P0108-MANIFOLD ABSOLUTE PRESSURE SENSOR CIRCUIT HIGH

CIRCUIT SCHEMATIC

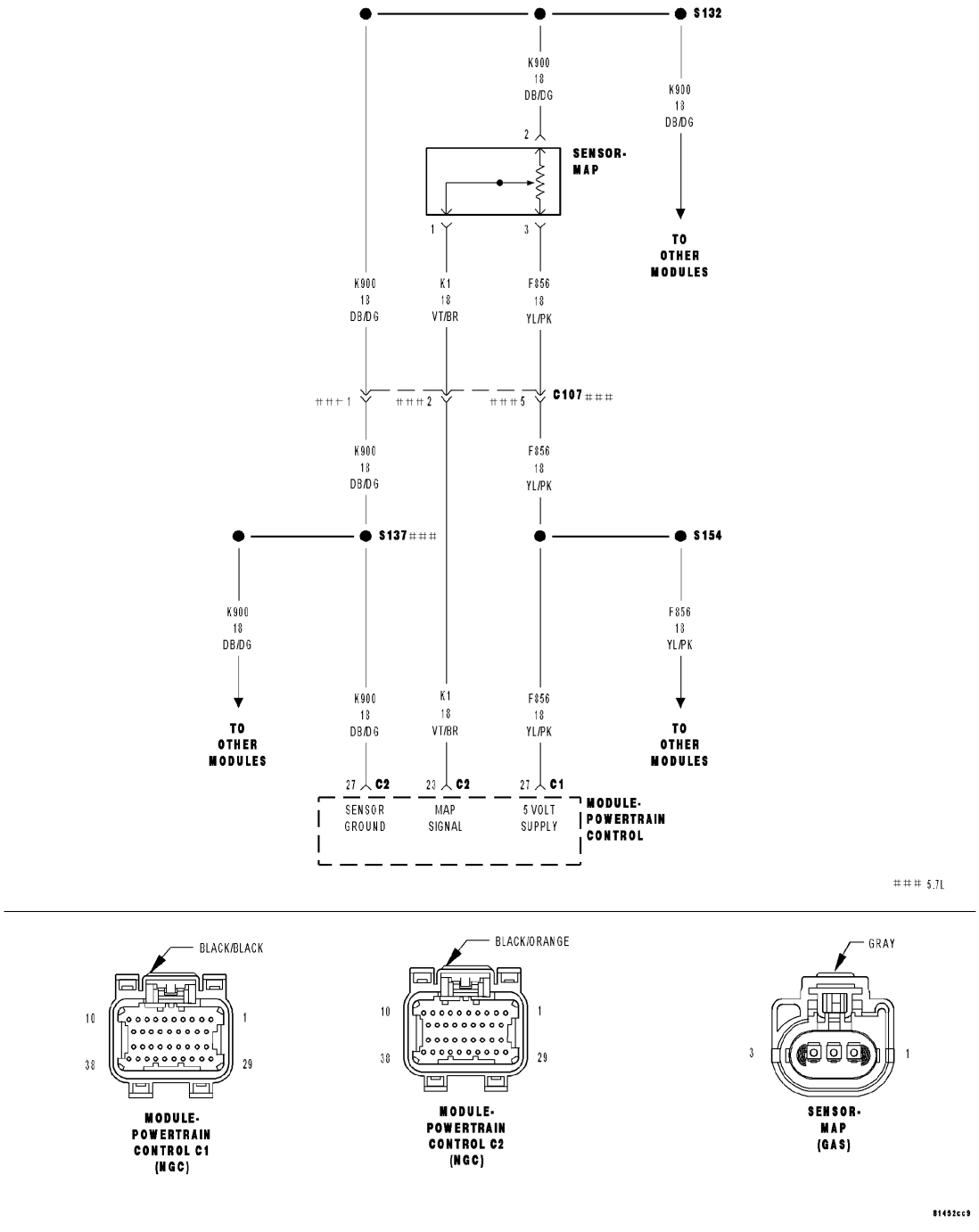

Fig. 1: Manifold Absolute Pressure & Engine Coolant Temperature Sensors Circuit Schematic
Courtesy of CHRYSLER LLC

ADDITIONAL WIRING

For complete wiring diagrams, refer to:

SYSTEM WIRING DIAGRAMS for R1500.

SYSTEM WIRING DIAGRAMS for R2500.

SYSTEM WIRING DIAGRAMS for R3500.

SYSTEM WIRING DIAGRAMS for R3500 HD.

MONITOR CONDITIONS

When Monitored:

Engine speed between 600 to 3500 RPM. Battery voltage greater than 10.37 volts.

SET CONDITIONS

- **Set Condition:**

The MAP sensor signal voltage is greater than the maximum acceptable value. One trip fault. Three good trips to turn off the MIL. (MIL will illuminate and the ETC light will flash, if equipped).

POSSIBLE CAUSES

Possible Causes
(K1) MAP SIGNAL CIRCUIT SHORTED TO VOLTAGE
(K1) MAP SIGNAL CIRCUIT OPEN
(K1) MAP SIGNAL CIRCUIT SHORTED TO THE (F856) 5-VOLT SUPPLY CIRCUIT
(K900) SENSOR GROUND CIRCUIT OPEN
MAP SENSOR
POWERTRAIN CONTROL MODULE (PCM)

Always perform the **PRE-DIAGNOSTIC TROUBLESHOOTING PROCEDURE** before proceeding.

DIAGNOSTIC TEST

1) ACTIVE DTC

Start the engine and allow it to reach normal operating temperature.

WARNING: When the engine is operating, do not stand in direct line with the fan. Do not put your hands near the pulleys, belts, or fan. Do not wear loose clothing. Failure to follow these instructions can result in

personal injury or death.

NOTE: Diagnose and repair any system voltage or sensor supply voltage DTCs before continuing with this test.

With the scan tool, select View DTCs.

Is the DTC Active at this time

Yes

Go To 2).

No

Refer to the **INTERMITTENT CONDITION** Diagnostic Procedure.

2) MAP SENSOR

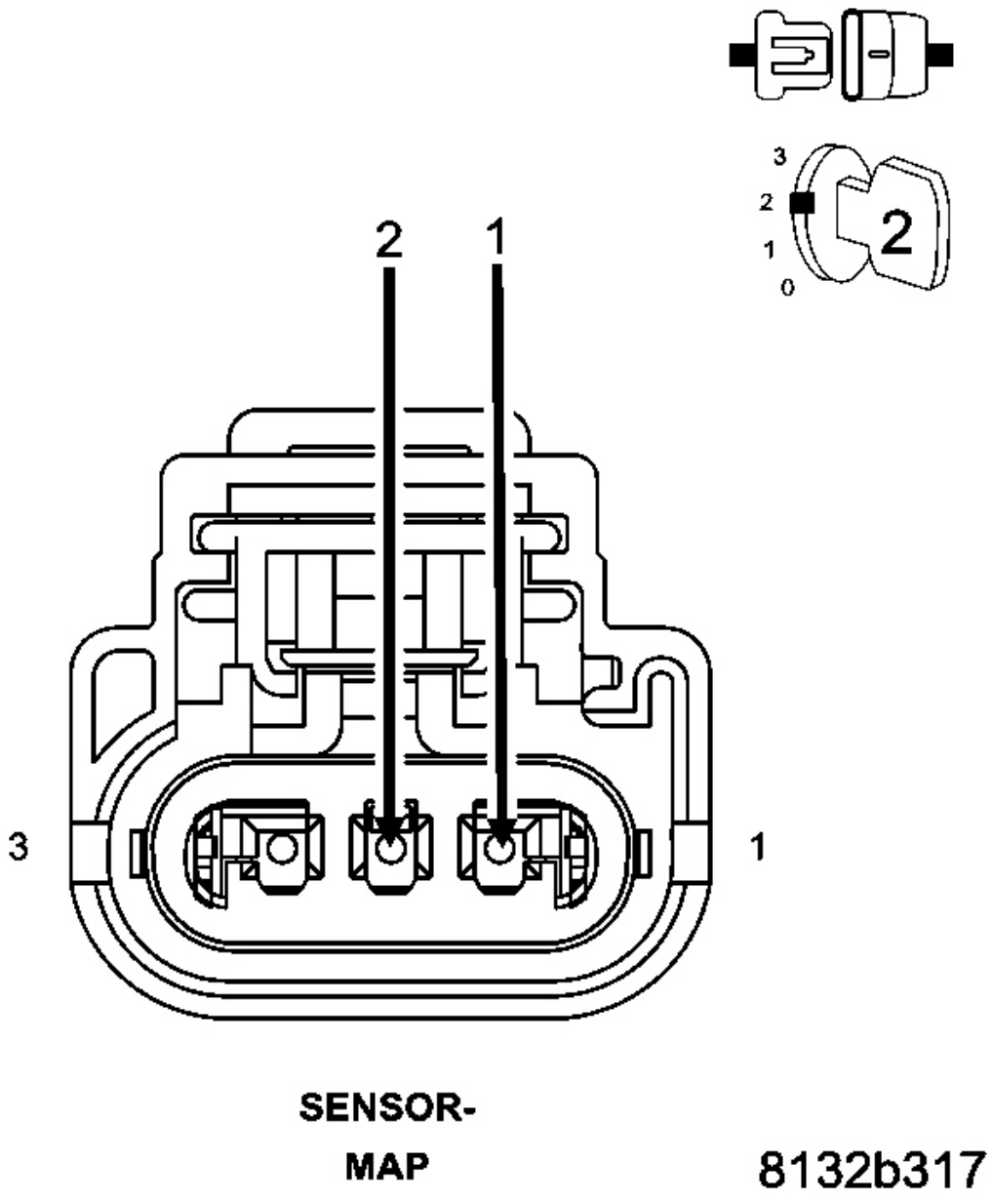

Fig. 2: Identifying MAP Sensor Signal & Ground Circuit
Courtesy of CHRYSLER LLC

Turn the ignition off.

Disconnect the MAP Sensor harness connector.

Connect a jumper wire between the (K1) MAP Signal circuit and the (K900) Sensor ground circuit in the Sensor harness connector.

Ignition on, engine not running.

With a scan tool, monitor the MAP Sensor voltage.

NOTE: The sensor voltage should be approximately 0.0 volts (plus or minus .1 volt) with the jumper wire in place.

Does the scan tool display the voltage as described above?

Yes

Verify that there is good pin to terminal contact in the Sensor and Powertrain Control Module connectors. Replace the MAP Sensor if no problems were found with the connectors.

Perform **POWERTRAIN VERIFICATION TEST** .

No

Go To 3).

NOTE: Remove the jumper wire before continuing.

