



GROUP
Engine

MODEL
All 2011MY or Newer,
Except Sorento (XM)
and Sedona (VQ)

NUMBER
PS469

DATE
January 2017



TECHNICAL OPERATIONS

SUBJECT: MANUAL EVAPORATIVE EMISSIONS TEST FOR
HARD TO FIND/SMALL LEAKS

If the malfunction indicator lamp (MIL) is illuminated with DTC(s) P0442, P0455, P0456, or P0457 (Evaporative Emissions System-Leak detected) and the evaporative (EVAP) leak self-test resulted in NTF, a manual EVAP test is recommended.

Ensure that the fuel tank is at least half full before the test or it will not complete properly. "T" Connectors can be used in series with the control side of the circuit of the Purge Control Solenoid Valve (PCSV), Canister Close Valve (CCV) and Fuel Tank Pressure Sensor (FTPS). Refer to KGIS for specific pinouts depending on the vehicle.

★ NOTICE

This procedure is only valid on vehicles 2011MY or newer. This procedure will not work on Sorento (XM) or Sedona (VQ) due to FTPS output voltage difference; always refer to KGIS for proper voltage.

Step 1: Use a T-connector to monitor the Fuel Tank Pressure Sensor (FTPS) signal voltage. Leave the volt meter connected in parallel throughout this procedure.

Step 2: With the Key On, Engine Off (KOEO), and gas cap OFF, measure the signal voltage at the FTPS. Refer to KGIS for the FTPS Output Voltage specifications of the applicable vehicle. If voltage is within the specified range, proceed to step 3. If the voltage is out of the specified range, verify the 5V reference and ground at the FTPS with the KOEO, gas cap OFF. If the 5V reference and ground are present, the FTPS is likely faulty. If the reference voltage and ground are not present, check all related connections, wiring, and PCM. Follow normal diagnosis as outlined in KGIS for any issues found.

Step 3: Install the gas cap and start the vehicle. Locate the Purge Control Solenoid Valve (PCSV). Using a jumper wire, **TAP** the control wire to ground for 25 seconds while monitoring the volt meter. The signal voltage at the FTPS should be greater than 1.5V. If the voltage is in the specified range, proceed to step 4. If the voltage drops below 1.5v, there is a restriction in the EVAP system (check: rollover valve, charcoal canister, CCV, air filter, evaporator lines).

Step 4: Remove the jumper wire to the PCSV and unplug the connector at the PCSV. Ground the CCV control wire and monitor FTPS Voltage for 25 seconds. If the signal voltage at the FTPS is steady, proceed to step 5. If voltage drops and continues to drop, the PCSV is likely to be leaking.

Step 5: Plug the PCSV back in, and leave the jumper wire for CCV grounded. Use a second (2nd) jumper wire and **TAP** the PCSV control wire to ground (to close the valve and draw partial vacuum) until FTPS signal voltage drops to 1.0v - 1.4v. Unplug the PCSV connector and monitor FTPS signal voltage for one (1) minute. The voltage should not change more than .300v

in one (1) minute. If the voltage change is out of spec, there is a leak in the system. Check for the leak using a smoke machine or the procedure outlined in step 6.

Step 6: Draw a partial vacuum on the system using the procedure outlined in step 5. Monitor the FTPS signal voltage and begin isolating components by pinching off hoses. When the voltage stabilizes, the leak is located on the branch of the EVAP system that was just isolated.

Diagnostic Flowchart:

