

Diagnostic Procedure without Diagnostic Trouble Code (DTC)

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

15. Diagnostic Procedure without Diagnostic Trouble Code (DTC)

A: CHECK MANUAL MODE SWITCH

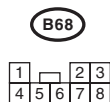
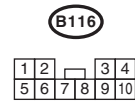
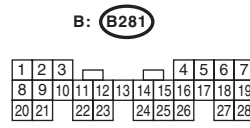
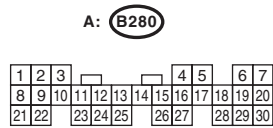
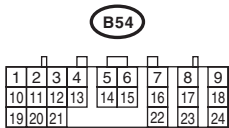
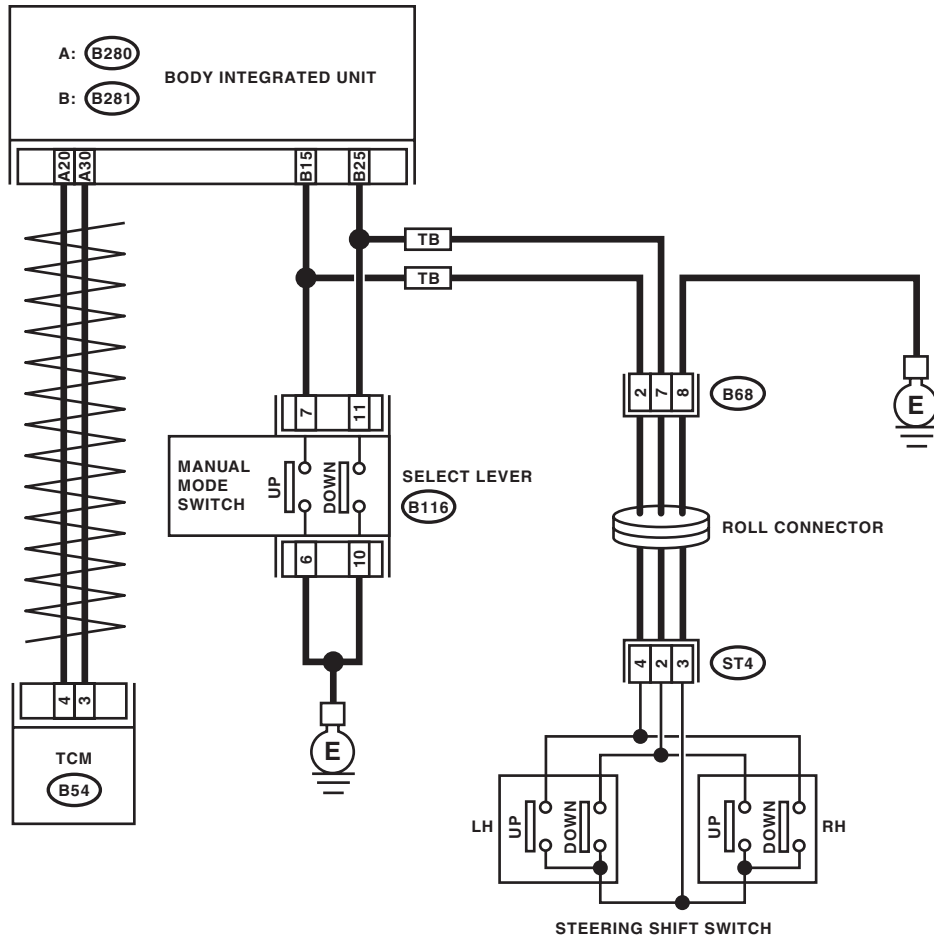
DIAGNOSIS:

Input signal circuit of manual mode switch is open or shorted.

TROUBLE SYMPTOM:

Does not shift on manual mode.

