

Higher-ethanol fuel a problem for classic car enthusiasts - Proposed legislation for fuel with 15 per cent ethanol means older vehicles need more care

by Jil McIntosh, Vancouver Province | November 23, 2017

A proposed regulation to increase the amount of ethanol in gasoline shouldn't be a problem for those with newer cars, but classic car and hot rod owners could potentially face issues with vehicles that were never meant to use it.

"Everybody's got an opinion, but I've noticed that if (fuel with ethanol) is left in for a while, say a hot summer over two months, it isn't even fuel that'll burn," says Peter Fawcett, president of the Fawcett Motor Carriage Company restoration shop in Whitby, Ont. "I have a carburetor on my car (a 1904 Ford) and it glued itself together, like I put epoxy in it."

The new recommendation, which if passed could take effect in early 2018, would increase the maximum amount of ethanol in gasoline in Canada to 15 per cent, up from the current 10 per cent. This would follow a similar decision approved by the Environmental Protection Agency in the United States in 2010 to help reduce carbon emissions. Ethanol is considered a renewable fuel because it's made from plant material, which in Canada and the U.S. is primarily corn. It burns cleaner than gasoline, and has a high octane rating. But ethanol is corrosive, it has less energy than gasoline and subsequently gets poorer mileage, and it's hygroscopic, meaning it readily absorbs moisture.

The current 10 per cent ethanol mandate, and the proposed 15 per cent, is across each fuel company's blends, based on its volume produced or imported. The mixture is labelled by its renewable content, and so an E10 blend is 10 per cent ethanol with 90 per cent gasoline. Higher ethanol blends, such as E85 (85 per cent ethanol) can only be used in modern vehicles specifically rated as "flex-fuel," as they have higher-capacity fuel pumps and injectors, and other components, designed for it. Most auto manufacturers currently recommend nothing higher than E15, the proposed blend, in newer vehicles.

But classic car owners can face challenges that aren't an issue with newer models. Older vehicles generally aren't driven much, increasing the possibility that the fuel can draw moisture as it sits in the tank and lines, which in turn can lead to rust. They may also have cork gaskets or fuel floats, which Fawcett says can be damaged by ethanol, or rubber seals that aren't compatible.

Generally, vehicles from the 1980s and older could be at risk. Higher-ethanol fuels may also pose problems for small engines, such as those on lawnmowers, trimmers, chainsaws and outboard motors.

Escaping ethanol at the pump isn't easy. Because the standard applies across all gasoline the company produces, the amount in each blend can vary, as long as it's a maximum of 10

per cent ethanol—or, under the proposed law, 15 per cent. Across Canada, Shell's V-Power NiTRO+ is pure gasoline, while a few companies sell ethanol-free premium gas in specific markets. Owners can also check websites such as pure-gas.org, which maintains an updated list of stations in Canada and the United States offering ethanol-free blends.

In a 2007 study commissioned by antique auto insurance company Hagerty, performed by Kettering University's Advanced Engine Research Laboratory in Michigan, E10 fuel had no effect on the performance of a carburetor from a 1962 MGA over 3,000 hours of testing. However, there were indications that the fuel could soften seals and gaskets, and corrosion was found in the steel drum that held the fuel. The recommendation was that fuel systems on cars built before 1986 should be upgraded with ethanol-compatible replacement parts, including fuel pump diaphragms, rubber lines and seals, and carburetor floats.

Under the proposed Canadian amendment, gasoline blends will contain a maximum of 50 per cent more ethanol content than the fuel tested in the study.

Ethanol is a solvent, and car owners may have to replace their fuel filters more frequently to avoid them plugging up with loosened dirt and deposits. Carburetors may also have to be adjusted for ethanol's lower energy, so the engine doesn't run too lean.

When storing a car over winter, Fawcett recommends draining the fuel completely, filling the tank with ethanol-free fuel if it's available, or adding ethanol-compatible fuel stabilizer. Fogging oil sprayed into the carburetor can also help avoid any problems with condensation. Lawnmowers and other small engines should also be drained of fuel, and containers of gas used for them shouldn't be stored for more than a couple of months. Ethanol fuel goes stale quickly, and buying smaller amounts more frequently can help ensure your supply is fresh.