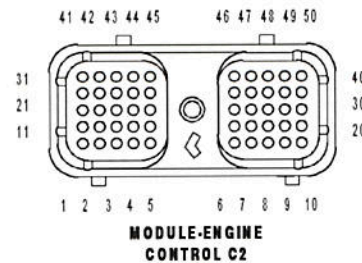
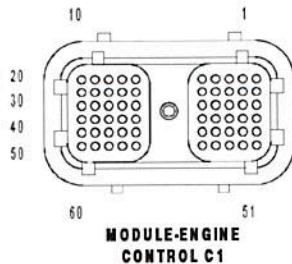
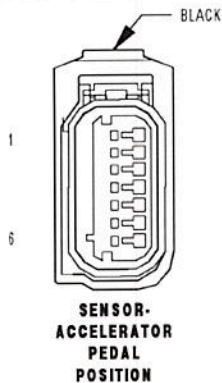
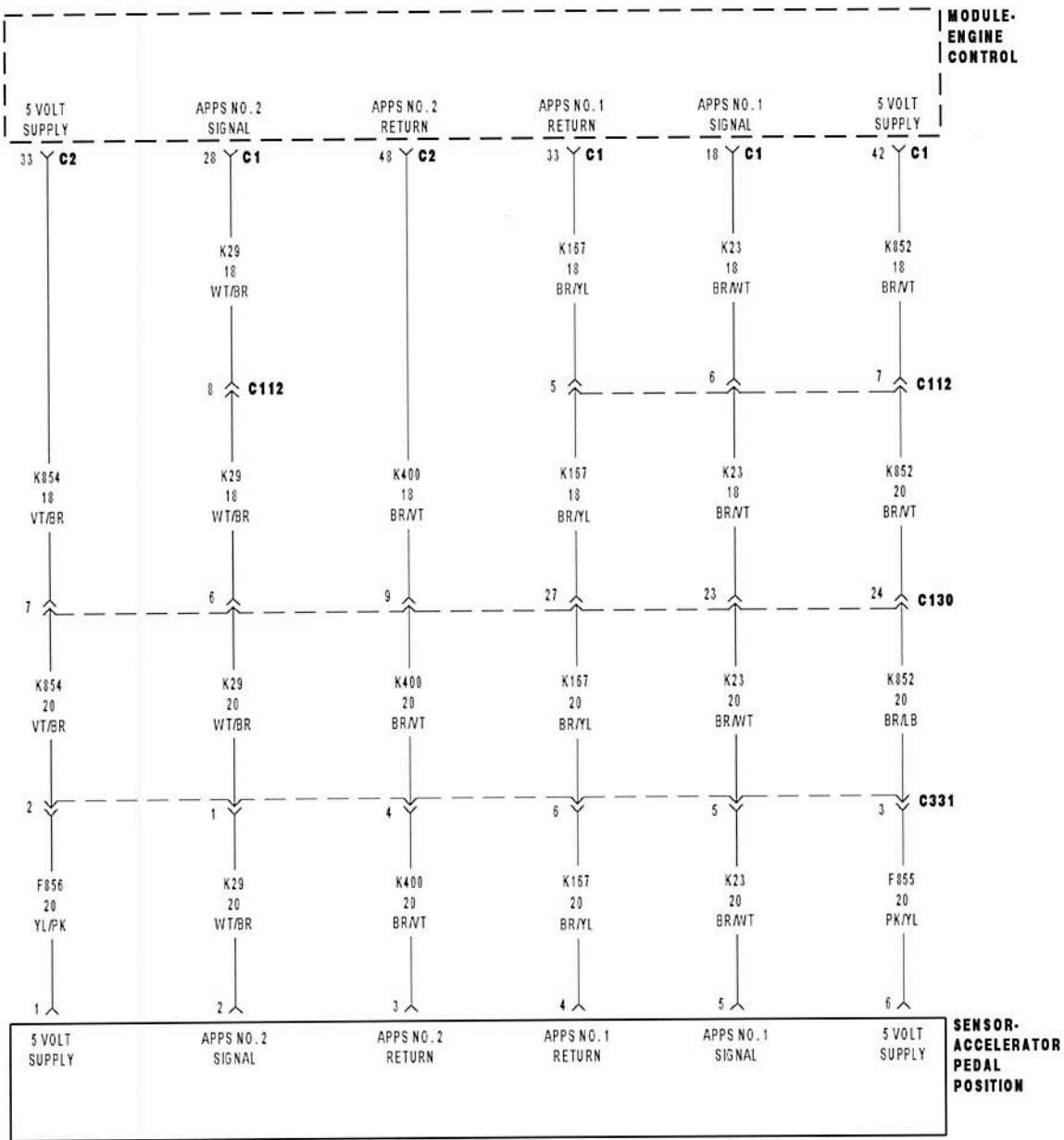


