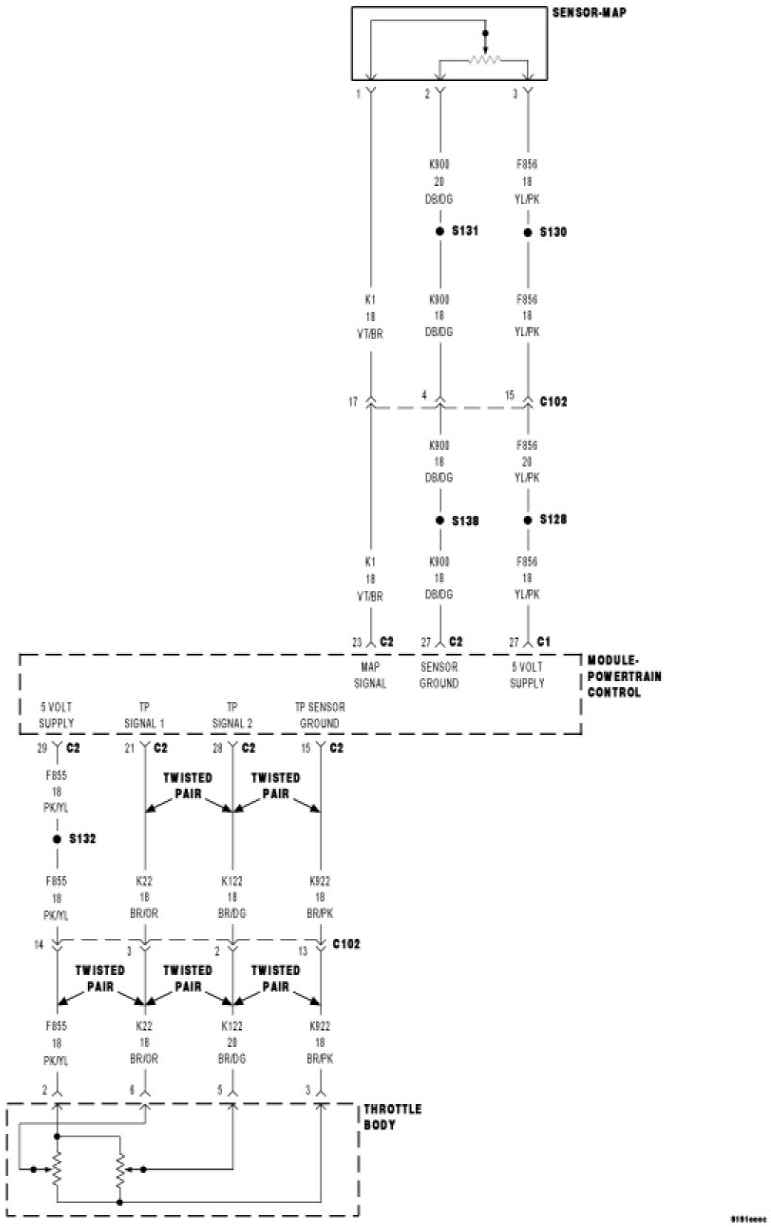
2007 Jeep Truck Wrangler V6-3.8L
Vehicle > ALL Diagnostic Trouble Codes (DTC) > Testing and Inspection > P Code Charts > P2173

GAS

P2173-HIGH AIRFLOW/VACUUM LEAK DETECTED (SLOW ACCUMULATION)



For complete wiring diagrams refer to Diagrams/Electrical.

- **When Monitored:**

Ignition on and engine running with no MAP Sensor DTCs.

- **Set Condition:**

A large vacuum leak has been detected or both of the TP Sensors have failed based on their position being **2.5 volts** and the calculated MAP value is less than the Gas Flow Adaptation value is too high. One trip fault the code will set **within 5 seconds**. ETC light will flash.