3) (K1) MAP SIGNAL CIRCUIT SHORTED TO VOLTAGE

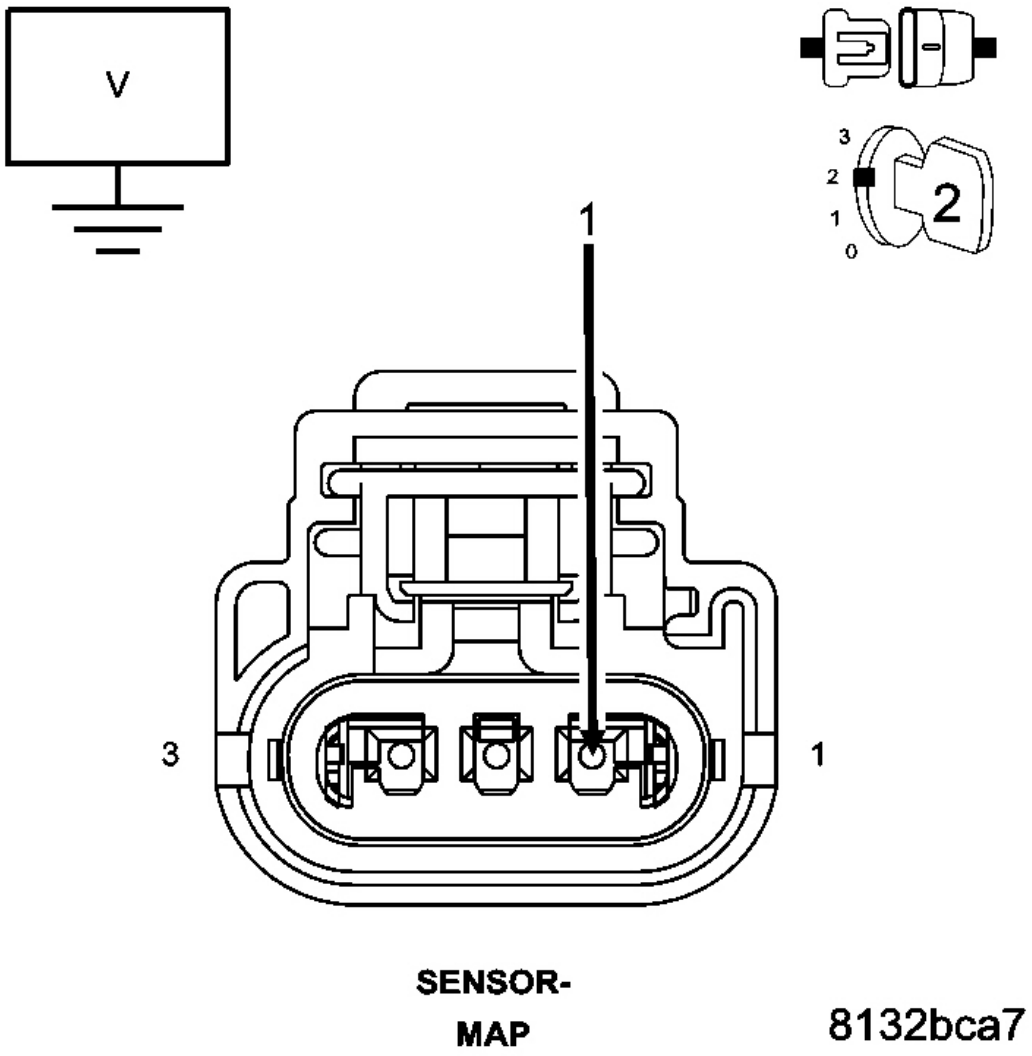

Fig. 3: Checking MAP Signal Circuit For Short To Voltage
Courtesy of CHRYSLER LLC

Turn the ignition off.

Disconnect the C1 and C2 PCM harness connectors.

Ignition on, engine not running.

Measure the voltage on the (K1) MAP Signal circuit in the MAP Sensor harness connector.

Is there any voltage present?

Yes

Repair the short to voltage in the (K1) MAP Signal circuit.
Perform **POWERTRAIN VERIFICATION TEST** .

No

Go To 4).