WIRING DIAGRAM:



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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

| | Step | Check | Yes | No |
|----|---|--|---|--|
| 1 | CHECK BODY INTEGRATED UNIT. 1) Perform ON/OFF operation on the manual mode switch. 2) Read the data of manual mode switch signal using Subaru Select Monitor. | Is the ON/OFF normally detected? | Go to step 2. | Go to step 7. |
| 2 | CHECK DTC OF BODY INTEGRATED UNIT. | Is DTC of CAN detected? | Perform the diagnosis according to DTC. | Go to step 3. |
| 3 | CHECK TCM. 1) Perform ON/OFF operation on the manual mode switch. 2) Read the data of manual mode switch signal using Subaru Select Monitor. | Is the ON/OFF normally detected? | Go to step 4. | Go to step 5. |
| 4 | CHECK TIP INDICATOR OF COMBINATION METER. | Is TIP indicator light normally operated? | Go to step 6. | Replace the combination meter assembly. <Ref. to IDI-14, Combination Meter.> |
| 5 | CHECK DTC OF TCM. | Is DTC of CAN detected? | Perform the diagnosis according to DTC. | Replace the TCM. <Ref. to 5AT-56, Transmission Control Module (TCM).> |
| 6 | CHECK DTC OF METER. | Is DTC of CAN detected? | Perform the diagnosis according to DTC. | Replace the meter. |
| 7 | CHECK GROUND CIRCUIT OF MANUAL MODE SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from manual mode switch. 3) Measure the resistance of harness between manual mode switch connector and chassis ground. Connector & terminal (B116) No. 6 — Chassis ground: | Is the resistance less than 1 Ω ? | Go to step 8. | Repair the open circuit of harness between manual mode switch and chassis ground. |
| 8 | CHECK MANUAL MODE SWITCH. Measure the resistance between manual mode switch terminals. Connector & terminal (B116) No. 6 — No. 5: | Is the resistance more than 1 M Ω ? | Go to step 9. | Replace the guide plate assembly. |
| 9 | CHECK MANUAL MODE SWITCH. 1) Move the select lever to manual mode. 2) Measure the resistance between manual mode switch terminals. Connector & terminal (B116) No. 6 — No. 5: | Is the resistance less than 1 Ω ? | Go to step 10. | Replace the guide plate assembly. |
| 10 | CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND MANUAL MODE SWITCH. 1) Disconnect the connector from body integrated unit. 2) Measure the resistance of harness between body integrated unit connector and manual mode switch connector. Connector & terminal (B116) No. 5 — (B281) No. 15: | Is the resistance less than 1 Ω ? | Go to step 11. | Repair the open circuit of harness between manual mode switch connector and TCM connector, or poor contact in connector. |

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| Step | Check | Yes | No |
|---|--|----------------|---|
| 11 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND MANUAL MODE SWITCH. 1) Disconnect the connector from body integrated unit. 2) Measure the resistance of harness between manual mode switch connector and chassis ground. Connector & terminal (B116) No. 7 — Chassis ground: | Is the resistance more than 1 M Ω ? | Go to step 12. | Repair the short circuit of harness between manual mode switch connector and TCM connector. |
| 12 CHECK INPUT SIGNAL FROM TCM. 1) Connect all connectors. 2) Turn the ignition switch to ON. (engine OFF) 3) Measure the voltage of the signal to TCM. Connector & terminal (B281) No. 15 (+) — Chassis ground (-): | Is the voltage more than 9 V? | Go to step 13. | Replace the body integrated unit. <Ref. to SL-55, Body Integrated Unit.> |
| 13 CHECK INPUT SIGNAL FROM TCM. 1) Shift and hold the select lever to up side. 2) Measure the voltage of the signal to TCM. Connector & terminal (B281) No. 15 (+) — Chassis ground (-): | Is the voltage less than 1 V? | Go to step 14. | Replace the body integrated unit. <Ref. to SL-55, Body Integrated Unit.> |
| 14 CHECK GROUND CIRCUIT OF MANUAL MODE SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from manual mode switch. 3) Measure the resistance of harness between manual mode switch connector and chassis ground. Connector & terminal (B116) No. 10 — Chassis ground: | Is the resistance less than 1 Ω ? | Go to step 15. | Repair the open circuit of harness between manual mode switch and chassis ground. |
| 15 CHECK MANUAL MODE SWITCH. Measure the resistance between manual mode switch terminals. Connector & terminal (B116) No. 10 — No. 11: | Is the resistance more than 1 M Ω ? | Go to step 16. | Replace the guide plate assembly. |
| 16 CHECK MANUAL MODE SWITCH. 1) Move the select lever to manual mode. 2) Measure the resistance between manual mode switch terminals. Connector & terminal (B116) No. 10 — No. 11: | Is the resistance less than 1 Ω ? | Go to step 17. | Replace the guide plate assembly. |
| 17 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND MANUAL MODE SWITCH. 1) Disconnect the connector from body integrated unit. 2) Measure the resistance of harness between body integrated unit connector and manual mode switch connector. Connector & terminal (B116) No. 11 — (B281) No. 25: | Is the resistance less than 1 Ω ? | Go to step 18. | Repair the open circuit of harness between the manual mode switch connector and body integrated unit connector, or poor contact of connector. |

