

to run very rich. The rich correction eventually leans out during closed loop operation, but the vehicle may have poor driveability and high carbon monoxide (CO) emissions while it is learning.

ADAPTIVE FUEL DIAGNOSTIC TROUBLE CODE (DTC) DIAGNOSTIC TECHNIQUES > DTCS P0171 AND P0174 SYSTEM TOO LEAN DIAGNOSTIC AIDS



NOTE: If the system is lean at certain conditions, then the LONGFT PID would be a positive value at those conditions, indicating that increased fuel is needed.

The ability to identify the type of lean condition causing the concern is crucial to diagnosis.

ADAPTIVE FUEL DIAGNOSTIC TROUBLE CODE (DTC) DIAGNOSTIC TECHNIQUES > AIR MEASUREMENT SYSTEM

With this condition, the engine runs rich or lean of stoichiometry (14.7:1 air to fuel ratio) if the PCM is not able to compensate enough to correct for the condition.

For example, the MAF sensor measurement is inaccurate due to a corroded connector, contaminated or dirty connector. A contaminated MAF sensor typically results in a rich system at low airflows (PCM reduces fuel) and a lean system at high airflows (PCM increases fuel).

ADAPTIVE FUEL DIAGNOSTIC TROUBLE CODE (DTC) DIAGNOSTIC TECHNIQUES > VACUUM LEAKS AND UNMETERED AIR

With this condition, the engine may actually run lean of stoichiometry (14.7:1 air to fuel ratio) if the PCM is not able to compensate enough to correct for the condition. This condition can be caused by unmetered air entering the engine. Vacuum leaks normally are most apparent when high manifold vacuum is present (for example, during idle or light throttle). If freeze frame data indicates the fault occurred at idle, a check for vacuum leaks and unmetered air might be the best starting point.

For example, loose, leaking or disconnected vacuum lines, intake manifold gaskets or O-rings, throttle body gaskets, brake booster, air inlet tube or unseated engine oil dipstick.

ADAPTIVE FUEL DIAGNOSTIC TROUBLE CODE (DTC) DIAGNOSTIC TECHNIQUES > INSUFFICIENT FUELING

With this condition, the engine runs lean of stoichiometry (14.7:1 air to fuel ratio) if the PCM is not able to compensate enough to correct for the condition. This condition is caused by a fuel delivery system concern that restricts or limits the amount of fuel being delivered to the engine. This condition is normally apparent as the engine is under a heavy load and at high RPM, when a higher volume of fuel is required. If the freeze frame data indicates the concern occurs under a heavy load and at higher RPM, a check of the fuel delivery system (checking fuel pressure with engine under a load) is the best starting point.