13.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC B1010 INTEG. UNIT SYSTEM ERROR

DTC DETECTING CONDITION:
System error in body integrated unit
TROUBLE SYMPTOM:
LAN communication immobilizer function may not be executed normally.

Step		Check	Yes	No
1	**CHECK DTC.** Check DTC indicated by body integrated unit.	Is B1010 current malfunction?	Go to step **2**.	Temporary EEPROM access error occurred.
2	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector. 3) Connect the disconnected connectors. 4) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1010 current malfunction?	Replace the body integrated unit. <Ref. to SL-87, REMOVAL, Body Integrated Unit.>	Temporary EEPROM access error occurred.

B: DTC B1011 BATT P/SUPPLY MALFUNCTION CONT

DTC DETECTING CONDITION:

- Voltage malfunction caused by poor contact of battery power supply control circuit
- Battery voltage of body integrated unit is not within the 8.5 — 16.5 V range.

TROUBLE SYMPTOM:

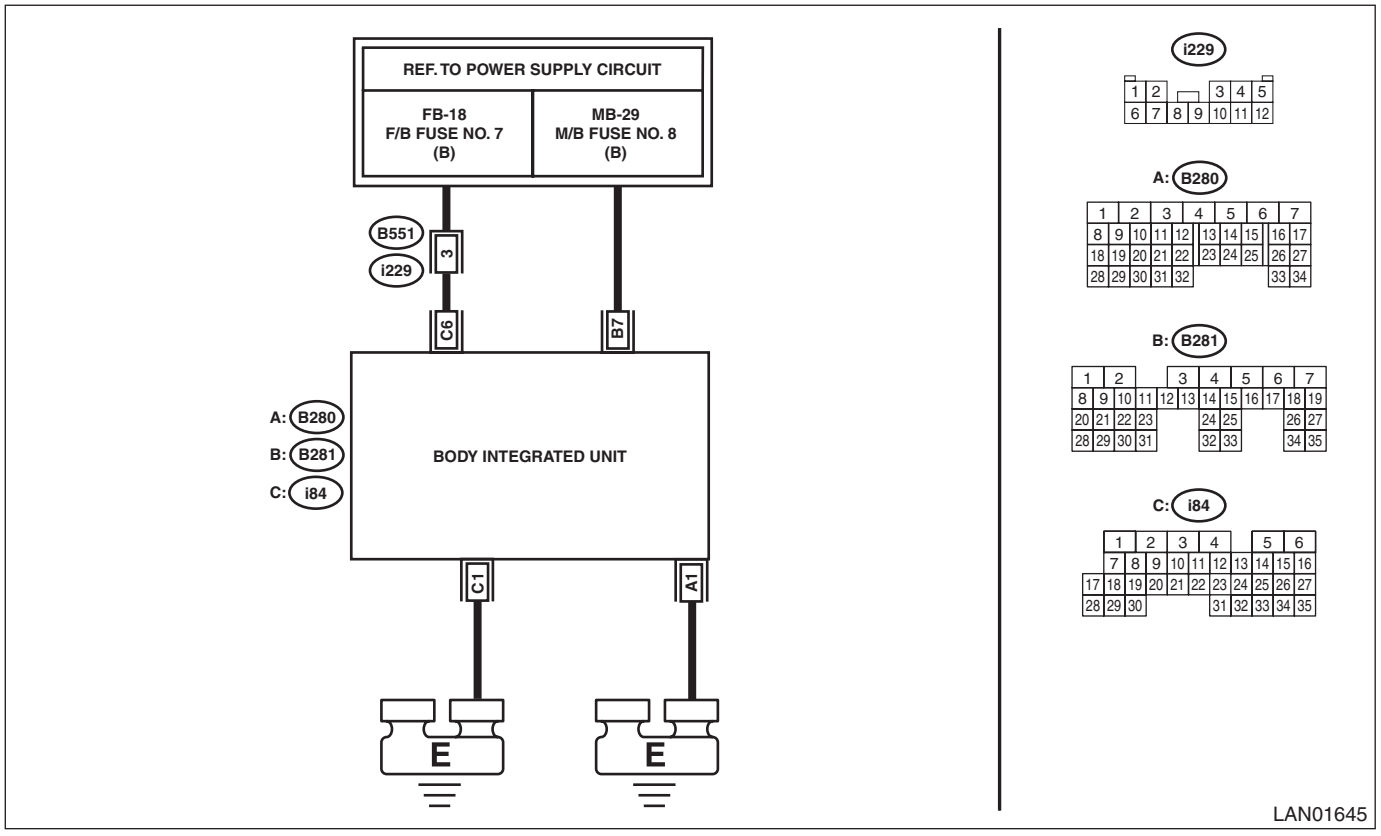
Functions of body integrated unit stop.

NOTE:

When B1012 BATT P/SUPPLY MALFUNCTION BACKUP is output at the same time, all the function of body integrated unit may not operate.

WIRING DIAGRAM:

Immobilizer system <Ref. to WI(w/o HEV)-143, WIRING DIAGRAM, Immobilizer System.> <Ref. to WI(HEV)-151, WIRING DIAGRAM, Immobilizer System.>



Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1011 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect and then connect the body integrated unit connector. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1011 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(i84) No. 6 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-87, REMOVAL, Body Integrated Unit.>	Repair the harness between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

