POWERTRAIN CONTROL MODULE (PCM)

P0626-GENERATOR FIELD CONTROL CIRCUIT HIGH

For a complete wiring diagram, **refer to the Wiring Information**.

Theory of Operation

There are two communication lines between the Powertrain Control Module (PCM) and Generator. Based on sensed battery voltage, the PCM commands the Generator to charge the batteries to a desired voltage. The max voltage the PCM will command the Generator to charge is 14.75 Volts. The PCM then receives feedback from the alternator on the voltage level it is charging the batteries through a sense line. The PCM will not light a MIL lamp for this fault.

- **When Monitored:**
  When the ignition is on, regardless of whether the engine is running or not.
- **Set Condition:**
  The PCM detects that the (K20) Generator Field Control circuit is open or shorted to voltage.

Possible Causes
GENERATOR FIELD CONTROL CIRCUIT SHORTED TO VOLTAGE
GENERATOR FIELD CONTROL CIRCUIT OPEN/HIGH RESISTANCE
GENERATOR
POWERTRAIN CONTROL MODULE (PCM)

Always perform the Pre-Diagnostic Troubleshooting procedure before proceeding. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure).

1.**ACTIVE DTC**

1. Turn the ignition on.
2. With the scan tool, erase DTCs.
3. Turn the ignition off for 75 seconds.
4. Start the engine and let idle for up to five minutes.

5. With the scan tool, read DTCs.

Did the DTC reset?

Yes

- Go To **2**

No

- Perform the INTERMITTENT CONDITION diagnostic procedure. (Refer to 28 - DTC-Based Diagnostics/ MODULE, Powertrain Control (PCM) - Standard Procedure).

2.CHECK THE (K20) GENERATOR FIELD CONTROL CIRCUIT FOR A SHORT TO VOLTAGE

1. Turn the ignition off.
2. Disconnect the PCM C1 harness connector.
3. Turn the ignition on.
4. Measure the voltage on the (K20) Generator Field Control circuit at the Generator harness connector.

Is there any voltage present?

Yes

- Go To **3**

No

- Go To **4**

3.CHECK THE GENERATOR FOR A SHORT TO VOLTAGE

1. Disconnect the Generator field harness connector.
2. Turn the ignition on.
3. Measure the voltage on the (K20) Generator Field Control circuit at the Generator harness connector.

Is there any voltage present?

Yes

- Repair the (K20) Generator Field Control circuit for a short to voltage.
- Perform the POWERTRAIN VERIFICATION TEST - 6.7L. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure).

No

- Replace the Generator in accordance with the service information.
- Perform the POWERTRAIN VERIFICATION TEST - 6.7L. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure).

4.CHECK THE (K20) GENERATOR FIELD CONTROL CIRCUIT FOR AN OPEN/HIGH RESISTANCE

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1. Disconnect the Generator field harness connector.
2. Measure the resistance of the (K20) Generator Field Control circuit between the Generator harness connector and the PCM C1 harness connector.

Is the resistance below 5.0 Ohms?

Yes

- Replace the Powertrain Control Module in accordance with the service information.
- Perform POWERTRAIN VERIFICATION TEST - 6.7L. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure).

No

- Repair the (K20) Generator Field Control circuit for an open or high resistance.
- Perform POWERTRAIN VERIFICATION TEST - 6.7L. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure).