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In 20 years fixing boat motors, Jim Parnell has never seen so many fuel pumps clogged with black dust and debris.

The ethanol that pushed its way into Florida's gas tanks last year has rotted out fuel lines and filled carburetors with gunk, he said.

"We're having brand new motors affected by ethanol," said Parnell, the service manager at O'Neill's Marina in St. Petersburg. Boat owners are furious, he said.

"They ask 'What I can do?' And I tell them, 'Write your congressman,'" Parnell said.

New federal and state policies have pushed ethanol into the Florida market over the past year. Many Tampa Bay gas stations have already switched from straight gasoline to a 10 percent ethanol mix, a blend known as E10.

For many boat owners, the transition has meant big headaches and thousands of dollars in repairs. Some feel E10 was forced on them before policymakers fully understood its impact on boats. Several boat owners have sued major oil companies because of the damage.

"The idea was good to get us off foreign oil," said Kris Kiser, executive vice president for the Outdoor Power Equipment Institute. "But the way it's shaken out is not quite as easy as everyone hoped for or anticipated."

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Ethanol attracts moisture. Boats, of course, tend to get wet. As any mechanic can tell you, the mix can spell trouble for motors.

Ethanol is basically moonshine. Most ethanol made in the U.S. comes from processing corn and distilling it to create the alcohol that we call ethanol.

When alcohol sits in a gas tank for a long time, it starts to separate from the gasoline, Parnell explained. It also starts to pull moisture from the air. Start up the boat, and the engine can choke on the water.

Worse, the alcohol is a corrosive solvent. As compounds in the gasoline evaporate, they leave a ring of varnish in the tank, like a wine glass left out overnight. Ethanol loosens those deposits, and sends it coursing through the engine, fouling the motor.

The ethanol also eats the resin that lines fiberglass boat fuel tanks, and the lining on hoses used in boat motors, Parnell said. He has seen fuel filters filled with black bits from the corroded hoses.

Peter Kucinski, owner of Jack's at John's Pass, said that last year ethanol caused tens of thousands of dollars worth of damage to several of his boats. His newest boats and personal watercraft suffered no problems, but several boats that were just 3 and 4 years old broke down repeatedly.

"It was one after the other that failed," Kucinski said.

The warranty covered some repairs, but the manufacturer argued that the fuel injectors failed because of "fuel contamination," so it wasn't its fault.

"It's becoming a real challenge for a lot of manufacturers, who are finding a lot of fuel-related problems that are not of their making," said Kiser, who also serves as a spokesman for Allsafe-fuel.org, a group that pushes for more research into the impact of biofuels like ethanol on equipment.

Kucinski wound up paying for more than \$4,000 worth of repairs. He had to replace fuel filters, fuel tanks, lines, primer balls and fuel injectors. Kucinski also lost money on renters stranded when the boats broke down.

Kiser said Congress should pay attention to stories like Kucinski's. More ethanol research is needed, especially as the federal government considers allowing higher ethanol blends like E15 and E20, he said. The problems are not just mechanical, he said.

"If your boat fails, and you're 30 miles offshore, it's a very real safety issue," Kiser said.

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Less than two years ago, it was hard to find a Florida gas station offering E10. Now, there are thousands, said Terry McElroy, spokesman for the Florida Department of Agriculture and Consumer Services. By 2010, every gas station in Florida will have to serve E10, according to a state law passed last year.

Despite controversy about ethanol's environmental impact, it has enjoyed strong political support. Congress passed a law in late 2007 that will quadruple the amount of biofuels mixed into America's fuel supply by 2022 to 36-billion gallons a year.

Matt Hartwig, spokesman for the Renewable Fuels Association, a biofuel industry group, said ethanol-related problems are rare, especially in newer equipment.

"You have people that are using the proliferation of ethanol as something to blame when there's engine problems," Hartwig said.

Most motors will run just fine on E10, said Keith Knoll, senior project leader at the National Renewable Energy Laboratory in Golden, Colo. Today's cars and trucks have complex systems that regulate oxygen content, temperature and other functions. In most cars, E10 does not damage the engine or alter the way it drives, except to slightly lower mileage.

Small nonroad engines, like weed trimmers and chain saws, lack complex controls, Knoll said. Most modern equipment has been designed to handle E10, but with higher ethanol blends some equipment might run hotter or idle faster as ethanol increases the oxygen content in the fuel. Higher ethanol blends could also worsen the problems seen in marine equipment.

"The small, nonroad engine industry has caught up with E10," Knoll said. "I think the marine industry is still trying to catch up with E10."

Asjylyn Loder can be reached at aloder@sptimes.com or (813) 225-3117.