DSG CANADA
DIESEL SERVICES GROUP

Diesel Engine & Fuel System Maintenance

To properly understand the need for Fuel System and Engine maintenance, we must first understand how the Diesel Engine performs. For the engine to perform properly and efficiently, several compnents and processes must interact at the proper time. The most important ones are:

- Clean Fuel
- Clean Air
- Heat
- Combustion
- Unrestricted Exhaust

Air enters the cylinders through the intake valves, and when compressed, results in heat being generated. Fuel is injected through the injectors with precise timing and is ignited by heat and compression. The exhaust valves open and exhaust exits the chambers. This process takes but a fraction of a second. If one or more of these components does not function at 100%, then we could have poor starting, heavy black, blue smoke, or white smoke, or potentially a lack of power. A catastrophic failure of the engine can result in extreme cases.

The fuel system, when contaminated, builds up a varnish on all metal components (i.e., plungers and barrels in injection pump, or needles and seats in the injectors) resulting in poor atomization and fuel delivery. The combustion chambers, pistons, and valves develop carbon deposits that restrict airflow and hamper proper combustion. These conditions can cause sooting in the exhaust system, which causes exhaust restrictions. This can also seize the piston rings, which can allow combustion into the crankcase resulting in the potential for cylinder scoring and oil consumption. When these conditions occur, the components will normally require disassembly for cleaning or replacement. This is very costly and time consuming.

As the power train components wear, the fuel timing can be affected. Proper pump timing can improve performance, emissions, and the longevity of the engine. Improper timing can do the opposite; not only reducing performance but also causing buildups of carbon and soot in engine components.

With the introduction of the DIESEL DIALYSIS MACHINE, removal of harmful deposits can be done without removing any components or causing lengthy down time. The engine is connected to the Diesel Dialysis Machine and run on the dialysis fluid, which cleans the fuel system as well as the combustion chambers. This dialysis process removes the varnish and carbon deposits, freeing sticking components, and lubricating the fuel system. When the system is cleaned properly, the engine can start better, run smoother, and reduce exhaust smoke. In some cases the engine may have to be flushed more than once, while in other extreme cases, or when damage may have already occurred, disassembly of the engine or components for repair or replacement will still be required.

Putting the engine on a maintenance routine with periodic flushing approximately every 80,000 kms or 5000 hrs, the engine will perform more efficiently and show a reduction in exhaust emissions.

Dirt and water can contaminate the fuel system and cause severe damage in a very short period of time. To keep the system clean and free of contamination, proper filter changes are required. The use of low micron water separator filters, such as Racor or Stanadyne Fuel Manager, are also recommended to keep the system free of water and dirt. The regular use of 4 PLUS PREMIUM Diesel Fuel Treatment can greatly reduce fuel system wear and help keep contamination out of the system.

The engine oil can also become contaminated from any of these conditions. Proper oil change intervals, along with crankcase flushing, can reduce costly repairs. This is more prevalent in engines that have an Exhaust Gas Recirculation (EGR) system, as the exhaust is recirculated back into the engine for further burning. This can cause excessive carbon build up in the combustion chambers, resulting in many of the above symptoms.

As you can see, all of the engine and fuel system components are closely linked and all must work in unison to have a properly performing, long lasting engine. When one component is not functioning properly, this can greatly affect the entire system. Maintaining just one component while ignoring others can be detrimental to engine life.

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DSF 700 DIESEL FUEL SYSTEM FLUSH UNIT

Why should you flush the fuel system?

The fuel injection system controls the performance of the engine in many ways; therefore its constant maintenance cannot be overemphasized. An inefficient and poor running engine is often caused by a contaminated fuel system.

How do you start?

Our goal is to prevent the engines vulnerability to contamination by encouraging a system of planned preventative maintenance. A complete flush will clean and lubricate the vehicles entire diesel fuel system safely and efficiently without mechanical strip down.

Why should you invest in the DSF 700?

Selling this service to your existing and new customers is easy! The benefits of the system flush are restored power, better fuel economy, lower repair costs for the pumps and injectors plus…

- lubricates the pump
- improves power
- improves fuel economy
- reduces smoking and excessive knocking
- cleans throughout combustion chamber
- improves cold start
- cleans injectors
- cleans the pump
- cleans intake valve deposits
- removes piston deposits
- restores performance
- reduces emissions

Profits:

The opportunity to generate revenue for the service department while offering your customers a service that actually gives them great benefits. Typical price of a flush is...

Light Duty Trucks $120. Retail **Heavy Duty Trucks $150. Retail**

INTRODUCTORY OFFER $3995.00 **Cleaning Fuel $9.98/ litre**

For a NO OBLIGATION DEMO Contact
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