

Diagnostic Procedure without Diagnostic Trouble Code (DTC)

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

15. Diagnostic Procedure without Diagnostic Trouble Code (DTC)

A: CHECK UP/DOWN SWITCH

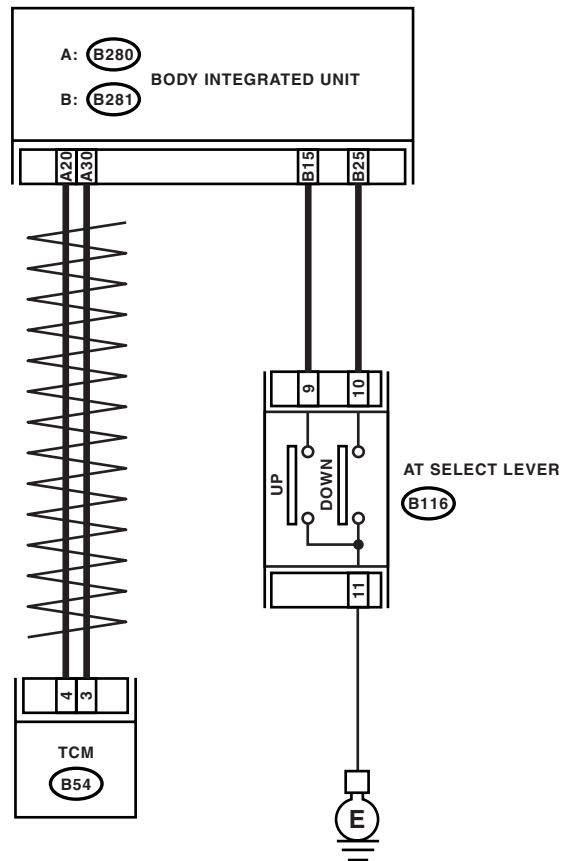
DIAGNOSIS:

Input signal circuit of the UP/DOWN switch is open or shorted.

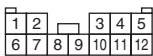
TROUBLE SYMPTOM:

Does not shift on manual mode.

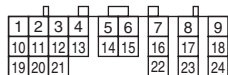
WIRING DIAGRAM:



B116



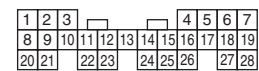
B54



A: B280



B: B281



AT-03289

Diagnostic Procedure without Diagnostic Trouble Code (DTC)

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK UP/DOWN SWITCH. 1) Move the select lever to manual mode. 2) Shift and hold the select lever to up side. 3) Read the "Up Switch" data of TCM using Subaru Select Monitor. <Ref. to 5AT(diag)-15, OPERATION, Subaru Select Monitor.>	Is ON displayed?	Go to step 2.	Go to step 3.
2 CHECK UP/DOWN SWITCH. 1) Move the select lever to manual mode. 2) Shift and hold the select lever to down side. 3) Read the "Down Switch" data of TCM using Subaru Select Monitor. <Ref. to 5AT(diag)-15, OPERATION, Subaru Select Monitor.>	Is ON displayed?	Go to the procedure for "CHECK RANGE POSITION/GEAR POSITION INDICATOR LIGHT". <Ref. to 5AT(diag)-124, CHECK RANGE POSITION/GEAR POSITION INDICATOR LIGHT, Diagnostic Procedure without Diagnostic Trouble Code (DTC).>	Go to step 12.
3 CHECK THE BODY INTEGRATED UNIT. 1) Turn the ignition switch to ON. 2) Shift and hold the select lever to up side. 3) Read the "TIP UP SW" data of body integrated unit using Subaru Select Monitor.	Is ON displayed?	Go to step 4.	Go to step 5.
4 CHECK THE BODY INTEGRATED UNIT. Check DTC of body integrated unit.	Is DTC of CAN communication displayed?	Perform the diagnosis according to DTC.	Check the TCM.
5 CHECK UP/DOWN SWITCH GROUND CIRCUIT. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the up/down switch. 3) Measure the resistance of harness between the up/down switch connector and chassis ground. Connector & terminal (B116) No. 11— Chassis ground:	Is the resistance less than 1 Ω ?	Go to step 6.	Repair the open circuit of harness between the up/down switch connector and chassis ground.
6 CHECK UP/DOWN SWITCH. Measure the up/down switch resistance. Connector & terminal (B116) No. 10 — No. 11:	Is the resistance more than 1 $M\Omega$?	Go to step 7.	Replace the guide plate assembly.
7 CHECK UP/DOWN SWITCH. 1) Shift and hold the select lever to up side. 2) Measure the up/down switch resistance. Connector & terminal (B116) No. 10 — No. 11:	Is the resistance less than 1 Ω ?	Go to step 8.	Replace the guide plate assembly.
8 CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND UP/DOWN SWITCH. 1) Disconnect the connector from body integrated unit. 2) Measure the resistance of the harness between body integrated unit and up/down switch connector. Connector & terminal (B116) No. 10 — (B281) No. 25: (B116) No. 9 — (B281) No. 15:	Is the resistance less than 1 Ω ?	Go to step 9.	Repair the open circuit of harness between the up/down switch connector and body integrated unit connector, or poor contact of connector.

