

3-2 [T7A0] AUTOMATIC TRANSMISSION AND DIFFERENTIAL

7. Diagnostics for On-board Diagnostics Failed

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A: AT OIL TEMP INDICATOR LIGHT

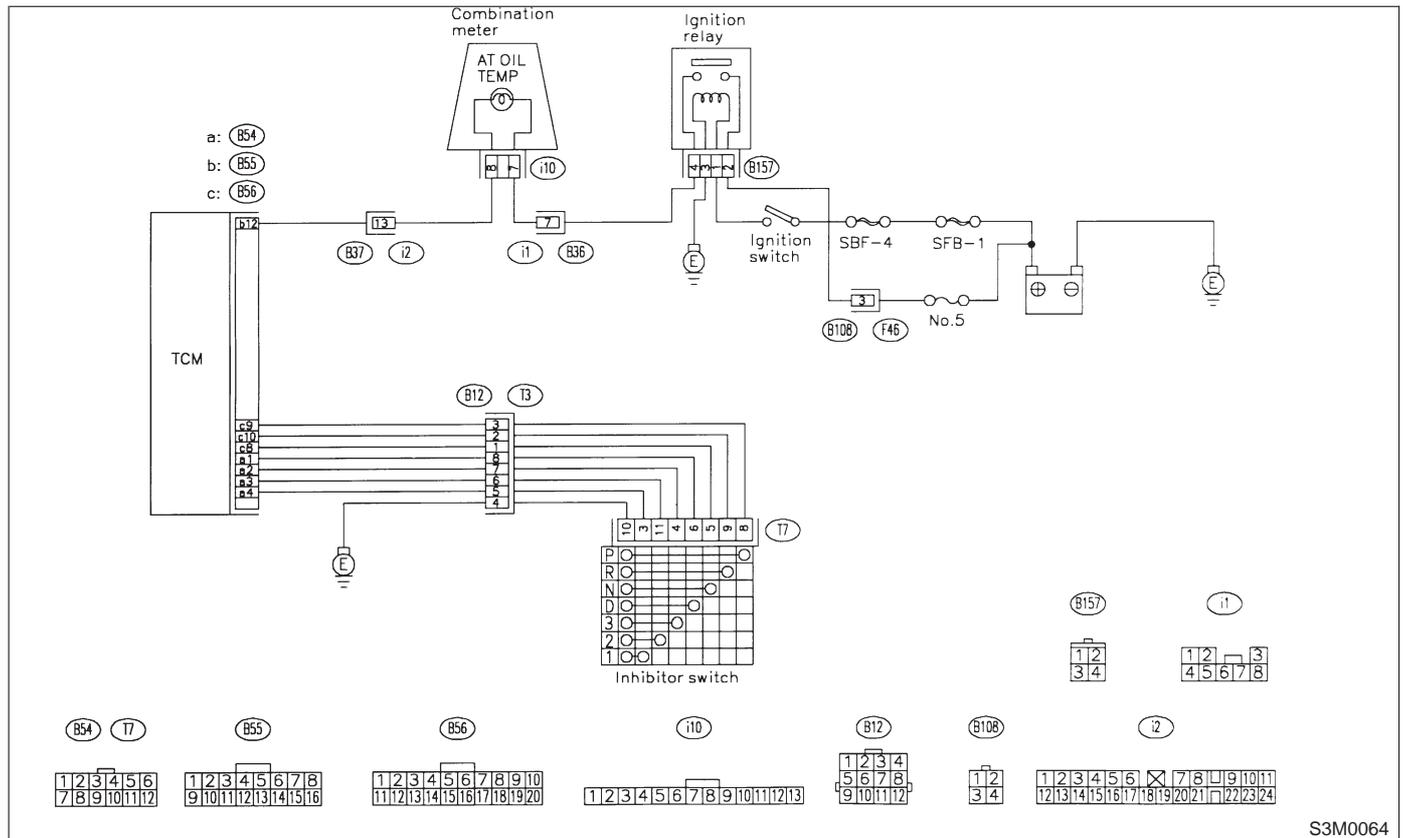
DIAGNOSIS:

The AT OIL TEMP indicator light circuit is open or shorted.