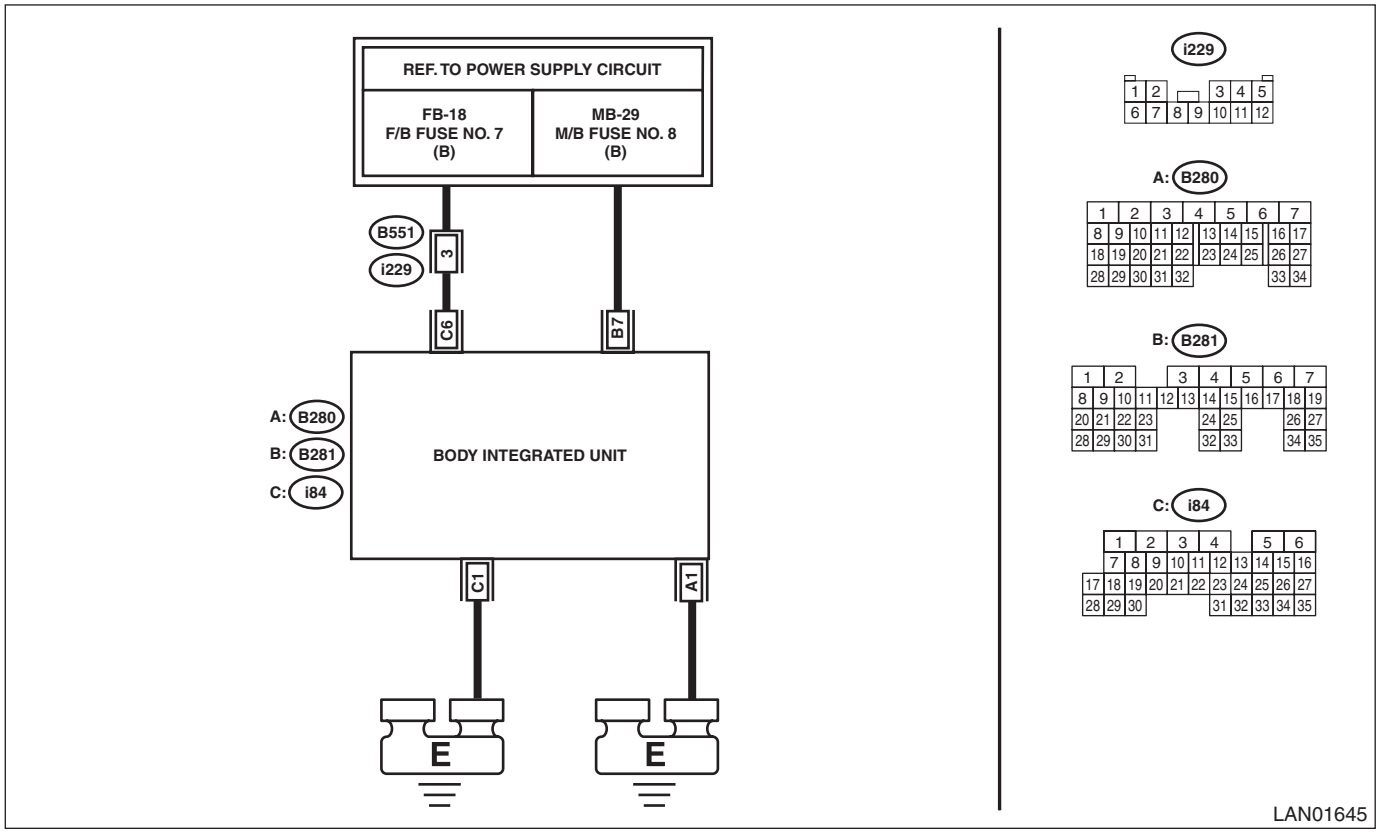
C: DTC B1012 BATT P/SUPPLY MALFUNCTION BACKUP

DTC DETECTING CONDITION:
Voltage malfunction caused by poor contact of battery power supply backup circuits

TROUBLE SYMPTOM:
Illuminations for the keyless entry, map light, luggage light, trunk light, room light, and ignition switch do not turn on.

NOTE:
When B1011 BATT P/SUPPLY MALFUNCTION CONT. is output at the same time, all function of body integrated unit may not operate.

WIRING DIAGRAM:
Immobilizer system <Ref. to WI(w/o HEV)-143, WIRING DIAGRAM, Immobilizer System.> <Ref. to WI(HEV)-151, WIRING DIAGRAM, Immobilizer System.>