4) (K1) MAP SIGNAL CIRCUIT OPEN

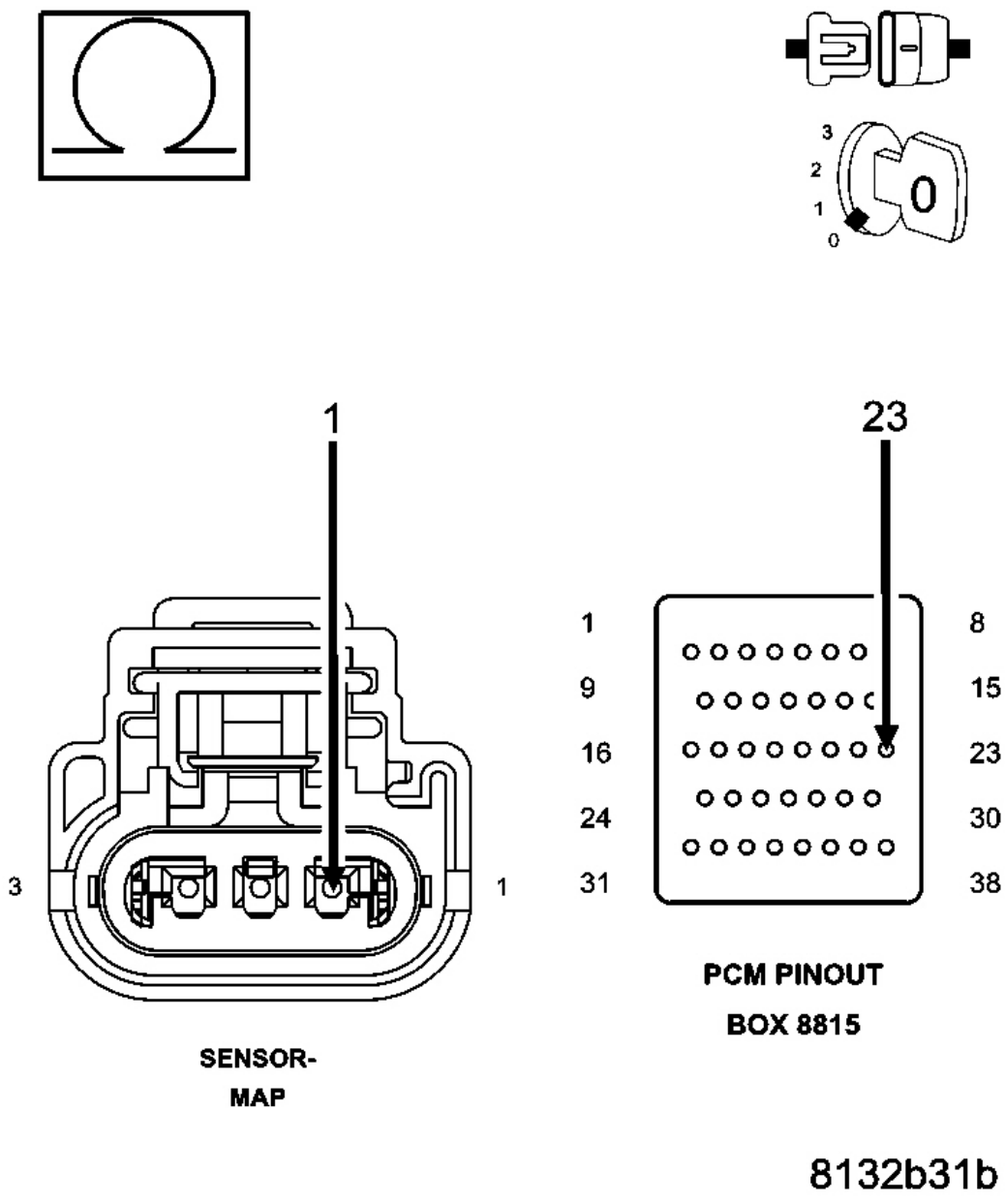

Fig. 4: Checking MAP Sensor Signal Circuit
Courtesy of CHRYSLER LLC

Turn the ignition off.

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 (K1) MAP Signal circuit from the MAP Sensor harness connector to the appropriate terminal of special tool #8815.

Is the resistance below 5.0 ohms?

Yes

Go To 5).

No

Repair the open in the (K1) MAP Signal circuit.

Perform **POWERTRAIN VERIFICATION TEST** .

