

If the fuel tank pressure build up exceeds the threshold, the leak test results are invalid due to vapor generation. The engine on EVAP leak check monitor attempts to repeat the test again.

If the fuel tank pressure build up does not exceed the threshold, the leak test results are valid and DTC P0442 sets.

5. If the 1.0 mm (0.040 inch) test passes, the test time is extended to allow the 0.5 mm (0.020 inch) test to run.

The calculated change in fuel vacuum over the extended time is compared to a calibrated threshold for a leak from a 0.5 mm (0.020 inch) opening.

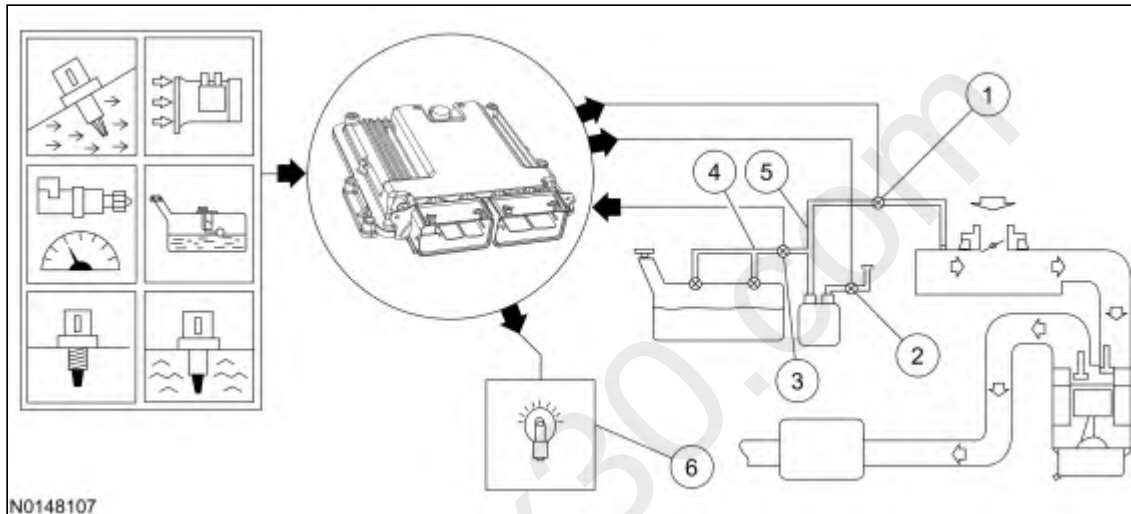
If the calculated bleed up exceeds the calibrated threshold, the vapor generation test is run. If the vapor generation test passes (no vapor generation), an internal flag sets in the PCM to run a 0.5 mm (0.020 inch) test at idle (vehicle stopped).

On the next start following a long engine OFF period, the enhanced EVAP system is sealed and evacuated for the first 10 minutes of operation.

If the appropriate conditions are met, a 0.5 mm (0.020 inch) leak check is conducted at idle.

If the test at idle fails, DTC P0456 sets. There is no vapor generation test with the idle test.

6. The malfunction indicator lamp (MIL) is activated any enhanced EVAP system component DTCs.



Evaporative Emission (EVAP) Leak Check Monitor

Engine Off Natural Vacuum (EONV) EVAP Leak Check Monitor

The EONV EVAP leak check monitor is executed during ignition OFF, after the engine on EVAP leak check monitor is completed. The EONV EVAP leak check monitor determines a leak is present when the naturally occurring change in fuel tank pressure or vacuum does not exceed a calibrated limit during a calibrated amount of time. A separate, low power consuming, microprocessor in the PCM manages the EONV leak check. The engine OFF EVAP leak check monitor is executed by the individual components of the enhanced EVAP system as follows:

1. The EVAP purge valve is normally closed at ignition OFF.
2. The normally open EVAP canister vent valve remains open for a calibrated amount of time to allow the fuel tank pressure to stabilize with the atmosphere. During this time period the FTP sensor is monitored for an increase in pressure. If pressure remains below a calibrated limit the EVAP canister vent valve is closed by the PCM (100% duty cycle) and seals the EVAP system from the atmosphere.
3. The EONV EVAP leak check monitor uses the FTP sensor to determine if the target pressure or vacuum necessary to complete the EONV EVAP leak check monitor on the fuel tank is reached. Some vehicle applications with the EONV EVAP leak check monitor use a remote inline FTP sensor. If the target pressure or vacuum on the fuel tank is achieved within the calibrated amount of time, the test is complete.
4. The EONV EVAP leak check monitor uses the naturally occurring change in fuel tank pressure as a means to detect a leak in the EVAP system. At ignition OFF, a target pressure and vacuum is determined by the PCM. These target values are based on the fuel level and the ambient temperature at ignition OFF. As the fuel tank temperature increases, the pressure in the tank increases and as the temperature decreases a vacuum develops. If a leak is present in the EVAP system the fuel tank pressure or vacuum does not exceed the target value during the testing time period. The EONV EVAP leak check monitor begins at ignition OFF. After ignition OFF the normally open EVAP canister vent valve remains open for a calibrated amount of time to allow the fuel tank pressure to stabilize with the