P2121-PPS CONFORMANCE ERROR



P2121-PPS CONFORMANCE ERROR (CONTINUED)

For the Engine circuit diagram (Refer to 9 - ENGINE - SCHEMATICS AND DIAGRAMS)

For a complete wiring diagram Refer to Section 8W.

- **When Monitored:**
While the engine is running
- **Set Condition:**
The ECM detected a conformance error between PPS 1 and PPS 2

| Possible Causes |
|---|
| OTHER DTC'S WIRING HARNESS OR CONNECTOR DAMAGED APPS INTERMITTENT CONDITION ECM |

Always perform the Pre-Diagnostic Troubleshooting procedure before proceeding. (Refer to 9 - ENGINE - DIAGNOSIS AND TESTING)

Diagnostic Test

1. OTHER DTC'S PRESENT

Using the scan tool, check for any additional APPS fault codes

Do you have any additiona APPS faults?

- Yes** >> troubleshoot other DTC's first, Go To 2
No >> Go To 12

2. APPS HARNESS

Verify that the APPS is connected.
 Inspect the harness and the APPS connector.

Are any pins damaged?

- Yes** >> Repair or replace the harness.
No >> Go To 3

3. APPS

Monitor the APPS 1 and APPS 2 voltage with the scan tool while depressing the acceralator pedal.

Is the voltage transition shown on the scan tool smooth while depressing the acceralator pedal and is the voltage from APPS 1 twice as much as the voltage from APPS 2?

- Yes** >> Go To 4
No >> Replace the APPS.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)

P2121-PPS CONFORMANCE ERROR (CONTINUED)

4. OPEN SIGNAL CIRCUIT

Disconnect the ECM connectors.

Disconnect the APPS connector.

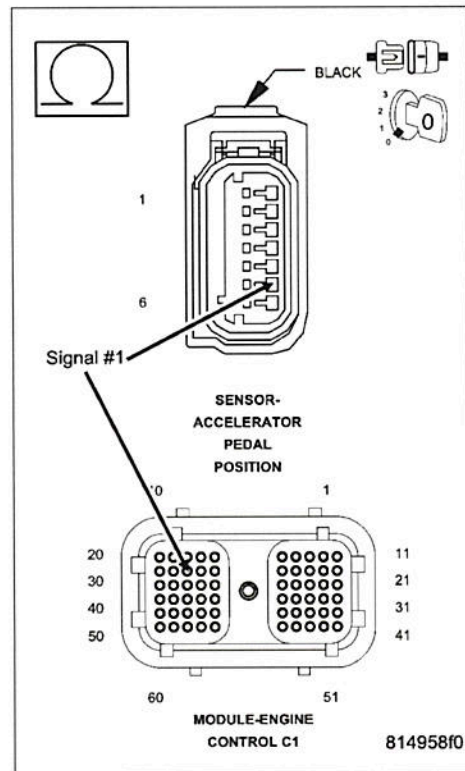
NOTE: Check connectors - Clean/repair as necessary.

Measure the resistance of the APPS 1 signal circuit between the APPS sensor connector and the ECM connector.

Yes >> Go To 5

No >> Repair or Replace the harness.

Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



5. OPEN SUPPLY CIRCUIT

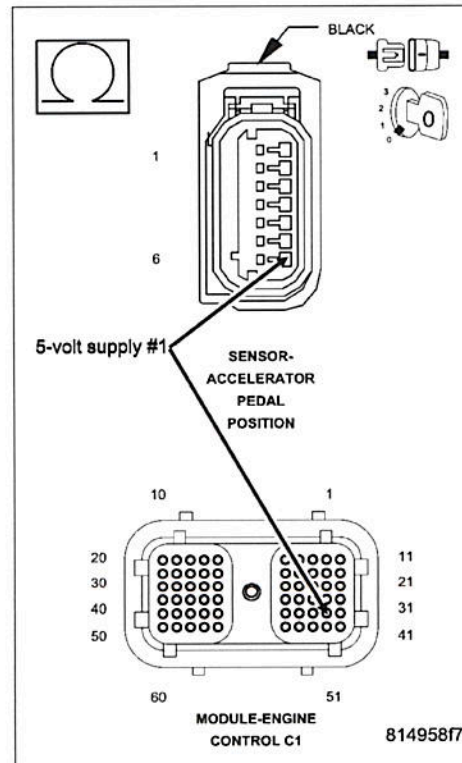
Measure the resistance of the APPS 1 supply circuit between the APPS sensor connector and the ECM connector.

Is the resistance less than 10 ohms?

Yes >> Go To 6

No >> Repair or replace the open harness.

Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



P2121-PPS CONFORMANCE ERROR (CONTINUED)

6. SIGNAL CIRCUIT SHORTED TO GROUND

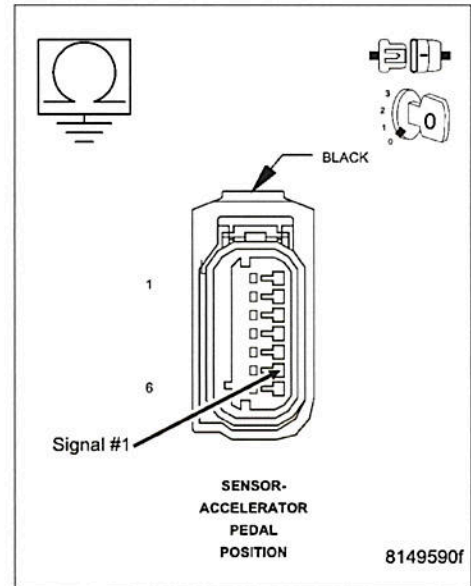
Measure the resistance between the APPS 1 signal circuit at the sensor connector and battery negative.

Is the resistance greater than 100 K ohms?

Yes >> Go To 7

No >> Repair the shorted harness.

Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



7. SIGNAL CIRCUIT SHORTED TO OTHER CIRCUITS

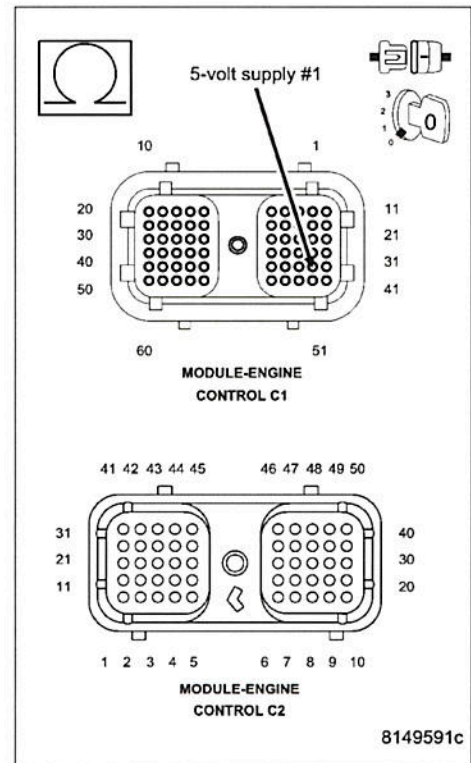
Measure the resistance between the APPS 1 signal circuit at the ECM connector and all other circuits in the ECM connector.

Is the resistance greater than 100 K ohms?

Yes >> Go To 8

No >> Repair the shorted signal circuit.

Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



P2121-PPS CONFORMANCE ERROR (CONTINUED)

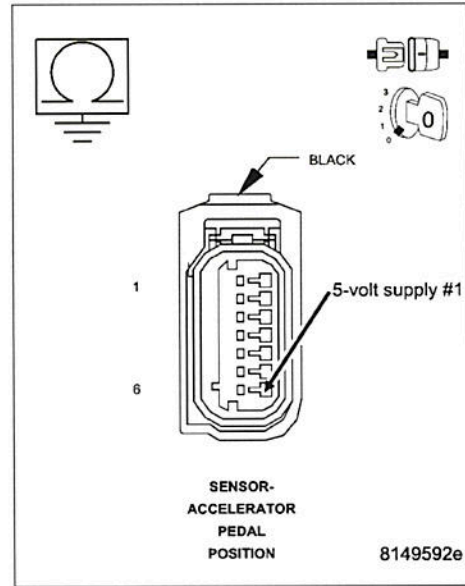
8. SUPPLY CIRCUIT SHORTED TO GROUND

Measure the resistance between the APPS 1 supply circuit at the sensor connector and battery negative.

Is the resistance greater than 100 K ohms?

Yes >> Go To 9

No >> Repair the Supply circuit shorted to ground.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



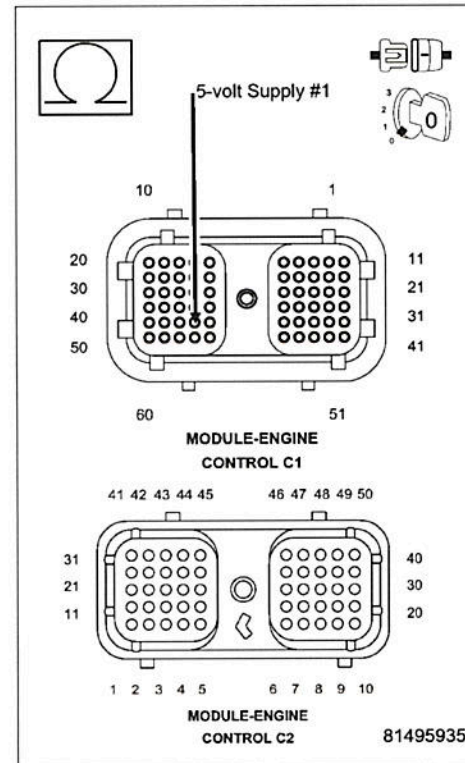
9. SUPPLY CIRCUIT SHORTED TO OTHER CIRCUITS

Measure the resistance between the APPS 1 supply circuit at the ECM connector and all other circuits in the ECM connector.

Is the resistance greater than 100 K ohms?

Yes >> Go To 10

No >> Repair the supply circuit shorted to other circuits.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



P2121-PPS CONFORMANCE ERROR (CONTINUED)

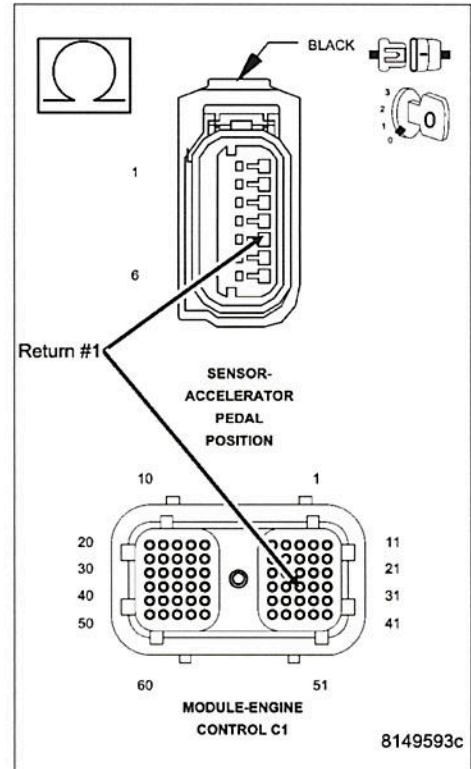
10. RETURN CIRCUIT OPEN

Measure the resistance on the APPS 1 return circuit between the sensor connector and the ECM connector.

Is the resistance less than 10 ohms?