Possible Causes
VACUUM LEAK
RESISTANCE IN THE (F856) 5-VOLT SUPPLY CIRCUIT
(F856) 5-VOLT SUPPLY CIRCUIT SHORTED TO GROUND
RESISTANCE IN THE (K1) MAP SIGNAL CIRCUIT
(K1) MAP SIGNAL CIRCUIT SHORTED TO GROUND
RESISTANCE IN THE (K900) SENSOR GROUND CIRCUIT
RESISTANCE IN THE (F855) 5-VOLT SUPPLY CIRCUIT
(F855) 5-VOLT SUPPLY CIRCUIT SHORTED TO GROUND
RESISTANCE IN THE TP SENSOR SIGNAL CIRCUIT
TP SENSOR SIGNAL CIRCUIT SHORTED TO GROUND
RESISTANCE IN THE (K922) TP RETURN CIRCUIT
MAP SENSOR
TP SENSOR
PCM

Always perform the Pre-Diagnostic Troubleshooting procedure before proceeding.

Diagnostic Test

1. ACTIVE DTC

NOTE: The most likely cause of this DTC is a vacuum leak.

NOTE: Diagnose any **5-Volt** Supply, TP Sensor, Oxygen Sensor, Fuel related, or MAP Sensor DTCs before continuing.

NOTE: The throttle plate should be free from binding and carbon build up.

Ignition on, engine not running.

With a scan tool, select View DTCs.

Is the DTC Active at this time?

Yes

- Go To 2

No

- Refer to the INTERMITTENT CONDITION Diagnostic Procedure. See: Computers and Control Systems > Component Tests and General Diagnostics > Intermittent Condition
- Perform the POWERTRAIN VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests > Powertrain Verification Test

2. VACUUM LEAK

NOTE: This code is enabled on engines with a plastic intake manifold and is intended to limit the maximum engine speed if a large crack occurs.

NOTE: A large vacuum leak is most likely the cause of this DTC.

Inspect the Intake Manifold and Throttle body for leaks and cracks.

Inspect the Power Brake Booster for any vacuum leaks.

Inspect the PCV system for proper operation or any vacuum leaks.

Inspect the MAP Sensor for proper installation.

Were any vacuum leaks found?

Yes

- Repair the vacuum leak as necessary.
- Perform the POWERTRAIN VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests > Powertrain Verification Test

No

- Go To 3

3. MAP SENSOR OPERATION

Start the engine.

With a scan tool, monitor the MAP Sensor voltage.

Snap the Accelerator pedal.

Does the MAP Sensor voltage vary from below 2.0 volts at idle to above 3.5 volts at Wide Open Throttle?

Yes

- Go To 4

No

- Go To 13

4. TP SENSOR OPERATION

Ignition on, engine not running.

With a scan tool, perform the Throttle Follower Test.

TP Sensor No.1 should start at **approximately 0.8 of a volt and increase to 4.2 volts**.

TP Sensor No.2 should start at **approximately 4.2 volts and decrease to 0.8 of a volt**.

Is the voltage transition smooth between the appropriate values?