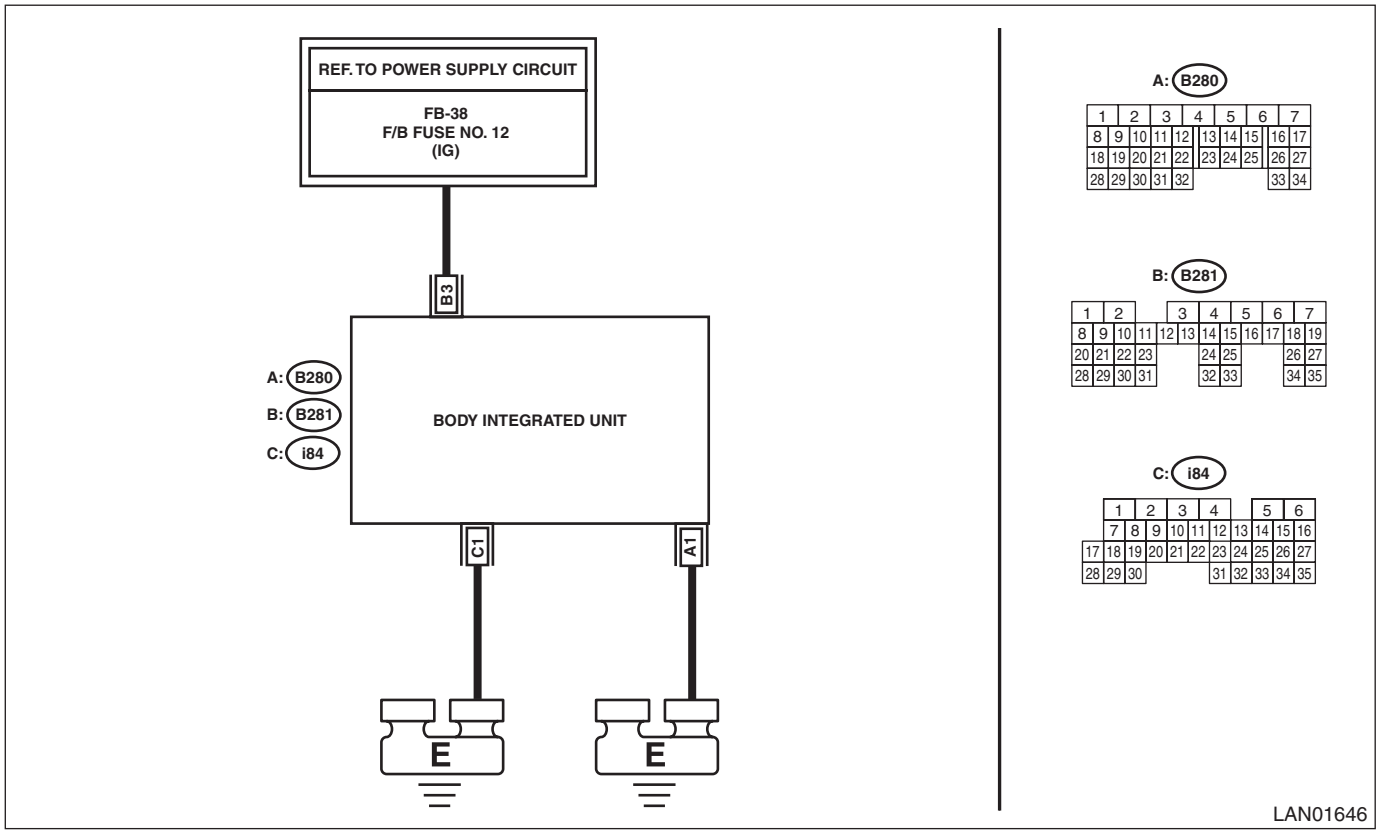


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1012 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect and then connect the body integrated unit connector. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1012 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.

	Step	Check	Yes	No
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B281) No. 7 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-87, REMOVAL, Body Integrated Unit.>	Repair the harness between body integrated unit and fuse.
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

D: DTC B1013 IGNITION POWER FAILURE

DTC DETECTING CONDITION:
Voltage malfunction caused by poor contact of IGN power supply circuits
TROUBLE SYMPTOM:
Symptoms such as shift lock or wiper not operating may occur.
WIRING DIAGRAM:
Shift lock control system <Ref. to WI(w/o HEV)-207, WIRING DIAGRAM, Shift Lock Control System.> <Ref. to WI(HEV)-207, WIRING DIAGRAM, Shift Lock Control System.>

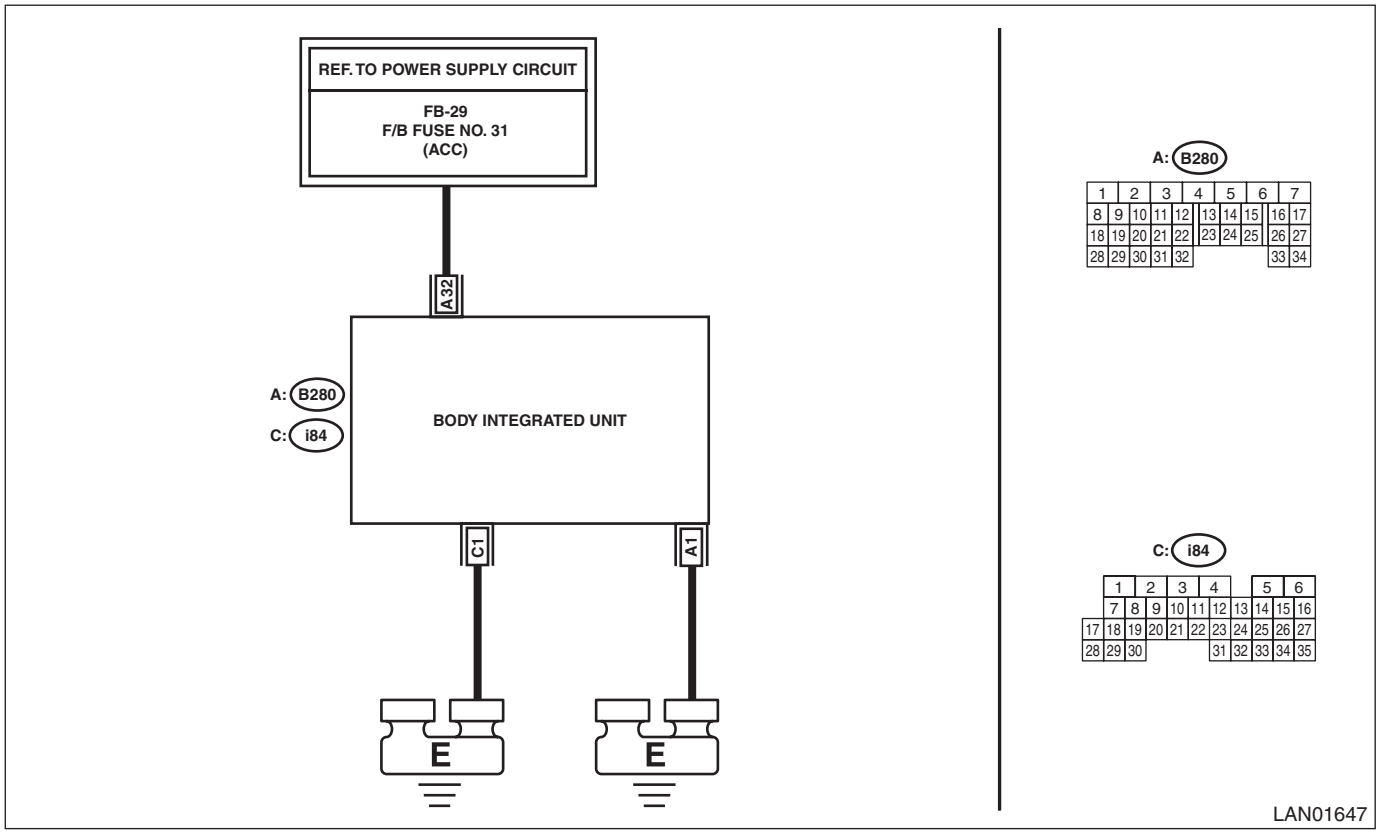


Step		Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1013 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect and then connect the body integrated unit connector. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1013 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B281) No. 3 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-87, REMOVAL, Body Integrated Unit.>	Repair the harness between body integrated unit and fuse.

	Step	Check	Yes	No
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

E: DTC B1014 ACC POWER FAILURE

DTC DETECTING CONDITION:
Voltage malfunction caused by poor contact of ACC power supply circuit
TROUBLE SYMPTOM:
DRL may not illuminate.
WIRING DIAGRAM:
Shift lock control system <Ref. to WI(w/o HEV)-207, WIRING DIAGRAM, Shift Lock Control System.> <Ref. to WI(HEV)-207, WIRING DIAGRAM, Shift Lock Control System.>

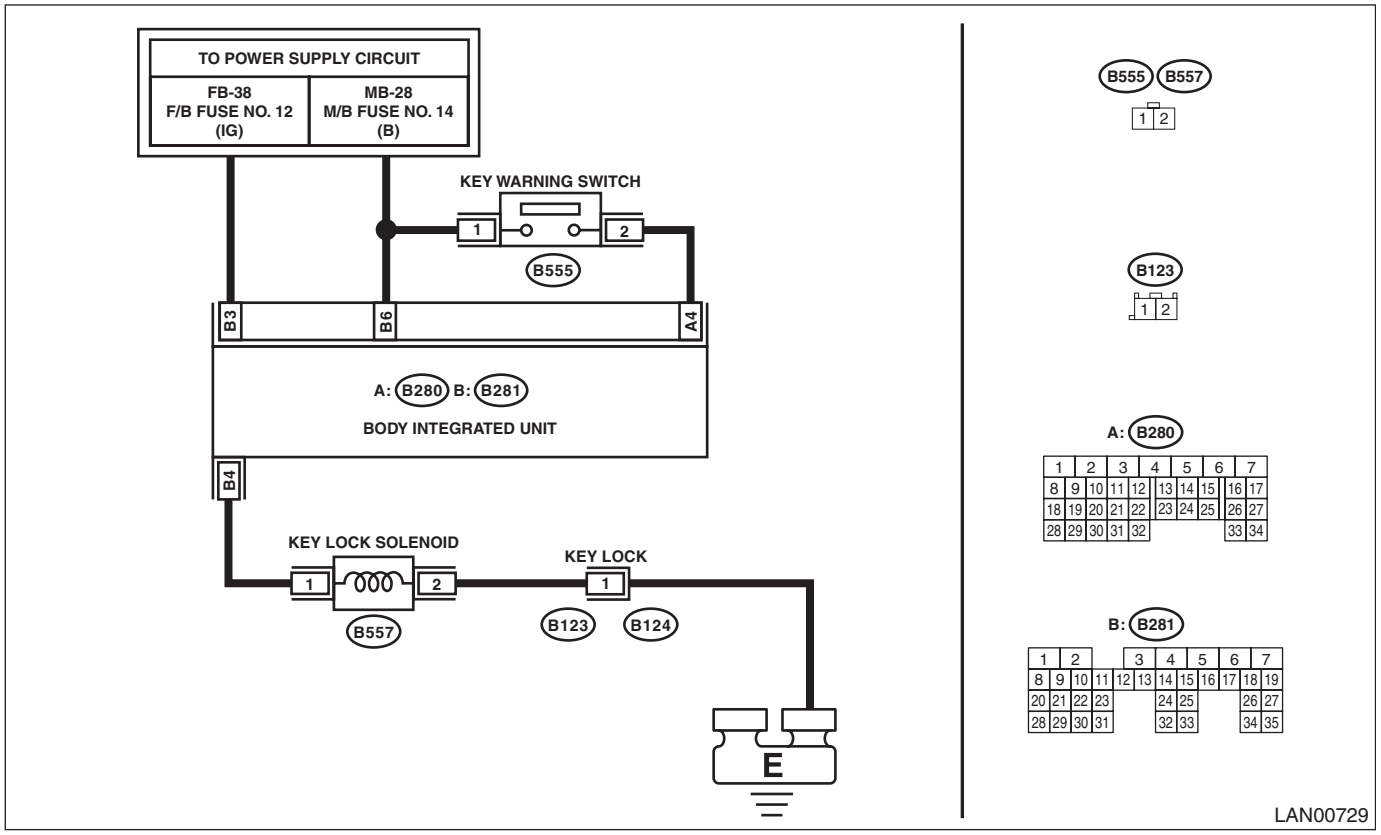


	Step	Check	Yes	No
1	**CHECK DTC.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1014 current malfunction?	Go to step **2**.	Go to step **5**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect and then connect the body integrated unit connector. 3) Wait approx. 2 minutes. 4) Turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1014 current malfunction?	Go to step **3**.	Go to step **5**.
3	**CHECK FUSE.** 1) Turn the ignition switch to OFF. 2) Check the fuse.	Is the fuse OK?	Go to step **4**.	Replace the defective fuse.
4	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector. 2) Using the tester, measure the voltage between terminals. ***Connector & terminal*** ***(B280) No. 32 (+) — Chassis ground (–):***	Is the voltage 8.5 — 16.5 V?	Replace the body integrated unit. <Ref. to SL-87, REMOVAL, Body Integrated Unit.>	Repair the harness between body integrated unit and fuse.

