



Loss of voltage detected at the ECM for a calibrated amount of time.

### Possible Causes

POOR CONNECTIONS AT THE BATTERIES  
LOW BATTERY VOLTAGE  
OPEN FUSED B+ TO ECM  
OPEN GROUND CIRCUIT  
BATTERY + SHORTED TO OTHER CIRCUITS  
RETURN CIRCUIT SHORTED  
BATTERY + SHORTED TO GROUND

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

#### **1. POOR CONNECTIONS AT THE BATTERIES**

1. Visually inspect the wiring at the battery for damaged wires, or corrosion.

##### **Are the connections tight and free of corrosion?**

**Yes** • Go To [2](#)

**No** • Repair the poor connections at the batteries.  
• Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure)

#### **2. LOW BATTERY VOLTAGE**

1. Measure the voltage between the positive and negative posts of the batteries.

##### **Is the battery voltages both above 12 volts?**

**Yes** • Go To [3](#)

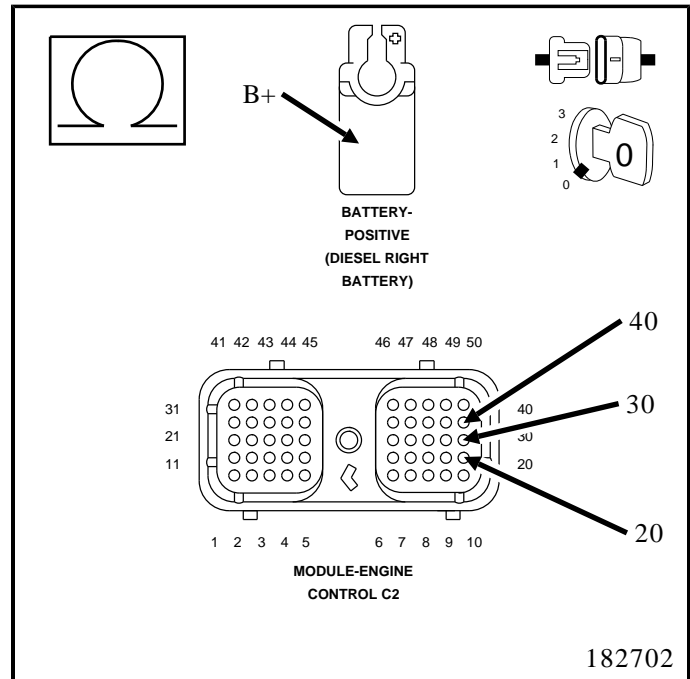
**No** • Recharge or replace the battery (s).  
• Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure)

### 3. OPEN FUSED B+ TO ECM

1. Turn the ignition off.
2. Disconnect the ECM harness connectors.
3. Turn the ignition on.
4. Measure the resistance between the positive battery post and the ECM supply circuits.

#### Is the resistance less than 10 Ohms?

- Yes**
- Go To 4
- No**
- Repair the open fused B+ circuit to ECM.
  - Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure)

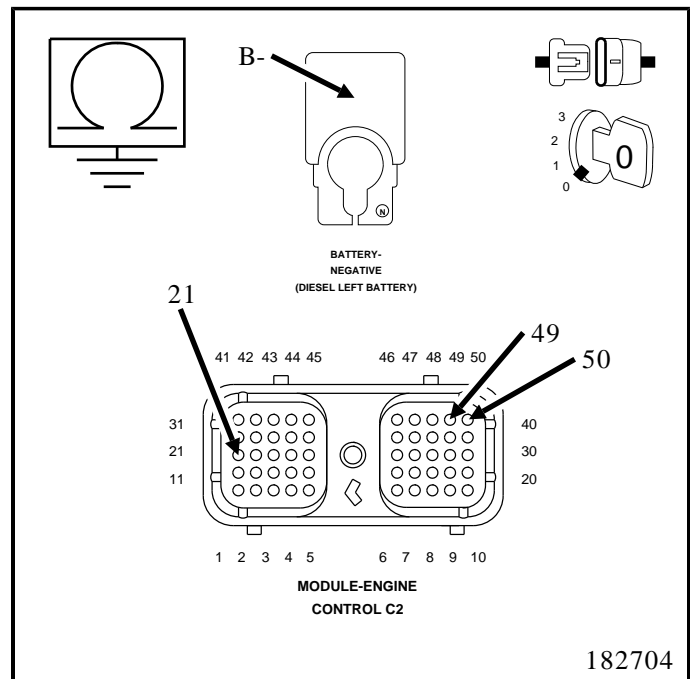


### 4. OPEN GROUND CIRCUIT

1. Measure the resistance between the negative battery post and the ECM ground circuits.

#### Is the resistance less than 10 Ohms?

- Yes**
- Go To 5
- No**
- Repair the open ground circuit.
  - Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure)

