Oil Specifications

Not all engine oils are the same and with advanced synthetic oils fast becoming the default engine oil specified by vehicle manufacturers it is imperative to check you are using and fitting the correct specification when dealing with vehicles fitted with a DPF.

Only use engine oils meeting the very latest industry standards

API SN/CF, CJ-4/SM

ACEA A3/B4, A5/B5, C2, C3, C4

E6/E7/E9

DHD-1

GF-5

How driving styles affect the DPF

If you service or maintain a vehicle with a DPF fitted, it's important to read the relevant section of the vehicle handbook so that you understand exactly what actions to take if the warning light illuminates and how.

Experience has shown that driving style can affect the operation of the DPF, for example in urban situations where sufficiently high exhaust gas temperatures are not reached, the DPF may fail to regenerate. This can even occur on cars used mainly on highways, where vehicles with particularly high gearing are revving too slowly to generate the required temperatures.

In these cases, owners should be advised to engage in occasional harder driving in lower gears to achieve regeneration. Drivers ignoring DPF warning indicators do so at their own peril. Soot will continue to accumulate in the filter core, clogging the airways and causing increased back pressure until the engine can no longer run efficiently and a repair or even complete replacement will be required.

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TechTalk

DIESEL PARTICULATE FILTERS

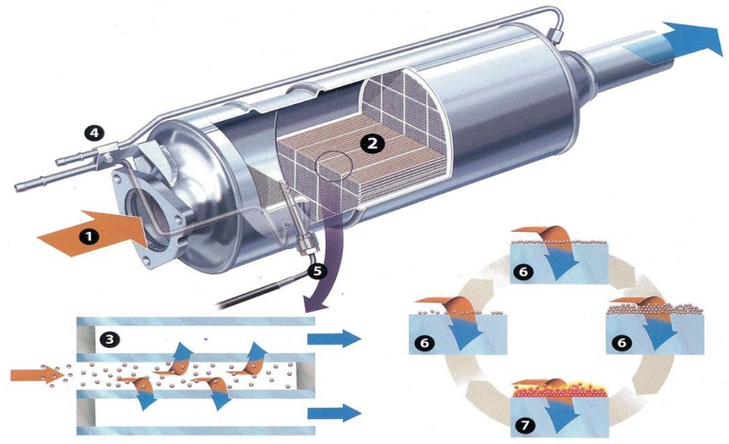
OILS

Only oil with a sulphur content of less than 7000ppm should be used, and oil consumption should be within the manufacturer's limits, typically less than 1 litre per 1000km. To the average owner, this translates as a requirement to monitor oil consumption and to use only fully synthetic engine oils; semi-synthetic oils cannot be used, just as leaded fuel cannot be used in petrol engines fitted with a catalytic converter This is because in every engine there is always the possibility of a minute quantity of oil being burnt as a result of "blow by". The sulphur content of semi-synthetic oil would lead to ash deposits in the DPF core, permanently clogging the filter and effectively choking the engine.

PHOENIX LUBRICANTS RECOMEND

PX TNS XTR
5W30
SN/CF
A5/B5, A3/B4,
C2, C3

How the DPF works



Exhaust gases enter the DPF 1 and pass through the silicon carbide core 2. The core is designed to have an enormous surface area relative to its compact external dimensions and collects any soot particles present 3
Pressure 4 and temperature sensors 5 in the DPF casing feed information to the engine ECU, which accurately calculates and monitors the volume of soot held in the DPF to determine the point at which the regeneration should be initiated.
When the DPF becomes full 6, the ECU programs the injection system to fire a minute quantity of fuel in to the exhaust system to further heat the exhaust gases until the DPF core reaches 600 degrees Celsius. At this temperature the soot is burned off 7 leaving the DPF regenerated.
Throughout the process the gases leaving the exhaust tailpipe remains clear of soot – no "black cloud" – and the driver remains unaware of any change in the engine operation of performance.

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