TROUBLE SYMPTOM:

- When ignition switch is turned to ON (engine OFF), AT OIL TEMP indicator light does not illuminate.
- When on-board diagnostics is performed, AT OIL TEMP indicator light remains illuminated.

WIRING DIAGRAM:



S3M0064

7A1 : CHECK AT OIL TEMP INDICATOR LIGHT.

Turn ignition switch to ON (engine OFF).

CHECK : Does AT OIL TEMP indicator light illuminate?

YES : Go to step 7A2.

NO : Go to step 7A3.

7A2 : CHECK AT OIL TEMP INDICATOR LIGHT.

Perform on-board diagnostics. <Ref. to 3-2 [T6C0].>

CHECK : Does AT OIL TEMP indicator light blink?

YES : A temporary poor contact of the connector or harness may be the cause. Repair harness or connector in TCM, inhibitor switch and combination meter.

NO : Go to step 7A8.

7A3 : CHECK FUSE (NO. 5).

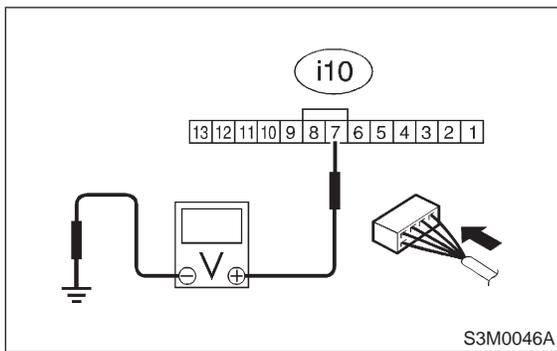
Remove fuse (No. 5).

- CHECK** : *Is the fuse (No. 5) blown out?*
- YES** : Replace fuse (No. 5). If replaced fuse (No. 5) is blown out easily, repair short circuit in harness between fuse (No. 5) and combination meter.
- NO** : Go to step **7A4**.

7A4 : CHECK HARNESS CONNECTOR BETWEEN COMBINATION METER AND IGNITION SWITCH.

- 1) Turn ignition switch to OFF.
- 2) Remove combination meter.
- 3) Turn ignition switch to ON (engine OFF).
- 4) Measure voltage between combination meter connector and chassis ground.

Connector & terminal
(i10) No. 7 (+) — Chassis ground (-):

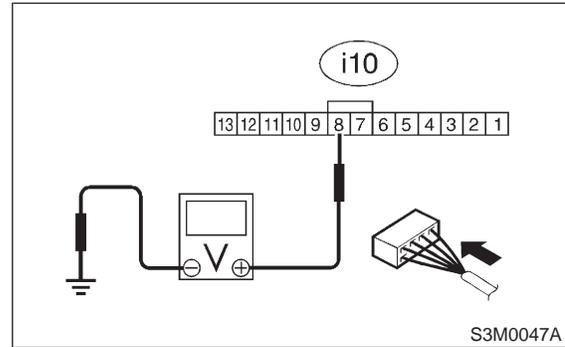


- CHECK** : *Is voltage more than 10 V?*
- YES** : Go to step **7A5**.
- NO** : Repair open circuit in harness between combination meter and fuse.

7A5 : CHECK COMBINATION METER.

Measure voltage between combination meter connector and chassis ground.

Connector & terminal
(i10) No. 8 (+) — Chassis ground (-):

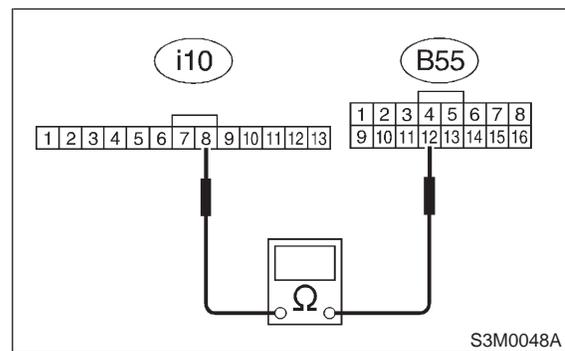


- CHECK** : *Is voltage less than 1 V?*
- YES** : Go to step **7A6**.
- NO** : Replace bulb or combination meter.

7A6 : CHECK OPEN CIRCUIT OF HARNESS.

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from TCM and combination meter connector.
- 3) Measure resistance of harness between TCM and combination meter.