Yes >> Go To 11

No >> Repair the open return circuit.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



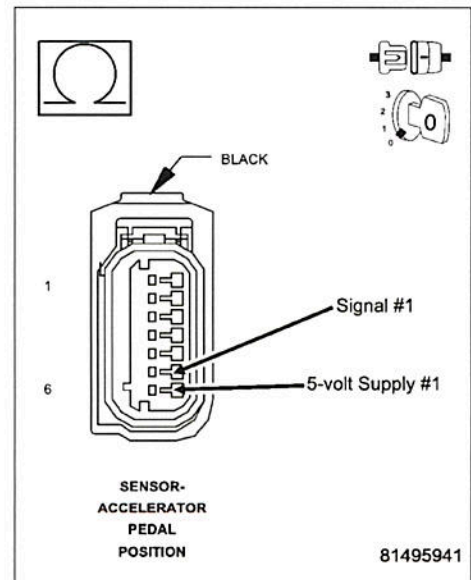
11. SIGNAL CIRCUIT SHORTED TO SUPPLY CIRCUIT

Measure the resistance between the APPS 1 signal circuit in the sensor connector and the PPS 1 supply circuit in the sensor connector.

Is the resistance greater than 100 K ohms?

Yes >> Go To 12

No >> Repair the signal circuit shorted to the supply.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



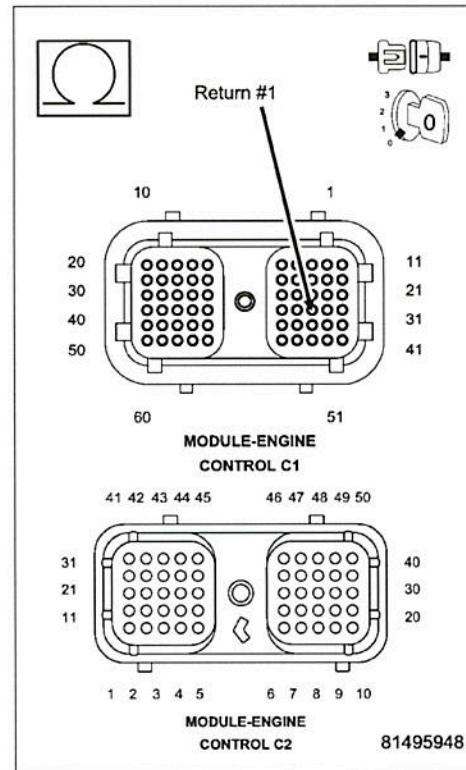
P2121-PPS CONFORMANCE ERROR (CONTINUED)

12. RETURN CIRCUIT SHORTED TO OTHER CIRCUITS

Measure the resistance between the APPS 1 return circuit at the ECM connector and all other circuits in the ECM connector.

Yes >> Go To 13

No >> Repair the return circuit shorted to other circuits.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)

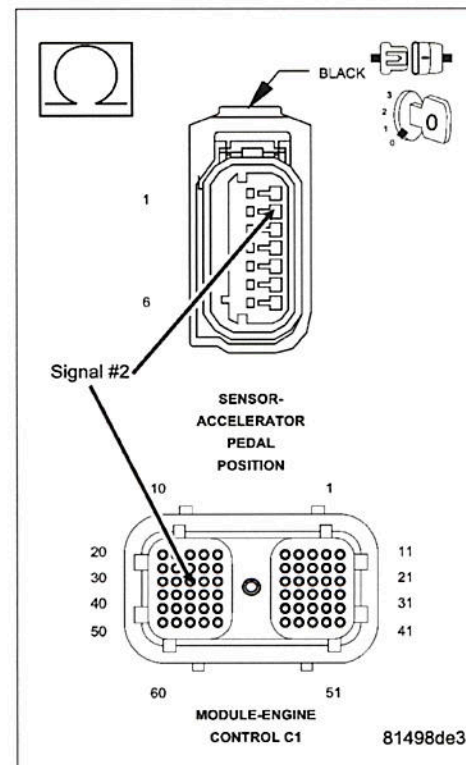


13. OPEN SIGNAL CIRCUIT

Measure the resistance of the APPS 2 signal circuit between the APPS sensor connector and the ECM connector.

