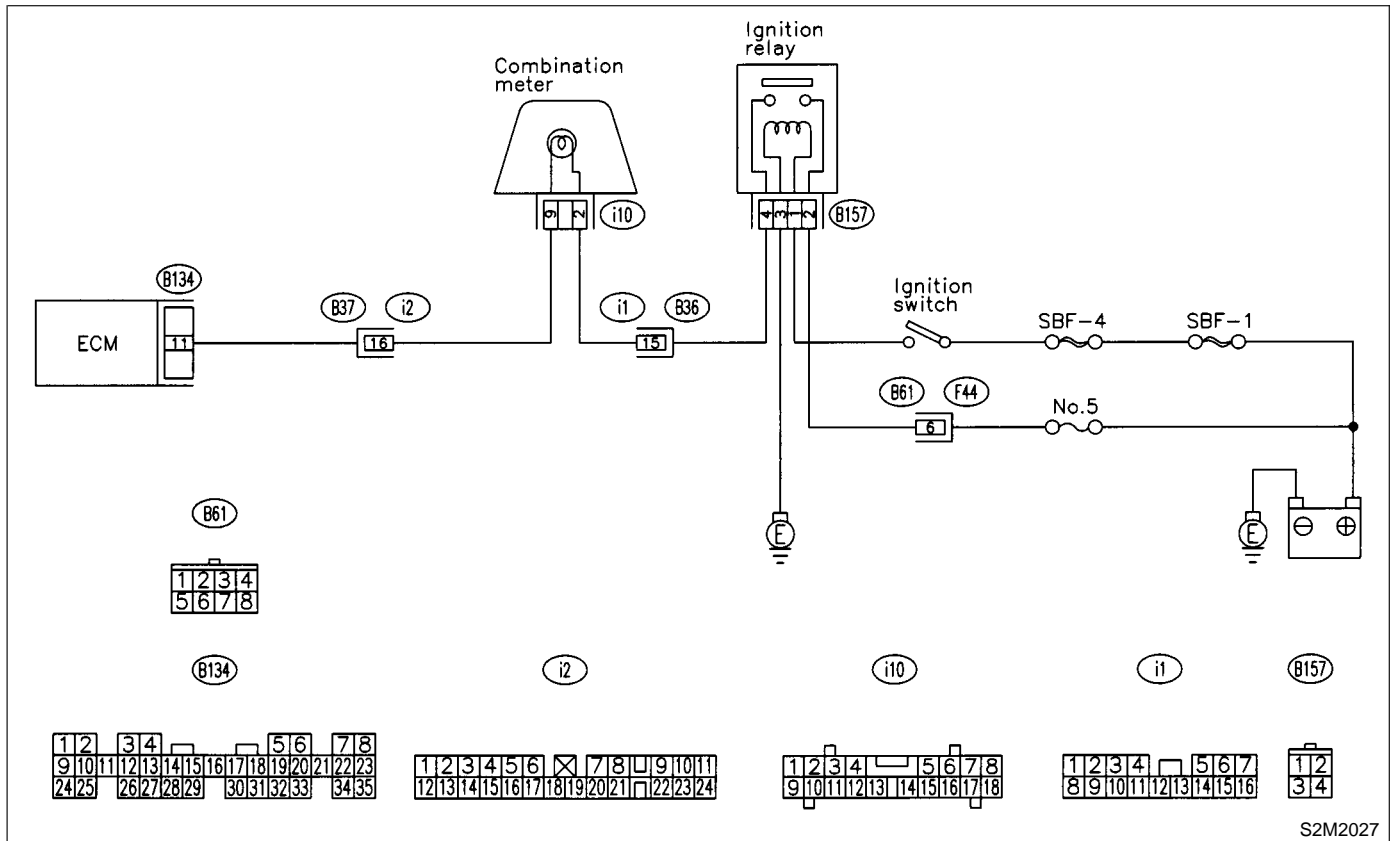


## 7. Diagnostics for CHECK ENGINE Malfunction Indicator Lamp (MIL)

### A: CHECK ENGINE MALFUNCTION INDICATOR LAMP (MIL) DOES NOT COME ON.

- **DIAGNOSIS:**
  - The CHECK ENGINE malfunction indicator lamp (MIL) circuit is open or shorted.
- **TROUBLE SYMPTOM:**
  - When ignition switch is turned ON (engine OFF), MIL does not come on.
- **WIRING DIAGRAM:**

