How to avoid DPF failure

Stop-start urban driving and short journeys cause most DPF failures, simply because the vehicle cannot generate enough heat in the DPF to burn off the particulates.

An Australian 4WD expert once said: *'Diesel vehicles need to be taken out of the city and onto country highways at high speeds for at least an hour every week.'* – Not bad advice.

All diesel car manufacturers have sections on DPF maintenance in their owner manuals.

Typically, they will advise driving above certain speeds continuously for a set length of time until the DPF becomes hot enough to do its job.

The normal lifespan of a DPF could be 250,000km, limited only by the build up of ash inside it. This could be drastically reduced to less than half where diesel vehicles are confined to stop-start urban driving and short journeys.

How to keep your diesel car healthy and happy

- Read your owner manual section dealing with the DPF. It will advise how and when to regenerate the DPF
- Do not ignore the DPF light on the dash – have it checked by an automotive repairer
- If you can't follow the regeneration directions in the owner manual, consult your automotive repairer who will advise how often the DPF should be checked and regenerated
- Make sure you have your vehicle serviced regularly according to the log book at least
- Only use quality diesel fuel and avoid bio-diesel which is bad for DPFs
- Only use, or insist on, the engine oil recommended by the car manufacturer
- If you notice black smoke coming from the exhaust, have the vehicle checked by an automotive repairer

DPFs are essential for a healthy diesel vehicle – ignoring them could cost you dearly.

The Automotive Technician

The risks of driving a diesel in the city

DPF ignorance can be very costly

If your vehicle has a diesel engine, it will most likely be fitted with a diesel particulate filter (DPF) that does a vital job handling the exhaust emissions.

You need to understand the role of the DPF and how you can avoid costly damage to your engine – and to your pocket.

A customer care initiative from TaT
The independent technician's network

by technicians for technicians – The Independent Network

Diesel is a dirty fuel

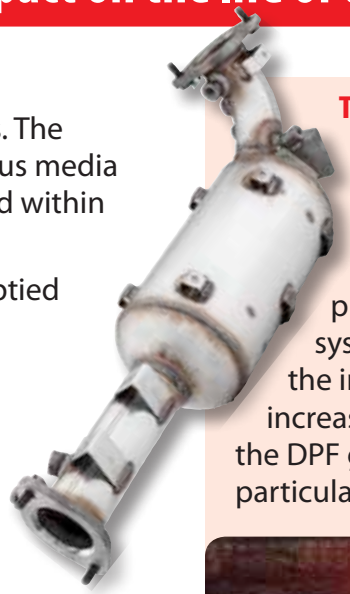
Diesel vehicles are popular, based on the premise that diesel is more economical than petrol fuel and because diesel engines burn less fuel, they produce less environmentally damaging CO_2.

But diesel is a dirty fuel, and it burns less cleanly than petrol, leaving behind an excess of particulates, or soot.

Early diesels belched black soot from the exhaust, but emission standards introduced in Europe in 2009 make it compulsory to have a diesel particulate filter (DPF) fitted to every diesel vehicle. Australia is adopting these same standards.

The modern common rail system in diesel vehicles, combined with a functioning DPF system captures up to 90 per cent of all harmful diesel emissions.

Your driving habits will impact on the life of the DPF in your diesel car



The DPF acts as a soot trap that collects particulates from the exhaust emissions. The exhaust gases escape through the porous media walls, while particulate matter is trapped within the DPF.

As with any filter, the DPF has to be emptied or cleared regularly, otherwise serious damage to the engine can result.

Cleaning happens in two ways:

Burnt off automatically – passive regeneration

The vehicle must be driven at sufficient speed and duration to heat the DPF.

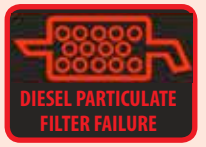
The particulates burn and are converted to CO_2 which is expelled through the exhaust, with a small ash residue left behind in the DPF.

Burnt off artificially – forced regeneration

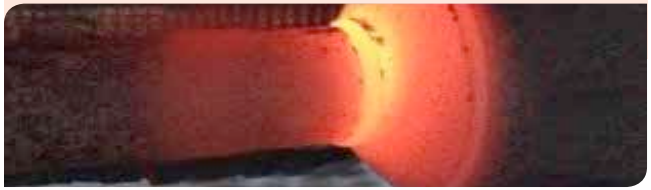
Depending on your driving patterns, the DPF may not be able to automatically burn off the particulates, mainly because of short runs, long idling and inner city stop-go driving.

A hopelessly blocked DPF

The DPF warning light on the dash will typically be the first sign of trouble.



In an auto workshop, a scan tool is plugged in to your vehicle's operating system and issues instructions to force the injection of more fuel into the DPF, increase the revs and run the engine until the DPF glows, often red hot, to burn off the particulates.



If the DPF warning light is ignored often enough, the DPF can become so clogged that nothing can save it. Replacements can be very expensive.

Other engine faults can impact on the life of a DPF:

- Faulty exhaust gas recirculation valve
- Using the wrong oil
- Faulty fuel injectors
- Induction system leaks
- Faulty turbo charger
- Short journeys