

Eure!Car Tech Blog highlights

The Eure!Tech Blog covers a number of problems that mechanics are facing on a daily basis. The Blog can be read at www.euretechblog.ie and is updated on a regular basis. Here are just a few of the problems and solutions posted recently.

Combo/Corsa 1.3 CDTi with Z13DT Engine Chronic DPF Regeneration Failure

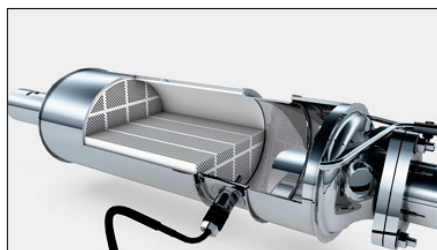
With one or more of the following fault codes:

- P253F - Useful engine of oil life - Exceeded.
- C13F8 - Engine oil - Deteriorated
- 53F8 - Engine oil - Deteriorated

And when these different fault symptoms are associated with these fault codes:

- Inspection indicator light (INSP) is on.
- Engine does not start, or malfunctions.
- A pinging noise can be heard.
- Excessive smoke from the exhaust.

If a majority of the above symptoms are found, the cause may be serious damage inside the engine, due to severely diluted oil that has lost its properties as a lubricant. This is due to the large number of times that DPF regeneration has not been successfully completed. The interruption of DPF regeneration occurs in vehicles that are driven very short distances, or in continuous city driving cycles.



Remedy

The first thing to do in this case is to inspect the damage to the engine, and carry out the necessary repairs. They will vary depending on how long the vehicle has had the fault.

After repairing all of the affected mechanical parts, clear all of the DTCs, run the engine to make certain none of the DTCs have returned. After all of the DTCs have been cleared, you can start a forced regeneration of the DPF, or replace it. In the event of this fault, the engine control unit must be reprogrammed.

To reduce the chances of this problem occurring again, tell your customer to drive for

about 20 minutes at high rpm, at least once a week.

Astra H 1.9 CDTi with Z19DTH Engine Difficulty shifting, stalling

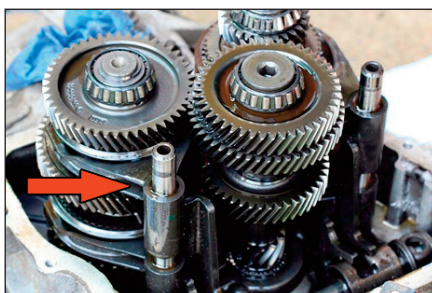
Some Opel Astra H 1.9 CDTi cars with Z19DTH engines experience difficulty in engaging first gear, do not move forward after engaging third gear and the engine stalls on releasing the clutch pedal in 1st gear.



The first thing that must be ruled out as a cause of this problem is a defect in the selection mechanism, between 1st and 3rd gear, as these can engage simultaneously and generate the described symptoms. It is likely that the fault is caused by an internal problem inside the gearbox.

Possible Causes

It is likely that the gear selector fork between 3rd and 4th gear is bent. In our experience, the most common cause of this incident, is a defect in the 3rd to 4th gear selector fork. The fork can deform and cause this fault. The solution involves replacing the defective fork



The deformed gear selector fork, at arrow

with a modified version, made from a stronger alloy.

You should confirm that there is excessive difficulty engaging the gears and that it is very hard to shift. Start the engine and then engage 1st gear. Stop the engine, disengage 1st gear and engage it again. Any difficulty indicates a deformed fork.

Remedy

The replacement procedure involves removing the gearbox and then the housing cover, by unscrewing the 16 bolts that secure it to the gearbox. The joint area must be cleaned with a gasket remover liquid or spray.

Disassemble the reversing light switch and remove the gearbox in order to be able to work comfortably. Engage neutral, remove the selector lever and extract the input shaft. At this point, remove the 3rd to 4th gear selector fork. Best practice before the replacement of the fork requires cleaning the thread burrs of the 16 holes in the gearbox housing and cleaning the swarf that remains. This ensures there is no foreign material inside the gearbox that could cause future damage. It is recommended to clean the housing magnet.

Replace the fork with the correct modification and follow the assembly process for the input shaft, not allowing it to twist and preventing the forks from resting on the linking sleeve. Fit the reversing light switch, tightening it to 20 Nm.

A silicon seal of about 2 mm should be applied on the gearbox housing cover and then fit it by fastening the 16 bolts in two stages:

Stage 1 tightened to 5 Nm.

Stage 2 tightened to 21 Nm.

Confirm the torque is 21 Nm, tightening all of the bolts in a clockwise direction.

Fit the clutch disc. Engage each one of the gears and confirm that at all gears function correctly before refitting the gearbox.