

# REAL Torque

January 2022

Contact maintenance for any questions on 0800 80 80 69

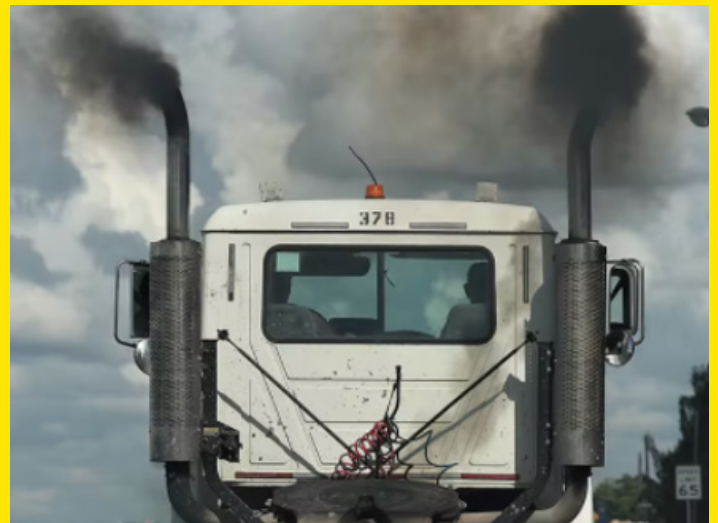
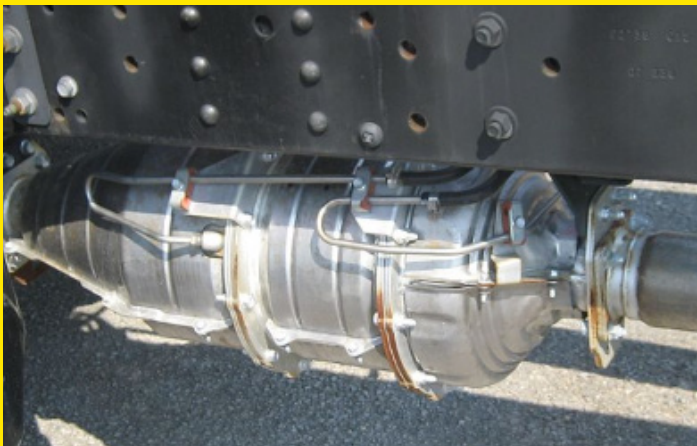
## Diesel Particulate Filters

**This month we are taking a look at Diesel Particulate filters, why we have them, how they work and understanding their operation and how to operate a vehicle fitted with one correctly.**

Diesel particulate filters have been a great component in the journey to produce cleaner, greener vehicles, and reduce harmful emissions from vehicles entering the atmosphere.

Diesel engines produce particulate matter, more commonly known as “soot”, out of the exhaust. This is a by product of unburned fuel and is harmful to the environment and atmosphere.

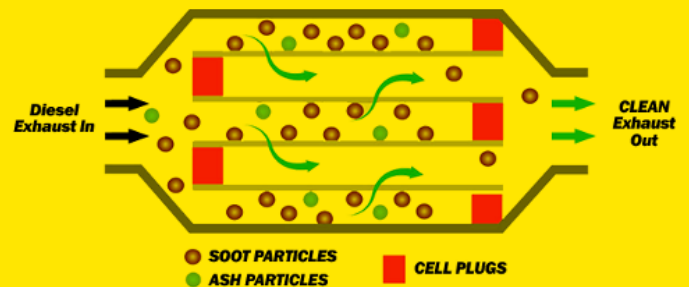
Diesel particulate filters catch the soot produced from the engine and store it, when the filter is at capacity the engine carries out a “regeneration” which burns off the accumulated soot turning it into less harmful ash and cleans out the filter ready to collect more soot from the engine.



### How do they work?

As exhaust gasses pass through the DPF they must pass through small holes in porous cell walls. The holes are big enough to let gas pass but small enough to not let soot particles through. This traps the soot in the filter.

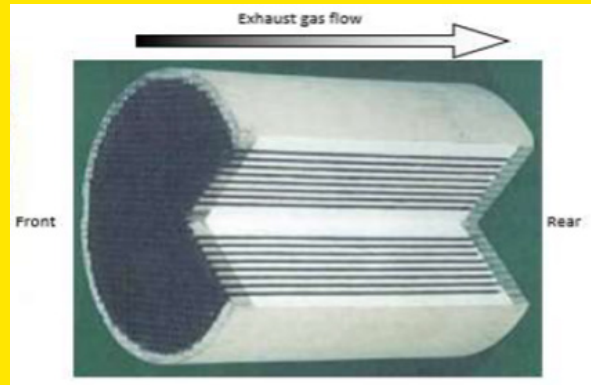
### How a diesel particulate filter works



Using sensors monitoring pressure and temperature, the truck can measure how full the filter is and carry out a regeneration when required.



This is an example of a severely blocked diesel particulate filter.



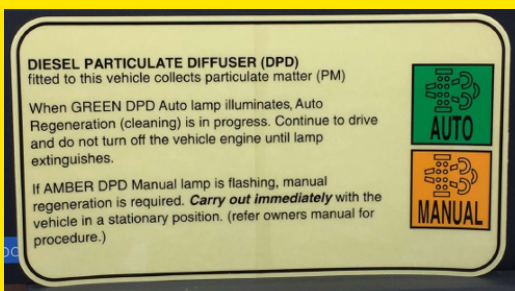
While ways of carrying out a regeneration can vary between manufacturers, the principle remains the same.

During a regeneration, fuel is introduced into the DPF to increase the temperatures up to 600 Degrees Celsius for a period of time to burn off the collected soot, converting it to ash.

## When does the truck do a regeneration?

**Passive regeneration** - Usually a truck will do a passive regeneration, which is when the truck is being driven. For this to happen it needs to be driven for longer periods allowing temperatures to get high enough and allow enough time for it to complete. Longer journeys, for example travelling down the motorway, is ideal for passive regeneration.

**Forced regeneration** - For vehicles that do a lot of stop-start driving around town in heavy traffic or not travelling long distances, a passive regeneration is not possible and a force regeneration is required. The truck will alert the driver a forced regeneration is required by a flashing light on the dash. Consult the operator's manual in the cab of the truck or ring the TR maintenance team for instructions on how to complete a forced regeneration.



It's important to carry out a regeneration if the truck is warning you one is required. Failure to carry out a regeneration when required can cause the engine to derate or block the DPF which can result in a breakdown or workshop visit.



### Tips and Tricks

- ▶ **Be aware of where you park your vehicle. Do not park on grass or near flammable areas when carrying out a regeneration as the temperatures coming out of the exhaust can cause nearby items to burn or possibly catch fire.**
- ▶ **During a regeneration you may notice a bit of smoke or a burning smell, this is normal.**
- ▶ **If your vehicle is smoking all the time, please contact the TR maintenance team.**
- ▶ **Remember to check your engine oil regularly as regenerations can cause oil levels to rise. If your oil level is over-filled or low please contact the TR maintenance team immediately.**

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Making heavy vehicle fleet  
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