

EXECUTIVE SUMMARY©



FUEL HEATING CATALYST

Patent Pending.

INVENTED and DEVELOPED
BY
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Cal-Cat Fuel Heating Catalyst - BACKGROUND AND DESCRIPTION

The Cal-Cat Fuel Heating Catalyst has been developed for the purpose of filtering and heating fuel prior to entering the combustion chamber in diesel or gasoline engines to enhance fuel performance.

In order to comply with stringent environmental regulations, fuel quality has been compromised over the last few years. The fuel, whether diesel or gasoline, does not completely perform to its capabilities resulting in incomplete combustion and unburned fuel. This incomplete combustion causes an increase in emitted pollutants and operational difficulties. In addition oil contamination occurs from unburned fuel in the cylinders which reduces the lubrication of the cylinder walls, which can cause wall scoring. In short incomplete combustion leads to poor operational performance, as well as, more frequent breakdowns and repairs.

There are many devices on the market that are used for preheating the fuel prior to combustion to reduce the effects of extreme cold weather. These devices may be of some benefit in cold weather operation, however they require engine or on board computer adjustments which cannot be readily made by the drivers/operators or regular maintenance personnel. Most of these devices use coils in their mechanism to direct the fuel path through a hot water or hydraulic fluid reservoir which can easily result in overheating of the fuel. If such devices are not properly adjusted the resulting loss of fuel lubrication as well the fuel's cooling effects can cause sticking of injectors and plunger scoring. It is important to note that fuel lubrication is already low due to the use of ULSD (Ultra Low Sulfur Diesel in the fuel). Air pockets can also occur due to fuel separation which can result in injector vapor lock and engine failure.

The Cal-Cat Fuel Heating System does not require adjustments to the engine, regulating valves, or onboard computer; while avoiding the overheating of the fuel. The temperature of the fuel in the Cal-Cat System is typically cooler than the initial temperature of the fuel returning from the injector spill rail to the fuel tank.

SUMMARY OF THE CAL-CAT FUEL HEATING CATALYST

The Cal-Cat Fuel Heating Catalyst is a device for heating and filtering fuel in diesel and gas burning engines prior to combustion to improve fuel quality and thereby fuel and engine performance. The Cal-Cat Fuel Heating Catalyst is made up of two closed loop systems:

- 1) A spliced element to the engine coolant system constantly flowing and re-circulating engine coolant where heat is generated to warm the fuel.
- 2) A spliced element to the fuel system in such a manner that fuel is circulated through the tube where it is heated and filtered in the proprietary blend of several metallic catalyst' which enhance fuel quality prior to combustion.

It is the combination of the two above steps that cause the fuel to perform at a higher level.

Cal-Cat Fuel Heating Catalyst - Product Claims

1. It is a device that is an additional fuel filter prior to combustion.
2. It is a device for heating the fuel in the presence of metallic and precious metal catalyst in diesel and gasoline engines prior to combustion to improve the fuel performance.
3. It is a device for heating the fuel in diesel and gasoline engines prior to combustion that does not require adjustments to the engine, regulating valves, or onboard computer.
4. It is a device for heating the fuel in diesel and gasoline engines that will not overheat the fuel.
5. It is a device for heating the fuel in diesel and gasoline engines that will not cause vapor lock.

Warranty: We stand by our product and are so confident in the Cal-Cat System that we offer a unique unconditional 60 day 100% money back guarantee and a 36 month pro-rated warranty on all Cal-Cat products.