Connector & terminal
(B55) No. 12 — (i10) No. 8:



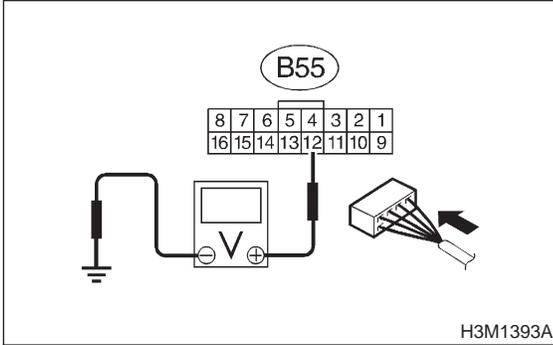
- CHECK** : *Is the resistance less than 1 Ω?*
- YES** : Go to step **7A7**.
- NO** : Repair open circuit in harness between TCM and combination meter, and poor contact in coupling connector.

7A7 : CHECK INPUT SIGNAL FOR TCM.

- 1) Turn ignition switch to OFF.
- 2) Connect connector to TCM and combination meter.
- 3) Install combination meter.
- 4) Turn ignition switch to ON (engine OFF).
- 5) Measure voltage between TCM connector and chassis ground.

Connector & terminal

(B55) No. 12 (+) — Chassis ground (-):



- CHECK** : **Is the voltage less than 1 V?**
- YES** : Even if AT OIL TEMP indicator lights up, the circuit has returned to a normal condition at this time. A temporary poor contact of the connector or harness may be the cause. Repair harness or connector in TCM.
- NO** : Replace TCM.

7A8 : CHECK INHIBITOR SWITCH.

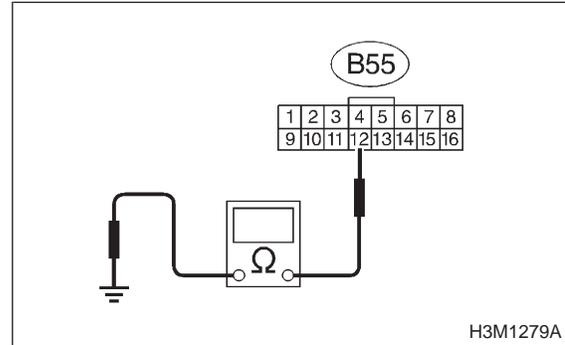
- 1) Turn ignition switch to OFF.
 - 2) Connect Subaru Select Monitor to data link connector.
 - 3) Turn ignition switch to ON.
 - 4) Subaru Select Monitor to ON.
 - 5) Read data of range switch using Subaru Select Monitor.
- Range switch is indicated in ON ⇔ OFF.

- CHECK** : **When each range is selected, does LED of Subaru Select Monitor light up?**
- YES** : Go to step **7A9**.
- NO** : Check inhibitor switch circuit. <Ref. to 3-2 [T9T0].>

7A9 : CHECK SHORT CIRCUIT OF HARNESS.

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from TCM.
- 3) Remove combination meter.
- 4) Disconnect connector from combination meter.
- 5) Measure resistance of harness connector between TCM and combination meter.

Connector & terminal/specified resistance (B55) No. 12 — Chassis ground:

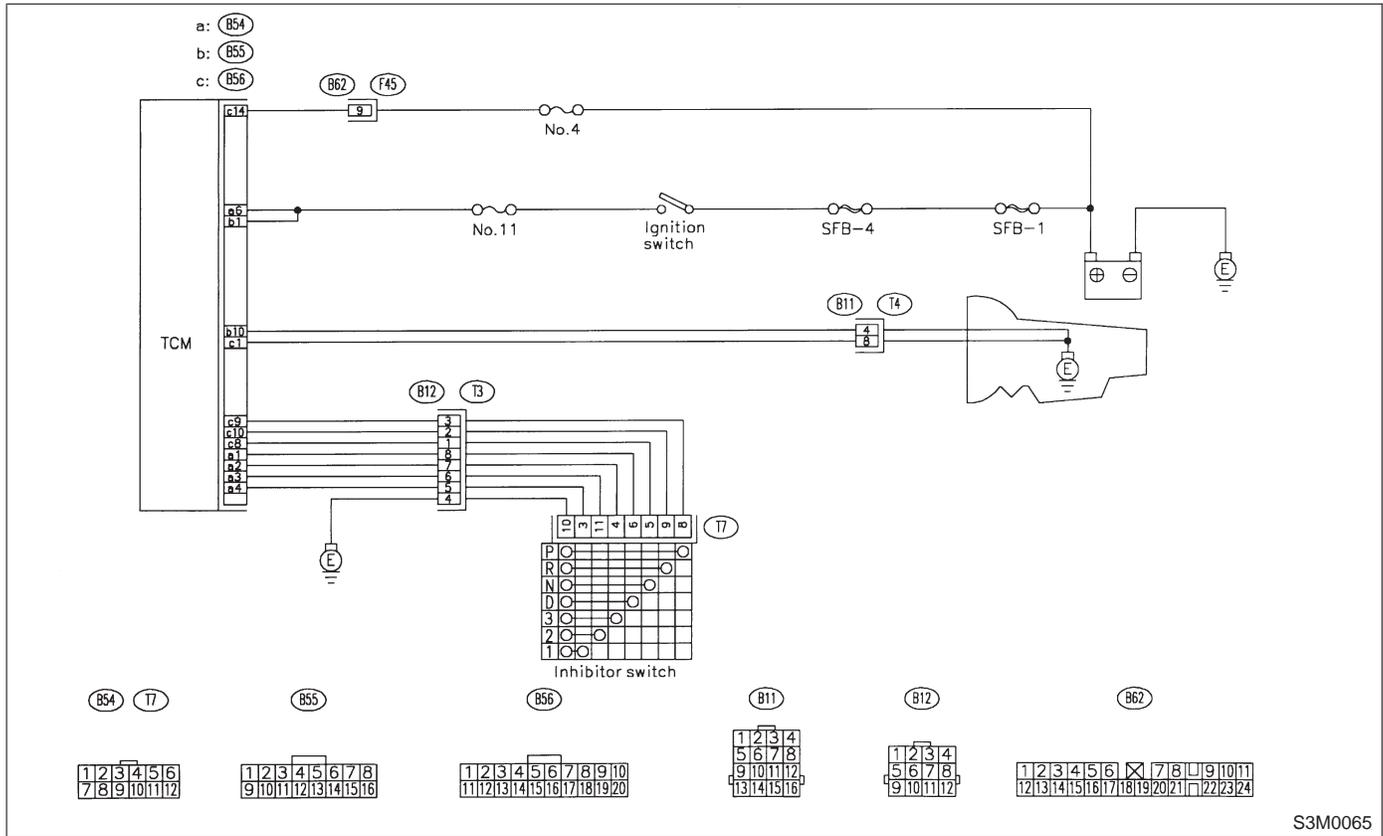


- CHECK** : **Is the resistance less than 1 MΩ?**
- YES** : Replace TCM.
- NO** : Repair short circuit in harness between combination meter connector and TCM connector.

MEMO:

B: CONTROL MODULE POWER SUPPLY AND GROUND LINE

WIRING DIAGRAM:

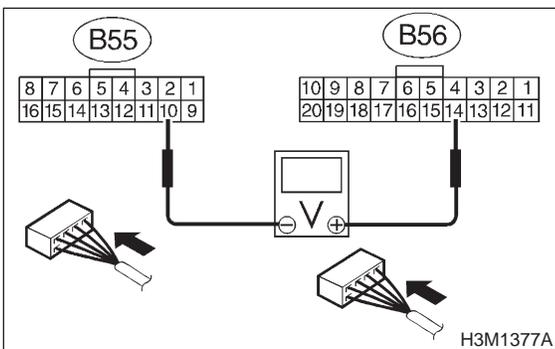


S3M0065

7B1 : CHECK BACK-UP POWER SUPPLY CIRCUIT.

- 1) Turn ignition switch to OFF.
- 2) Measure back-up power supply voltage between TCM connector terminal.

Connector & terminal
(B56) No. 14 (+) — (B55) No. 10 (-):



- CHECK** : **Is the voltage more than 10 V?**
- YES** : Go to step **7B3**.
- NO** : Go to step **7B2**.

7B2 : CHECK FUSE (NO. 4).

Remove fuse (No. 4).

