Top Fleet

Driver Assessment

Helping to ensure drivers are safe drivers

The Diesel Particulate Filter and Engine Regeneration

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The Diesel Particulate Filter is just one of many ways our industry is helping to protect our environment and our future.
Transport trucks are equipped with Diesel Particulate filters (DPF). On most trucks this device can be found under the truck and resembles a large canister.
Some tractors have the DPF installed where you would normally find the muffler (or stack).

Always inspect the DPF area Looking for any possible damages, loose parts or leakage. Also ensure there are no hidden packages placed there (which someone may have attached to your truck for illegal transportation).

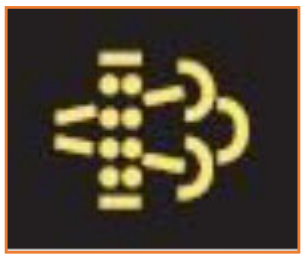
A Diesel Particulate Filter or DPF is a special exhaust filter that greatly reduces emissions, specifically carbon particulate matter (or soot). Soot is classified as a known carcinogen by the International Agency for Research on Cancer.

Gone are the days when trucks would emit huge clouds of soot into the air. A vehicle equipped with a DPF has no visible exhaust as the soot is trapped in the DPF. As the filter fills with soot, it may become over filled and clogged causing increased back pressure to the engine. To prevent this, the system incorporates a method to keep the filter clean usually called “Regeneration”. It may also be referred to as “Aftertreatment”.

The regeneration process requires a liquid known as Diesel Exhaust Fluid or DEF.
DEF is a mixture of 67.5% deionized water and 32.5% urea.
Heat from the exhaust will turn the DEF into ammonia.
The ammonia helps reduce nitrogen oxides and assist in the cleaning of the filter.

It is imperative a driver maintain adequate DEF on the truck to ensure regeneration. DEF consumption is approximately 1 gallon of DEF for every 50 gallons of fuel burned. If the truck runs out of DEF, the power will be reduced, and the speed may be limited to 5 mph until the DEF tank is refilled.
DEF can be purchased at most major truck stops right at the pump.
Occasionally you may have to purchase it by the container and fill the tank with a funnel.
The DEF tank can usually be found on the left side of the truck and has a blue filler cap.

Regeneration is a chemical reaction that requires heat to get it started.
The heat of your exhaust gases will start the reaction. Once the reaction starts, it will create its own heat as the soot that has been collected in the DPF is eliminated.
The trapped soot is converted to carbon dioxide and expelled through he exhaust. The vehicle will display
“Regeneration In Progress” on the dash
During normal regeneration.
The electronic display will
Indicate that
“Parked Regeneration”
Is necessary if normal
Regeneration has failed due to
Lack of exhaust heat.



The light on the dash indicates a parked regeneration is required.

Parked regeneration is a system that will spray small amounts of fuel into the DPF and ignite it. This will cause the temperature in the DPF to rise.
When enough heat is created, regeneration will begin.
Parked regeneration takes approximately 20 to 40 minutes. During this time, it is imperative that the engine remain running.
Usually, during normal operation of the vehicle, the heat of the exhaust is enough to start the chemical reaction and achieve regeneration.
However, under very cold or lightly loaded conditions the exhaust temperature may be too low for regeneration to occur.
When that happens, the driver will have to initiate parked regeneration.

The chemical reaction of regeneration creates a great deal of heat, so remember to stay clear of overhead structures that may catch fire, as well stay at least 25 feet away from fuel pumps or gas cylinders. Always keep people away from the extreme heat of your exhaust during regeneration.

During normal regeneration, you can shut the truck off anytime while it is in progress. It will simply start up again later.

During parked regeneration, it is very important to allow the process to finish. Do not shut the truck off, change the idle or engage a gear during parked regeneration.

With the large number of trucks on the highways throughout North America, It's gratifying to know the Diesel Particulate Filter is doing its part and helping our environment by drastically reducing the amount of soot we put into the atmosphere.
The demand for goods delivered by truck is going to continue to increase but knowing we can do this in the most environmentally friendly way and protect our air
Is our obligation to our future.

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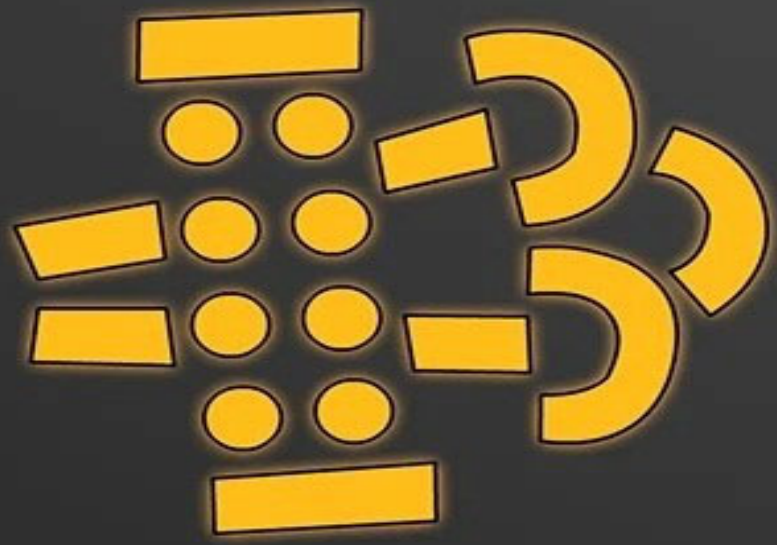
Winnipeg, Canada



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Thank you