Yes >> Go To 14

No >> Repair or Replace the harness.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



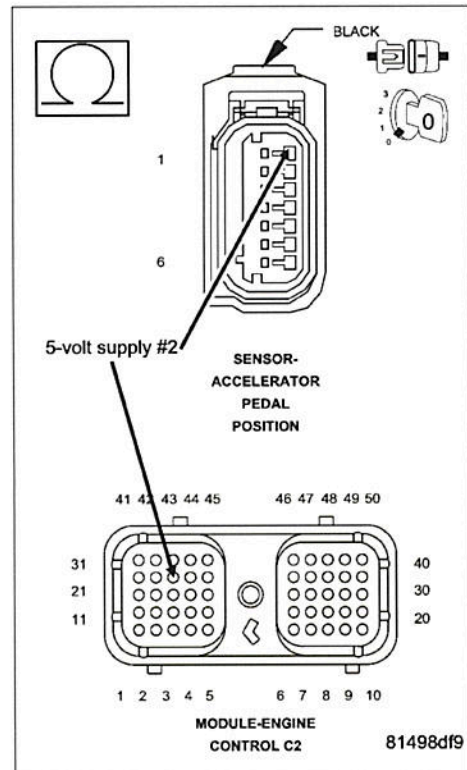
P2121-PPS CONFORMANCE ERROR (CONTINUED)

14. OPEN SUPPLY CIRCUIT

Measure the resistance of the APPS 2 supply circuit between the APPS sensor connector and the ECM connector.
Is the resistance less than 10 ohms?

Yes >> Go To 15

No >> Repair or replace the open harness.
Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



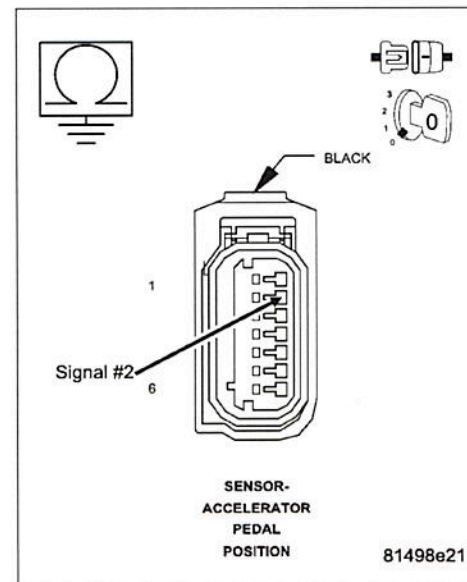
15. SIGNAL CIRCUIT SHORTED TO GROUND

Measure the resistance between the APPS 2 signal circuit at the sensor connector and battery negative.

Is the resistance greater than 100 K ohms?

Yes >> Go To 16

No >> Repair the shorted harness.
Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



P2121-PPS CONFORMANCE ERROR (CONTINUED)

16. SIGNAL CIRCUIT SHORTED TO OTHER CIRCUITS

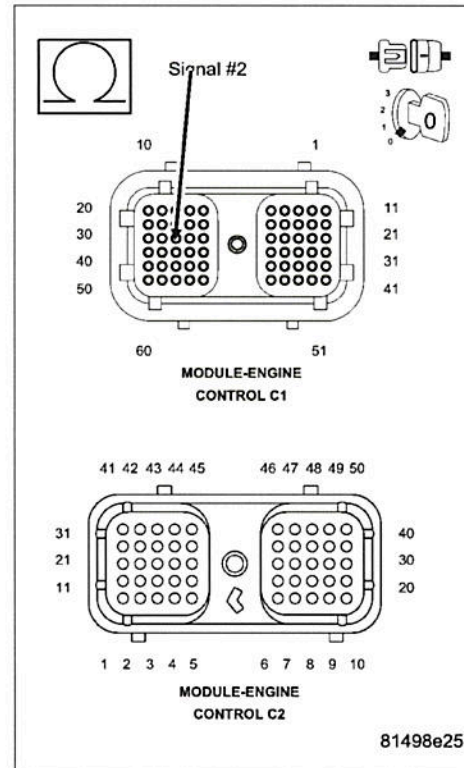
Measure the resistance between the APPS 2 signal circuit at the ECM connector and all other circuits in the ECM connector.

