DAVIS: There's nothing like sky-rocketing gasoline and diesel prices to get everyone interested in using other kinds of fuels. But people need to be smart and careful about what options they consider. While there are a few legitimate companies that now that have systems approved by EPA to convert specific vehicles to run on alternative fuels, there are also a lot of illegal and even unsafe devices popping up on the internet and elsewhere that can spell big trouble for the unsuspecting consumer. So we asked out top tech Pat Goss to tell us more about why you should avoid these do-it-yourself kits and leave the conversion business to the pros.

PAT GOSS: John, as drivers we all have to do our part to help reduce emissions and reduce our dependence on foreign oil, and one way to do that of course is with flex fuel vehicles, but for some of you who are trying to do your part, you're being taken! There are people out there that are selling kits, especially on the internet that say these kits will convert your non flex-fuel vehicle into a flex-fuel vehicle and they'll do it very economically. Well don't believe it. Our friends at General Motors have supplied us with the things that are different on a flex-fuel vehicle than they are on a non flex-fuel.

All right, beginning right at the beginning, where you put the fuel in all of this stuff is different, the hoses are different, the wiring connections are different, there's a flame arrestor in there, there's an anti-siphon valve, all kinds of things that have to be changed to make this system work, but it gets worse, the fuel pump, this capsule assembly, the fuel gauge, all of these things inside the tank are different so you have to change that. Even the tank itself if it happens to be steel and a product called Turn Metal, your going to have problems if you use E-85. Then under the hood of the car, well the fuel rail itself that distributes the fuel to the fuel injectors – it has to be stainless steel. The injectors have to be changed, they have to be bigger and they have to be made of a different material, then the computer that controls the injectors – that has to different, has to be able to operate and control things relative to gasoline or E-85. Well how does it know? Well it knows by this fuel identifier that has to be installed in the system. It tells the computer which program to use based on the fuel that's moving through it. So, oh, wait a minute. If you think that's all, uh uh lots more coming up. See buried way deep in the engine; clear down in here – valves, intake and exhaust valves and valve seats. We see valves here, we see valve seats, you can see them in the cylinder head. They are different; they are made of a metal that doesn't erode when you use ethanol. So you're looking at a major operation right there, the cylinder heads have to be replaced. Now all of this makes it absolutely impractical to convert a non flex-fuel vehicle into a flex-fuel vehicle. Save your money, drive more gently and you will be doing your part.

If you have a question or comment, write to me the address is MotorWeek, Owings Mills, Maryland  21117