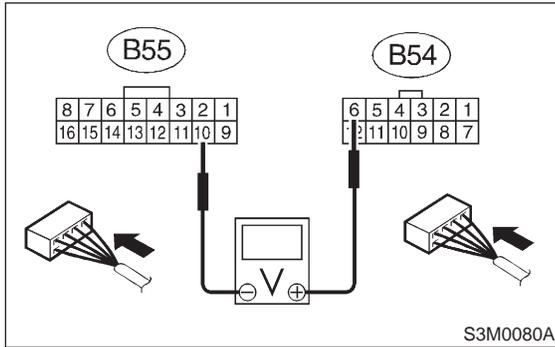
- CHECK** : **Is the fuse (No. 4) blown out?**
- YES** : Replace fuse (No. 4). If replaced fuse (No. 4) has blown out easily, repair short circuit in harness between fuse (No. 4) and TCM.
- NO** : Repair open circuit in harness between fuse (No. 4) and TCM, and poor contact in coupling connector.

7B3 : CHECK IGNITION POWER SUPPLY CIRCUIT.

- 1) Turn ignition switch to ON (engine OFF).
- 2) Measure ignition power supply voltage between TCM connector terminal.

Connector & terminal

(B54) No. 6 (+) — (B55) No. 10 (-):



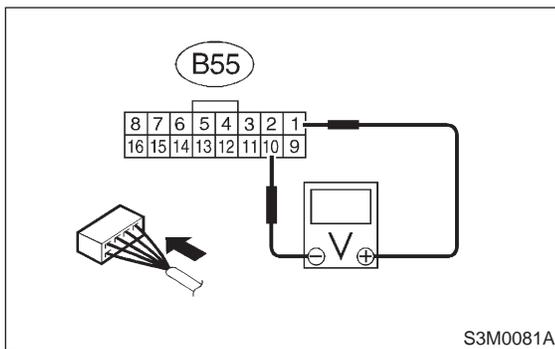
- CHECK** : **Is the voltage more than 10 V?**
YES : Go to step **7B4**.
NO : Go to step **7B5**.

7B4 : CHECK IGNITION POWER SUPPLY CIRCUIT.

- 1) Turn ignition switch to ON (engine OFF).
- 2) Measure ignition power supply voltage between TCM connector terminal.

Connector & terminal

(B55) No. 1 (+) — No. 10 (-):



- CHECK** : **Is the voltage more than 10 V?**
YES : Go to step **7B6**.
NO : Go to step **7B5**.

7B5 : CHECK FUSE (NO. 11).

Remove fuse (No. 11).

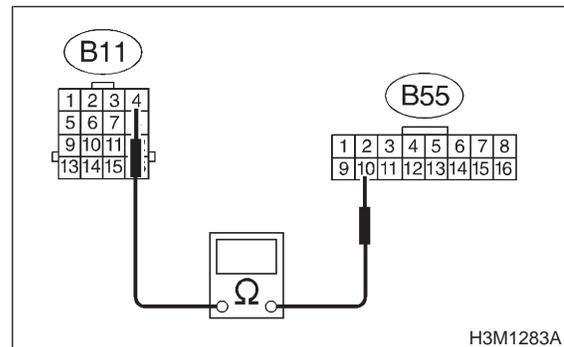
- CHECK** : **Is the fuse (No. 11) blown out?**
YES : Replace fuse (No. 11). If replaced fuse (No. 11) has blown out easily, repair short circuit in harness between fuse (No. 11) and TCM.
NO : Repair open circuit in harness between fuse (No. 11) and TCM, and poor contact in coupling connector.

7B6 : CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION.

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

Connector & terminal

(B55) No. 10 — (B11) No. 4:



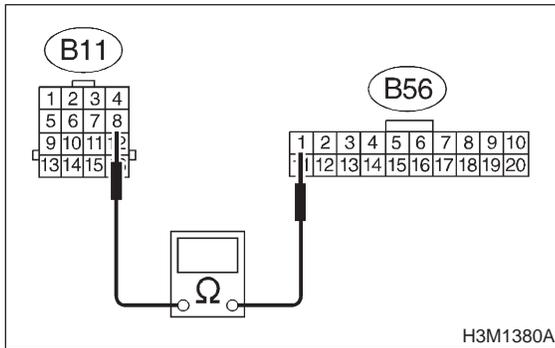
- CHECK** : **Is the resistance less than 1 Ω?**
YES : Go to step **7B7**.
NO : Repair open circuit in harness between TCM and transmission harness connector.

