

My Love Affair with Grease

Written by Scott Westerman

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In the wake of the Katrina disaster, anybody who uses petroleum has had to rethink their family budgets. All of a sudden those Prius hybrids are starting to look pretty cool. And I'm once again getting a lot of e-mail about my Grease Car.

In 1979, I was a newly minted college grad with a new wife and a baby on the way. When the first gas crisis hit that year, I became painfully aware of our dependence on fossil fuel and began to contemplate alternatives. That's when the words "renewable energy" first entered my vocabulary. But it was not until the Twin Towers fell on 9/11 that I determined to make a small personal statement about energy independence. And that's how I met Justin Carven.

Justin was just three years old when the gas crisis of '79 hit, and two decades later he would be part of the solution. As a student at Hampshire College he converted a 1984 VW Quantum Turbo Diesel to run on waste vegetable oil. Rudolph Diesel's very first engine was designed to run on peanut oil, and Justin discovered that if you could heat vegetable oil to the right temperature, today's diesels would digest it with ease. After a transcontinental trip in a converted VW van, he started a company called Grease Car, to market a kit to make veggie fuel accessible to the masses.

Greasers have a variety of opinions on what makes a good donor car. But after some research, the VW turbo diesel, with its enticing combination of fuel efficiency and reliability, became my target. After a couple of weeks searching eBay Motors, I found a 1997 Passat TDI nearby. I soon had the black beauty newly tinted, tuned, and ready for modifications.

Justin's system costs less than \$900 and uses radiator coolant to heat the veggie oil to the proper viscosity. It involves installing a separate fuel tank that is heated by a coil connected to the car's heater core. The fuel line from the veggie tank hides within one of the coolant pipes, heating the oil as it makes the trip from the trunk to the injection pump by way of a heated fuel filter in the engine compartment. The whole process is controlled by two electric fuel valves that allow you to switch to veggie when the engine temperature is just right.

The installation turned out to be much easier than I expected, thanks in good part to a clear installation manual and some expert help from a mechanically minded friend. The whole process took about eight hours.

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Driving home, I felt confident enough (and close enough to the house) to try the system. One of the risks of running on veggie is that the oil thickens as it cools. This can make it hard to start after a night in the garage. Justin's design solved that problem with a unique back-flush feature that clears the lines of veggie oil before you finish your trip. The manual directs you to hit the back-flush button to prime the veggie fuel lines before your first use. I did what was directed and after a moment, flipped the tank switch from main (regular diesel fuel) to auxiliary (vegetable oil).

Sixty seconds later, I could sense the distinctive bouquet of a McDonald's at lunch hour, but I noticed no other change in the sound or performance of the engine. I was driving on vegetable oil! My son would later agree that the whole switch-over was an "underwhelming experience." Only we in the car were aware of the magic taking place under the hood.

With both tanks full the VolksVegan has a range of more than 1,200 highway miles between fill-ups. And thanks to the kindness of Dianne DeVoss at Jimmie Lee's Restaurant in Port Byron and the magic of Laren Jordahl and Art Royal at Fluid Filtration Systems of Durant, I can quench its thirst for next to nothing. If you filter the grease yourself, it costs less than a dollar a gallon after road taxes, and the mileage for a gallon of vegetable oil is identical to a gallon of conventional diesel fuel. Studies also show that vegetable oil burns more cleanly than petro diesel, reducing harmful emissions by nearly 80 percent.

When I first made the conversion, the project drew some sidelong glances, but two years and nearly 10,000 miles later, it seems like a no-brainer. It's renewable and environmentally sound, and with gas prices flirting with three dollars per gallon, its financial benefits are alluring. As I pull away from Jimmie Lee's each Sunday afternoon with 150 pounds of recycled fryer oil in the trunk, I wonder why everybody isn't cruising with grease.

Scott Westerman is an executive with Mediacom. You can read more about his adventures with bio-fuel at <http://www.scottwesterman.com>.

Links

<http://www.greasecar.com> – Justin Carven's conversion Web site

<http://www.fluidfiltrationsystems.com> – Sellers of filter systems

<http://www.journeytoforever.com> – A good resource that discusses the pros and cons of bio-fuel.

<http://www.homepower.com> – A magazine focused on renewable energy.