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	Step	Check	Yes	No
9	<p>CHECK INPUT SIGNAL TO BODY INTEGRATED UNIT.</p> <p>1) Connect all the connectors. 2) Turn the ignition switch to ON (Engine OFF). 3) Check the signal voltage for body integrated unit.</p> <p>Connector & terminal (B281) No. 25 — Chassis ground:</p>	Is the voltage 1.5 — 8 V?	Go to step 11.	Go to step 10.
10	<p>CHECK INPUT SIGNAL TO BODY INTEGRATED UNIT.</p> <p>1) Hold the select lever to the up side. 2) Check the signal voltage for body integrated unit.</p> <p>Connector & terminal (B281) No. 25 — Chassis ground:</p>	Is the voltage less than 1V?	Go to step 20.	Replace the body integrated unit.
11	<p>CHECK THE BODY INTEGRATED UNIT.</p> <p>1) Turn the ignition switch to ON. 2) Shift and hold the select lever to down side. 3) Read the "TIP DOWN SW" data of body integrated unit using Subaru Select Monitor.</p>	Is ON displayed?	Go to step 12.	Go to step 13.
12	<p>CHECK THE BODY INTEGRATED UNIT.</p> <p>Check DTC of body integrated unit.</p>	Is DTC of CAN communication displayed?	Perform the diagnosis according to DTC.	Check the TCM.
13	<p>CHECK UP/DOWN SWITCH GROUND CIRCUIT.</p> <p>1) Turn the ignition switch to OFF. 2) Disconnect the connector from the up/down switch. 3) Measure the resistance of harness between the up/down switch connector and chassis ground.</p> <p>Connector & terminal (B116) No. 9 — Chassis ground:</p>	Is the resistance less than 1 Ω ?	Go to step 14.	Repair the open circuit of harness between the up/down switch and chassis ground.
14	<p>CHECK UP/DOWN SWITCH.</p> <p>Measure the up/down switch terminal resistance.</p> <p>Connector & terminal (B116) No. 11 — No. 9:</p>	Is the resistance more than 1 M Ω ?	Go to step 15.	Replace the guide plate assembly.
15	<p>CHECK UP/DOWN SWITCH.</p> <p>1) Shift and hold the select lever to down side. 2) Measure the up/down switch terminal resistance.</p> <p>Connector & terminal (B116) No. 11 — No. 9:</p>	Is the resistance less than 1 Ω ?	Go to step 16.	Replace the guide plate assembly.
16	<p>CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND UP/DOWN SWITCH.</p> <p>1) Disconnect the connector from body integrated unit. 2) Measure the resistance of the harness between body integrated unit and up/down switch connector.</p> <p>Connector & terminal (B116) No. 11 — (B281) No. 15:</p>	Is the resistance less than 1 Ω ?	Go to step 17.	Repair the open circuit of harness between the up/down switch connector and body integrated unit connector, or poor contact of connector.