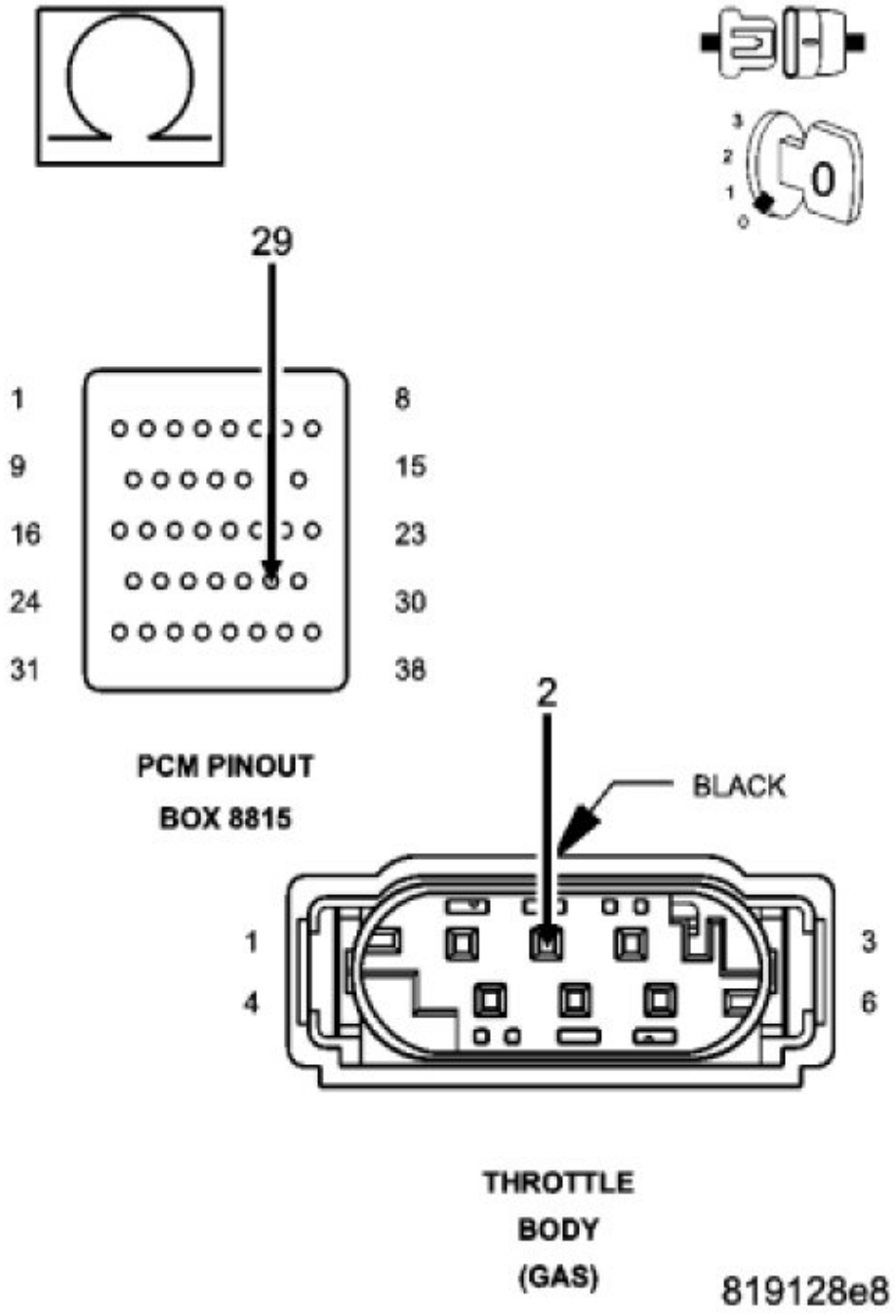
Yes

- Refer to the INTERMITTENT CONDITION Diagnostic Procedure. See: Computers and Control Systems > Component Tests and General Diagnostics > Intermittent Condition
- Perform the POWERTRAIN VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests > Powertrain Verification Test

No

- Go To 5

5. RESISTANCE IN THE (F855) 5-VOLT SUPPLY CIRCUIT



Turn the ignition off.

Disconnect the Throttle Body harness connector.

Disconnect the C2 PCM harness connector.

CAUTION: Do not probe the PCM harness connectors. Probing the PCM harness connectors will damage the PCM terminals resulting in poor terminal to pin connection. Install Miller Special Tool #8815 to perform diagnosis.

Measure the resistance of the (F855) **5-volt** Supply circuit from the Throttle Body harness connector to the appropriate terminal of special tool #8815.

Is the resistance below 100 ohms?

