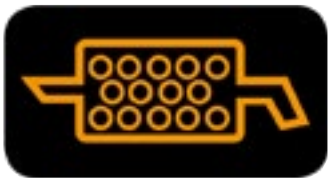
WHAT TO DO WHEN YOUR CUSTOMER SHOWS UP WITH ONE OF THESE:



DIAGNOSE THE FAULTS:

What caused the issue your customer is currently having? Diesel particular filters are a very precise emissions control that can be affected by even the slightest variation. When a customer arrives at your workshop with the DPF or check engine light on, here are the basic steps that should be followed.

1. **DIAGNOSE THE FAULTS:**

a) Vehicle History:

- Where and how has the vehicle been serviced?
- Have there been any similar faults diagnosed previously?
- Has low ash or genuine oil been used?
- What recent repairs have been made? E.g. Head gasket replacement, injectors, ECU reprograms.

b) Look at the stored codes, live data and check the following:

- Has Bio diesel been used?
- Over accumulation code?
- Temperature sensor codes?
- Pressure sensor codes?
  > Check pressure differential sensor and lines connecting to the DPF for fractures or blockages.
- Air fuel ratio sensor codes?
- EOLYS injection codes?
- Low fuel pressure?
  > This can be checked by the manufacturer or well equipped diesel shops.
- Diesel injector codes?
  > Leakage can be a common cause of DPF failure and can be tested by diesel specialists.
- Variable vane turbo charger codes?
  > Common part for wear and seizure due to high heat and soot.
- Examine live data e.g. temperature sensor readings, pressure differential sensor readings?
- Check EGR, including connection pipes and data transfer lines.

c) Ask some basic questions of the customer:

- Do you get out on the motorway or mainly city driving?
- Has the check engine / DPF light been on long?
- Have you seen the light before?
- What were you doing when the light came on?

d) Look at the stored soot and ash percentages in the ECU:

- These will give a clear indicator of the severity of blockage and determine if the 80% rule applies.

e) Other contributing factors that may cause or be affected by DPF failure:

- Catalytic converter efficiency: The catalytic converter plays a large part in the way regeneration occurs. It is what creates the heat required to burn off the soot loading stored by the DPF. A physical check to determine that the catalytic converter is in working order and not melted or fractured is strongly recommended.
  > Note: Catalytic converters can be separate to the DPF, part of the main DPF body and also incorporated into the DPF monolith itself.

2. ATTEMPT A REGENERATION EITHER STATICALLY (FORCED) OR ACTIVELY (WHILE DRIVING AT A SET SPEED AND RPM):

a) This process should only be attempted if the stored ash and soot levels are below 80%.
Completion of this process will indicate that the vehicle has not been driven in such a way as to promote scheduled regeneration (these requirements can often be found in the Owners Handbook).
It may also indicate issue's like stored fault codes or programming faults that are present in the ECU.

RECTIFY THE FAULTS (IF REGENERATION FAILS):

b) Refer your customer to a dealer / mechanical workshop to rectify or repair issues causing DPF fault.

c) Check for any outstanding campaigns or ECU updates that have become available.

3. REPLACE THE FILTER:

a) The following process **MUST** be observed and adhered to when replacing a Diesel Particular Filter:

- The engine oil and filter must be renewed with OE parts and liquids.

Note: To do this the vehicle should be run up to operating temp and then the oil and filter replaced to the correct fill level.

- The new Zetti Emissions Diesel Particular Filter can now be fitted. **The engine can not be started or run for any reason from this point until completion of the following steps.** This new unit needs to be fitted using either the supplied gaskets kit or parts sourced OE. (Used clamps, gaskets, and hanger can not be used on a new unit.) No silicone sealant or exhaust putty can be used pre or post the catalytic converter or diesel particular filter.
- Reset the ash and soot levels stored in the ECU. All ECU updates and faults need to have been rectified before this process can be carried out. If you are unable to do this with current workshop equipment the vehicle must be towed to a dealer to have this process completed. **The engine cannot be started until this has been completed.**
- The engine can now be started, bring the car up to operating temperature and perform a regeneration immediately either static (forced) or actively (while driving at a set speed and rpm). If this process is not fully completed, i.e. it gets halfway through and ends or the DPF light is displayed after attempting this process, **STOP** immediately and recheck faults as there is still an issue with the vehicle.
- If the regeneration completes 100% then the vehicle should be test driven by the workshop for 50-100km before returning to the customer to ensure no further issues are found.

WARNING! **THIS IS ONLY A GUIDE AS TO THE CORRECT WAY TO IDENTIFY AND RECTIFY ISSUES FOUND WITH THE DIESEL PARTICULAR FILTER. EACH MANUFACTURER & VEHICLE MAY DEVIATE FROM THIS PROCESS.**

FAILURE TO FOLLOW THE ABOVE DIRECTIONS WILL RESULT IN THE ZETTI EMISSIONS DIESEL PARTICULAR FILTER WARRANTY BECOMING VOID.

FOR FURTHER TECHNICAL HELP PLEASE CONSULT THE ORIGINAL PLACE OF PURCHASE.