## Your Fuel Injection Specialist? Miller Diesel Inc.

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PO YOU HAVE FILL FILLERS?

**BLACK** FUEL FILTERS & CONSTANT FILTER CHANGES PRIOR TO ROUTINE "PM" MAINTENANCE - IS NOT NORMAL AND NOT ACCEPTABLE!

## BLACK FUEL FILTERS - BLACK DIESEL FUEL:



(Year Round issue). There is an ongoing epidemic of excessive diesel fuel filter changes due to today's High Pressure Common Rail (HPCR) & Electronic Fuel Injection Systems. Rail pressures in HPCR fuel systems are ranging from 5,000 psi to over 29,000-50,000 psi. Tolerances are millionths of an inch and fuel contamination is not tolerated.

**PROBLEM:** Due to the extremely high pressures required for these HPCR engines, there is also excessive heat created within the engine & fuel rail. This extreme level of heat can often "cook" the diesel fuel as it travels through the fuel rail and fuel system, then back to the fuel tank – EXTREMELY HOT. The fuel becomes unstable and the fuel breaks down, creating asphaltenes &/or carbon components (natural components of petroleum products) that fall out of suspension.

These particles become large enough that they then get captured in the fuel filters, as they do their job properly, until clogging prematurely. Some engines require 2-4 micron 2ndary filters. (One micron is smaller than the human hair.) Many fuel tanks get so hot that one cannot touch the outside. When the equipment is not in use, everything cools down to ambient temperatures, which creates problem #2; an excessive amount of fuel "sweating" or water condensation within the fuel tank's empty spaces, creating water in the fuel. This has caused an entirely different level of fuel filter clogging, fuel contamination, potential injector or pump failure, decreased particulate filter service life and major increase in unnecessary spending. Many also discover that their diesel fuel is black in color, looking like "Coca-Cola." *What you can't see "can" hurt you*.

<u>FINDINGS</u>: Black fuel, black carbon-soot, sludge, asphaltenes, DPF Regen issues, bacteria, diesel soaps, breakdown of bio-diesel, excessive moisture and water creation are clogging filters, sometimes within a few hours of operation. The cycle repeats and repeats and can often change a diesel fuel that started "within specifications" to create an off-spec, contaminated fuel, through no fault of the operator. This creates excessive and frequent filter clogging, poor engine performance, injector failure, fuel pump or engine failure issues across multiple pieces of equipment with various HPCR & Electronic & even some mechanical engines.

NOTE: Contaminated fuel of ANY kind voids ALL warranties.

SOLUTIONS: Miller Diesel, Inc. has created a diesel fuel additive that has been proven to improve or totally alleviate the problems mentioned above. Fuel filter life has been drastically improved, and often returned to normal PM maintenance levels. Miller Diesel's Custom Concentrated Ultra-Max CPR Formula, when used properly, not only helps stabilize the fuel, but protects the fuel injection system from the potentially harmful effects of water, corrosion, bacteria, sludge, lack of lubrication, etc. The KEY to success and reduced costs is in the hands of the operator. This fuel additive is a lifeline needed to help combat these issues, but it is not the "cure all." Contact Miller Diesel, Inc. for more information and other helpful tips on fighting & preventing fuel contamination, proper fuel storage tank maintenance, storage tank filtration & other ways to not only protect your equipment, but save money while doing it.

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