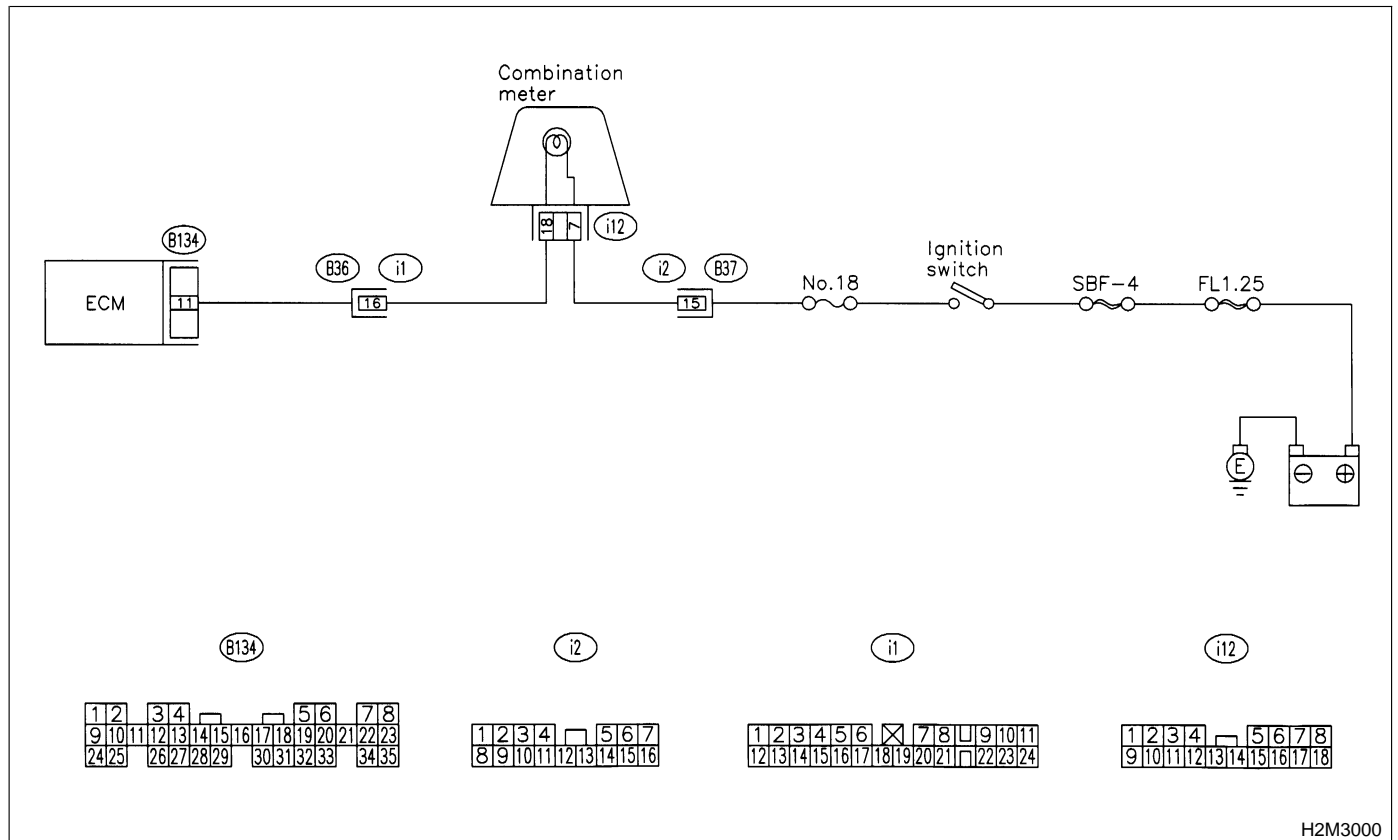


## 7. Diagnostics for CHECK ENGINE Malfunction Indicator Lamp (MIL)

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

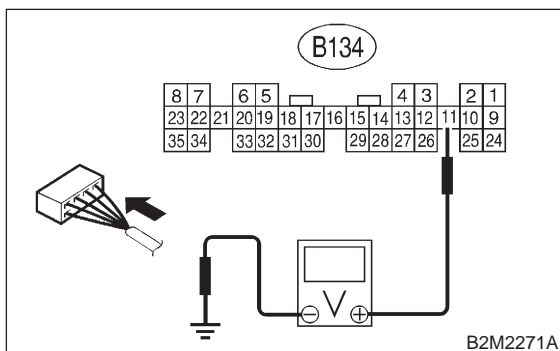
- **DIAGNOSIS:**
  - The CHECK ENGINE malfunction indicator lamp (MIL) circuit is open or shorted.
- **TROUBLE SYMPTOM:**
  - When ignition switch is turned ON (engine OFF), MIL does not come on.
- **WIRING DIAGRAM:**



