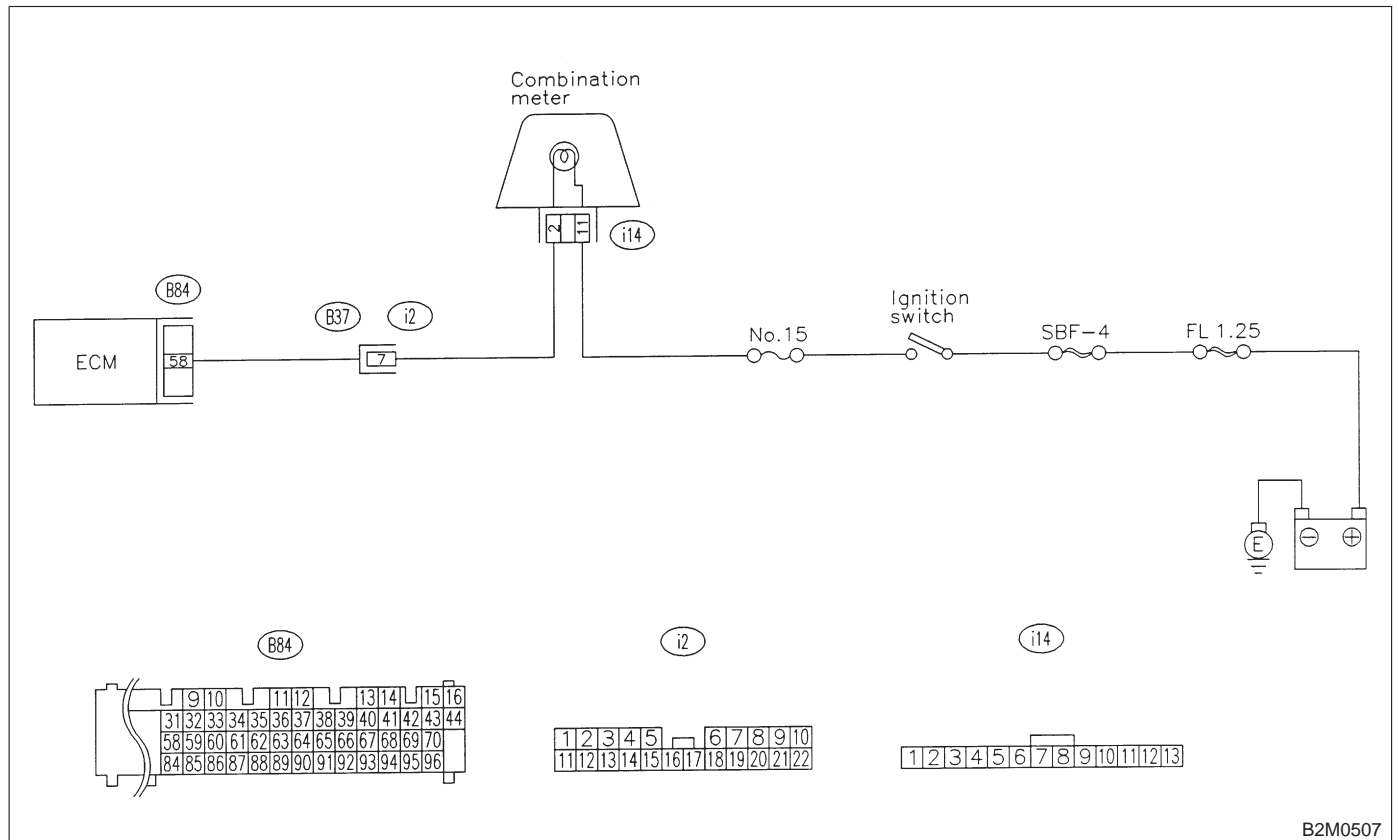


7. Diagnostics for CHECK ENGINE Malfunction Indicator Lamp (MIL)

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:**

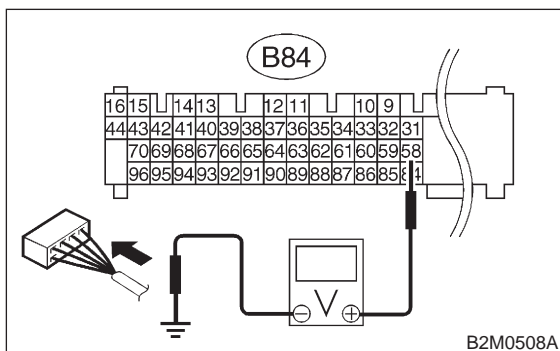


B2M0507

7A1 : CHECK OUTPUT SIGNAL FROM ECM.