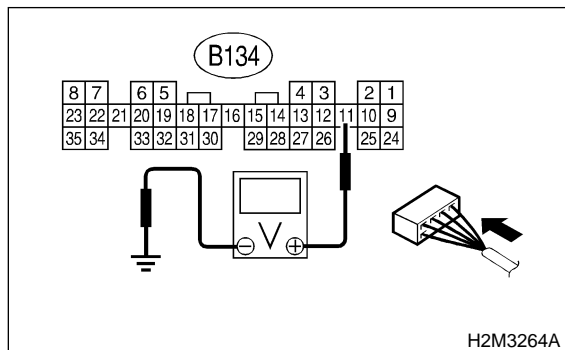


**7A1 : CHECK OUTPUT SIGNAL FROM ECM.**

- 1) Turn ignition switch to ON.
- 2) Measure voltage between ECM connector and chassis ground.

**Connector & terminal**

**(B134) No. 11 (+) — Chassis ground (-):**



- CHECK** : *Is the voltage less than 1 V?*
- YES** : Go to step **7A4**.
- NO** : Go to step **7A2**.

**7A2 : CHECK POOR CONTACT.**

- CHECK** : *Does the MIL come on when shaking or pulling ECM connector and harness?*
- YES** : Repair poor contact in ECM connector.
- NO** : Go to step **7A3**.

**7A3 : CHECK ECM CONNECTOR.**

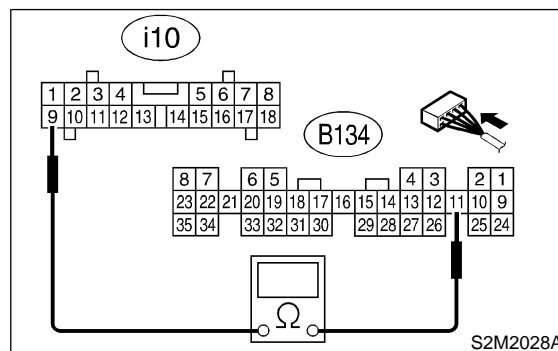
- CHECK** : *Is ECM connector correctly connected?*
- YES** : Replace ECM. <Ref. to 2-7 [W17A0].>
- NO** : Repair connection of ECM connector.

**7A4 : CHECK HARNESS BETWEEN COMBINATION METER AND ECM CONNECTOR.**

- 1) Turn ignition switch to OFF.
- 2) Remove combination meter. <Ref. to 6-2 [W8A0].>
- 3) Disconnect connector from ECM and combination meter.
- 4) Measure resistance of harness between ECM and combination meter connector.

**Connector & terminal**

**(B134) No. 11 — (i10) No. 9:**



- CHECK** : *Is resistance less than 1 Ω?*
- YES** : Go to step **7A5**.
- NO** : Repair harness and connector.

**NOTE:**

In this case, repair the following:

- Open circuit in harness between ECM and combination meter connector
- Poor contact in coupling connector (i2)

**7A5 : CHECK POOR CONTACT.**

Check poor contact in combination meter connector. <Ref. to FOREWORD [W3C1].>

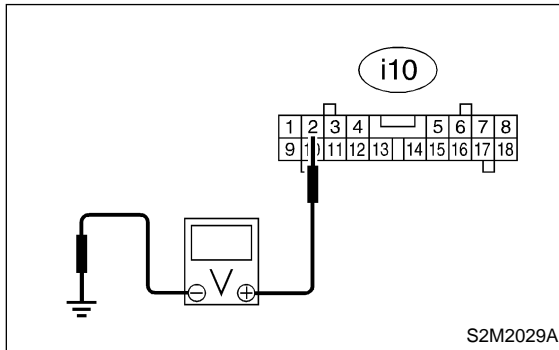
- CHECK** : *Is there poor contact in combination meter connector?*
- YES** : Repair poor contact in combination meter connector.
- NO** : Go to step **7A6**.

**7A6 : CHECK HARNESS BETWEEN COMBINATION METER AND IGNITION SWITCH CONNECTOR.**

- 1) Turn ignition switch to ON.
- 2) Measure voltage between combination meter connector and chassis ground.

