



Tech Notes:

2000 – 2001 Nissan Sentra 1.8L

Techs report 2 common problems which are triggering P0420 and P0430 codes with no other codes present.

The first problem they've noted is with a leaking EGR valve. There is a vent hole in the baseplate of the valve which can leak. The only means of detection is to use an approved smoke machine and introduce smoke into the intake manifold, then looking around the base of the EGR valve for any leakage.

The second problem is a bit more difficult to pinpoint. The mass air sensors on these vehicles often send the wrong signal to the ECU which can cause an incorrect fuel mixture and in turn either actual damage to the catalyst in the case of a rich mixture, or false converter codes in the case of a lean fuel mixture. Although mass air issues can cause lean and rich codes in the family of P0171, P0172, etc... it is VERY common to have a mass air malfunction with NO codes.

The following is an “unofficial” method of testing mass air sensors on any vehicle that will run while the sensor is disconnected, but it has proven quite reliable, and doesn’t take any special tooling to perform.

First, just as when diagnosing any catalytic converter code, have the vehicle running at operating temperature with a scanner connected in OBD II global mode (where you do not enter the VIN information).

Navigate to live data and find the fuel trim information. Remember, even though this is a 4 cylinder vehicle, there are 2 upstream O2 sensors, so there will be a long term and short term fuel trim for both bank 1 and bank 2.

Now, with the car at an idle, record Long Term Fuel Trim Bank 1, Short Term Fuel Trim Bank 1, and so on for LTFTB2 and STFTB2.

Next, disconnect the electrical plug from the mass air sensor. If the vehicle stalls, re-start it, and let it idle for about 10 minutes. Do not touch the accelerator, or move the vehicle during this time.

After a 10 minute period, re-check the fuel trim data and compare it to the original numbers, one at a time.

If all of the numbers are within 0-4% of the original findings, the mass air sensor is probably good, and sending the proper information to the ECU. If any of the numbers vary more than that, replace the mass air sensor with a NEW, OEM unit.

After replacement, with the car at operating temperature, check the fuel trim numbers again and be certain they are WELL within 10% of zero. If not, begin diagnosis of lean condition for positive numbers or rich condition for negative numbers.