**STRATEGIC SOLUTIONS INTEGRATED**

**Title: Xtreme Fuel Optimizer (XFO™) Cost Savings and Advantages**

**November 1st,2022**

* **Why You Need a Fuel Additive for all Gasoline Engines**

**Xtreme Fuel Optimizer (XFO™)**is an efficient and cost-effective way to improve fuel economy, while extending the useful life of your gasoline engine. They have been tested extensively by independent labs and have shown to reduce carbon particulate emissions and improve fuel combustion. The savings are apparent on paper but more importantly **XFO™** will provide significant savings. They both remove and inhibit the buildup of carbon deposits, water and sludge which causes incomplete burn in the combustion chamber. As the carbon deposits, water, and sludge are removed from the internal engine components, fuel economy improves. The following are key points on why **XFO™** are the right choice for you:

* **Fuel Economy / Savings**

Ethanol (E10) can reduce fuel economy by as much as 2-3 miles per gallon compared to ethanol free Gasoline. E85 is flex fuel with 85% ethanol which could reduce fuel economy up 7 to 8 miles per gallon. **XFO™** should improve your fuel economy on average 7% to 17%. The fuel savings will more than pay for the cost of the products and put money in your pocket with fuel savings and additionally put money in your pocket by reducing your maintenance costs and extending the life of your gasoline engines.

* **Carbon Deposit Damage Prevention and Repair**

The primary source for harmful emissions is carbon deposits. As **XFO™** reduces and removes deposits, there is a drastic reduction in emissions of CO, NOx, Sox, HC and particulates. **XFO™** helps the environment by reducing all carbon emissions.

* **Decreased Exhaust Combustion**

Lower exhaust temperatures with both **XFO™** promote the production of CO2 for a more complete burn as the combustion improves. The exhaust phase becomes cooler, helping to extend the life of gasoline engines. **XFO™** also extend the oil life by treating the fuels to provide smaller and less abrasive particulates during the combustion process. This results in cleaner, longer lasting oil. These results lead to reduced engine wear and extended maintenance cycles. When carbon buildup, water, and sludge are removed, equipment life is increased, oil stays cleaner and friction is reduced. Injectors, valves, rings, and other associated engine parts show much less signs of wear after extended use.

In gasoline applications a lower octane fuel can be used and still provide the same performance as the higher-octane fuels by using **XFO™.** Dynameter testing shows an increase in horse- power and BTU’s.

* **Lower Fuel Octane Use for Consumers**

Ethanol attracts water and it does breakdown faster than gasoline. With water absorbing in to the fuel, there is a chance that rust will form on the interior of the engines. For obvious reasons, this is bad for any engine. The rust particles that get into the gas from rust flakes will clog up the fuel filters sooner rather than later. Its very possible that these rust flakes will cause damage to the pistons, rings, seals, and any number of other components of the engine. The water reducing properties along with the anti-corrosion properties and lubricity in **XFO™** significantly reduce the negative effects of ethanol on Gasoline engines.

Ethanol also increases vapor pressure which may cause vapor lock in the carburetor. This fuel starvation will prevent the engine from starting. This is especially an issue in higher altitudes and hotter weather. Gasoline with ethanol decreases the life of the engine and its parts. Ethanol which is an alcohol is not good for seals and causes a quicker breakdown. This breakdown creates clumps in the gasoline mixture at some point and this may clog filters, carburetors and fuel lines. This is especially true with small engines. So, adding **XFO™** with its fuel stabilizer properties will help prevent this from occurring.

* **Why you need XFO™ for your diesel engines that consume Ultra Low Sulphur Diesel (ULSD).**

What happens when you have low lubricity in fuel? Today’s high pressure diesel systems and both pump and fuel injectors rely solely on fuel for their lubrication. Since the switch in 2007 to ULSD fleet owners and regular diesel users have complained about the negative impacts of the government mandated Ultra Low Sulphur Diesel.

ULSD has lower energy content (BTU’s) compared to Low Sulphur Diesel resulting in lower fuel economy. Higher BTU’s means more power per stroke. Similar to higher octane levels in gasoline the engine needs to burn more fuel to create the same output of power as fuel with higher energy content. This results in less fuel economy. **XFO™** provide higher BTU’s which provides more power per stroke. Our extensive independent lab tests validate our increased BTU’s, but you should see real fuel economy improvement of 7% to 17% on average with more power boost which helps in going up hills and accelerating.

USLD is hygroscopic, meaning it absorbs more moisture from the air. Absorbing moisture from the air can make your fuel economy go bad more quickly and result in lower energy content (BTU’s) and overall lower engine performance. The moisture absorbed from the air can also lead to the formation of rust inside the fuel tank which not only effects fuel but also can clog up the filters or worse, injectors and pumps. The water inhibiting and eliminating properties of **XFO™** minimize these negative effects of ULSD.

In the winter presence of moisture leads to a phenomenon called “Diesel Gelling” where diesel fuels change its liquid state in to a solid one., clogging everything and making your diesel burning vehicle unusable. **XFO™** with anti-gel properties to a (-20 degrees Fahrenheit) solves this problem.

Sulphur provides lubricity to a diesel engine. With ULSD that lubricity is significantly reduced causing increased wear and tear on a diesel engine’s various components. Also, because ULSD absorbs more moisture from the air, on colder days the fuel will have a poor flow level due to changes in viscosity. Due to its chemical properties, corrosion on engine components tend to appear faster than older diesel fuels which contained more Sulphur. **XFO™,** because of their water inhibiting and lubrication properties, correct the negative effects of ULSD on Diesel engines.

**Related problems in the long run due to ULSD issues and how XFO™ help correct them.**

* Rust and corrosion forming in fuel lines as well as fuel tanks mostly caused by hygroscopic nature of ULSD,
* Low fuel lubricity causes wear and scarring in pumps and injectors. Lack of lubrication affects especially expensive and accurate components that work with very small tolerances.
* Sludge can build up inside tanks and result in plugged filters. Sludge or diesel algae is a microbial biomass formation that appears due to the ULSD moisture attracting nature. It forms a jelly, slimy contaminant that will work to clog up filters, injectors and pumps as discussed above.
* By adding **XFO™** you add back in to ULSD critical upper cylinder lubricity. All mission critical fuel system components such as fuel filters, fuel lines, injectors and fuel pumps will maintain the viscosity they need and deliver the fuel as it was originally intended by engine manufacturers.
* There really isn’t any other way to gain back what ULSD does or doesn’t do as far as preventing diesel lubricity and hygroscopic problems. Fuel quality issues only compound this problem from station to station when filling up the tanks. Running a quality fuel additive like **XFO™** becomes paramount to reducing these diesel lubricity and hygroscopic issues.