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

| Step | Check | Yes | No |
|---|--|----------------|--|
| 18 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND MANUAL MODE SWITCH. 1) Disconnect the steering roll switch connector. 2) Measure the resistance of harness between manual mode switch connector and chassis ground. Connector & terminal (B116) No. 11 — Chassis ground: | Is the resistance more than 1 M Ω ? | Go to step 19. | Repair the short circuit of harness between manual mode switch connector and body integrated unit connector. |
| 19 CHECK INPUT SIGNAL TO BODY INTEGRATED UNIT. 1) Connect all connectors. 2) Turn the ignition switch to ON. (engine OFF) 3) Check the signal voltage for body integrated unit. Connector & terminal (B281) No. 25 (+) — Chassis ground (-): | Is the voltage more than 9 V? | Go to step 20. | Replace the body integrated unit. <Ref. to SL-55, Body Integrated Unit.> |
| 20 CHECK INPUT SIGNAL TO BODY INTEGRATED UNIT. 1) Shift and hold the select lever to up side. 2) Check the signal voltage for body integrated unit. Connector & terminal (B281) No. 25 (+) — Chassis ground (-): | Is the voltage less than 1 V? | Go to step 21. | Replace the body integrated unit. <Ref. to SL-55, Body Integrated Unit.> |
| 21 CHECK GROUND CIRCUIT OF STEERING SHIFT SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the steering roll connector. 3) Measure the resistance of harness between steering roll connector and chassis ground. Connector & terminal (ST4) No. 3 — Chassis ground: | Is the resistance less than 1 Ω ? | Go to step 22. | Repair the open circuit of harness between steering roll connector and chassis ground. |
| 22 CHECK STEERING SHIFT SWITCH. Measure the resistance between the steering roll connector terminals. Connector & terminal (ST4) No. 2 — No. 3: | Is the resistance more than 1 M Ω ? | Go to step 23. | Replace the steering roll connector or the steering shift switch. Repair the poor contact of connector. |
| 23 CHECK STEERING SHIFT SWITCH. 1) Shift and hold the steering shift switch to the + side. 2) Measure the resistance between steering shift switch terminals. Connector & terminal (ST4) No. 2 — No. 3: | Is the resistance less than 1 Ω ? | Go to step 24. | Replace the steering roll connector or the steering shift switch. Repair the poor contact of connector. |
| 24 CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND STEERING ROLL CONNECTOR. 1) Disconnect the connector from body integrated unit. 2) Measure the resistance of the harness between body integrated unit connector and steering roll connector. Connector & terminal (B281) No. 15 — (B68) No. 2: | Is the resistance less than 1 Ω ? | Go to step 25. | Repair the open circuit of harness between the body integrated unit connector and steering roll connector, or poor contact of connector. |

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

| Step | Check | Yes | No |
|---|--|--------------------------|--|
| 25 CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND STEERING ROLL CONNECTOR. 1) Disconnect the connector from body integrated unit. 2) Measure the resistance of the harness between body integrated unit connector and steering roll connector. Connector & terminal (B281) No. 25 — (B68) No. 6: | Is the resistance less than 1 Ω ? | Go to step 26 . | Repair the open circuit of harness between the body integrated unit connector and steering roll connector, or poor contact of connector. |
| 26 CHECK POOR CONTACT. | Is there poor contact in the manual mode switch circuit? | Repair the poor contact. | Temporary poor contact of the manual mode switch circuit connector or harness |

