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**From:** Paul McKennarley [REDACTED]  
**Sent:** Tuesday, 23 June 2015 10:43 AM  
**To:** biofuels  
**Cc:** Clayfield@parliament.qld.gov.au  
**Subject:** Ethanol Mandate

I am concerned about the inclusion of ethanol in ALL fuels and that we are being forced to accept this dubious technology.

I am involved with collector cars as well as driving later model cars for everyday use. I believe that this addition of ethanol will have an adverse effect on the engines of ALL vehicles and in particular earlier model cars.

Here are some items I have found on this subject that all point to damaging results on engines. In fact some car manufacturers advise against using ethanol in engines and also warn that warranties may be voided if ethanol is used.

### **Other Alcohol Issues**

Alcohol is corrosive and can degrade plastic, rubber or even metal parts in the fuel system that weren't engineered to use alcohol-bearing fuel. Consequently, that antique Evinrude outboard or '60s lawn tractor you bought at the swap meet might need some upgrading to stay together on today's gas. That means corrosion-resistant tanks, alcohol-tolerant rubber lines, seals and fuel-pump diaphragms, and plastic fuel-system parts that won't swell up in the presence of alcohol. Vintage boats with internal fiberglass tanks often have issues with the coating inside the tank failing, sometimes requiring massive structural modifications. Highly tuned two-stroke engines will run leaner (and consequently hotter) on the lower Btu/gallon alcohol mix, potentially leading to melted pistons and scuffed cylinder walls. Alcohol will also scour varnish and deposits out of the fuel system that have remained in place for years, which will eventually wind up in the filter or main jet, choking off the engine's fuel supply. Worse yet, the alcohol itself oxidizes in the tank and produces a tenacious brown glop that's far more damaging to fuel systems than the varnish we're used to seeing in pure petroleum fuels. In warmer weather, you can see varnish starting to form within a month of dispensing fresh fuel into a vehicle tank or storage can.

**It is also expected that service Station operators will see increased costs especially if the percentage is lifted and will require new equipment to dispense the fuel.**

All of which is okay in vehicles engineered to use it, but what about those that aren't? Broin suggests that in the future, "consumers will be able to dial up the concentration of ethanol they'd like to burn at the pump, from zero to 20 percent or more, just like they choose their octane rating today." That's exactly what those of us with older cars, tools or toys will need. Problem: Getting different blends to the consumer will require massive infrastructure changes. Gas station owners will have to upgrade existing pumps to handle E15 and higher concentrations. The blending pumps Broin is suggesting will cost more than a typical \$20,000 conventional unit. In addition, station owners will have to install more tanks. An energy policy that mandates more domestic production sounds like a great idea. But sneaking more ethanol into the supply stream at the expense of people who rely on their cars, boats and outdoor power equipment might better be left to the marketplace and not to bureaucrats.

**And more**

But one factor which some auto shoppers may not be aware of is that the industry is aware of these dangers and they aren't going to honor warranties on vehicles guzzling the latest 15% ethanol blend unless you've got a brand new car or one that is specifically rated as a 'flex fuel vehicle.'

This is true. Historically, car manufacturer warranties have included language stating that the warranty is void if the car runs on gasoline with more than 10% ethanol.

At least one reason for voiding the warranty is that "the extra ethanol could corrode plastic, rubber and metal parts in cars not built to handle it," as Hot Air states.

The blend issue is apparently limited to cars with a pre-2001 vintage, which means that the cost of higher ethanol blends would likely to be borne disproportionately by consumers with older vehicles.

A 2012 study by Auto Alliance showed that some cars (model years 2001 to 2009) showed internal engine damage as the result of using an ethanol fuel blend. Damage to the valves and valve seats was evident in some of the cars tested. One of the 16 cars in the Auto Alliance study failed emissions compliance standards, which means it emitted more pollution than allowed by the EPA. The study also showed that cars running on E15 take a hit on gas mileage -- so they require more fuel to travel the same distance, which counteracts the benefits of diluting it in the first place.

And more

[http://www.fuel-testers.com/list\\_e10\\_engine\\_damage.html](http://www.fuel-testers.com/list_e10_engine_damage.html)

This is the same situation as when unleaded fuel was introduced on the premise that there would be a big reduction in fuel emissions. Well the problem with that is that the catalytic convertor is required to heat up sufficiently to do its job and since most people only drive short distances the catalytic convertors do not heat up sufficiently to do this and this results in more pollution with more harmful carcinogenics than if there was lead in the fuel.

I just use lead additive in my older engines to offset this and luckily don't need catalytic convertors on the older cars.

Another aspect is that I have heard that it takes as much energy to extract the ethanol as what is saved when used in a vehicle.

I think this "Ethanol Mandate" is just a political feel good that makes the Government look like it is doing something for the environment when in fact the overall results are no better or even worse for consumers with additional costs for fuel, repairs to engines, higher costs for distributors and outlets.

Paul McKennariey