

CASE STUDY- FORD TRANSIT

Recently I was contacted by one of our distributors and asked if I could try and appease one of their customers. He was insisting that the DPF he had fitted to a Ford Transit in July 2021 was faulty because the DPF light was on – it was smoking heavily and was in limp mode.

I phoned the customer to get some more information as to why and how the DPF was replaced.

The customer explained that the DPF was replaced due to it being completely blocked.

A new EEC DPF had been fitted, the ECU was reset, and a forced regeneration was completed successfully. A week later blue smoke started emitting from the exhaust tail pipe. The garage diagnosed that the new DPF was faulty. I arranged a site visit to the garage along with our distributor so that I could evaluate the situation at first hand.

On my arrival the mechanic explained that the problem was the DPF as their diagnostic tool had reported DPF full, and smoke was being emitted from the exhaust tail pipe. I started the engine and brought the temperature up to over 70°C. I connected my EEC DPF reset tool which reported a Turbo boost problem as well as blocked DPF. I activated a forced regeneration of the DPF which failed. I highlighted that the blue smoke was burning engine oil due to an engine problem.

Engine oil can enter the combustion chamber from several sources including:

- Worn valve guides, or seals

- Cylinder &/or piston ring wear

- Cylinder glaze

- Piston ring sticking

- Incorrect grade of engine oil

- Fuel dilution of the engine oil

If the fault is not found and rectified immediately the DOC will become contaminated with oil/carbon, which will prevent the regeneration process from performing normally.

I then pointed to a large black oily deposit on the ground directly beneath the exhaust tail pipe, at this stage the mechanic came to the same conclusion, that the problem was not the DPF.

I explained that once the engine repair had been completed, before another new DPF is fitted, all the components needed for the regeneration process e.g., EGR valve, fuel vaporiser, turbo, fuel injectors glow plugs MAP sensor etc must be checked to ensure they are free of carbon and working correctly. It is important to follow this process as the components may have been contaminated by the engine failure. Once this has been done, then fit the new DPF, reset the ECU and carry out a forced regeneration. It is important to ensure that the DOC is clean, if it is heavily coated with carbon the regeneration process could fail resulting in a blocked DPF.

By Stuart Still, Technical Trainer at EEC