**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 7A2.
- NO** : Go to step 7A4.

**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.

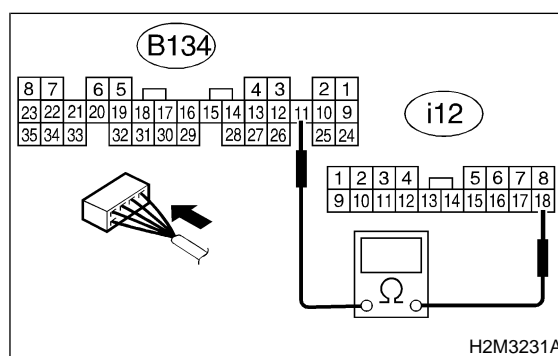
**7A3 : CHECK ECM CONNECTOR.**

- CHECK** : *Is ECM connector correctly connected?*
- YES** : Replace ECM. <Ref. to 2-7 [W15A0].>
- 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 — (i12) No. 18:**



- 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 (i1)

**7A5 : CHECK POOR CONTACT.**

Check poor contact in combination meter connector.

<Ref. to FOREWORD [T3C1].>

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

## 2-7 [T7A6]

# ON-BOARD DIAGNOSTICS II SYSTEM

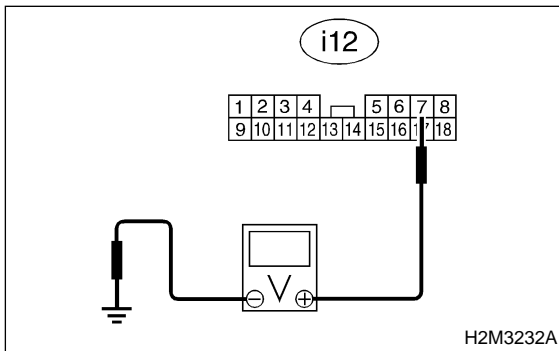
## 7. Diagnostics for CHECK ENGINE Malfunction Indicator Lamp (MIL)

### 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

(i12) No. 7 (+) — Chassis ground (-):



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

#### NOTE:

- Blown out fuse (No. 18).
- If replaced fuse (No. 18) is blown easily, check the harness for short circuit of harness between fuse (No. 18) and combination meter connector.
  - Open or short circuit in harness between fuse (No. 18) and combination meter connector
  - Open or short circuit in harness between fuse (No. 18) and ignition switch connector
  - Poor contact in ignition switch connector

### 7A7 : CHECK POOR CONTACT.

Check poor contact in combination meter connector.