**Connector & terminal**

**(i10) No. 2 (+) — Chassis ground (-):**



- CHECK** : **Is voltage more than 10 V?**
- YES** : Go to step **7A7**.
- NO** : Check the following and repair if necessary.

**NOTE:**

- Broken down ignition relay.
- Blown out fuse (No. 5).
- If replaced fuse (No. 5) blows easily, check the harness for short circuit of harness between fuse (No. 5) and ignition relay connector.
- Open or short circuit in harness between fuse (No. 5) and battery terminal
- Open circuit in harness between fuse (No. 5) and ignition relay connector
- Poor contact in ignition relay connector
- Poor contact in ignition switch connector

**7A7 : CHECK LAMP BULB.**

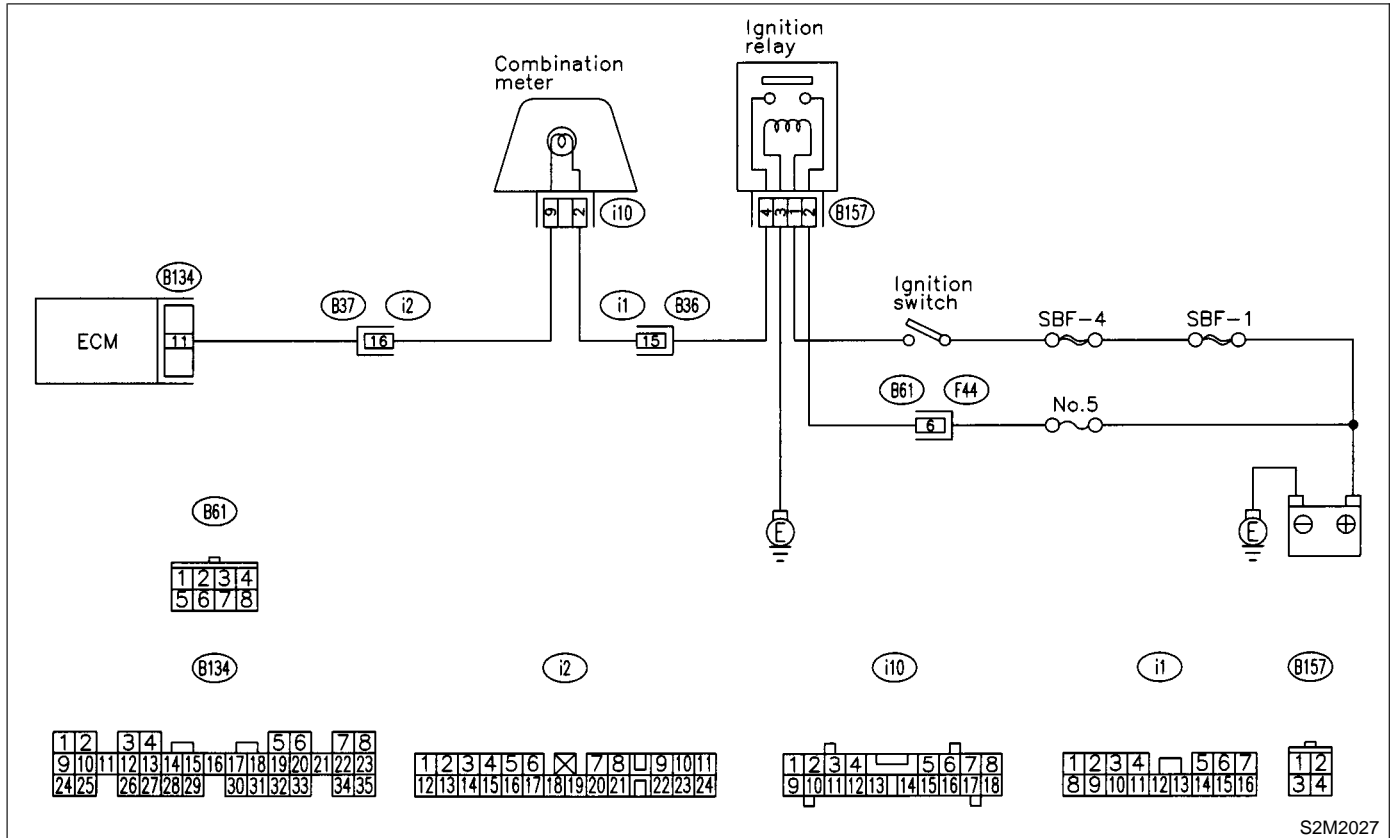
Remove engine malfunction indicator lamp bulb.