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

Connector & terminal
(B84) No. 58 (+) — 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.

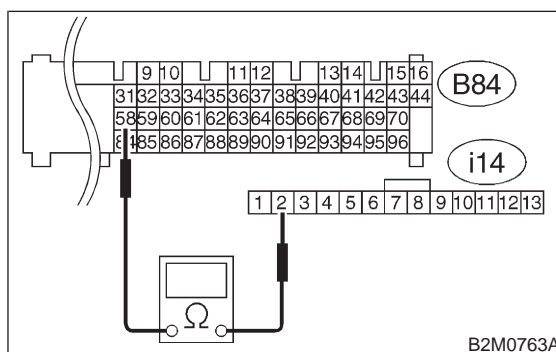
7A3 : CHECK ECM CONNECTOR.

- CHECK** : Is ECM connector correctly connected?
YES : Replace ECM.
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 [W14A1].>
- 3) Disconnect connector from ECM and combination meter.
- 4) Measure resistance of harness between ECM and combination meter connector.

Connector & terminal
(B84) No. 58 — (i14) No. 2:



- 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 (B37)

7A5 : CHECK POOR CONTACT.

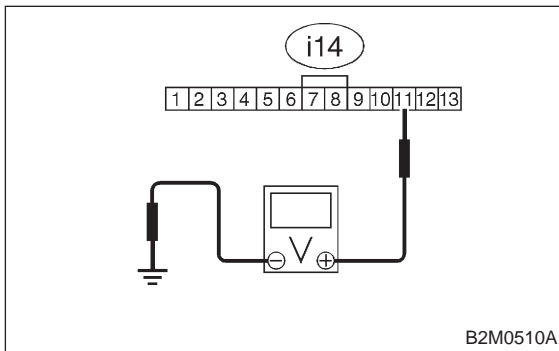
Check poor contact in combination meter connector.
 <Ref. to FOREWORD [T3C1].>

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

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
(i14) No. 11 (+) — 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. 15).
- If replaced fuse (No. 15) is blown easily, check the harness for short circuit of harness between fuse (No. 15) and combination meter connector.
 - Open or short circuit in harness between fuse (No. 15) and combination meter connector
 - Open or short circuit in harness between fuse (No. 15) and ignition switch connector
 - Poor contact in ignition switch connector

7A7 : CHECK POOR CONTACT.

Check poor contact in combination meter connector.

