



*"The Voice of the Ethanol Industry  
for More Than a Quarter Century"*

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## **Important News for Boat Owners**

With the gasoline industry eliminating methyl tertiary butyl ether (MTBE) from the market and replacing it with ethanol, large new populations are seeing 10 percent ethanol blends for the first time. Many of these regions are located along the East Coast, a prime region for recreational boaters.

As with any change in fuel composition, a small subset of internal combustion engines may be adversely affected by the increased use of 10 percent ethanol blends. While those operating newer engines should notice few, if any problems, owners of vintage boats from Bertram and Hatteras in particular may experience more serious problems resulting in engine stalling and other potential complications.

### **Background:**

The problem is fiberglass gas tank deterioration primarily, but not exclusively, with the population of Bertram and Hatteras vessels, which are 1960's/1970's vintage with fiberglass tanks that utilize a polyester resin. The ethanol included in gasoline causes the resin to leach out of the fiberglass, creating a black sludge that coats the engine and may result in engine stalling and/or other engine complications.

These types of polyester resins have long been problematic when coming in contact with ethanol blends. Since the early 1990's, the Renewable Fuels Association has formally cautioned, through our publications (e.g. RFA Publication # 930601 Gasoline Ethanol Blends Program Operations Guide and RFA Publication # 960501 FUEL ETHANOL Industry Guidelines, Specifications, and Procedures), that "general epoxy or polyester resin based materials used in the late 1970's and earlier 1980's are not compatible with gasoline/ethanol blends." While these references were directed primarily to underground tanks, they apply to any use application.

### **Corrective Measures:**

This particular problem with this subset of the boat population is not one that is easily corrected, as the tanks are often built into the hulls of these vessels and any repair or preemptive action can prove costly.

That said, the Renewable Fuels Association suggests that some repairs and preventive actions may help mitigate part of the problem:

- To prevent water from entering the engine due to the deterioration of the fiberglass fuel tanks, Mercury Marine testing suggests the use of water separator filters not only remove water, but also dissolved deposits. The use of such filters would add another level of protection.
- Longer term, manufacturers of fiberglass underground storage tanks have known which materials are suitable for E10 blends and their insight could prove valuable in developing a tank coating or lining system. Additionally, installation of an elastomeric based fuel bladder to prevent the fuel from contacting the polyester resin may prove a viable solution.
- Another option may be to retrofit your vessel with an aluminum tank which is compatible with E10 blends.
- As always, proper engine maintenance on all makes and models of watercraft will help prevent engine trouble, including that which may result from the use of increased ethanol blends.

### **Conclusion:**

The Renewable Fuels Association and the ethanol industry take these concerns very seriously and urge all boat owners to take the appropriate steps to ensure their vessel is capable of handling 10 percent ethanol blends. Years of ethanol use in states such as California and Minnesota, both with substantial boating populations, suggest that this is a problem that is limited to the vintage models primarily made by Bertram and Hatteras. Most newer vessels and engines are capable of handling 10 percent ethanol blends without incident.

The RFA encourages boat owners to consult their equipment manuals, contact their equipment manufacturers, and/or discuss any concerns they have with their local marinas to avoid any complications that may result. Additional information on ethanol and ethanol blends in marine engines can be found by visiting the National Marine Manufacturers Association website at [www.nmma.org](http://www.nmma.org). Additional information about ethanol-blended fuels can be found at [www.ethanolRFA.org](http://www.ethanolRFA.org).

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