



What You Need To Know About Fuel Contamination

Diesel fuel is essential for the operation of your vehicle. It is more the substance aiding to create an internal combustion to drive the truck up and over the hill. Diesel fuel itself is a lubricant to the metal components inside of the fuel injection system. Not only does it lubricate but it also cools the fuel injection system. This is one of the many reasons why diesel fuel needs to be free of contamination and a good quality. Unfortunately, there are a variety of contaminants that can get into fuel. This includes water, debris, microbes, metal fragments, dirt, diesel exhaust fluid, gasoline, biofuel, unapproved fuel additive, etc. All of these contaminants can start with engine performance symptoms and ultimately lead to severe fuel system damage and even cause severe damage to an engine.

Today's diesel engines have a precise fuel system with very tight tolerances and the engines performance can degrade quickly because of contaminated fuel. Once a contaminate is introduced into the fuel system, replacing one component of the fuel system or attempting to flush the fuel system will not solve the problem. The only true solution to the problem is by replacing the entire fuel system.

What Drivers Need To Know

Drivers are the first line of defense in reporting any issues with a truck. Drivers should be aware of any of these performance symptoms:



Engine knocks



Hard starting or extended crank time



Loss of power during acceleration



Engine surging

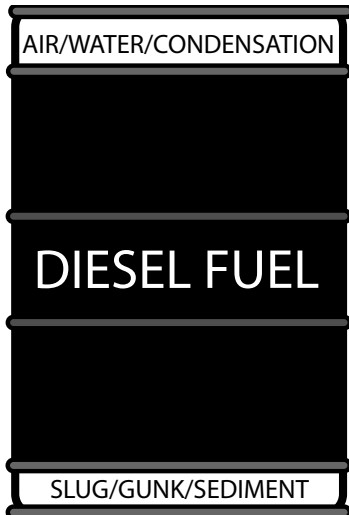


Increased fuel consumption



Excessive smoke

Each of these warning signs should be taken seriously because these problems will not resolve themselves and, in fact, damage will become progressively worse. It is advised that you see an Alliant Power Authorized Service Dealer near you to diagnose these symptoms.



Drivers should consider using diesel fuel additives but remember these are a proactive measure. Putting a diesel fuel additive in fuel once a problem has been discovered will not fix the problem. Diesel fuel additives are meant to improve the overall quality of the fuel. When purchasing additives, it is important to look for those that remove water through demulsification and very importantly, are alcohol free. Demulsification is a process of separating water from fuel. The water is taken out of suspension and formed into larger water molecules so fuel/water separators can effectively capture them. Additives containing alcohol will cut lubrication characteristics and could accelerate wear on the internal components of the fuel system.



Alliant Power offers three diesel fuel additives:
ULTRAGUARD® is an all-season, multi-functional diesel fuel treatment that is designed to improve the quality of the base diesel fuel and provide superior fuel system protection under all operating conditions. It contains lubricant, detergents, a cetane enhancer and an anti-gel protection for cold weather. It cleans/eliminates internal and external injector deposits and removes water from



fuel via demulsification. It has a fuel stabilizer protecting against rust/corrosion and eliminates “stiction” commonly associated with Common Rail Injectors.

LUBRIGUARD® is heavily concentrated in lubricant that offers fuel system protection. It is most effective when temperatures are greater than 40°F (4°C). It is a highly concentrated lubricant with cetane enhancers increasing ignition and improving combustion efficiency. It lubricates the fuel system thereby

reducing friction and wear and cleans deposits from injectors. It also contains a fuel stabilizer to prevent diesel fuel from degrading in quality.



WINTERGUARD® provides extreme cold weather and anti-gel protection. It improves the diesel pour point down to -50°F (-45°C). It also reduces ice formations of water in fuel. It contains a fuel stabilizer to prevent diesel fuel from degrading in quality.



What Technicians Need To Look For
 Service centers will need to start by practicing the original equipment manufacturers repair practices. This starts with one of the most

overlooked items, proper maintenance intervals to the fuel, oil, and air filters on a vehicle. And very importantly, the use of high quality/OEM filters. The price of a low quality filter can result in expensive repairs.

Technicians need to be able to diagnose the operator's drivability complaints right and repaired correctly the first time. Misdiagnosing a vehicle can add up to multiple hours of labor and parts wasted.



Note: the 9th injector was introduced to the Duramax engine in the LML in 2010. The 9th injector can be overlooked but without addressing it, technicians may inadvertently recontaminate a fuel system.

Preventing Fuel Contamination

While there are a host of things that can contaminate fuel, there are things you can do to prevent contaminants from reaching the engine.



Photo credit: Parker-Racor

Fuel water/separators help to remove water from diesel fuel before it reaches the engine. Make sure to drain the water from the unit regularly. Failure to drain the unit will cause corrosion in the housing that will then spread to the fuel system.

Use the appropriate diesel fuel additive. If you have fuel storage tanks on site, make sure to check for water build up and for microbes. Drain any water found at the bottom of the tank or around the fuel tank opening. Set a preventive maintenance schedule for cleaning tanks — every one to two years —but also clean them when you notice unacceptable levels of contamination.

Service or schedule a service for fuel filters per the manufactures recommendation.

Listen to driver complaints of poor vehicle operation especially those surrounding power loss, engine surges, engine knocks, hard start or extended crank, and black smoke. These all could be signs of problems in the fuel system and need to be addressed immediately.

Resolving Fuel Contamination Problems

Alliant Power offers fuel contamination kits that contain the OEM quality components needed to repair a contaminated fuel system. The kits were developed in our own Diesel Forward Service Centers. One single kit eliminates the need to cross-reference and source all the parts individually required to complete the repair. Packed in a single box, technicians have all the components they need to complete the complicated task more efficiently. For added confidence in the quality of the kits, they are backed by a 24-month warranty.

Alliant Power offers the following fuel contamination kits:

- 2008 to 2010 Ford® 6.4L Power Stroke® engines
- GM® 6.6L LML and LGH Duramax® engines. It can be used on 2010 to 2016 GM Silverado®, Sierra®, Express®, and Savannah® models.
- GM L5P & L5D Duramax engines that can be used on 2017-2019 Silverado, Sierra, and International® CV models.
- Ford 6.7L Power Stroke engines. It can be used for model year 2011-2019 F Series® Pickup & Cab Chassis models.

In addition, if the technician runs into any problems, they can call Alliant Power's dedicated technical support team.

If a problem does occur, choosing a high quality fuel contamination kit from Alliant Power will make the task of repairing the problem easier and more efficient saving your customer engine downtime. Ultimately, saving you time from searching for the right parts, and keeping your customers on the road longer.