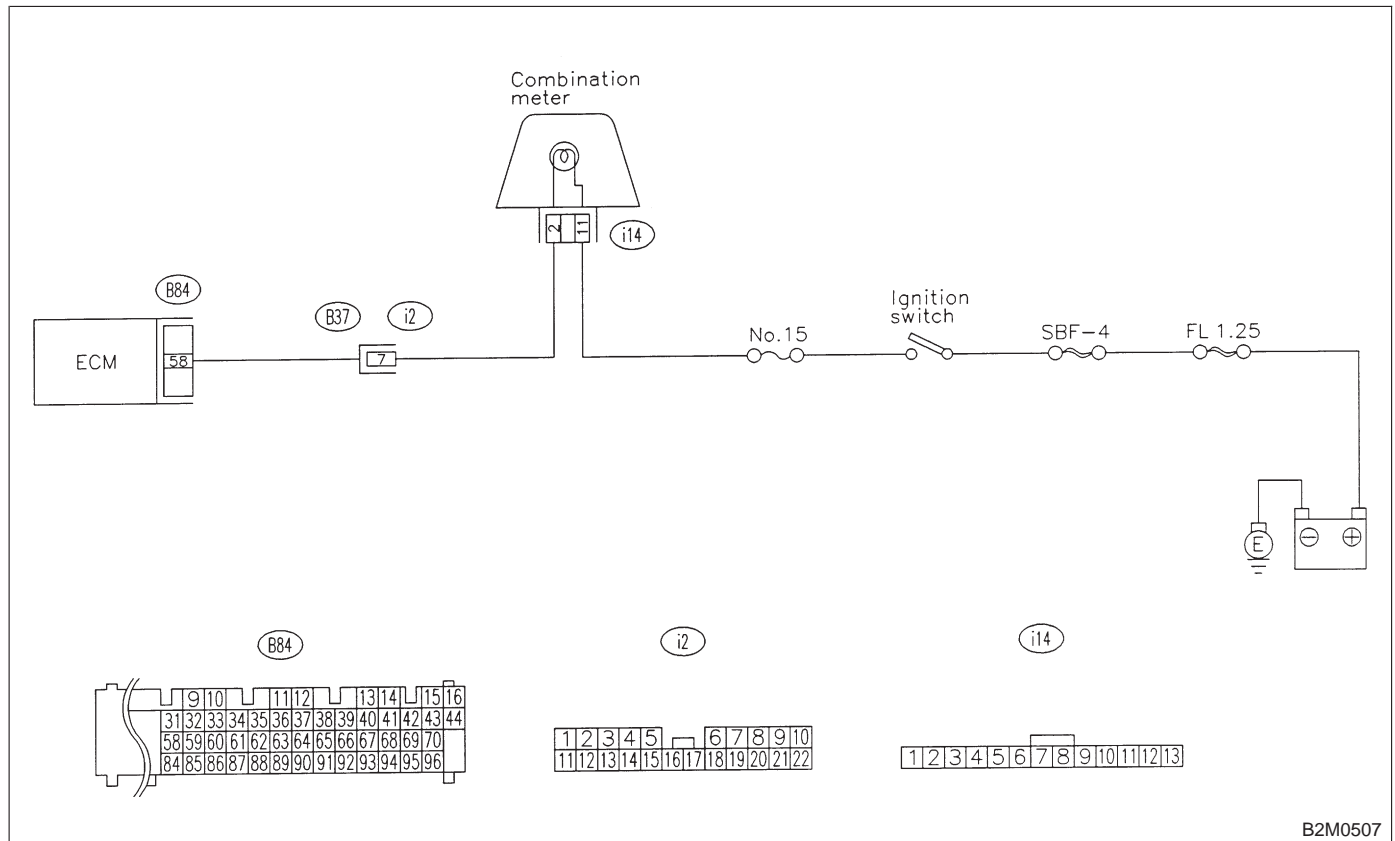
<Ref. to FOREWORD [T3C1].>

- CHECK** : **Is there poor contact in combination meter connector?**
- YES** : Repair poor contact in combination meter connector.
- NO** : Replace bulb or combination meter.

MEMO:

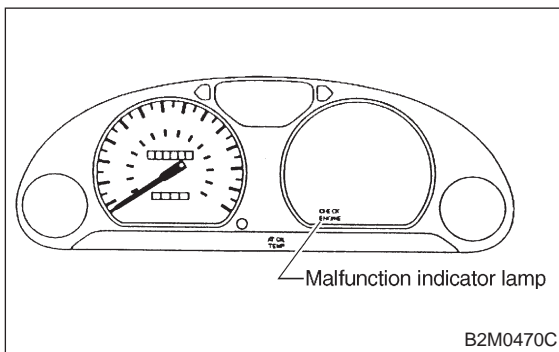
B: CHECK ENGINE MALFUNCTION INDICATOR LAMP (MIL) DOES NOT GO OFF.

- **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.