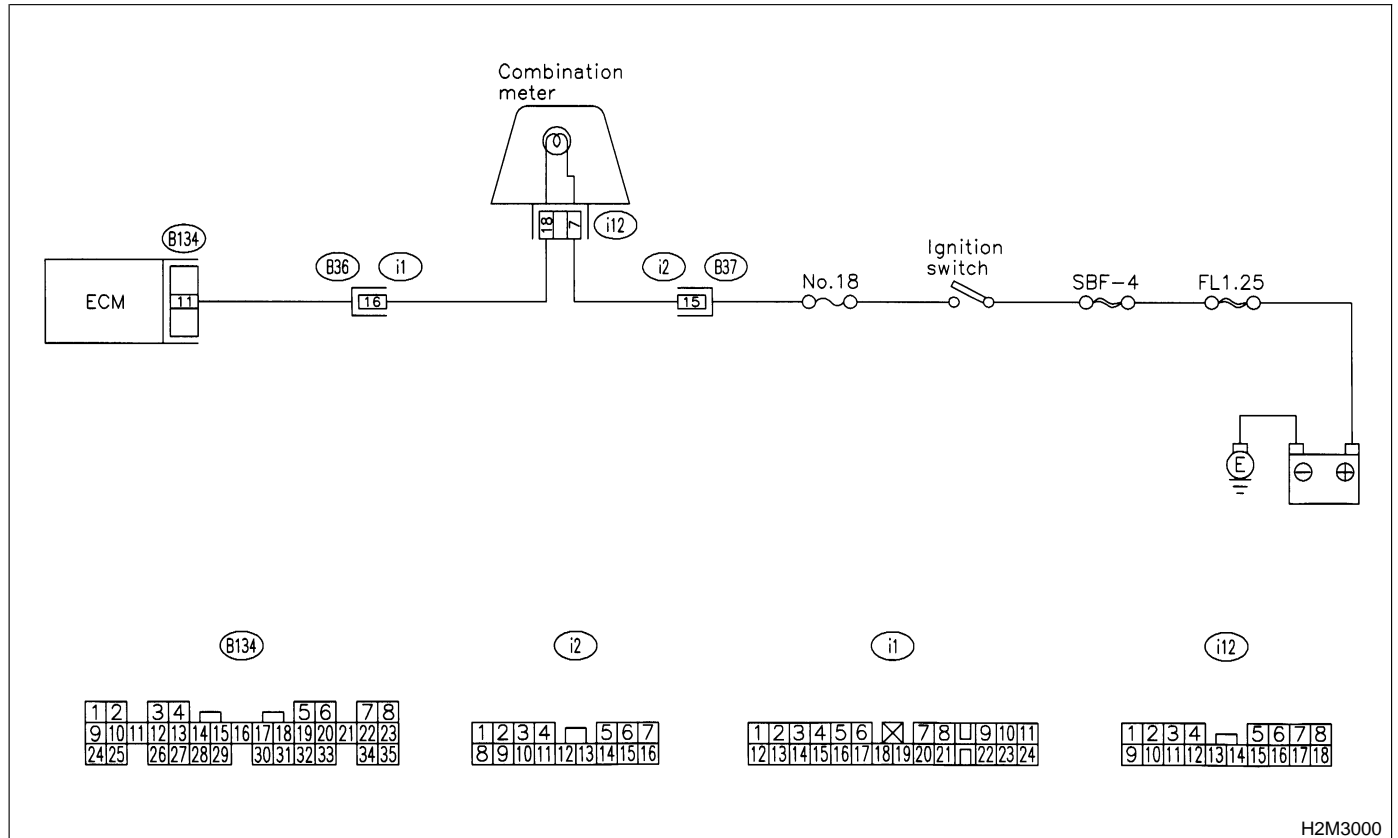
<Ref. to FOREWORD [T3C1].>

- CHECK** : *Is there poor contact in combination meter connector?*
- YES** : Repair poor contact in combination meter connector.
- NO** : Replace bulb or combination meter.  
<Ref. to 6-2 [W800].>

**MEMO:**

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

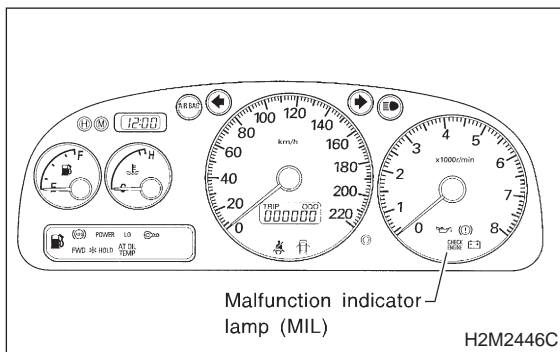
- **DIAGNOSIS:**
  - The CHECK ENGINE malfunction indicator lamp (MIL) circuit is shorted.
- **TROUBLE SYMPTOM:**
  - Although MIL comes on when engine runs, trouble code is not shown on Subaru Select Monitor or OBD-II general scan tool display.
- **WIRING DIAGRAM:**



