Donaldson HY-PRO™

Improving Diesel Engine Life

Fuel Filtration to Clean up the Diesel Industry

The Problem

Diesel engines have made incredible progress in recent decades. Along the way, they have become more compact while offering better performance, fuel efficiency and lower emissions. Unfortunately for consumers, some of the great benefits of recent diesel engine improvements are lost due to dirty diesel fuel damaging the engines. One of the primary reasons for these vast improvements in diesel engines has been the massive improvements to the capability of the fuel injectors, which can now operate at 25,000 PSI (1723 bar) or greater. The problem arises when diesel fuel made available by most distributors, generally rated at an ISO cleanliness level of 23/21/19, slowly destroys various components.

The Solution

A target ISO cleanliness level is chosen. In this case a goal of 16/14/12 was set for the fuel. Two possible solutions exist from this point: replace the OEM 30 micron filters on all equipment with 1 micron filters or filter the fuel to 1 micron before it reaches the equipment. The first solution is impractical when one considers how expensive finding a supply of filters for every piece of equipment could be and the time and effort necessary to make the swap from 30 to 1 micron filters. The second solution is the best, with three steps to solve the fuel contamination problem.

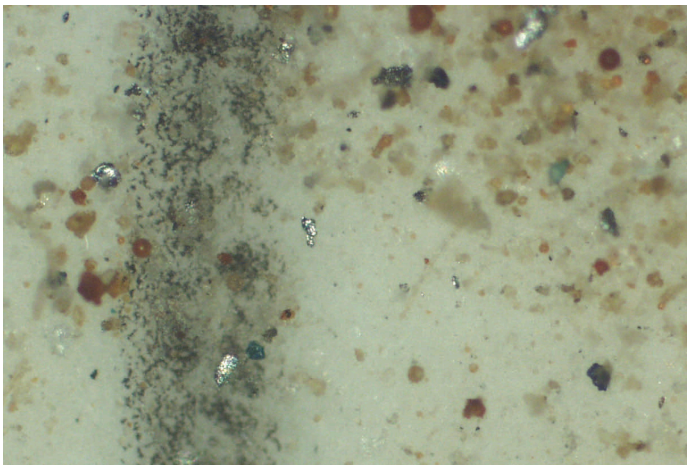
- Filters are installed on each of the fuel reservoir tanks that distribute fuel to the equipment
- Filters are installed on all fuel dispensers either from stationary reservoirs or those mounted on tanker trucks
- The OEM 30 micron rated filters are retained on all of the equipment as a last screen of defense for the engines.

The Results

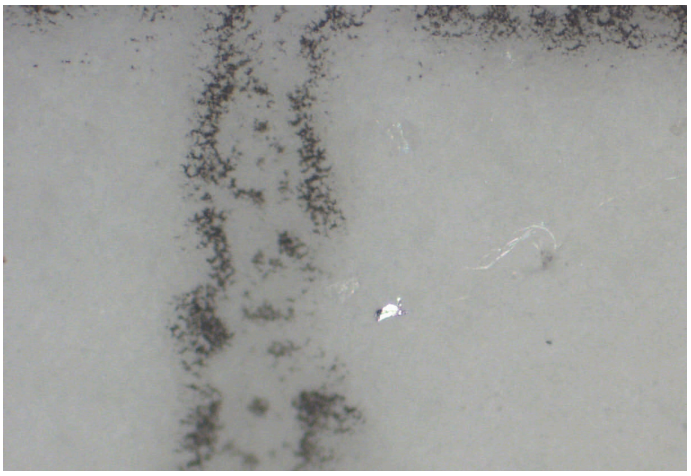
After the three stages of filtration are implemented, the ISO cleanliness level should reach the target of 16/14/12. As a result of properly operating injectors, the injector's life span increases, fuel dilution of the crankcase oil decreases, onboard OEM fuel filter changes decrease in frequency, and a more efficient and cleaner engine and undamaged fuel pump increases fuel efficiency. All of these aspects combine to reduce costs, downtime and emissions into the environment. Another added benefit is that in disposing of fuel filters that have been used with cleaner rated fuels, and disposing of crankcase oil not as contaminated with fuel, the disposal charge can often drop, saving additional money even after the fuel has been consumed.

Individual operators should always filter their fuel upon arrival and continue to filter the fuel to insure that their equipment continues to operate to its maximum capacity. Diesel consumers should also be encouraged to put pressure on fuel suppliers to deliver cleaner filtered fuel. Until suppliers are held accountable for delivering fuel at a certified ISO cleanliness level, consumer filtration remains a must. Keeping fuel cleaner with filtration is just another step in realizing the diesel engine's full potential.

ISO Code 24/22/19



ISO Code 16/14/11



Want to find out more? Get in touch.

hyprofiltration.com
info@hyprofiltration.com
+1 317 849 3535

Donaldson
HY-PRO™

F119870 - 121425 - TF