

Can you fix a faulty DPF?

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When diesel cars and vans from 2009 onwards ended up on the ramps of repair garages across the UK, technicians had a new emissions control device to contend with: the diesel particulate filter (DPF). Even today, blockages and failures aren't uncommon, and can be challenging to diagnose without some background knowledge. Thankfully, Klarius Products, one of Europe's largest manufacturers of aftermarket exhausts, is here to provide that.

My Regeneration

A diesel particulate filter (DPF) is a filtration device designed to reduce particulate emissions from diesel vehicles. This filter captures soot from the exhaust gas stream, reducing the emission of the particulate matter by retaining it in the DPF. Captured particulate matter is reduced to ash at very high temperatures and then permanently stored in the DPF. The process which turns the particulate matter to ash is known as regeneration, and there are three different types:

Passive: Passive regeneration will occur once the exhaust reaches its optimum temperature, usually during prolonged highway journeys. Passive regeneration begins automatically and forms part of the intended operating process of the emissions system.

Active: Active regeneration is initiated from a sensor reading. The exhaust temperature rises through increased fuelling or altered injection timing, leading to high temperatures that burn the particulate matter to ash.

Forced: Forced regeneration is commenced by a garage using diagnostic equipment. This is usually required after the above regeneration options have been exhausted and have failed to solve the issues.

Unfortunately, DPF's can become blocked with soot or ash, and can even suffer damage. To the driver, the first signs of a faulty DPF are either an engine warning light or the vehicle entering limp mode. The latter results in a sluggish vehicle with reduced acceleration or driving capability. This normally occurs when both passive and active regeneration have failed to clear the system. Subsequently, the vehicle would need to be taken to a garage for fault diagnosis, which can mean a full replacement is required.

Ramping up diagnosis

Older or high-usage diesel vehicles with 80,000 to 100,000 miles on the clock are more likely to encounter issues, with a high natural build-up of retained ash. Driving style also has a bearing, since the DPF must reach high temperatures to regenerate. Vehicles doing regular short journeys often don't heat the exhaust system enough to trigger passive or active regeneration, causing premature clogging.

Checking the vehicle age, odometer and asking the vehicle owner a couple of questions can help diagnosis, but what if none of these criteria are met? If a newer, lower mileage diesel car that does regular long journeys is presenting problems, the issue probably lies somewhere else in the vehicle. There are many root causes that could lead to a faulty DPF, like a failing sensor.

Sensors are critical components of the emissions control system. A faulty temperature sensor or pressure sensor can affect regeneration, eventually resulting

in a blocked DPF. Fuelling issues can also be caused by failed sensors, which in some cases can cause the internal DPF brick (monolith) to reach temperatures exceeding 1,500°C, effectively melting it.

Of course, DPF systems vary across manufacturers and vehicle models, so it's beneficial to familiarise yourself with the different technologies. Some brands opt for two separate DPF and catalytic converter (CAT) units, others use selective catalytic reduction (SCR) or DPFs with catalytic coatings. Working out the intricacies and foibles of each manufacturer system can greatly expedite diagnosis and repair.

Call on Klarius

However, if you're still stuck, Klarius is here to help. The business has a dedicated technical helpline on 01538 752 561, with experts ready to support repair garages with advice. Experience gained through researching, designing, testing and manufacturing DPFs for a wide range of modern diesel vehicles ensures unmatched knowhow and an excellent choice of OEM quality DPF, CAT and SCR replacements.

So yes, you can fix a faulty DPF through forced regeneration and other fixes, or failing that, you can replace it entirely. But before you do, it's important to identify the root cause so that it will function properly in future. With the technical and product advice provided by Klarius, garage technicians have everything they need to make an accurate DPF diagnosis and provide a long-lasting repair.

You can view a Klarius video on fixing DPF issues here:
<https://youtu.be/TtGRo2DgBl8>

Image Caption:

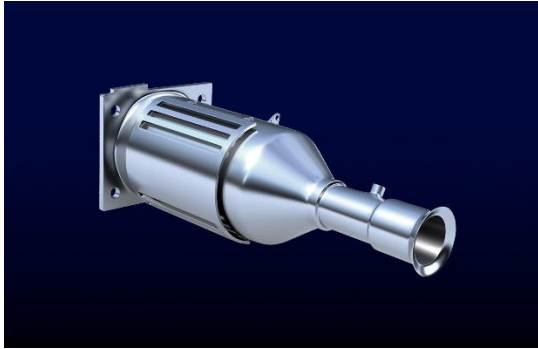


Image 1: Klarius offers expert technical advice to garages for faulty DPF diagnosis



Image 2: Klarius are the 'go to' for technical advice for garages



Image 3: Klarius are the 'go to' for technical advice for garages

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About Klarius Products

Klarius Products is a dedicated Emission Control Products manufacture and supply company servicing primarily the UK and EU markets. The business supplies type approved exhausts, CATs and DPFs designed, developed and manufactured in the UK and delivered via its own logistics operation. Klarius Products operations are centred on the manufacturing, R&D, test track, logistics and stock facility hub based in Cheadle in the UK.

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