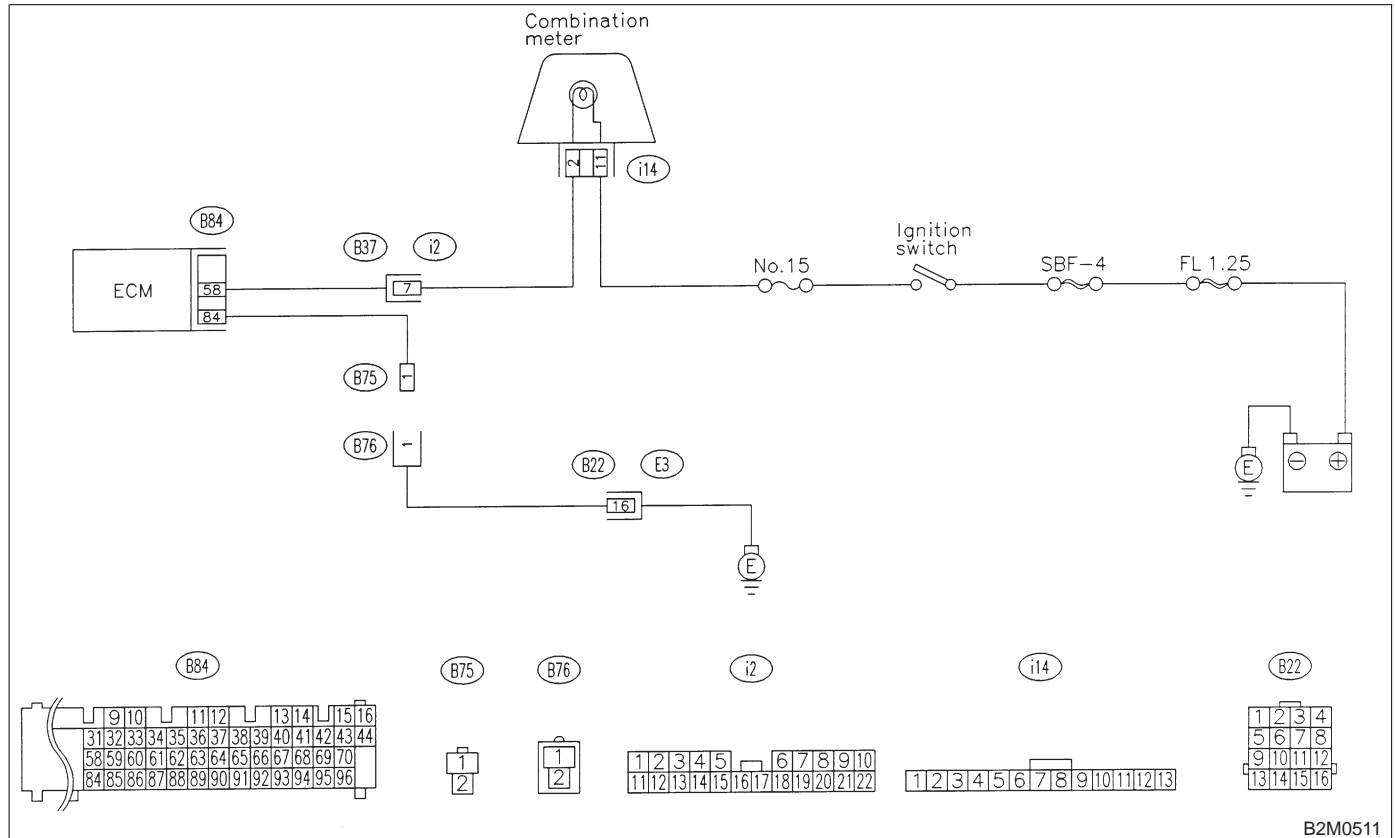
- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ECM.
- 3) Turn ignition switch to ON.



- CHECK** : ***Does the MIL come on?***
- YES** : Repair ground short circuit in harness between combination meter and ECM connector.
- NO** : Replace ECM.