	Step	Check	Yes	No
5	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector.	Is there poor contact of connector?	Repair or replace the poor contact of connector.	A temporary change of voltage occurred.

F: DTC B1015 KEY INTERLOCK CIRCUIT ABNORMAL

DTC DETECTING CONDITION:
Ground short of key interlock circuit
TROUBLE SYMPTOM:
Key interlock does not keep lock condition.
WIRING DIAGRAM:
Shift lock control system <Ref. to WI(w/o HEV)-207, WIRING DIAGRAM, Shift Lock Control System.> <Ref. to WI(HEV)-207, WIRING DIAGRAM, Shift Lock Control System.>

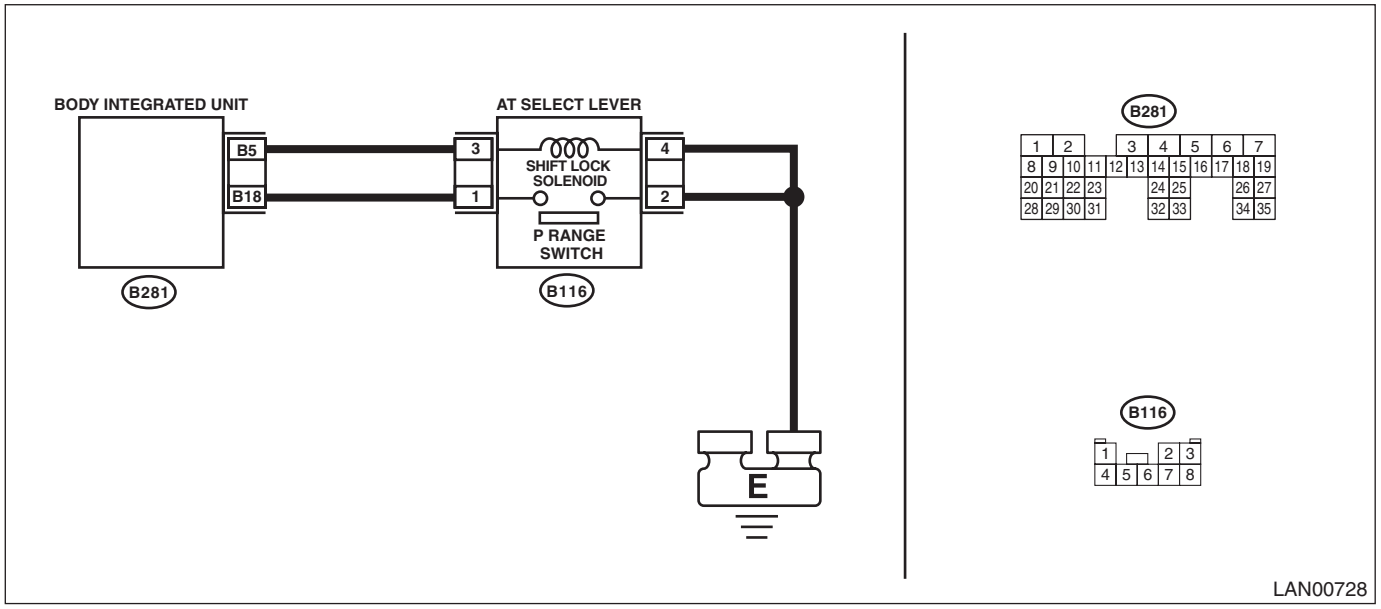


Step		Check	Yes	No
1	**CHECK DTC.** 1) Insert the ignition key. 2) Turn the ignition switch to ON. 3) Shift to the Neutral range. 4) Shift into P range. 5) Shift to the Neutral range. 6) Shift into P range. 7) Shift to the Neutral range. 8) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1015 current malfunction?	Go to step **2**.	Go to step **8**.
2	**CHECK DTC.** 1) Shift the select lever to P range. 2) Remove the ignition key. 3) Disconnect the key actuator connector (B557) and body integrated unit connector (B281). 4) Connect the disconnected connectors. 5) Insert the ignition key. 6) Turn the ignition switch to ON and shift into Neutral. 7) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1015 current malfunction?	Go to step **3**.	Go to step **8**.

	Step	Check	Yes	No
3	**CHECK KEY ACTUATOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the key actuator connector (B557). 3) Measure the resistance between key actuator connectors. ***Connector & terminal*** ***(B557) No. 1 — No. 2:***	Is the resistance 103 — 115 Ω?	Go to step **4**.	Replace the key actuator.
4	**CHECK KEY ACTUATOR.** Connect the battery terminals to the key actuator. ***Terminals*** ***(B557) No. 2 — positive terminal:*** ***(B557) No. 1 — ground terminal:***	Is the actuator activated and then key locked?	Go to step **5**.	Replace the key actuator.
5	**CHECK HARNESS.** 1) Disconnect the body integrated unit connector (B281). 2) Measure the resistance between body integrated unit and key actuator using tester. ***Connector & terminal*** ***(B557) No. 1 — (B281) No. 4:***	Is the resistance less than 10 Ω?	Go to step **6**.	Repair or replace the open circuit of harness.
6	**CHECK HARNESS.** Measure the resistance between body integrated unit and chassis ground using tester. ***Connector & terminal*** ***(B281) No. 4 — Chassis ground:***	Is the resistance 1 MΩ or more?	Go to step **7**.	Repair or replace the short circuit of the harness.
7	**CHECK HARNESS.** 1) Connect the body integrated unit. 2) Turn the ignition switch to ON. 3) Measure the voltage between body integrated unit and chassis ground using tester. ***Connector & terminal*** ***(B281) No. 4 (+) — Chassis ground (–):***	Is the voltage 6 V or more?	Repair or replace the short circuit of the harness.	Replace the body integrated unit. <Ref. to SL-87, REMOVAL, Body Integrated Unit.>
8	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector (B281) and key actuator connector (B557).	Is there poor contact at disconnected connector terminal?	Repair the terminal where poor contact exists, or replace harness.	It is possible that temporary poor contact occurs.