5) (K1) MAP SIGNAL CIRCUIT SHORTED TO THE (F856) 5-VOLT SUPPLY CIRCUIT

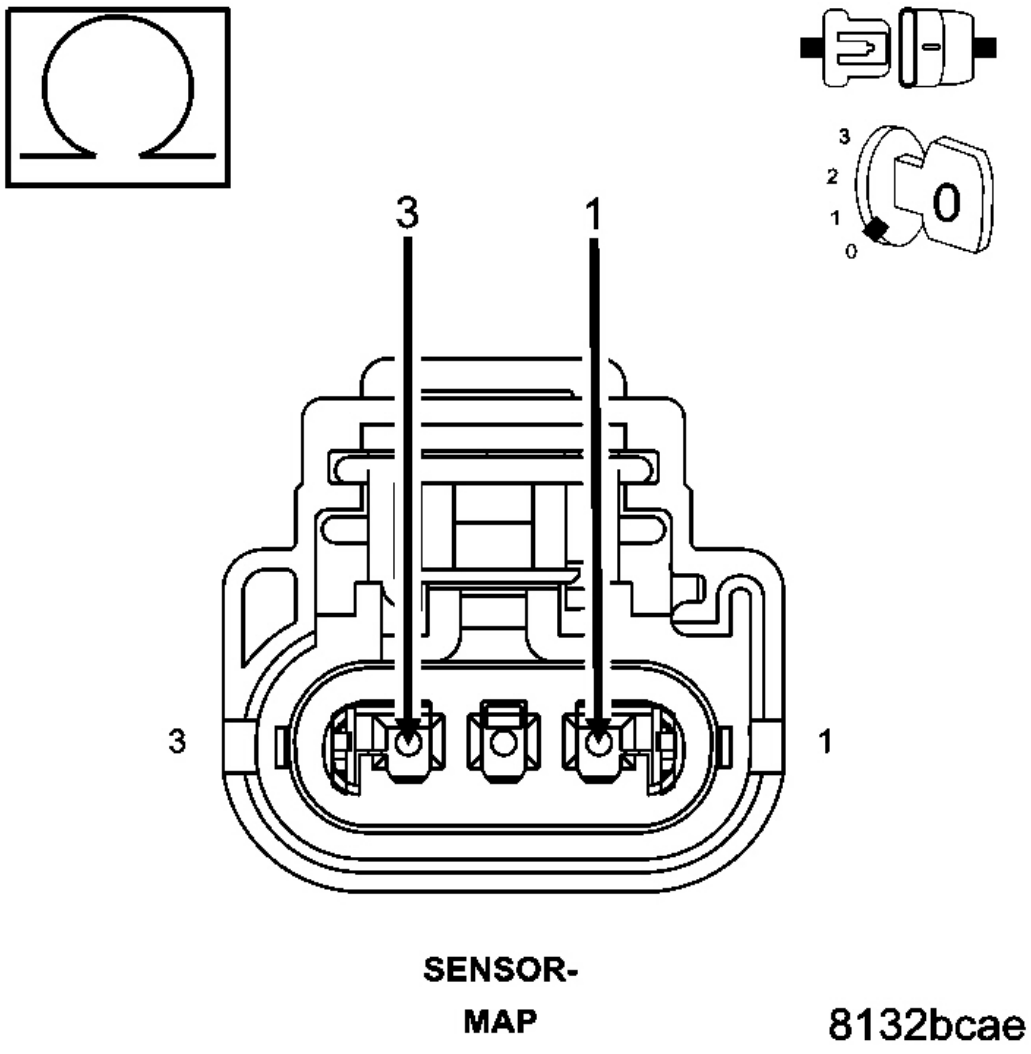

Fig. 5: Checking MAP Sensor Signal Circuit For Short To 5-Volt Supply Circuit
Courtesy of CHRYSLER LLC

Measure the resistance between the (K1) MAP Signal circuit and the (F856) 5-volt Supply circuit in the MAP Sensor harness connector.

Is the resistance below 100 ohms?

Yes

Repair the short between the (F856) 5-volt Supply circuit and the (K1) MAP Signal circuit. Perform **POWERTRAIN VERIFICATION TEST** .

No

Go To 6).