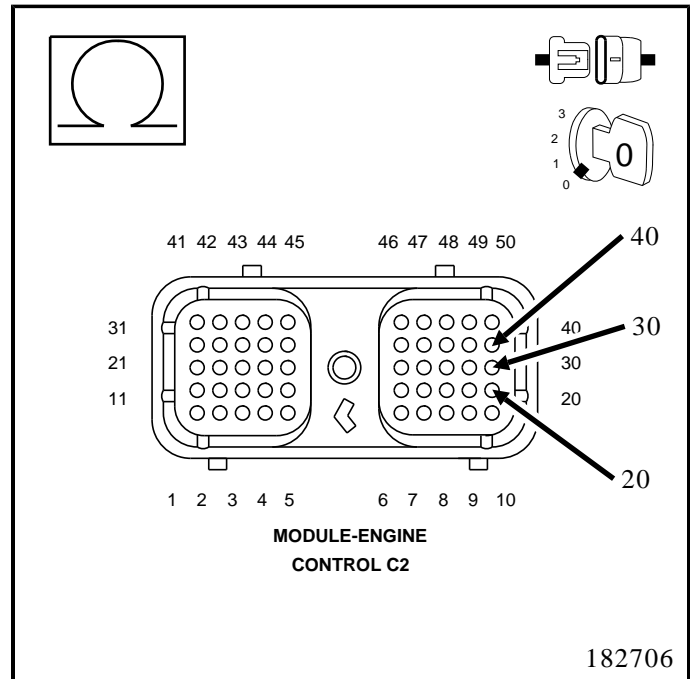


## 5. BATTERY + SHORTED TO OTHER CIRCUITS

1. Measure the resistance between the ECM supply circuits and all other circuits in the ECM harness connector, except other supply circuits.

**Is the resistance greater than 100k Ohms?**

- Yes**
- Go To **6**
- No**
- Repair the battery circuit short to other circuits in engine harness.
  - Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure)

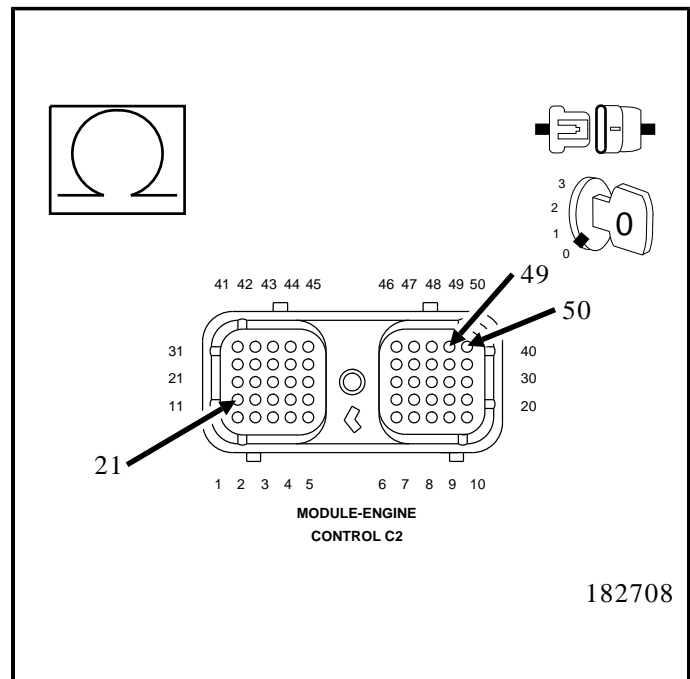


## 6. RETURN CIRCUIT SHORTED

1. Measure the resistance between the ECM return circuits and all other circuits in the ECM harness connector, except other return circuits.

**Is the resistance greater than 100k Ohms?**

- Yes**
- Go To **7**
- No**
- Repair or replace the engine harness.
  - Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure)



## 7. BATTERY + SHORTED TO GROUND

1. Measure the resistance between the ECM B+ supply circuits and ground.

### Is the resistance greater than 100k Ohms?

- Yes**
- Refer to the INTERMITTENT CONDITION Symptom (Diagnostic Procedure). (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure)
- No**
- Repair Battery + shorted to ground.
  - Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure)