G: DTC B1016 SHIFT LOCK CIRCUIT FAILURE

DTC DETECTING CONDITION:
Open or power supply-output short, GND-output short in shift lock circuit.
TROUBLE SYMPTOM:
Shift lock does not be released or remain locked.
WIRING DIAGRAM:
Shift lock control system <Ref. to WI(w/o HEV)-207, WIRING DIAGRAM, Shift Lock Control System.> <Ref. to WI(HEV)-207, WIRING DIAGRAM, Shift Lock Control System.>



Step		Check	Yes	No
1	**CHECK DTC.** 1) Turn the ignition switch to ON. 2) Keep the Parking range for approx. 5 seconds. 3) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1016 current malfunction?	Go to step **6**.	Go to step **2**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the shift lock solenoid connector. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON, then keep the Parking range for approx. 5 seconds. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1016 current malfunction?	Go to step **3**.	Go to step **7**.
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the shift lock solenoid connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(B116) No. 4 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **4**.	Repair or replace the open circuit of harness.

	Step	Check	Yes	No
4	**CHECK SHIFT LOCK SOLENOID.** Using a tester, measure the resistance between shift lock solenoid terminals. ***Connector & terminal*** ***(B116) No. 4 — No. 3:***	Is the resistance less than 27 — 31 Ω?	Go to step **5**.	Replace the shift lock solenoid. <Ref. to CS-59, REMOVAL, AT Shift Lock Solenoid and "P" Range Switch.>
5	**CHECK SHIFT LOCK SOLENOID.** Connect the battery terminal to shift lock solenoid. ***Connector & terminal*** ***(B116) No. 3 — positive terminal:*** ***(B116) No. 4 — ground terminal:***	Does the shift lock solenoid operate and then release the lock?	Go to step **6**.	Replace the shift lock solenoid. <Ref. to CS-59, REMOVAL, AT Shift Lock Solenoid and "P" Range Switch.>
6	**CHECK HARNESS.** Use a tester to measure the resistance between harness terminals. ***Connector & terminal*** ***(B116) No. 3 — (B281) No. 5:*** NOTE: If body integrated unit and shift lock connector are not disconnected, disconnect them first and then perform measurement.	Is the resistance less than 10 Ω?	Replace the body integrated unit. <Ref. to SL-87, Body Integrated Unit.>	Repair or replace the open circuit of harness.
7	**CHECK DTC.** 1) Depress the brake pedal at the parking range. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1016 current malfunction?	Go to step **8**.	Go to step **9**.
8	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector and shift lock connector. 3) Connect the disconnected connectors. 4) Turn the ignition switch to ON. 5) Depress the brake pedal at the parking range. 6) Read the DTC of body integrated unit using Subaru Select Monitor.	Is B1016 current malfunction?	Go to step **4**.	Go to step **9**.
9	**CHECK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit connector and shift lock connector.	Is there poor contact of connector terminal?	Repair or replace the poor contact of terminal.	It is possible that temporary poor contact occurs.

H: DTC B1401 M COLLATION NG

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAG). <Ref. to IM(diag)-24, DTC B1401 M COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

I: DTC B1402 IMMOBILIZER KEY COLLATION NG

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAG). <Ref. to IM(diag)-25, DTC B1402 IMMOBILIZER KEY COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

J: DTC B1405 SCU COLLATION NG

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAG). <Ref. to IM(diag)-25, DTC B1405 SCU COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

K: DTC B1406 SCU_EEPROM_NG

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAG). <Ref. to IM(diag)-25, DTC B1406 SCU_EEPROM_NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

L: DTC B1407 M COMMUNICATION ABNORMAL

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAGNOSTICS). <Ref. to IM(diag)-26, DTC B1407 M COMMUNICATION ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

M: DTC B1408 METER EEPROM ABNORMAL

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAGNOSTICS). <Ref. to IM(diag)-26, DTC B1408 METER EEPROM ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

N: DTC B1409 SCU COMMUNICATION ABNORMAL

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAGNOSTICS). <Ref. to IM(diag)-27, DTC B1409 SCU COMMUNICATION ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

O: DTC B1410 TRANSPONDER COMMUNICATION ABNORMAL

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAGNOSTICS). <Ref. to IM(diag)-29, DTC B1410 TRANSPONDER COMMUNICATION ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

P: DTC B1411 IMMOBILIZER ANTENNA ABNORMAL

For detailed diagnosis procedure, refer to IMMOBILIZER (DIAGNOSTICS). <Ref. to IM(diag)-29, DTC B1411 IMMOBILIZER ANTENNA ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Q: DTC U1500 KEYLESS UART COM. MALFUNCTION

1. MODEL WITHOUT KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM

DTC DETECTING CONDITION:

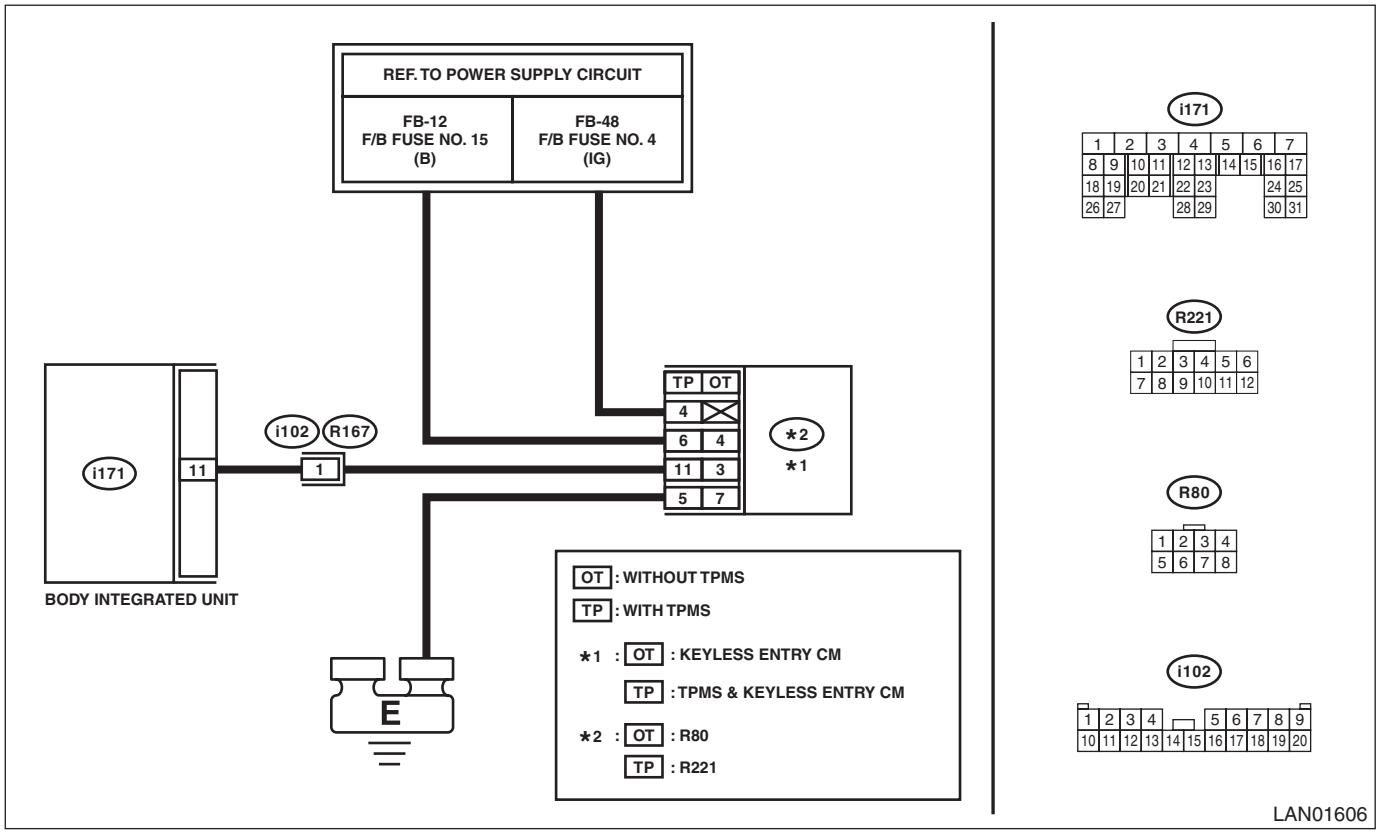
UART between the TPMS & keyless control module or keyless entry CM and the body integrated unit is open or shorted, or has communication failure.

TROUBLE SYMPTOM:

Door lock does not operate with keyless.

WIRING DIAGRAM:

Keyless entry system <Ref. to WI(w/o HEV)-160, WIRING DIAGRAM, Keyless Entry System.>



Step		Check	Yes	No
1	**CHECK DTC.** 1) Insert the ignition key to the ignition key cylinder and remove. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1500 a current malfunction?	Go to step **2**.	Go to step **7**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit and the TPMS & keyless control module or keyless entry CM connector. 3) Connect the disconnected connectors. 4) Insert the ignition key to the ignition key cylinder and remove. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1500 a current malfunction?	Go to step **3**.	Go to step **7**.

	Step	Check	Yes	No
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit and the TPMS & keyless control module or keyless entry CM connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***With TPMS*** ***(i171) No. 11 — (R221) No. 11:*** ***Without TPMS*** ***(i171) No. 11 — (R80) No. 3:***	Is the resistance 10 Ω or less?	Go to step **4**.	Repair the open circuit of harness or replace harness.
4	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Use a tester to measure the voltage between the terminals. ***Connector & terminal*** ***With TPMS*** ***(R221) No. 6 (+) — Chassis ground (–):*** ***(R221) No. 4 (+) — Chassis ground (–):*** ***Without TPMS*** ***(R80) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **5**.	Repair the power supply circuit.
5	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***With TPMS*** ***(R221) No. 5 — Chassis ground:*** ***Without TPMS*** ***(R80) No. 7 — Chassis ground:***	Is the resistance 10 Ω or less?	Go to step **6**.	Repair the ground circuit.
6	**CHECK CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Remove the TPMS & keyless control module or keyless entry CM. 3) Install a TPMS & keyless control module or keyless entry CM that was operating normally on another vehicle.	Does it operate with the remote control key of another vehicle?	Replace the TPMS & keyless control module or keyless entry CM. <Ref. to SL-83, REMOVAL, Keyless Entry Control Module.> <Ref. to WT-8, REMOVAL, Tire Pressure Monitoring System.>	Replace the body integrated unit. <Ref. to SL-87, Body Integrated Unit.>
7	**CHECK CONNECTOR.** Check the connector used for keyless communication for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.