H2M3000

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

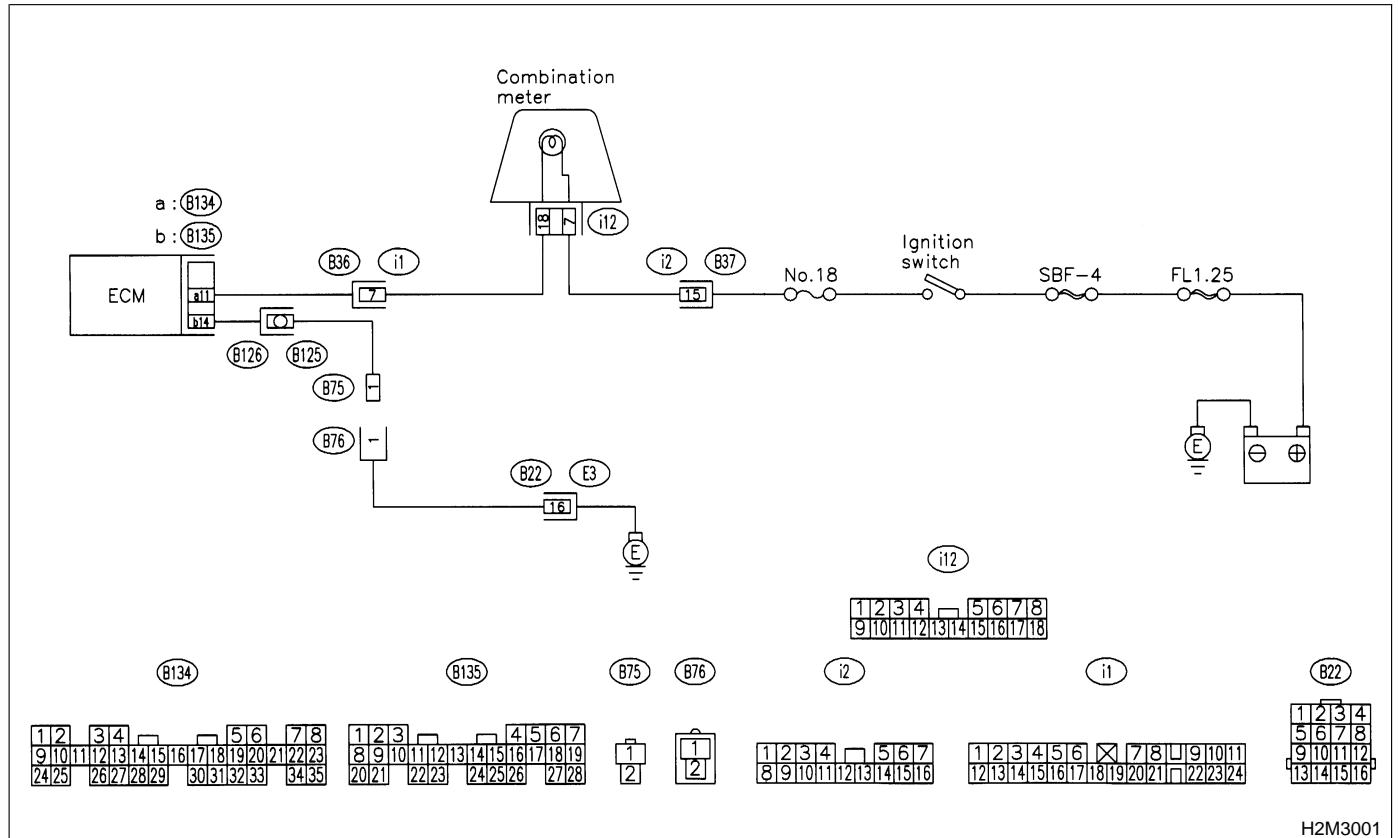
- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ECM.
- 3) Turn ignition switch to ON.



- CHECK** : **Does the MIL come on?**
- YES** : Repair ground short circuit in harness between combination meter and ECM connector.
- NO** : Replace ECM. <Ref. to 2-7 [W15A0].>

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

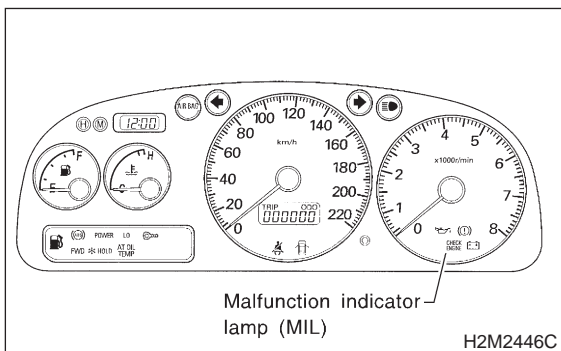
- **DIAGNOSIS:**
  - The CHECK ENGINE malfunction indicator lamp (MIL) circuit is open or shorted.
  - Test mode connector circuit is in open.
- **TROUBLE SYMPTOM:**
  - When inspection mode, MIL does not blink at a cycle of 3 Hz.
- **WIRING DIAGRAM:**