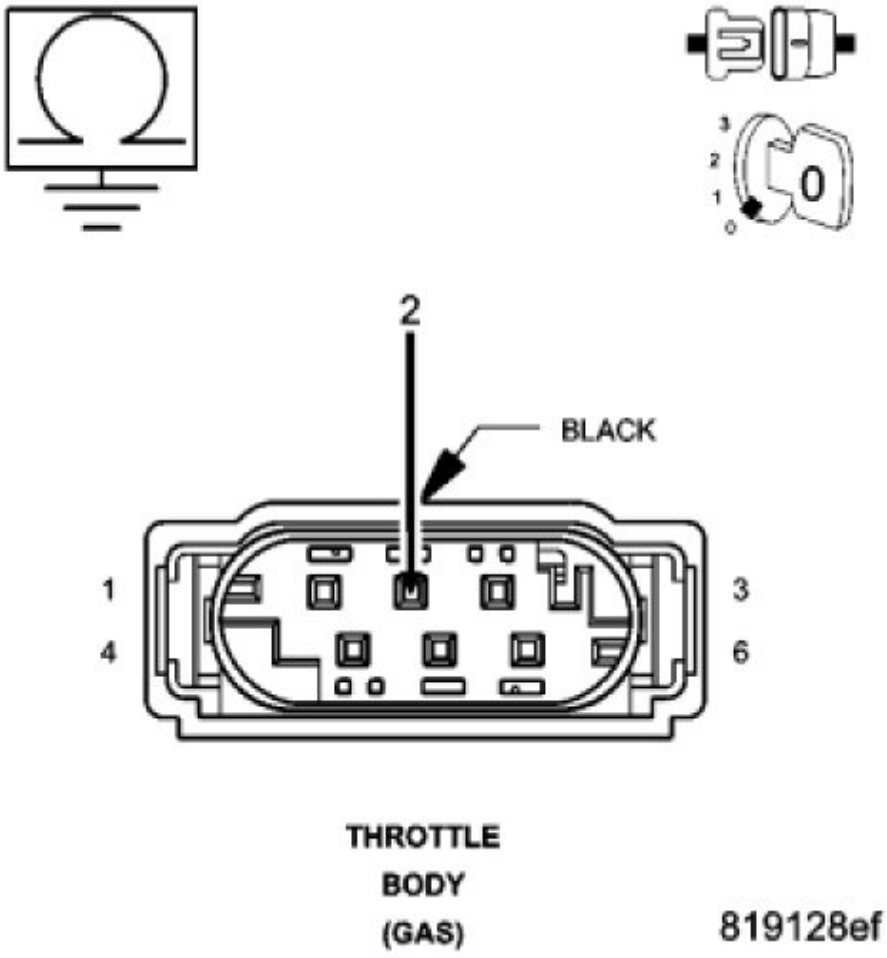
Yes

- Go To 6

No

- Repair the excessive resistance in the (F855) **5-volt** Supply circuit.
- Perform the POWERTRAIN VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests > Powertrain Verification Test

6. (F855) 5-VOLT SUPPLY CIRCUIT SHORTED TO GROUND



Measure the resistance between ground and (F855) **5-volt** Supply circuit at the Throttle Body harness connector.

Is the resistance above 100 ohms?