2. MODEL WITH KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM

DTC DETECTING CONDITION:

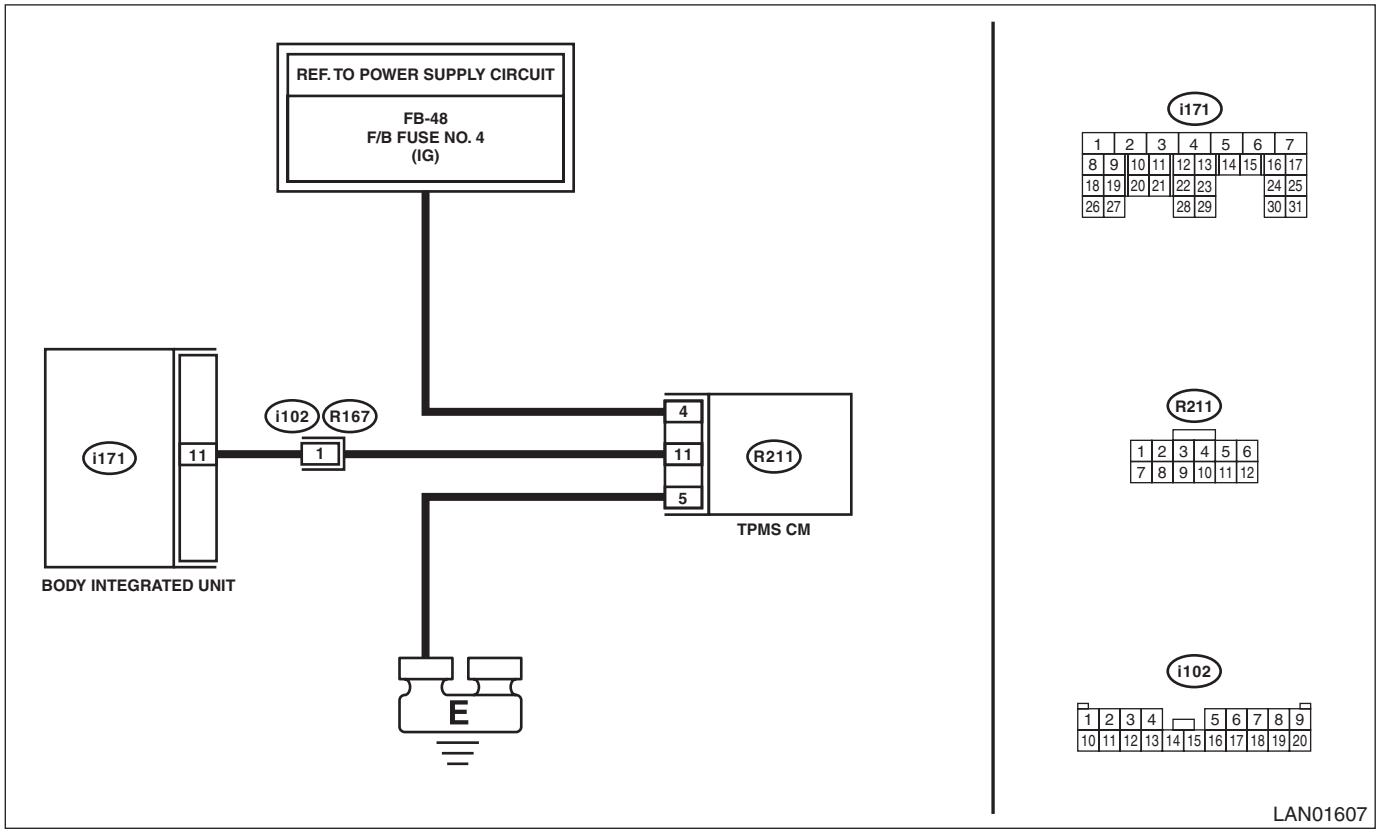
UART between the TPMS CM and the body integrated unit is open or shorted, or has communication failure.

TROUBLE SYMPTOM:

Communication with the TPMS CM is impossible.

WIRING DIAGRAM:

Tire Pressure Monitoring System <Ref. to WI(w/o HEV)-218, WIRING DIAGRAM, Tire Pressure Monitoring System.>



Step		Check	Yes	No
1	**CHECK DTC.** 1) With the access key in the vehicle, press the push button ignition switch twice without depressing the brake to turn the ignition switch to ON. 2) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1500 a current malfunction?	Go to step **2**.	Go to step **7**.
2	**CHECK DTC.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit and the TPMS CM connector. 3) Connect the disconnected connectors. 4) With the access key in the vehicle, press the push button ignition switch twice without depressing the brake to turn the ignition switch to ON. 5) Read the DTC of body integrated unit using Subaru Select Monitor.	Is U1500 a current malfunction?	Go to step **3**.	Go to step **7**.

	Step	Check	Yes	No
3	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit and the TPMS CM connector. 3) Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(i171) No. 11 — (R211) No. 11:***	Is the resistance 10 Ω or less?	Go to step **4**.	Repair the open circuit of harness or replace harness.
4	**CHECK HARNESS.** 1) Turn the ignition switch to ON. 2) Use a tester to measure the voltage between the terminals. ***Connector & terminal*** ***(R211) No. 4 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **5**.	Repair the power supply circuit.
5	**CHECK HARNESS.** Using the tester, measure the resistance between terminals. ***Connector & terminal*** ***(R211) No. 5 — Chassis ground:***	Is the resistance 10 Ω or less?	Go to step **6**.	Repair the ground circuit.
6	**CHECK CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Remove the TPMS CM. 3) Install a TPMS CM that was operating normally on another vehicle.	Does it operate with the remote control key of another vehicle?	Replace the TPMS CM. <Ref. to WT-8, REMOVAL, Tire Pressure Monitoring System.>	Replace the body integrated unit. <Ref. to SL-87, Body Integrated Unit.>
7	**CHECK CONNECTOR.** Check the connector used for keyless communication for poor contact.	Is there poor contact of connector?	Repair the connector that has poor contact, or replace harness.	It is possible that temporary poor communication occurs. Delete the DTC.