

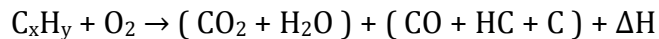
GF2 Fuel Enhancer CATALYST



The basic principles behind the benefits and catalytic effects of GF2 Fuel Enhancer are easy to understand. Today's engines leave some amount of fuel unburned on each piston stroke. GF2 Fuel Enhancer makes it easier for your engine to burn more of the fuel in the cylinder. Since more of the fuel is being burned, more power is being generated. Since less of the fuel is being wasted, you will have fewer emissions.

Chemistry

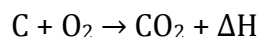
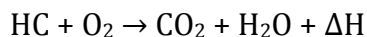
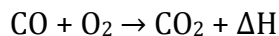
An engine converts fuel into energy by the following chemical processes:



The ΔH is known in chemistry as enthalpy and represents the energy created from the thermodynamic process taking place inside an engine. The C_xH_y represents the fuel, for example gasoline is C_8H_{18} and diesel is $C_{12}H_{26}$. The CO_2 , H_2O , CO , HC , and C on the right side of the arrow represent products that are released in the engine exhaust.

There are no exothermic (i.e. energy producing) reactions that could yield more energy out of the CO_2 or H_2O , so we've grouped those components together in the equation above. However, there are exothermic reactions that can extract additional energy from the second group: the CO , HC , and C .

When GF2 Fuel Enhancer is introduced into the engine, it acts as a catalyst and lowers the activation energy needed to further break down the unburned products in the above reactions. Specifically, when GF2 Fuel Enhancer is used the following additional chemical processes take place in the engine:

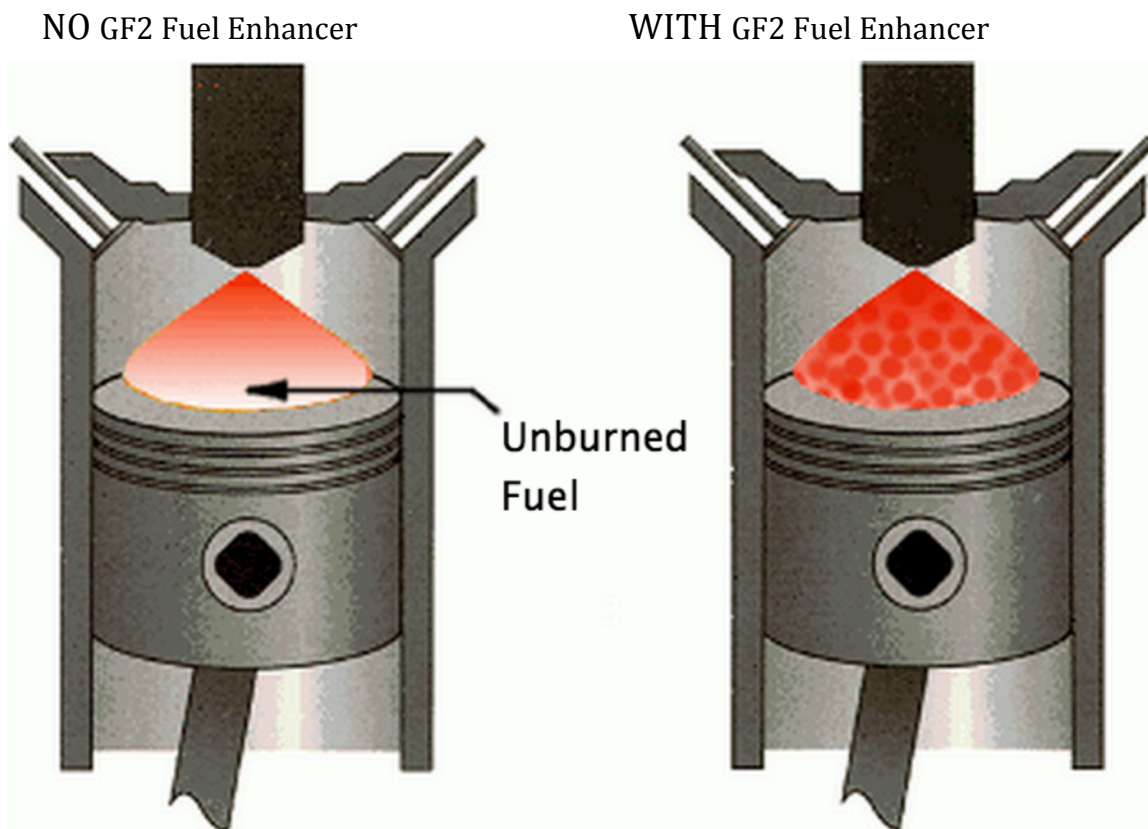


The ΔH 's in the three above equations are how GF2 Fuel Enhancer increases your engine's output. These ΔH 's add to the ΔH produced by the engine's standard

process to deliver more output energy from the engine. This extra energy can be used to either increase engine output power (if the amount of fuel input is kept constant) or reduce the engine's fuel intake (if the amount of output power is kept constant).

Flame Propagation

Your engine only has a limited amount of time to burn all of the fuel in the combustion chamber before it is swept out to the exhaust. Without GF2 Fuel Enhancer, fuel is ignited from only one point in chamber. A red flame burns from the top down to the piston head. GF2 Fuel Enhancer contains compounds that act as flame initiators. Because of this, the flame in your engine's combustion chamber isn't propagating only from top to bottom. It's also propagating from all of the GF2 Fuel Enhancer molecules in the fuel. More of the fuel in the chamber will be burned on each stroke and less will be wasted in the exhaust.



Pressure Measurements

Sensors inside laboratory engines have shown that GF2 Fuel Enhancer changes the pressure cycle inside the combustion chamber. Since the average pressure is greater inside the chamber, the piston will receive more force driving it down. Since the

piston is being driven down faster, more output power will be delivered to the crankshaft resulting in efficiency improvements..