

THE MILEAGE POWER PACKAGE

DON'T WANT TO GIVE UP YOUR TRUCK BUT NEED TO DECREASE YOUR FUEL BILL ALONG WITH INCREASING HORSEPOWER?

Everywhere you turn these days, people's conversations seem to be all about the same thing; rising gas costs and trying to increase their MPG (miles per gallon). As the oil tycoons continue lining their pockets from record profits, many people are being forced into purchasing smaller vehicles and / or driving less just to have money to put food on the table. Many of us in the industry have been discussing how to increase our MPG not only because we love our trucks and don't want to drive anything else, but we feel we shouldn't have to get a second job to afford them. So, we decided to put together an article highlighting some of the options available to increase the fuel economy of a truck. The upside to having too many of these products are increased horsepower and who wouldn't want that?

When determining how to test our MPG gains, we figured the best way to illustrate that you don't have to give up anything to increase the MPG of your truck was to use a mild performance truck such as a 2003 Ford F-150 SuperCrew Harley Davidson edition. This truck has the 5.4 liter supercharged engine similar to the Lightning and the interior space large enough to fit the family. The baseline highway miles per gallon, conducted in Southern California, is 14.8. Keep in mind the baseline MPG may be different in different parts of the country, but the percentage of increases should be about the same no matter where you live.

We started with one of the biggest maintenance items that is commonly overlooked; tire pressure. According to The U.S. Energy Department, "under-inflated tires can actually increase fuel consumption by up to 6 percent". To put this into perspective; a vehicle getting 18 miles per gallon (obviously not ours) with under-inflated tires would probably be getting 19.08 MPG with properly inflated tires. Driving 12,000 miles per year, you can save roughly 35 gallons of gas or about \$100 per year just by having properly inflated tires. Our test truck recently had the tires rotated and they checked the pressure and adjusted it accordingly. So, we thought we would mention this before we started the testing.

An easy item to change in your truck is the type of oil that you use, so we started there. Premium synthetics like Royal Purple claim that they will actually allow the engine to run more efficiently, reduce emissions, reduce wear and tear all while increasing horsepower. We decided to test these claims by changing our truck over to Royal Purple Synthetic lubricants. We used Royal Purple Motor Oil 5W30 in the engine, Max ATF in the transmission, and 75W90 Max-Gear in the differential. After everything was changed, we duplicated our MPG testing. The truck had been getting 14.8 MPG and after the change to Royal Purple, we are now getting 15.9 miles per gallon. That's a 1.1 mpg increase and an overall 7.4% increase in mpg. Another advantage of switching to Royal Purple is oil change intervals are extended to 12,000 miles. This offsets the additional cost of using higher quality, more expensive synthetics in your truck.

After checking the tires and changing the oil (both of which should be regular occurrences) we started looking at more permanent changes. Adding a cold air intake can be an easy bolt on addition. Due to OEM regulations, many factory intakes are restrictive. When changing to a cold air intake, the engine is not only able to breathe more freely, but the air that is ingested into the engine, is cooler. The cooler air is one of the biggest reasons for an increase in horsepower and fuel economy. Now our intake is pretty good considering the engine is a supercharged performance engine from the factory, but to illustrate the increase a quality aftermarket intake can offer, we switched to an AIRAID Cold Air Intake and repeated our testing. The truck is now getting 16.1 mpg. That's a .2 mpg increase bringing our overall total increase of mpg up to 8.5%. On a conventional truck, not a supercharged engine, we would expect the increase to be higher.

A common change many truck guys make is reprogramming or chipping their rides. Manufacturers claim between 45 to 200 horsepower increases (depending on the engine and programmer) and a big mileage increase as well. We decided to take Superchips up on the offer to test their Max MicroTuner Ford programmer. By simply plugging their programmer into the factory plug and following the on-screen directions we reprogrammed our truck. The whole process took about 10 minutes and was very simple. We then hit the road and drove around for a few hours. We couldn't just conduct our testing because of the excitement from the power increase. When we finally got it out of our system, we took the truck back on the highway and received 17.5 miles to the gallon. This is an increase of 1.4 MPG for an overall increase of 17.3% with the Royal Purple Motor Oil, AIRAID Cold Air Intake and the Superchips Max MicroTuner Ford programmer.

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Finally, we changed the exhaust out. Now you generally hear exhaust manufacturers claim increased horsepower, and not mention anything about mileage increases. Thinking about it, anything that helps the engine breathe and exhale should also increase the efficiency of the engine, thus increasing the MPG. So we contacted the folks at Magnaflow and talked to them about our theory. They said the hard part of testing fuel economy is people's driving styles. While the increase is there, it is hard for people to stay out of the throttle and not enjoy the beautiful new tune their truck plays.

We changed our exhaust from the catalytic converter back. (Note: This installation was a little challenging since we had to cut our old system out.) The MAGNAFLOW CAT PERFORMANCE EXHAUST SYSTEM was a bolt on system that anyone with time and patience can install unlike many weld-on systems. We felt an immediate increase in power and raced over to the gas station before the onramp. Filled up and hit the highway for the final test. After running 300+ miles we ended up with a final MPG rating of 18.4. That's a 24.3% increase overall with all of the items we tested.

With just these simple additions we were able to save an average of 3.6 miles per gallon and that means more money in our pocket. We can also keep hitting the streets with our truck without having to worry as much about whether we can afford to or not. So the next time you hear someone complainng about their vehicles' MPG and needing to trade it in, pipe up and let them know they don't have to surrender to the smaller vehicles, there are alternatives, you just have to look.

STATISTICS

Owner: Josh Chilson
Year: 2003
Make: Ford
Model: Harley Davidson Supercrew
Engine: 5.4 liter Supercharged
Transmission: Automatic
Drive: 2wd

PERFORMANCE MODS / MPG

Royal Purple
Engine: Royal Purple Motor Oil 5W30
Transmission: Max ATF
Differential: 75W90 Max-Gear

Airaid Filter Company
Intake: AIRAID Cold Air Intake (QF series)

Superchips
Programmer: Max MicroTuner Ford

Magnaflow
Exhaust: Dual Exhaust System

FINAL STATS

MPG Before: 14.8
MPG After: 18.9
% Increase: 24.3%

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SOURCES

AIRRID FILTER COMPANY
Phoenix, AZ
800.498.6951

MAGNAFLOW
Rancho Santa Margarita, CA
800.824.8664

ROYAL PURPLE
Porter, TX
281.354.8600

SUPERCHIPS
Sanford, FL
407.585.7000