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

Step	Check	Yes	No
17 CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND UP/DOWN SWITCH. Measure the resistance of harness connector between the up/down switch and chassis ground. <i>Connector & terminal</i> <i>(B116) No. 9 — Chassis ground:</i>	Is the resistance more than 1 MΩ?	Go to step 18 .	Repair the short circuit of the harness between the up/down switch connector and TCM connector.
18 CHECK INPUT SIGNAL TO BODY INTEGRATED UNIT. 1) Connect all the connectors. 2) Turn the ignition switch to ON (engine OFF). 3) Check the signal voltage for body integrated unit. <i>Connector & terminal</i> <i>(B281) No. 15 — Chassis ground:</i>	Is the voltage 1.5 — 8 V?	Go to step 19 .	Go to step 20 .
19 CHECK INPUT SIGNAL TO BODY INTEGRATED UNIT. 1) Shift and hold the select lever to down side. 2) Check the signal voltage for body integrated unit. <i>Connector & terminal</i> <i>(B281) No. 15 — Chassis ground:</i>	Is the voltage less than 1 V?	Go to step 20 .	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
20 CHECK POOR CONTACT.	Is there poor contact in the up/down switch circuit?	Repair the poor contact.	A temporary poor contact of the up/down switch circuit connector or harness

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

B: CHECK RANGE POSITION/GEAR POSITION INDICATOR LIGHT

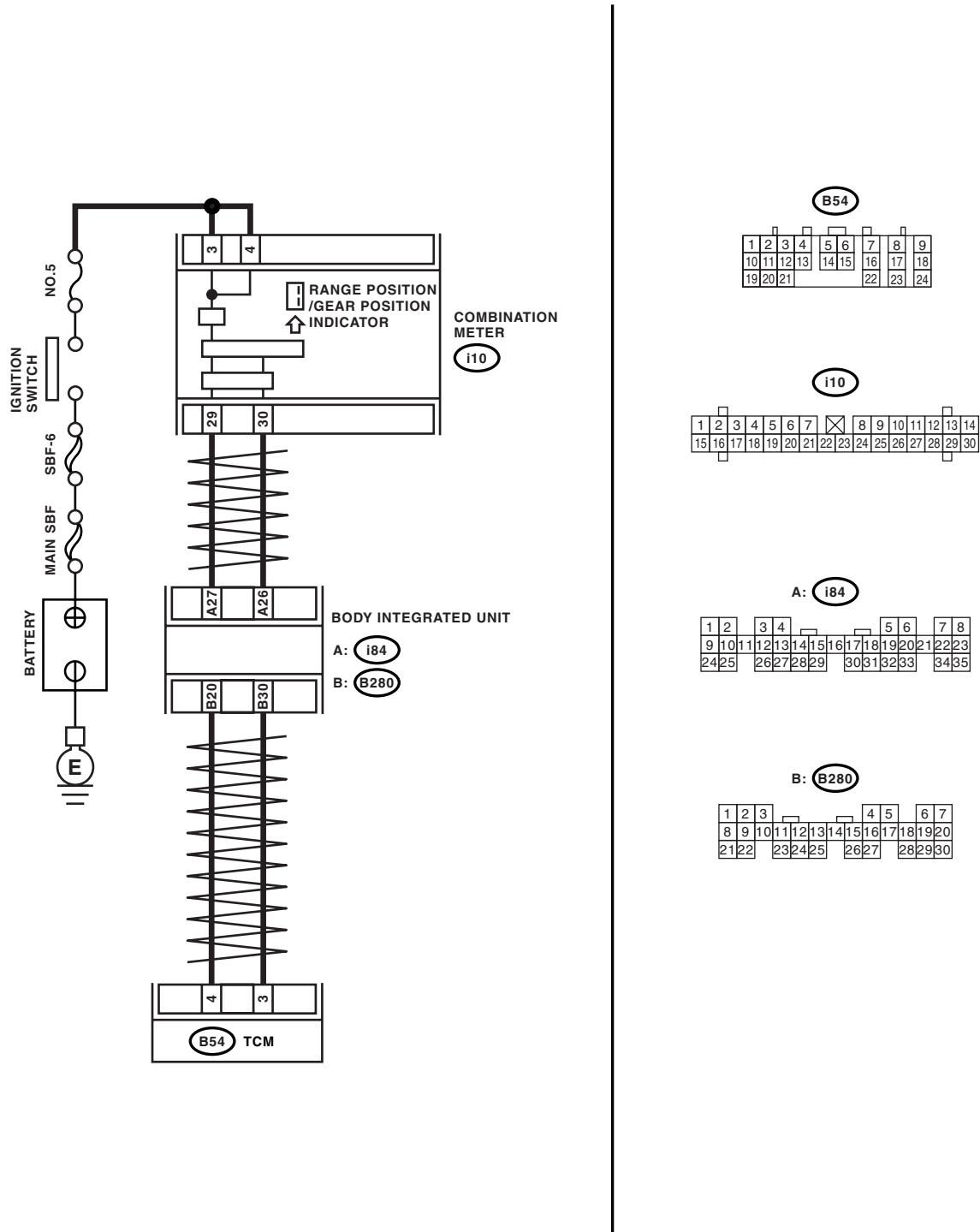
DIAGNOSIS:

Output signal circuit of the range position/gear position indicator light is open or shorted.

TROUBLE SYMPTOM:

- Range position/gear position indicator light does not illuminate or remains illuminated.
- Cannot understand range position/gear position indicator light display.

WIRING DIAGRAM:



AT-03290

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

Step	Check	Yes	No	
1	CHECK THE BODY INTEGRATED UNIT. Check DTC of body integrated unit.	Is DTC of AT CAN communication circuit displayed?	Perform the diagnosis according to DTC.	Go to step 2.
2	CHECK TCM. Check DTC of TCM.	Is DTC of AT CAN communication circuit displayed?	Perform the diagnosis according to DTC.	Go to step 3.
3	CHECK TCM. 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. 3) Turn the ignition switch to ON. (Engine OFF) 4) Turn the Subaru Select Monitor switch to ON. 5) Shift the select lever to manual mode side, and then shift down the select lever. 6) Read the indicator.	Is gear position 1 and “▲” displayed?	Go to step 4.	Replace the TCM. <Ref. to 5AT-56, Transmission Control Module (TCM).>
4	CHECK TCM. 1) Shift up the select lever. 2) Read the indicator.	Is the gear position 2, and is “▼” displayed?	Go to step 5.	Replace the TCM. <Ref. to 5AT-56, Transmission Control Module (TCM).>
5	CHECK THE BODY INTEGRATED UNIT. Read the data of gear position using Subaru Select Monitor.	Is SPORT shift gear position 2?	Go to step 6.	Check the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>
6	CHECK COMBINATION METER.	Is the range position/gear position indicator light normal?	Refer to “Symptom Related Diagnostic”. <Ref. to 5AT(diag)-128, General Diagnostic Table.>	Replace the combination meter assembly. <Ref. to IDI-11, Combination Meter.>