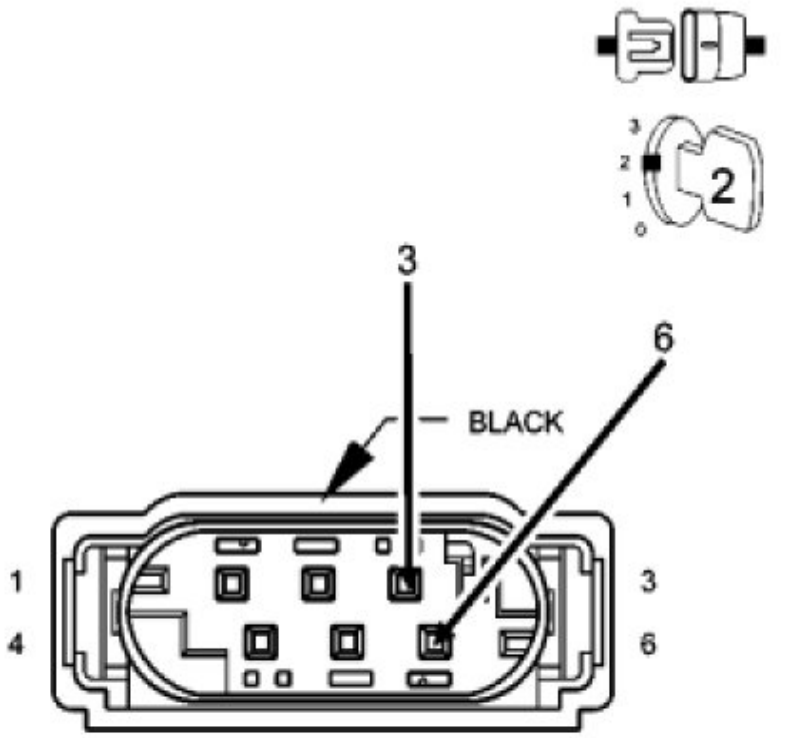
Yes

- Go To 7

No

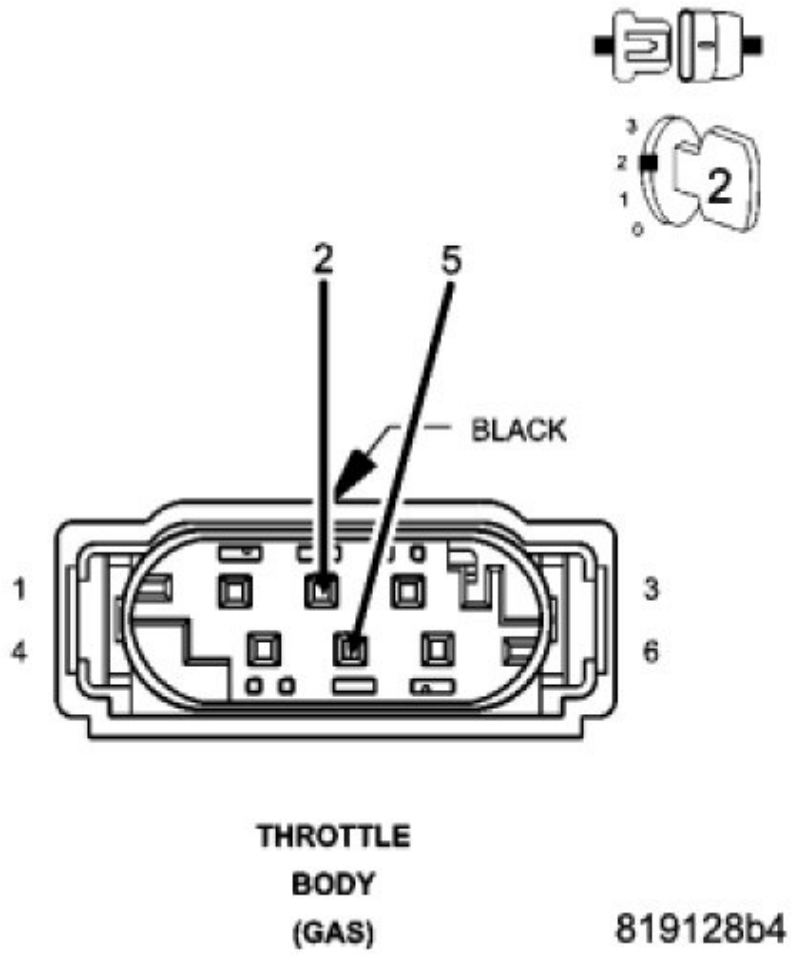
- Repair the short to ground in the (F855) **5-volt** Supply circuit.
- Perform the POWERTRAIN VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests > Powertrain Verification Test

7. TP SENSOR



THROTTLE BODY (GAS)

819128b0



Connect the C2 PCM harness connector.