Is the resistance greater than 100 K ohms?

Yes >> Go To 17

No >> Repair the shorted signal circuit.

Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



17. SUPPLY CIRCUIT SHORTED TO GROUND

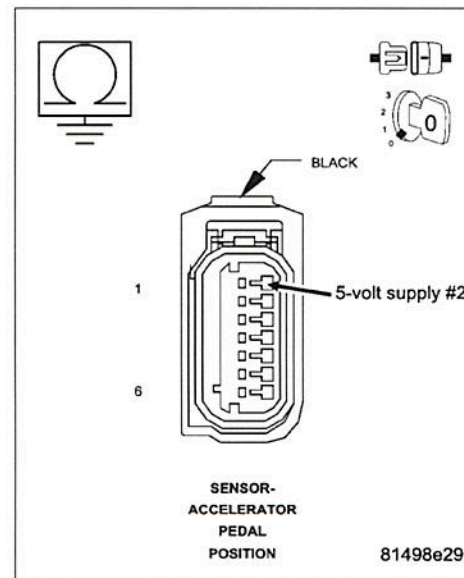
Measure the resistance between the APPS 2 supply circuit at the sensor connector and battery negative.

Is the resistance greater than 100 K ohms?

Yes >> Go To 18

No >> Repair the Supply circuit shorted to ground.

Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



P2121-PPS CONFORMANCE ERROR (CONTINUED)

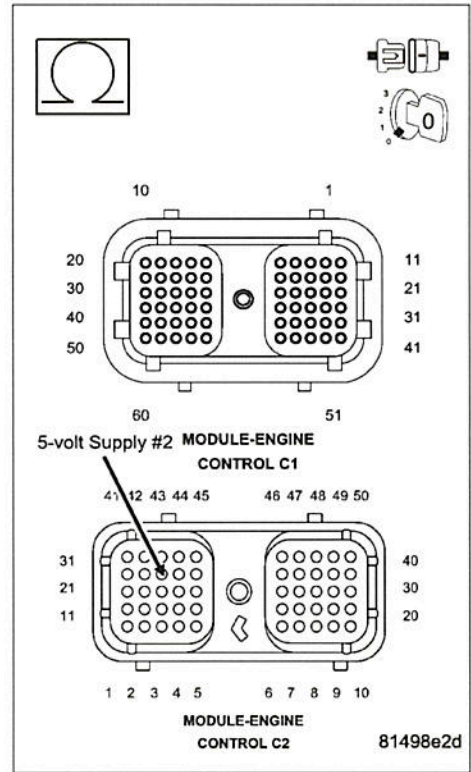
18. SUPPLY CIRCUIT SHORTED TO OTHER CIRCUITS

Measure the resistance between the APPS 2 supply circuit at the ECM connector and all other circuits in the ECM connector.

Is the resistance greater than 100 K ohms?

Yes >> Go To 19

No >> Repair the supply circuit shorted to other circuits.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



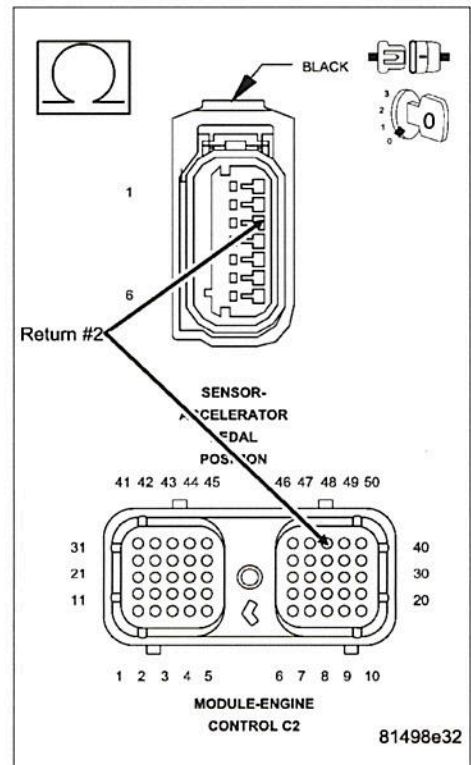
19. RETURN CIRCUIT OPEN

Measure the resistance on the APPS 2 return circuit between the sensor connector and the ECM connector.