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

C: CHECK BUZZER

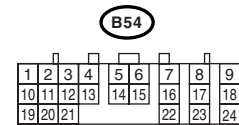
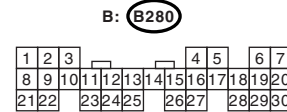
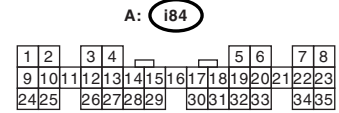
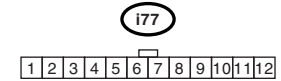
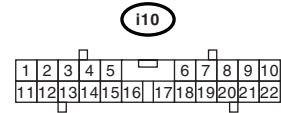
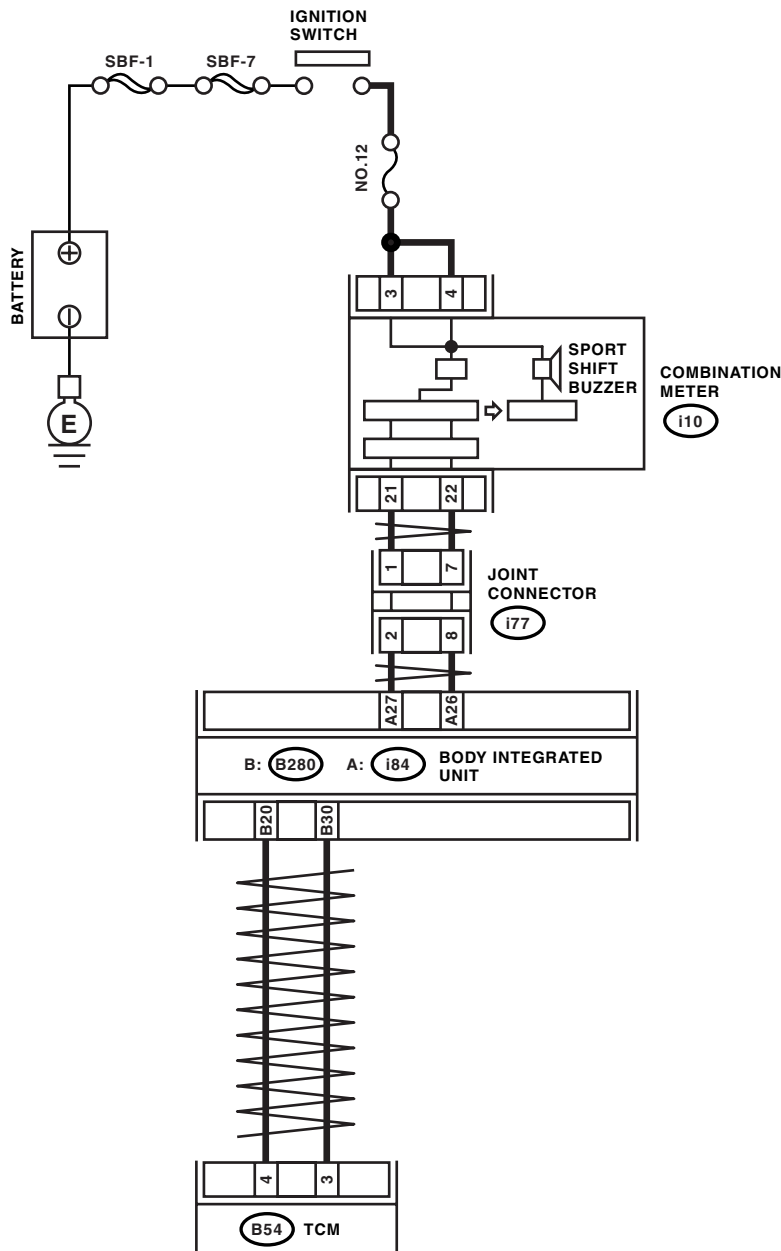
DIAGNOSIS:

Output signal circuit of buzzer is open or shorted.

TROUBLE SYMPTOM:

Buzzer remains beeping.

WIRING DIAGRAM:



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	Step	Check	Yes	No
1	CHECK THE BODY INTEGRATED UNIT. Check DTC of body integrated unit.	Is DTC of CAN communication displayed?	Perform the diagnosis according to DTC.	Go to step 2.
2	CHECK TCM. Check DTC of TCM.	Is DTC of CAN communication displayed?	Perform the diagnosis according to DTC.	Go to step 3.
3	CHECK BUZZER STOP. Disconnect the connector (B54).	Does the buzzer stop?	Replace the TCM. <Ref. to 5AT-56, Transmission Control Module (TCM).>	Go to step 4.
4	CHECK THE BODY INTEGRATED UNIT. 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. 3) Turn the ignition switch to ON. (Engine OFF) 4) Turn the Subaru Select Monitor switch to ON. 5) Read the data of SPORT shift buzzer using Subaru Select Monitor.	Is the SPORT shift buzzer display "ON"?	Replace the body integrated unit. <Ref. to SL-52, Body Integrated Unit.>	Go to step 5.
5	CHECK COMBINATION METER.	Is the buzzer OK?	Refer to "Symptom Related Diagnostic". <Ref. to 5AT(diag)-128, General Diagnostic Table.>	Replace the combination meter assembly. <Ref. to IDI-11, Combination Meter.>