Ignition on, engine not running.

With a scan tool, monitor the TP Sensor voltage.

Connect a jumper wire between the (K22) TP Signal 1 circuit and the (K922) TP Return circuit in the Throttle Body harness connector.

TP Sensor No.1 voltage should start at **approximately 4.8 volts and decrease to 0.2 of a volt**.

Connect a jumper wire between the (K122) TP Signal 2 circuit and the (F855) **5-volt** Supply circuit in the Throttle Body harness connector.

TP Sensor No.2 voltage should start at **approximately 0 volts and increase to 4.8 to 5.2 volts**.

Does the TP Sensor voltage change to the appropriate voltage with the jumper wire installed?

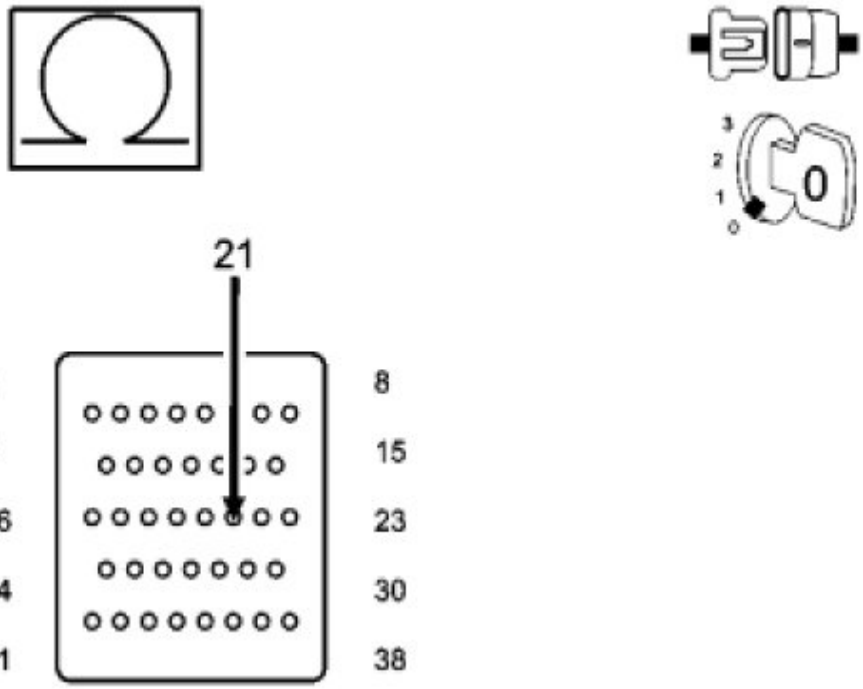
Yes

- Disconnect the Battery before replacing the Throttle Body Assembly. Replace the Throttle Body Assembly. After installation is complete, use a scan tool and select the ETC RELEARN function
- Perform the POWERTRAIN VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests > Powertrain Verification Test

No

- Go To 8

8. RESISTANCE IN THE (K22) TP SIGNAL 1 CIRCUIT



Turn the ignition off.

Disconnect the C2 PCM harness connector.

Measure the resistance of the (K22) TP Signal 1 circuit from the Throttle Body harness connector to the appropriate terminal of special tool #8815.

Is the resistance below 5.0 ohms?

Yes

- Go To 9

No

- Repair the excessive resistance in the (K22) TP Signal 1 circuit.
- Perform the POWERTRAIN VERIFICATION TEST. See: A L L Diagnostic Trouble Codes (DTC) > Verification Tests > Powertrain Verification Test

9. RESISTANCE IN THE (K122) TP SIGNAL 2 CIRCUIT