H2M3001

## 7C1 : CHECK OPERATION OF CHECK ENGINE MALFUNCTION INDICATOR LAMP (MIL).

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

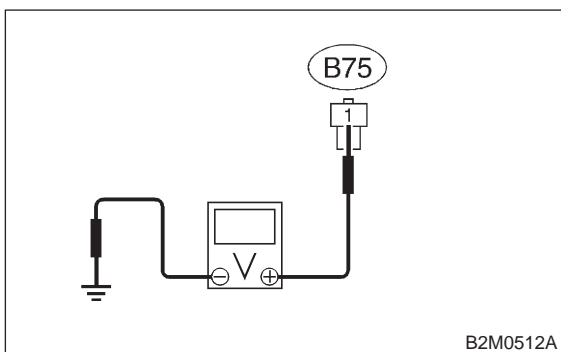


- CHECK** : Does the MIL come on?
- YES** : Go to step 7C2.
- NO** : Repair the MIL circuit. <Ref. to 2-7 [T7A0].>

## 7C2 : CHECK OUTPUT SIGNAL FROM ECM.

Measure voltage between test mode connector and chassis ground.

**Connector & terminal**  
(B75) No. 1 (+) — Chassis ground (-):

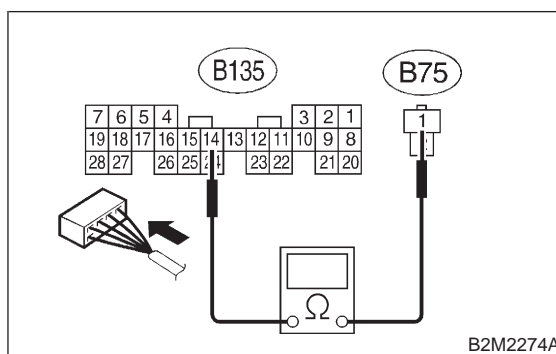


- CHECK** : Is voltage less than 1 V?
- YES** : Go to step 7C3.
- NO** : Go to step 7C5.

## 7C3 : CHECK HARNESS BETWEEN ECM AND TEST MODE CONNECTOR.

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

**Connector & terminal**  
(B135) No. 14 — (B75) No. 1:



- CHECK** : Is resistance less than 1 Ω?
- YES** : Go to step 7C4.
- NO** : Repair open circuit in harness between ECM and test mode connector.

## 7C4 : CHECK POOR CONTACT.

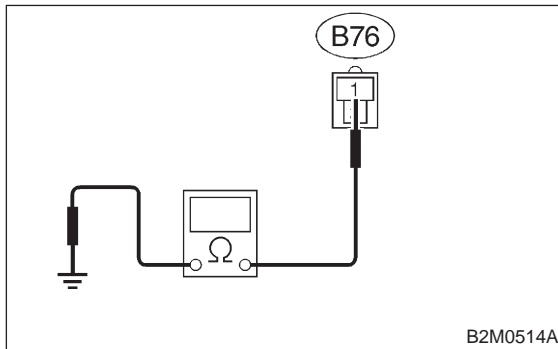
Check poor contact in ECM connector.  
<Ref. to FOREWORD [T3C1].>

- CHECK** : Is there poor contact in ECM connector?
- YES** : Repair poor contact in ECM connector.
- NO** : Replace ECM. <Ref. to 2-7 [W15A0].>



**7C5 : CHECK GROUND CIRCUIT.**

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

**Connector & terminal****(B76) No. 1 — Chassis ground:****CHECK** : **Is resistance less than 5  $\Omega$ ?****YES** : Repair poor contact in test mode connector.**NO** : Repair harness and connector.**NOTE:**

