

What is a DPF?

DPF stands for diesel particulate filter. It was introduced as part of the emissions regulations to improve the quality of our air and reduce pollution. As the name suggests it is a filter which sits within the exhaust system catching harmful diesel particles.

The car will periodically go through regeneration cycles where it in simple terms increases the exhaust gas temperature to burn off the particles trapped in the filter. The original logic being that this regeneration cycle would occur when the car is at higher speeds outside of the city. The reality is that this didn't reflect the true use of cars and so they have introduced passive regeneration in more modern DPF equipped vehicles that allow it to regenerate even at low loads.

The problem being that the DPF systems rely on lots of sensors and criteria in order to trigger a regeneration, if one of these sensors fail then the car will no longer burn out the contents of the filter and it will increase until the filter starts to become completely blocked affecting the performance of the car. To make a metaphor of it I would compare a clogged DPF to putting your finger over the end of a straw and trying to blow down it. This causes a build up of pressure which could cause the turbo to fail if not worse.

Fortunately, the manufacturers could see the potential failure points and integrated the safety and limp modes to prevent it getting to the worst point. In most cases a blocked DPF is likely caused by another failure in modern systems.

The DPF solutions will remove any faults associated with the system and will program the ECU to disable the system stopping any regeneration cycles. The DPF must be gutted or replaced with a straight through section, failure to do so may lead to catastrophic engine failure.

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