Is the resistance less than 10 ohms?

Yes >> Go To 20

No >> Repair the open return circuit.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



P2121-PPS CONFORMANCE ERROR (CONTINUED)

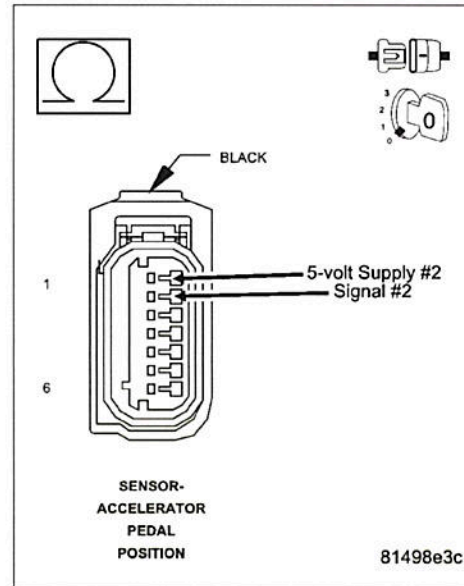
20. SIGNAL CIRCUIT SHORTED TO SUPPLY CIRCUIT

Measure the resistance between the APPS 2 signal circuit in the sensor connector and the PPS 2 supply circuit in the sensor connector.

Is the resistance greater than 100 K ohms?

Yes >> Go To 21

No >> Repair the signal circuit shorted to the supply.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)

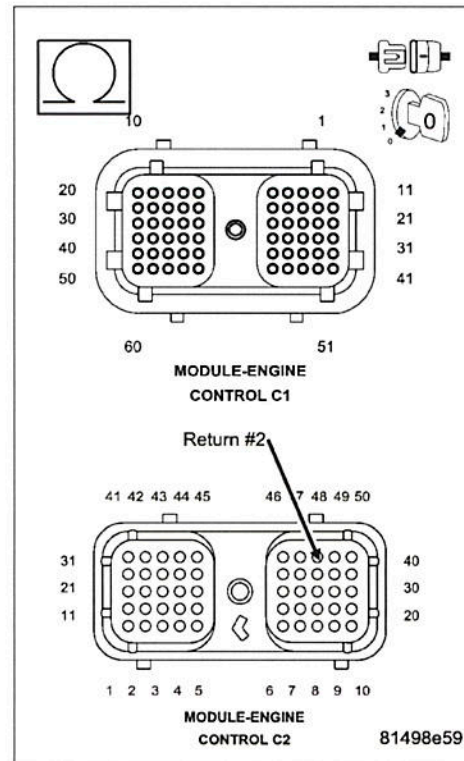


21. RETURN CIRCUIT SHORTED TO OTHER CIRCUITS

Measure the resistance between the APPS 2 return circuit at the ECM connector and all other circuits in the ECM connector.

Yes >> Go To 22

No >> Repair the return circuit shorted to other circuits.
 Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)



P2121-PPS CONFORMANCE ERROR (CONTINUED)

22. ECM

Reconnect the ECM connectors.

Reconnect the APPS connector.

Turn Ignition on, engine off.

While monitoring with the scan tool, disconnect the sensor connector.

Did a APPS 1 and APPS 2 voltage too low DTC set?

Yes >> Go To 23

No >> Replace the ECM.

Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)

23. APPS

Reconnect the APPS connector.

Monitor the APPS 1 and APPS 2 voltage with the scan tool while depressing the accelerator pedal.

Is the voltage transition shown on the scan tool smooth while depressing the accelerator and is the voltage from APPS 1 twice as much as the voltage from APPS 2?

Yes >> Refer to the INTERMITTENT CONDITION Symptom (Diagnostic Procedure). (Refer to 9 - ENGINE - DIAGNOSIS AND TESTING)

No >> Replace the APPS.

Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/ENGINE CONTROL MODULE - DIAGNOSIS AND TESTING)