- CHECK** : **Is lamp bulb condition OK?**
- YES** : Repair combination meter connector.
- NO** : Replace lamp bulb.

**MEMO:**

**B: CHECK ENGINE MALFUNCTION INDICATOR LAMP (MIL) DOES NOT GO OFF.**

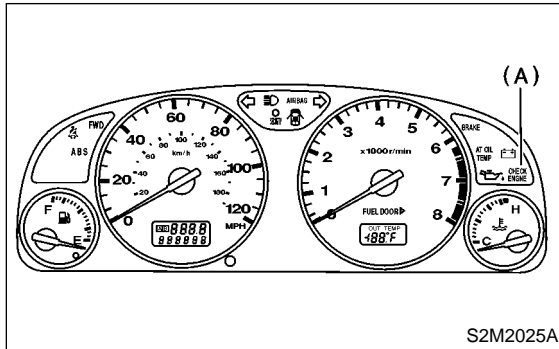
- **DIAGNOSIS:**
  - The CHECK ENGINE malfunction indicator lamp (MIL) circuit is shorted.
- **TROUBLE SYMPTOM:**
  - Although MIL comes on when engine runs, trouble code is not shown on Subaru select monitor or OBD-II general scan tool display.
- **WIRING DIAGRAM:**



**7B1 : CHECK HARNESS BETWEEN COMBINATION METER AND ECM CONNECTOR.**

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ECM.
- 3) Turn ignition switch to ON.