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

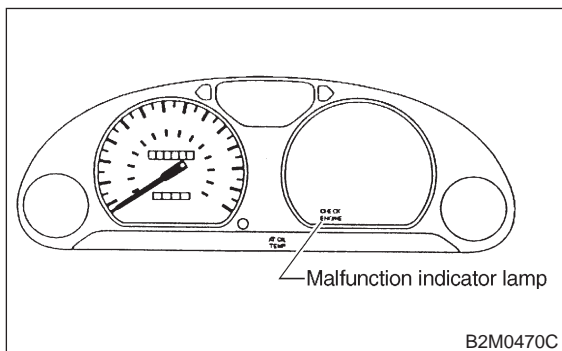
- **DIAGNOSIS:**
 - The CHECK ENGINE malfunction indicator lamp (MIL) circuit is open or shorted.
 - Test mode connector circuit is in open.
- **TROUBLE SYMPTOM:**
 - When inspection mode, MIL does not blink at a cycle of 3 Hz.
- **WIRING DIAGRAM:**



B2M0511

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.

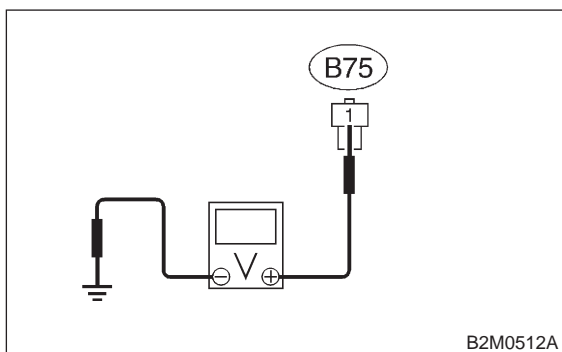


- CHECK** : *Does the MIL come on?*
- YES** : Go to step **7C2**.
- NO** : Repair the MIL circuit. <Ref. to 2-7 [T7A0].>

7C2 : CHECK OUTPUT SIGNAL FROM ECM.

Measure voltage between test mode connector and chassis ground.

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

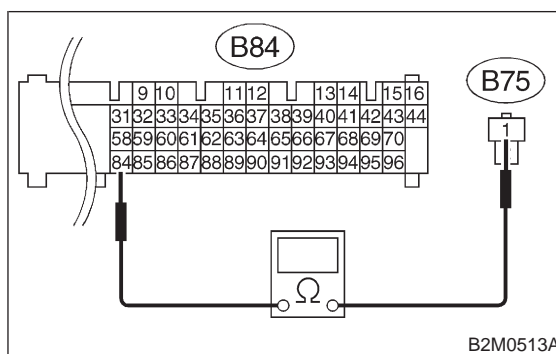


- CHECK** : *Is voltage less than 1 V?*
- YES** : Go to step **7C3**.
- NO** : Go to step **7C5**.

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
(B84) No.84 — (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.

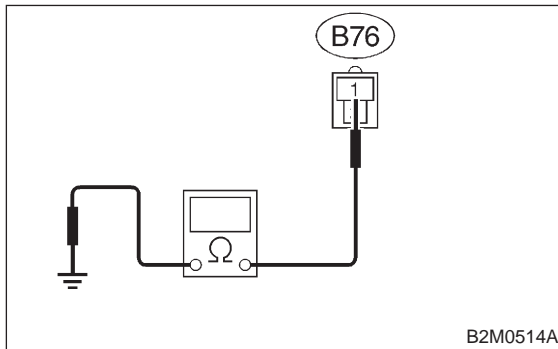
7C4 : CHECK POOR CONTACT.

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.

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 Ω?****YES** : Repair poor contact in test mode connector.**NO** : Repair harness and connector.**NOTE:**

