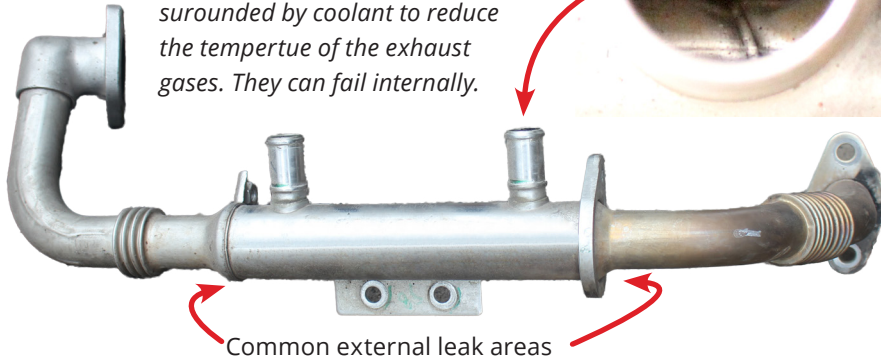
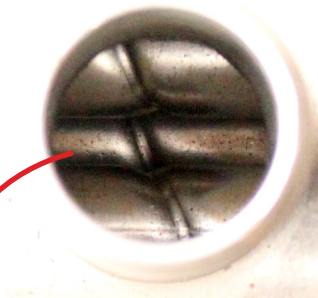


Nissan YD25 EGR Cooler Failures

Nissan Navara D22 & D40
Nissan Pathfinder R51

The EGR cooler is made up of many smaller pipes which are surrounded by coolant to reduce the tempertue of the exhaust gases. They can fail internally.



Common external leak areas

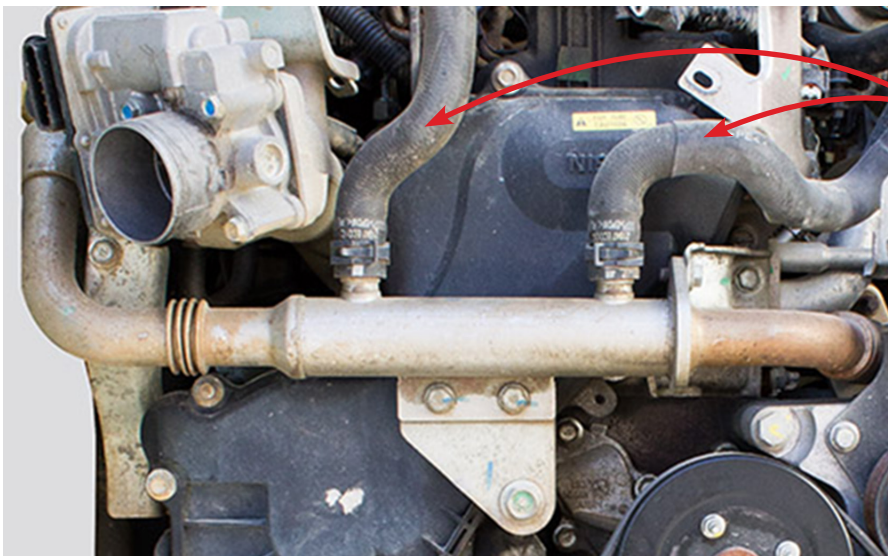
All Head Services are seeing an increasing number of issues with cylinder head failure and overheating problems on the YD25 engine. When they are inspected, the EGR cooler has been found to be cracked or corroded. Like the EGR coolers in the Mazda BT50 and the Ford Ranger the failure of the EGR cooler often goes unnoticed until it is too late (See Tech Talk May 2014 page 3804 for more details on the Ranger and BT50).

EGR coolers are used to cool the exhaust gases before they enter the intake to reduce combustion temperatures which reduce the creation of oxides of nitrogen (NOx). In turbo diesel engines the exhaust temperatures can be very high, so the EGR transfers the excess heat into the engine coolant which can reduce the temperature from 800°C to 200°C. This is a lot of heat exchange in something about 300 mm long

The YD25 EGR coolers tend to split or corrode around the flanged areas each side of the coolant fittings, and due to the high temperatures the coolant tends to evaporate without showing any signs of the leak. They can also fail internally which will mask any obvious signs of a coolant leak.

Some technicians have pressure tested them over night and noticed a drop in coolant level. On start-up, the engine runs OK, but once the temperature rises and the EGR system operates, they have seen steam come out of the exhaust as the coolant in the EGR cooler is drawn into the engine. They have then bypassed the EGR cooler by joining the two coolant hoses together and pressure testing the system, and there has been no coolant loss or steam in the exhaust. A new EGR cooler was fitted, and the problem was solved.

It is imperative that the coolant levels are inspected on these vehicles at regular intervals and if there is any drop in coolant level the EGR cooler must be checked and tested along with the rest of the cooling system to avoid expensive engine repairs and cylinder head damage. ■



You can join these two hoses to together to bypass the EGR cooler and then pressure test the cooling system. If it passes the test the leak must be from an internal failure of the cooler.



Thanks to Geoff, from All Head Services, for sharing this information and photos www.allhead.com.au