**CHECK** : *Does the MIL come on?*

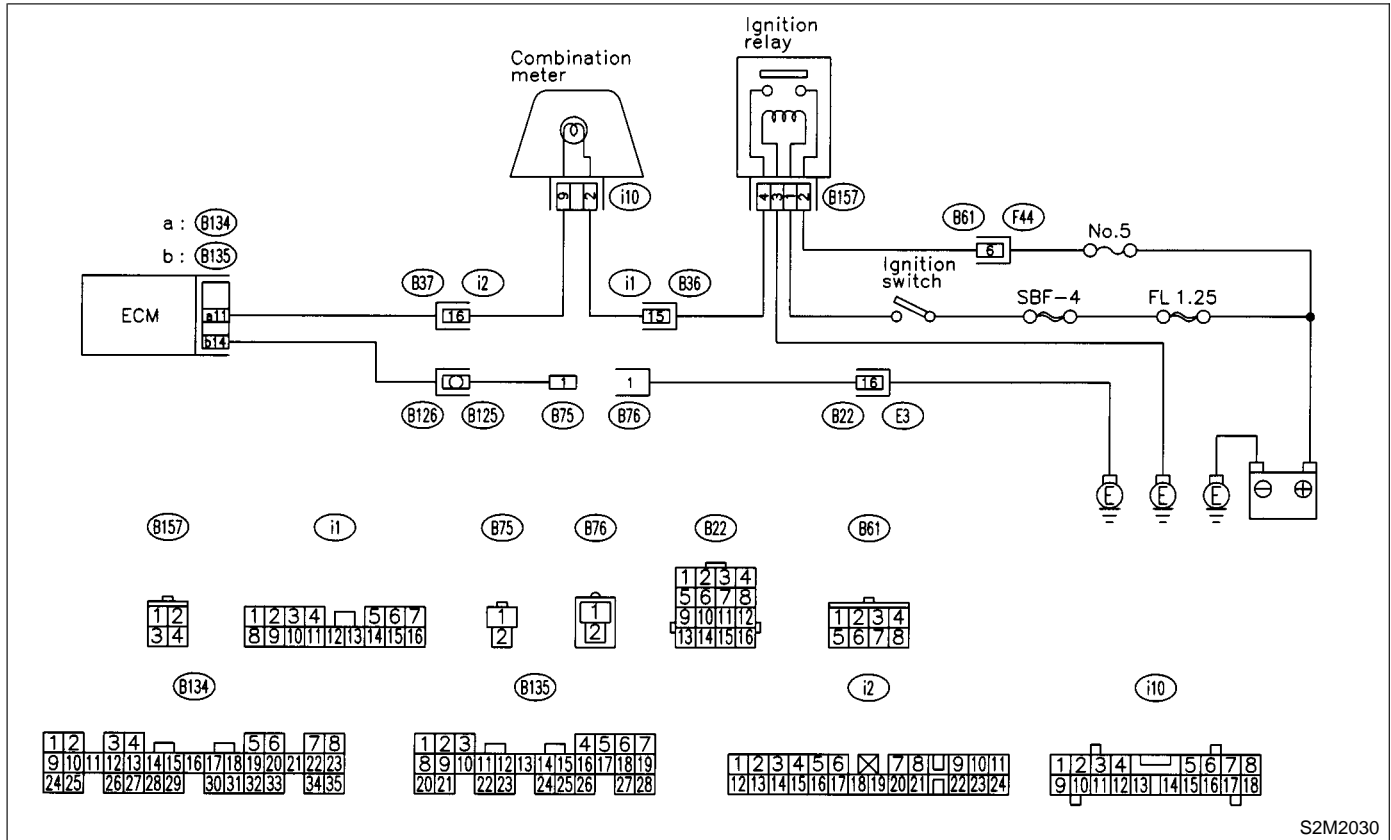


(A) Malfunction indicator lamp (MIL)

- YES** : Repair short circuit in harness between combination meter and ECM connector.
- NO** : Replace ECM. <Ref. to 2-7 [W17A0].>

**C: CHECK ENGINE MALFUNCTION INDICATOR LAMP (MIL) DOES NOT BLINK AT A CYCLE OF 3 Hz.**

- **DIAGNOSIS:**
  - The CHECK ENGINE malfunction indicator lamp (MIL) circuit is open or shorted.
  - Test mode connector circuit is in open.
- **TROUBLE SYMPTOM:**
  - When inspection mode, MIL does not blink at a cycle of 3 Hz.
- **WIRING DIAGRAM:**

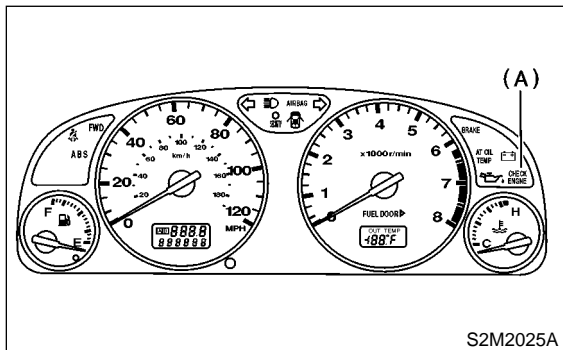


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**7C1 : CHECK STATUS OF CHECK ENGINE MALFUNCTION INDICATOR LAMP (MIL).**

- 1) Turn ignition switch to OFF.
- 2) Disconnect test mode connector.
- 3) Turn ignition switch to ON. (engine OFF)

**CHECK** : *Does the MIL come on?*



(A) Malfunction indicator lamp (MIL)

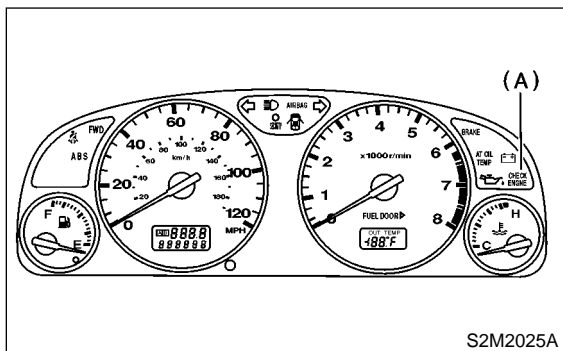
**YES** : Go to step **7C2**.

**NO** : Repair the MIL circuit. <Ref. to 2-7 [T7A0].>

**7C2 : CHECK HARNESS BETWEEN COMBINATION METER AND ECM CONNECTOR.**

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ECM.
- 3) Turn ignition switch to ON.