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

B: CHECK SPORT SHIFT INDICATOR LIGHT

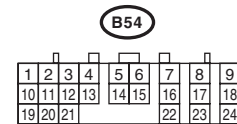
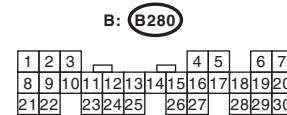
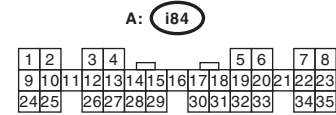
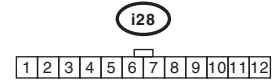
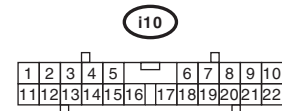
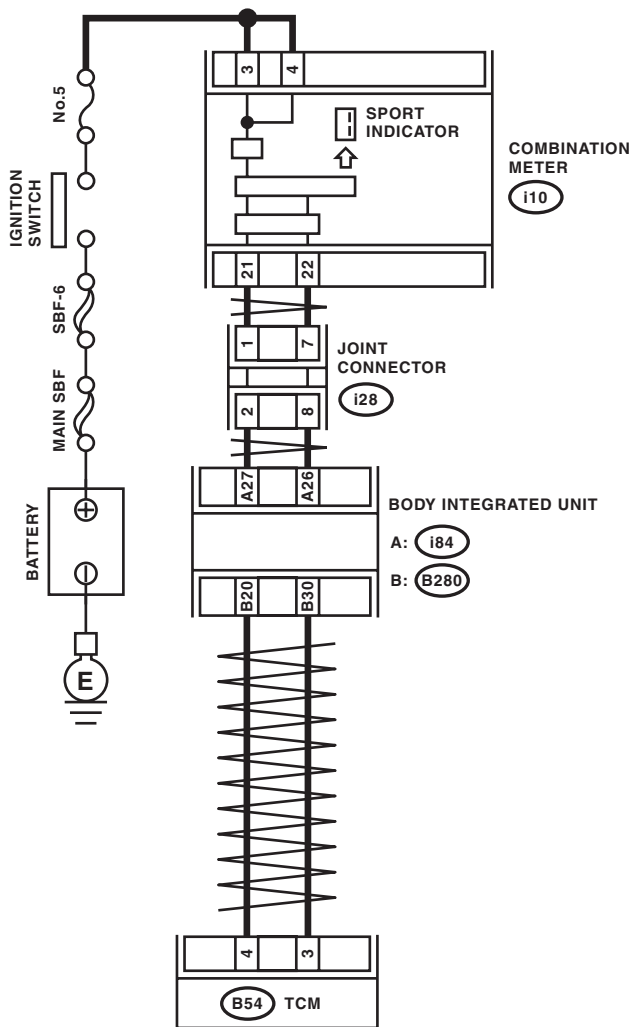
DIAGNOSIS:

Output signal circuit of SPORT shift indicator light is open or shorted.

TROUBLE SYMPTOM:

- SPORT shift indicator light does not illuminate or remains illuminated.
- SPORT shift indicator light display does not change.

WIRING DIAGRAM:



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| Step | Check | Yes | No | |
|------|--|---|---|--|
| 1 | CHECK 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 the 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 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-55, Body Integrated Unit.> |
| 6 | CHECK COMBINATION METER. | Is the SPORT shift indicator OK? | Refer to “Symptom Related Diagnostic”. <Ref. to 5AT(diag)-134, General Diagnostic Table.> | Replace the combination meter assembly. <Ref. to IDI-14, Combination Meter.> |

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AUTOMATIC TRANSMISSION (DIAGNOSTICS)