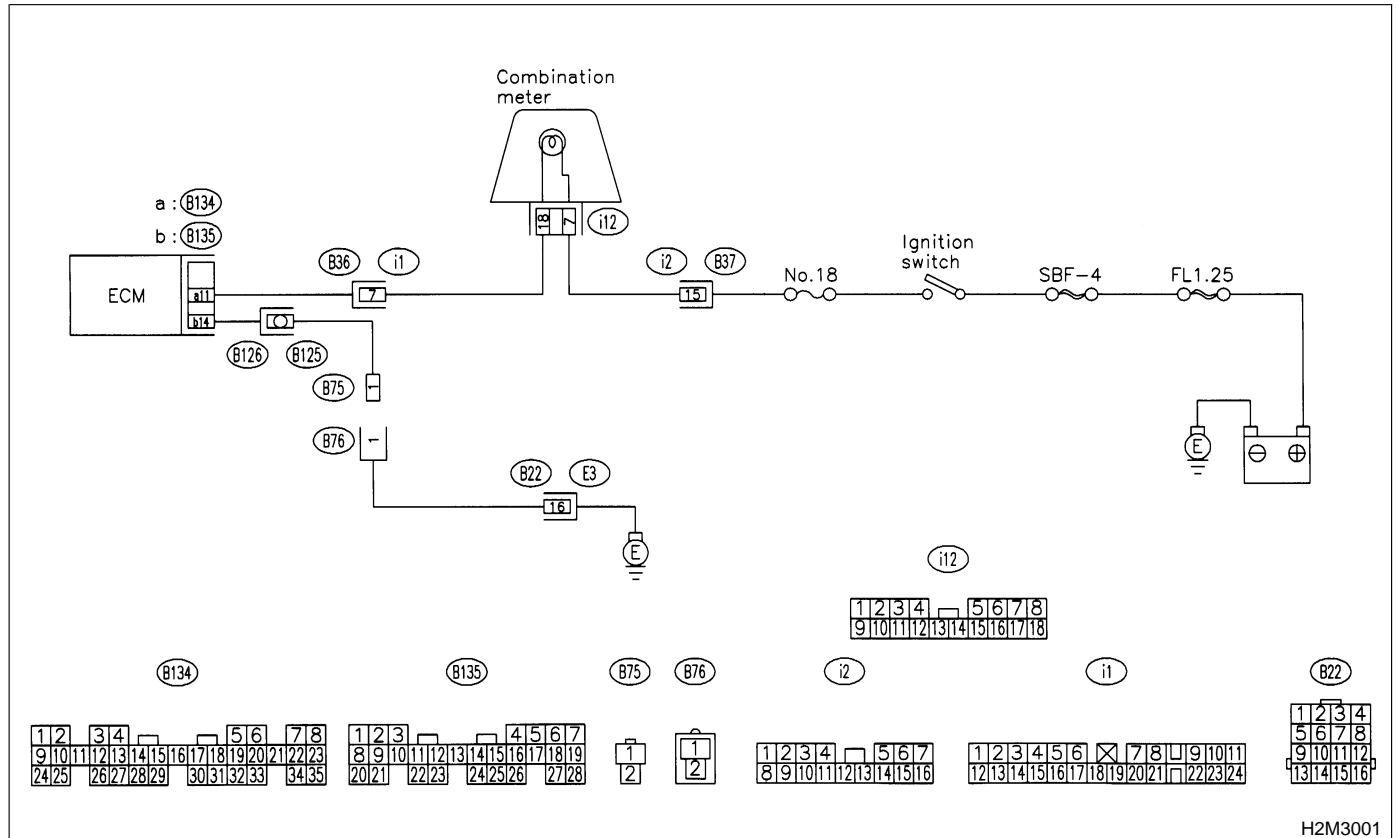
In this case, repair the following:

- Open circuit in harness between test mode and coupling connector (B22)
- Open circuit in harness between coupling connector (B22) and engine grounding terminal
- Poor contact in coupling connector (B22)

**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:**
  - Even though test mode connector is disconnected, MIL blinks at a cycle of 3 Hz when ignition switch is turned to ON.
- **WIRING DIAGRAM:**

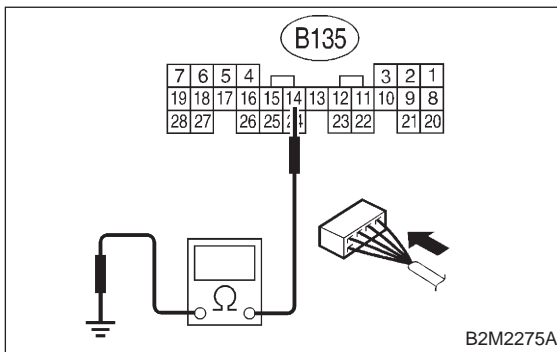


**7D1 : CHECK HARNESS BETWEEN ECM CONNECTOR AND ENGINE GROUNDING TERMINAL.**

- 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 [W15A0].>

**MEMO:**