**CHECK** : *Does the MIL come on?*



(A) Malfunction indicator lamp (MIL)

**YES** : Repair ground short circuit in harness between combination meter and ECM connector.

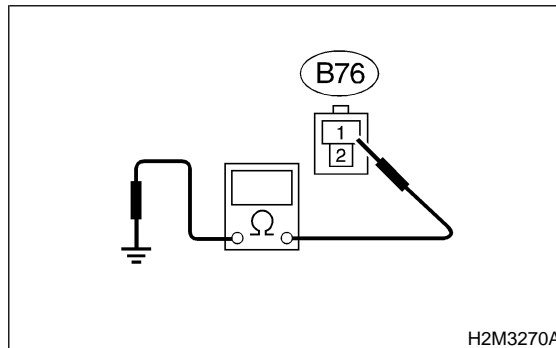
**NO** : Go to step **7C3**.

**7C3 : CHECK HARNESS BETWEEN TEST MODE CONNECTOR AND CHASSIS GROUND.**

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ECM.
- 3) Measure resistance of harness between test mode connector and chassis ground.

**Connector & terminal**

**(B76) No. 1 — Chassis ground:**



**CHECK** : *Is resistance less than 1 Ω?*

**YES** : Go to step **7C4**.

**NO** : Repair harness and connector.

**NOTE:**

In this case, repair the following:

- Open circuit in harness between test mode connector and chassis ground

**7C4 : CHECK POOR CONTACT.**

Check poor contact in ECM connector. <Ref. to FOREWORD [W3C1].>

**CHECK** : *Is there poor contact in ECM connector?*

**YES** : Repair poor contact in ECM connector.

**NO** : Go to step **7C5**.

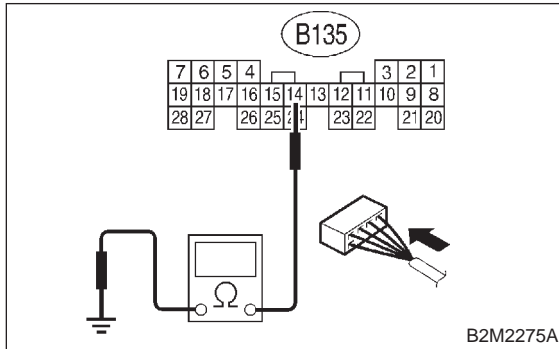


**7C5 : CHECK HARNESS BETWEEN ECM AND TEST MODE CONNECTOR.**

- 1) Connect test mode connector.
- 2) Measure resistance of harness between ECM and chassis ground.

**Connector & terminal**

**(B135) No. 14 — Chassis ground:**



- CHECK** : **Is resistance less than 1 Ω?**
- YES** : Go to step **7C6**.
- NO** : Repair open circuit in harness between ECM and test mode connector.