7B7 : CHECK HARNESS CONNECTOR BETWEEN TCM AND TRANSMISSION.

- 1) Turn ignition switch to OFF.
- 2) Measure resistance of harness between TCM and transmission connector.

Connector & terminal

(B56) No. 1 — (B11) No. 8:



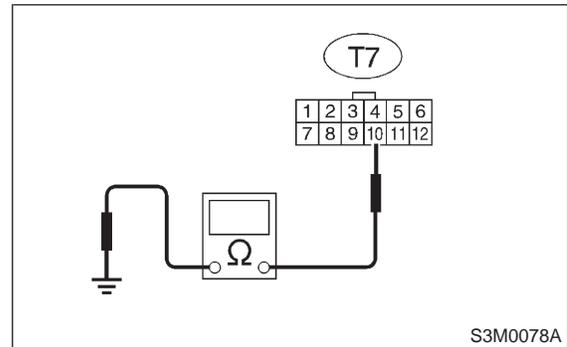
- CHECK** : *Is the resistance less than 1 Ω?*
- YES** : Go to step **7B8**.
- NO** : Repair open circuit in harness between TCM and transmission harness connector.

7B8 : CHECK HARNESS CONNECTOR BETWEEN INHIBITOR SWITCH AND CHASSIS GROUND.

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

Connector & terminal

(T7) No. 10 — Chassis ground:



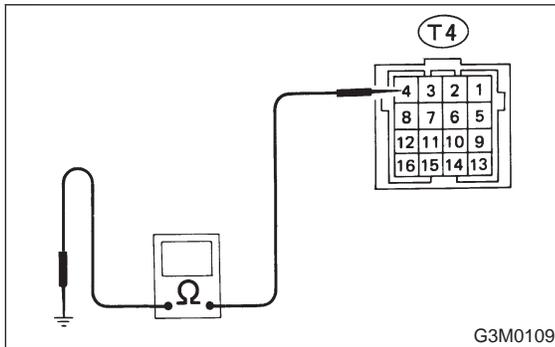
- CHECK** : *Is the resistance less than 1 Ω?*
- YES** : Go to step **7B9**.
- NO** : Repair open circuit in harness between chassis ground and inhibitor side connector, and poor contact in coupling connector.

7B9 : CHECK HARNESS CONNECTOR BETWEEN TRANSMISSION AND TRANSMISSION GROUND.

- 1) Drain automatic transmission fluid.
- 2) Remove oil pan.
- 3) Measure resistance of harness between transmission and transmission ground.

Connector & terminal

(T4) No. 4 — Transmission ground:



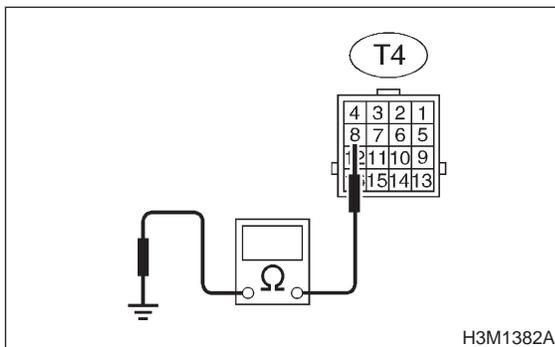
- CHECK** : *Is the resistance less than 1 Ω?*
- YES** : Go to step **7B9**.
- NO** : Repair open circuit in harness between transmission and transmission ground.

7B10 : CHECK HARNESS CONNECTOR BETWEEN TRANSMISSION AND TRANSMISSION GROUND.

Measure resistance of harness between transmission and transmission ground.

Connector & terminal

(T4) No. 8 — Transmission ground:



- CHECK** : *Is the resistance less than 1 Ω?*
- YES** : Go to step **7B11**.
- NO** : Repair open circuit in harness between transmission and transmission ground.

7B11 : CHECK POOR CONTACT.

- CHECK** : *Is there poor contact in control module power supply and ground line?*
- YES** : Repair poor contact and ground terminal.
- NO** : Replace TCM.