

2006 and Prior Corvettes: Fuel and Oil Additives - Facts and Myths/Maximizing Fuel Economy

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Subject: Fuel and Oil Additives - Facts and Myths/Maximizing Fuel Economy

Model(s): 2006 and Prior All GM Cars and Trucks

A Statement About Fuel Economy

As gasoline prices have increased, the consumer has shifted priorities to become increasingly concerned with fuel consumption. GM is presently proud to offer 20 cars in the U.S. with EPA highway estimates of at least 30 mpg. The information below contains reasonable and prudent advice for your dealership and the consumer to get the most from every gallon of gas.

The information below is presented in two easy to understand sections:

- What Not To Do: Engine and Fuel Additives, Alternate Fuels, and "Miracle" Products
- What to Do: Maximizing Fuel Economy/Minimizing Costs

WHAT NOT TO DO: Engine and Fuel Additives, Alternate Fuels, and "Miracle" Products

Various unproven products to improve vehicle fuel economy have been reported ranging from magnets that align molecules to chemical combustion improvers.

Most products claiming to provide benefits are based on unsubstantiated claims. Those that do present "scientific" results generally either have too little supporting data to be conclusive, have not conducted experiments in a controlled fashion, or cannot be substantiated by anyone else but the product's manufacturer.

The U.S. Federal Trade Commission summarizes results for products tested by the federal government at www.ftc.gov/bcp/online/pubs/autos/gasave.htm. A review of the list shows that the majority did not work, and for those that showed some effect, the benefit was too small to be cost effective.

Harmful Ideas That May Damage Your Vehicle and Increase Emissions

One more recent poor idea to improve fuel economy that should not be attempted is to blend either kerosene or diesel fuel into gasoline. Why? Both kerosene and diesel fuel are distillate fuels meant for use in compression ignition engines, not spark ignition engines. They have very low octane and since they are heavier (higher density) than gasoline, they will cause heavy engine deposits and degradation of engine oil.

Notice: Never put Kerosene or Diesel Fuel in your Gasoline Engine vehicle. This may result in inconsistent performance and permanent damage to your vehicle that is not covered by your New Vehicle Warranty.

Chemicals that are normally used as solvents also should not be used. These include acetone, ketones, and methanol. These solvents can be incompatible with your vehicles rubber or sealing components, and may dissolve the vehicle's paint finish. In the case of methanol, corrosion of metal parts in the fuel system also may occur.

Notice: Never use acetone, ketones, or methanol additives in your vehicle. Some of these solvents may damage or corrode your fuel system. They are also very damaging to the painted surfaces of the vehicle if spilled.

WHAT TO DO: Maximizing Fuel Economy/Minimizing Costs

The best fuel economy possible is the direct result of proper maintenance and good driving habits. Listed below are GM's recommendations to achieve the best mileage possible. The first group are things to consider for your vehicle, while the second are tips relating to your driving habits.

Vehicle Considerations:

- **Tire Pressure** - One of the major contributors to poor fuel economy are under inflated tires. Tires low on pressure create drag that the vehicle's powertrain must overcome, wasting dollars in fuel. Always keep your tires inflated to the proper pressure as shown on the vehicle placard. This not only serves to increase gas mileage but cuts down on tire wear, further decreasing your costs per mile.
- **Air Filter** - A vehicle that has a dirty air filter can't efficiently draw air into the engine. This restriction forces the engine to expend energy to "breathe" wasting fuel in the process. Change recommendations are found in your vehicle Owner's Manual.
- **Proper Viscosity "Starburst" Rated Oil** - Always use the proper viscosity oil in your engine. Oil that has a higher than required viscosity will create more drag on the internal components of the engine, causing more work for it, especially when cold. Each Owner's Manual contains information on the proper type of oil for your vehicle. Look for the "starburst" symbol on the front of the bottle, and the SM rating on the API circle on the back label. If you are in doubt, stop by your dealer for an oil change, and any other services required. Most current GM vehicles are equipped with oil life monitors to further assist on the "when" to change your oil. (Aveo/Wave/Optra/Epica currently do not have oil life monitors)

Notice: GM Vehicles DO NOT require additional engine oil additives. Some additives may cause harmful effects to the internal seals and additionally void the terms of your vehicles New Car Warranty.