**7C6 : CHECK POOR CONTACT.**

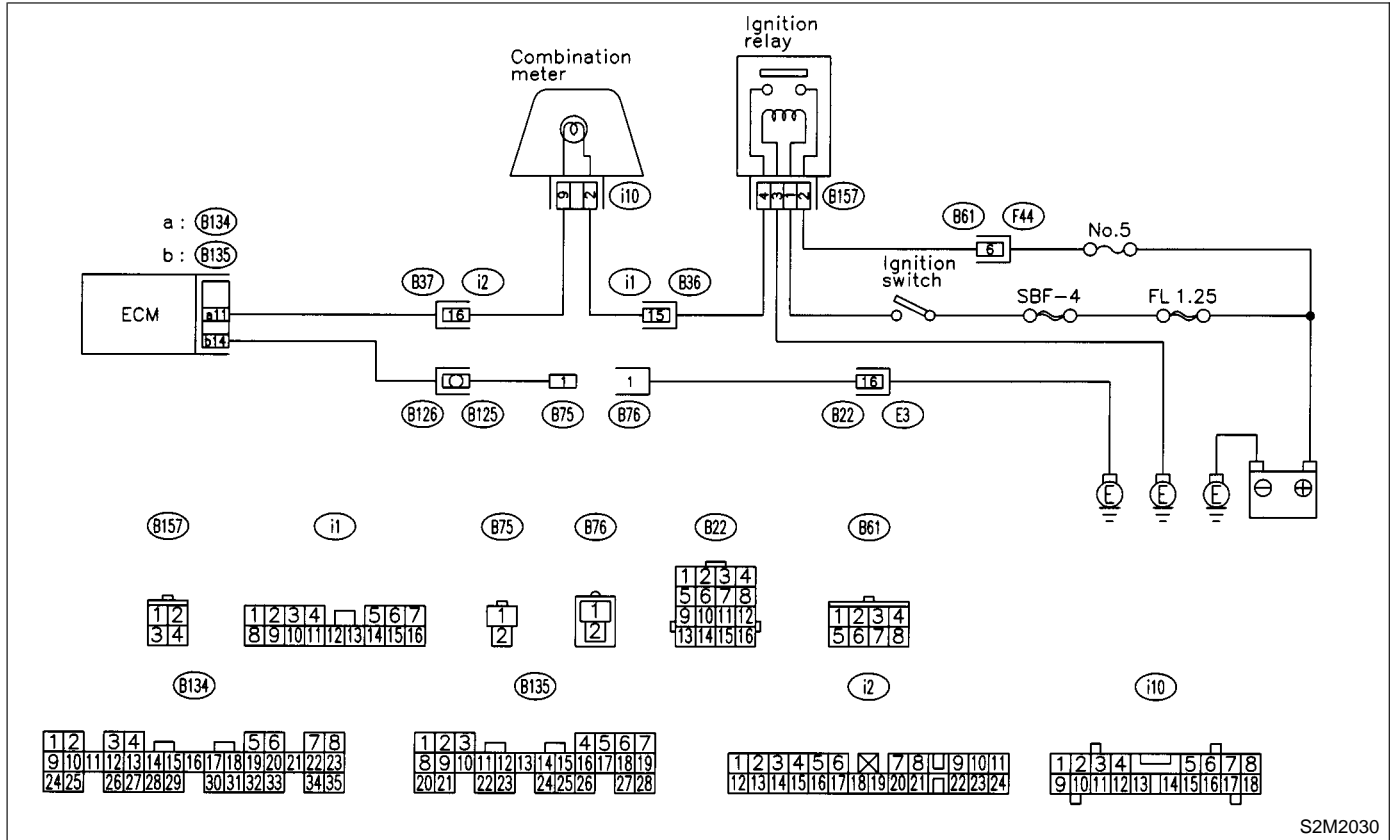
Check poor contact in ECM connector.  
<Ref. to FOREWORD [T3C1].>

- CHECK** : **Is there poor contact in ECM connector?**
- YES** : Repair poor contact in ECM connector.
- NO** : Replace ECM. <Ref. to 2-7 [W17A0].>

**MEMO:**

**D: CHECK ENGINE MALFUNCTION INDICATOR LAMP (MIL) REMAINS BLINKING AT A CYCLE OF 3 Hz.**

- **DIAGNOSIS:**
  - Test mode connector circuit is shorted.
- **TROUBLE SYMPTOM:**
  - MIL blinks at a cycle of 3 Hz when ignition switch is turned to ON.
- **WIRING DIAGRAM:**



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**7D1 : CHECK TEST MODE CONNECTOR.**

- 1) Disconnect test mode connector.
- 2) Turn ignition switch to ON.

- CHECK** : Does MIL flash on and off?
- YES** : Go to step 7D2.
- NO** : System is in good order.

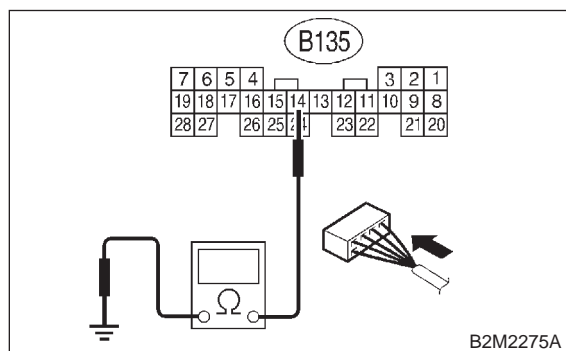
**NOTE:**  
MIL blinks at a cycle of 3 Hz when test mode connector is connected.

**7D2 : CHECK HARNESS BETWEEN ECM CONNECTOR AND ENGINE GROUNDING TERMINAL.**

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ECM.
- 3) Measure resistance of harness between ECM connector and chassis ground.

**Connector & terminal**

**(B135) No. 14 — Chassis ground:**



- CHECK** : **Is resistance less than 5 Ω?**
- YES** : Repair short circuit in harness between ECM and test mode connector.
- NO** : Replace ECM. <Ref. to 2-7 [W17A0].>

**MEMO:**