6) (K900) SENSOR GROUND CIRCUIT OPEN

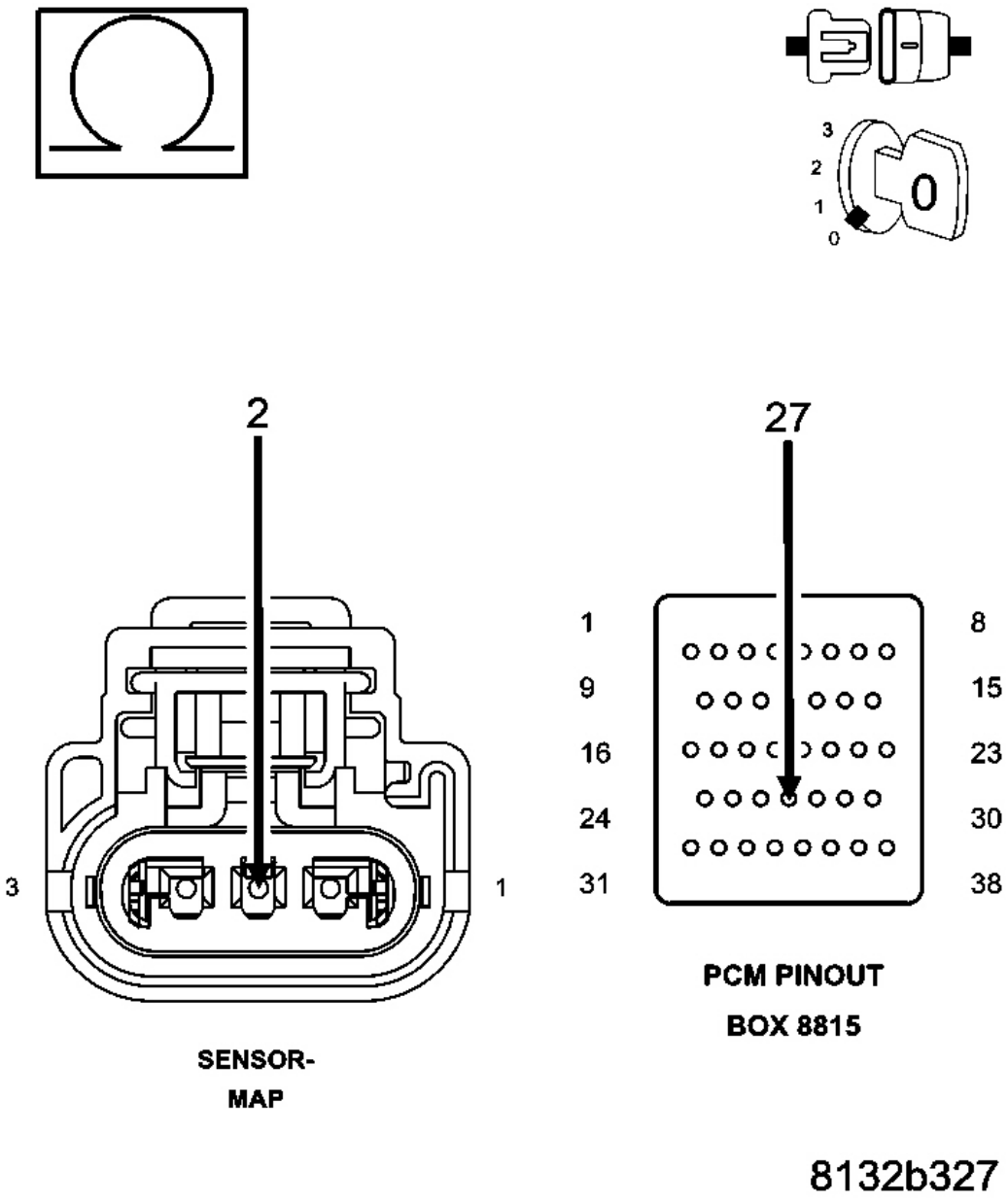

Fig. 6: Checking MAP Sensor Ground Circuit
Courtesy of CHRYSLER LLC

Measure the resistance of the (K900) Sensor ground circuit from the MAP Sensor harness connector to the appropriate terminal of special tool #8815.

Is the resistance below 5.0 ohms?

Yes

Go To 7).

No

Repair the open in the (K900) Sensor ground circuit.
Perform **POWERTRAIN VERIFICATION TEST** .

7) POWERTRAIN CONTROL MODULE (PCM)

Using the wiring diagram/schematic as a guide, inspect the wiring and connectors between the MAP Sensor and the Powertrain Control Module (PCM).

Look for any chafed, pierced, pinched, or partially broken wires.

Look for broken, bent, pushed out or corroded terminals. Verify that there is good pin to terminal contact in the Sensor and Control Module connectors.

Refer to any Technical Service Bulletins that may apply.

Were there any problems found?

Yes

Repair as necessary.
Perform **POWERTRAIN VERIFICATION TEST** .

No

Replace and program the Powertrain Control Module per Service Information.
Perform **POWERTRAIN VERIFICATION TEST** .