- Top Tier Fuels - Some fuel manufacturers provide gasoline advertised as TOP TIER DETERGENT GASOLINE (Chevron, Conoco, Phillips 66, Shell, Entec Stations, MFA , 76, Somerset Oil, QuikTrip, and Kwik Trip in the U.S. and Chevron in Canada. These fuels are preferable when and where available. They help to keep your fuel injectors and intake valves free of deposits. Clean engines provide optimal fuel economy, performance and reduced emissions. When Top Tier fuels are not available, consider a bottle of GM Fuel System treatment PLUS, P/N# 88861011 (in Canada, #88861012), at oil change time which will remove intake system and injector deposits. GM does not recommend any other fuel system cleaner.

Important: DO NOT confuse Top Tier Fuels with Higher Octane (Plus/Premium Grade Fuel) commonly sold at most all gas stations. Plus and Premium fuels are required in some high performance GM vehicles. However, they do not necessarily represent higher detergency present in TOP TIER Detergent Gasoline.

Notice: E85 FUELS: Only vehicles designated for use with E85 should use E85 blended fuel. E85 compatibility is designated for vehicles that are certified to run on up to 85% ethanol and 15% gasoline. All other gasoline engines are designed to run on fuel that contains no more than 10% ethanol. Use of fuel containing greater than 10% ethanol in non-E85 designated vehicles can cause driveability issues, service engine soon indicators as well as increased fuel system corrosion. See Corporate Bulletin Number 05-06-04-035 for additional information.

- Use the Recommended Grade (Octane) Fuel Purchasing higher than required octane fuel is a waste of money. Using higher octane fuels in a vehicle that only required regular unleaded fuel will neither increase performance nor improve gas mileage. In all cases refer to your owners manual and ONLY use the octane rated fuel recommended for your vehicle. Important: In high performance GM vehicles that DO require Premium (91 octane or higher) fuel, you MUST use fuels of at least this octane. Use of lower octane fuel may result in reduced performance, knocking, and/or permanent engine damage not covered under the terms of the New Vehicle

Warranty.

- **Check Engine/Service Engine Soon Light** - Is the Check Engine/SES light on? When this light is on, the vehicle's On-Board diagnostics computer has noticed that something is wrong. GM vehicles have many sensors that the computer uses to both control and sense actual fuel usage. When the computer lights the Check Engine/SES light it has lost some ability to run efficiently. This may result in increased fuel consumption, increased emissions, and/or driveability concerns.
- **Spark Plugs** - Even though current GM vehicles have 160,000 km (100,000 mi) service intervals for spark plugs if your vehicle is at that point in its life, have the spark plugs changed to assure proper running and continued efficient, trouble free operation.

Changes In Driving Habits:

- **Slow Down, Drive Smoothly** - Avoid quick/full throttle acceleration from a standstill in town and high cruising speeds on the interstates. While the optimum MPG for highway cruising speed varies from vehicle to vehicle, faster is almost always worse. If your vehicle is equipped with a Driver Information Center that displays Instant Fuel Economy, select that read out and vary your cruising speed while on the highway. The display will change continuously with uphill and downhill sections but you should quickly be able to identify on level ground the speed range that your vehicle does the best in.
- **Empty Your Trunk** - Avoid leaving unnecessary items in your trunk. It takes power to move increased weight and that means more gasoline consumption and reduced performance. While the change may be slight, multiplied by thousands of miles, it all adds up.
- **Avoid Extended Idling** - There is no need to idle your engine till it reaches operating temperature. Idling wastes fuel.

- **Combine Trips** - Your vehicle uses much more fuel when the engine is cold. This is especially true in the winter months when the engine will take the longest to warm up. Combine errands or trips so that the vehicle only needs to warm up once to encompass many different stops.

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