C: CHECK BUZZER

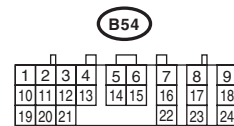
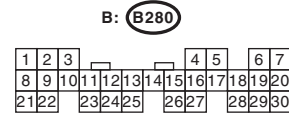
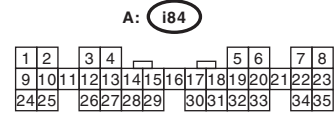
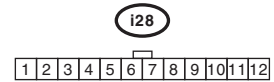
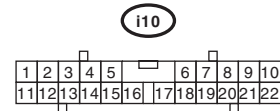
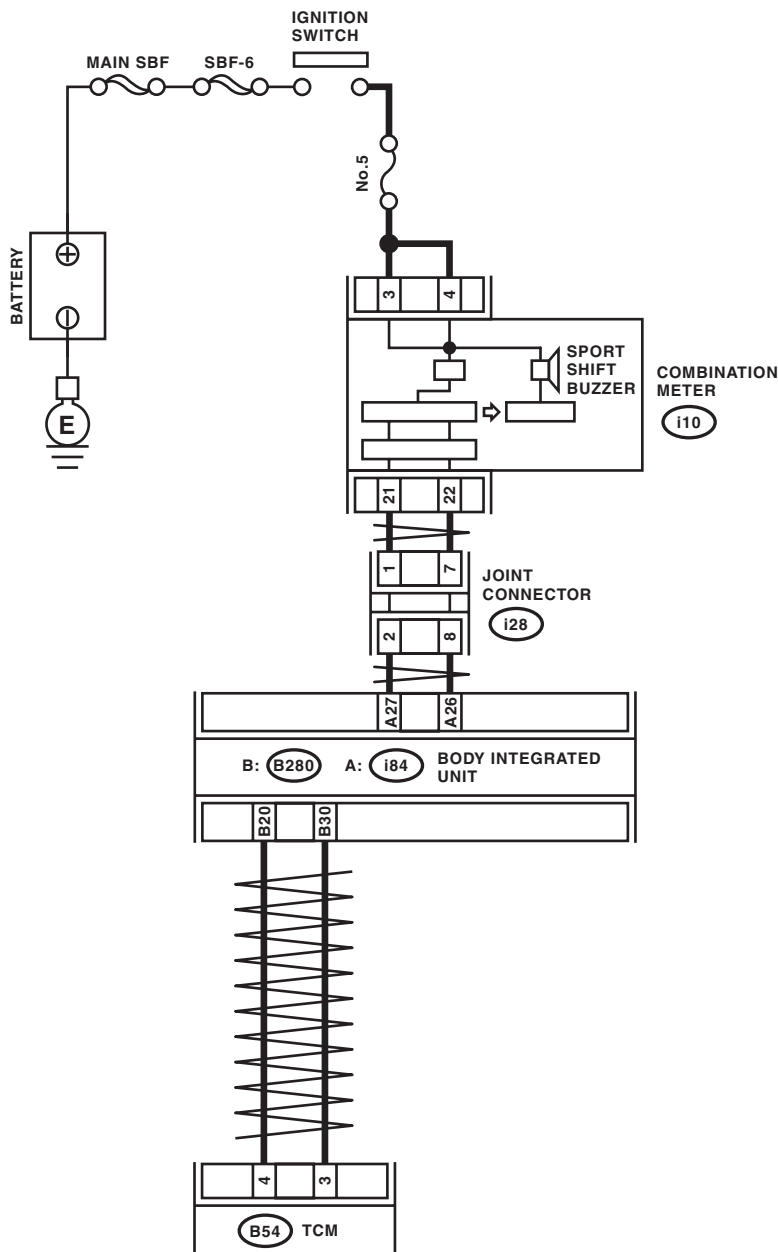
DIAGNOSIS:

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 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 BODY INTEGRATED UNIT. 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to the 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-55, Body Integrated Unit.> | Go to step 5. |
| 5 | CHECK COMBINATION METER. | Is the buzzer OK? | Refer to "Symptom Related Diagnostic". <Ref. to 5AT(diag)-134, General Diagnostic Table.> | Replace the combination meter assembly. <Ref. to IDI-14, Combination Meter.> |