

Basic Circuit Checks

Description

Basic circuit checks help to minimize pinpoint test steps by providing a procedure to diagnose harness faults associated with the Electronic Engine Control (EC) System. The following techniques provide helpful reminders for diagnosing open circuits (continuity), shorts to ground and shorts to power.

Note:

- The suspect circuit must be isolated before testing.
- When disconnecting any harness connector, always inspect for damaged or pushed-out pins, corrosion and loose wires. Repair as necessary.
- The digital multimeter must be set to the correct scale. AUTO scale is used for NGS with the data link connector (DLC) disconnected.
- The techniques do not apply in all situations; therefore, it is necessary to perform each pinpoint test step accurately and completely.
- General resistance and voltage values are specified below. Always use the pinpoint test values if they differ.
- Always turn the key to the OFF position unless directed otherwise by the pinpoint test.

Each of the following procedures will require the powertrain control module (PCM) and component to be disconnected to isolate the harness.

Open Circuit (Continuity)

Install PCM breakout box and leave PCM disconnected. Measure the harness resistance between the suspect circuit at the harness connector and the appropriate PCM breakout box test pin. The resistance must be less than 5.0 ohms.

Shorts to Ground

Measure the harness resistance between the suspect circuit at the harness connector and a reliable ground (B-, chassis and or PWR and at the PCM breakout box). The resistance must be greater than 10,000 ohms.

Shorts to Power

Key ON to power up circuit. Measure voltage between the suspect circuit at the harness connector and a reliable ground. The voltage must be less than 1.0 volt.
