

A Primer On E85 Ethanol

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Ethanol is a clean-burning, high-octane fuel that is produced from renewable sources. Because Americans grow it in America, E85 reduces our dependence on foreign oil. It's designed to be a fuel for automobiles and trucks. E85 is 85% Ethanol and 15% gasoline and is made from corn but it can be made from rice, potatoes, wheat, sugar cane and other agricultural products. It's currently sold in the Midwestern United States at prices equivalent to those for mid-grade unleaded gasoline.

Pure, 100% ethanol is not generally used as a motor fuel; instead, a percentage of ethanol is combined with unleaded gasoline. This is beneficial because the ethanol lessens the cost of fuel, increases the octane rating of the fuel and reduces the harmful emissions of gasoline. Any amount of ethanol can be combined with gasoline, but the most common blends are:

E10 - 10% ethanol and 90% unleaded gasoline commonly known as Gasohol and is approved for use in any make or model of vehicle sold in the U.S. Many automakers recommend its use because of its high performance and clean-burning characteristics. In 2004, about one-third of America's gasoline was blended with ethanol. It was used as a substitute for MBTE, which was found to be environmentally harmful.

E85 - 85% ethanol and 15% unleaded gasoline

E85 is an alternative fuel for use in flexible fuel vehicles (FFVs). There are currently more than 4 million FFVs on America's roads today, and automakers are building more each year. In conjunction with more flexible fuel vehicles, more E85 pumps are being installed across the country. When E85 is not available, these vehicles can operate on straight gasoline. It is important to note that it does not take a special vehicle to run on "ethanol".

All vehicles can use 10% ethanol with no modifications to the engine. E85 is for use in a flexible fuel vehicle, so some people confuse "ethanol" with the blend of 85% ethanol and 15% gasoline.

Vehicles using E85 fuel are available from Ford, Chrysler, Gm and many foreign carmakers. Called flexible fuel vehicles or FFVs, they can run on any mixture of ethanol/gasoline. They cost the same as gasoline only vehicles.

Here stations sell gasohol, which is a mixture of 10% ethanol and 90% gasoline. Standard automobiles may be modified to run on E85. The major modification is to the main computer system. No changes to the actual engine are required.

E85 is nontoxic. In the event of a traffic accident during the transport of the fuel from the refinery to the gas station, no elaborate cleanup is needed. Since the fuel is grown here in the continental United States, the transportation requirements are drastically reduced. There would be no need to use oil tankers. Boats would be eliminated entirely from the delivery system.

Auto manufacturers have been ethanol-burning vehicles for a long time. In the 1880s, Henry Ford built a vehicle called the quadricycle, which ran on ethanol. Model Ts had a carburetor adjustment to switch between Gasoline and Ethanol. Environmentalists are generally in favor of ethanol fuels because air pollution would be reduced. Emissions of hydrocarbons and benzene are less than gasoline. Carbon dioxide is released to the atmosphere but is reabsorbed by the plants that grow the fuel.

Midwest farmers favor it because of its use in farm machinery. The machines that are used to make the fuel use the fuel. A byproduct of ethanol fuel manufacturing is a distiller's grain, which is used for livestock feed.

The country of Brazil has more than 4 million ethanol vehicles on the road. The Brazilians make their fuel from sugar cane. The government has put a lot of effort into converting their cars because they could not afford the outflow of money required to buy oil.

The US Military has been studying the use of alternate fuel vehicles and has concluded that the main problem is lack of availability of the fuel. The Vehicles themselves are available from the GSA at no extra cost, but there are very few stations that pump E85 near military bases. The performance in military vehicles is good. No extra training is needed to use the fuel. Storage and cleanup costs are less than for gasoline. Our Postal service has been using ethanol fueled vehicles for several years.

Not everyone feels that E85 is a viable solution to our fuel problems but it is said that of all the alternative energy sources, biomass the most attractive. Biomass is a term that refers to all energy sources that come from growing plants. Burning wood in a fireplace, biodiesel fuel from hemp, methanol from wasted sawdust and fermenting grain are all examples of biomass.

Currently, there are no "after-market" kits that can be used to "convert" a regular gasoline vehicle to run on alcohol fuels, but I'm sure once E85 becomes readily available this will be remedied. If the automakers don't provide it I'm positive the aftermarket manufacturers will.

FFVs have a number of advantages over hybrid vehicles. First they are much less expensive to manufacture as they are based on hundred year old technology. They are far less complex, consequently should be less costly to maintain and repair.

US companies are leading in this technology and should take advantage of the situation and build cars that Americans want. We can increase manufacturing jobs in this country, reduce our dependence on foreign oil, and reduce pollution. This is a WIN -WIN opportunity let's not miss it.

America has another advantage over Japan and Europe, we have plenty of agricultural land and we are the world's leader in agriculture. For more articles on this subject visit: www.caveatemptorus.com

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