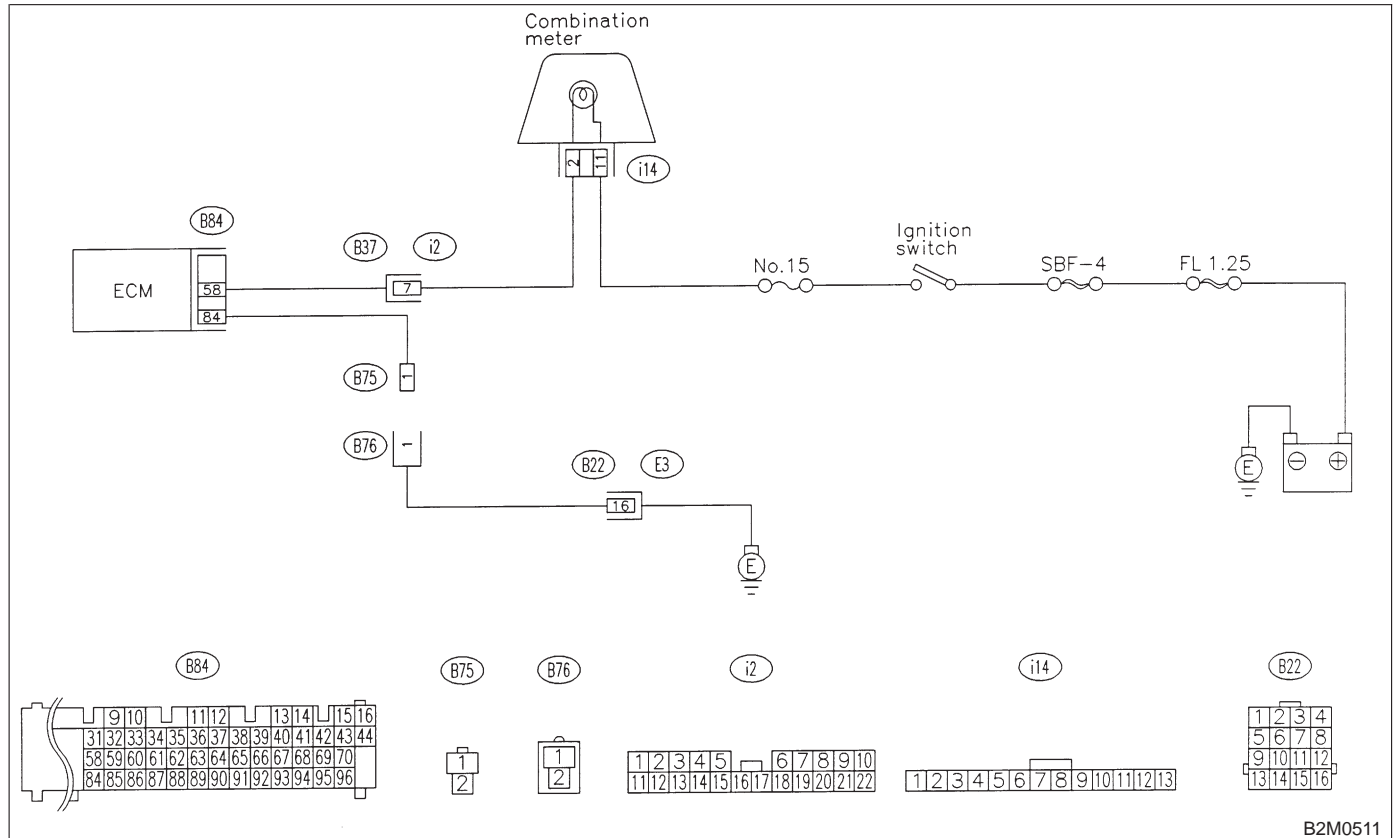
In this case, repair the following:

- 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:**

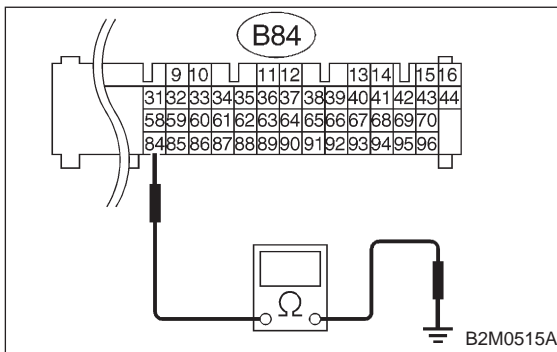


7D1 : CHECK HARNESS BETWEEN ECM CONNECTOR AND ENGINE GROUNDING TERMINAL.

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

Connector & terminal

(B84) No. 84 — Chassis ground:



- CHECK** : **Is resistance less than 5 Ω?**
- YES** : Repair short circuit in harness between ECM and test mode connector.
- NO** : Replace ECM.

MEMO: