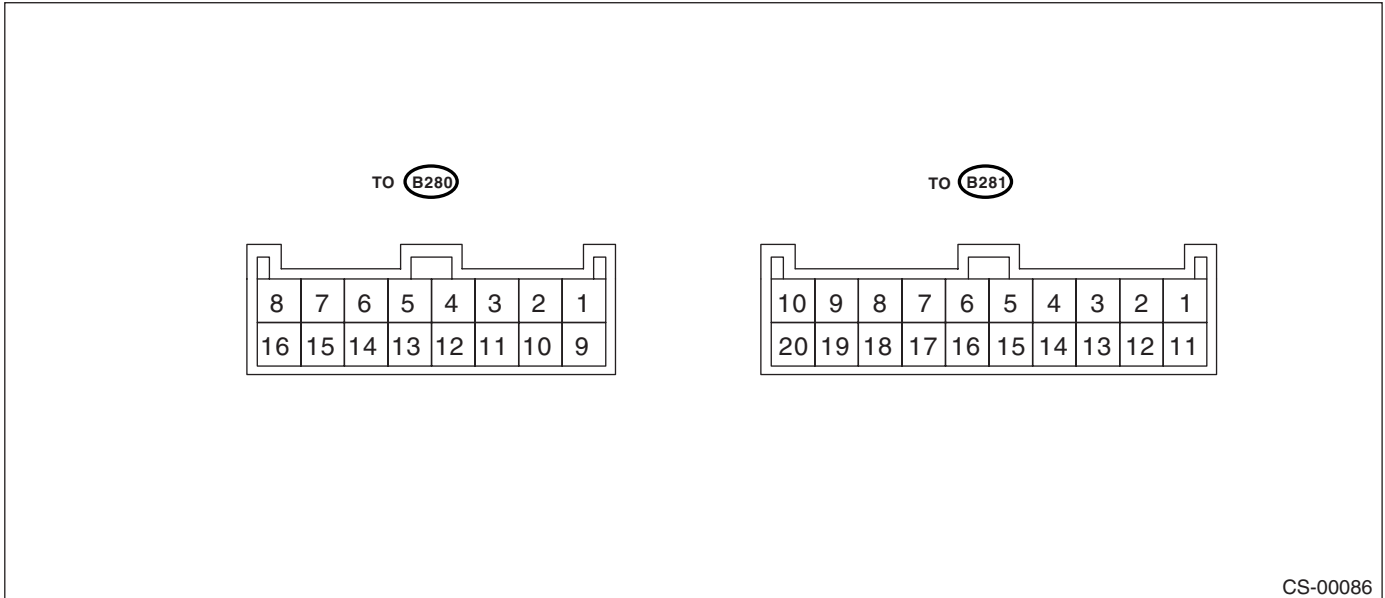


3. AT Shift Lock System

A: ELECTRICAL SPECIFICATION

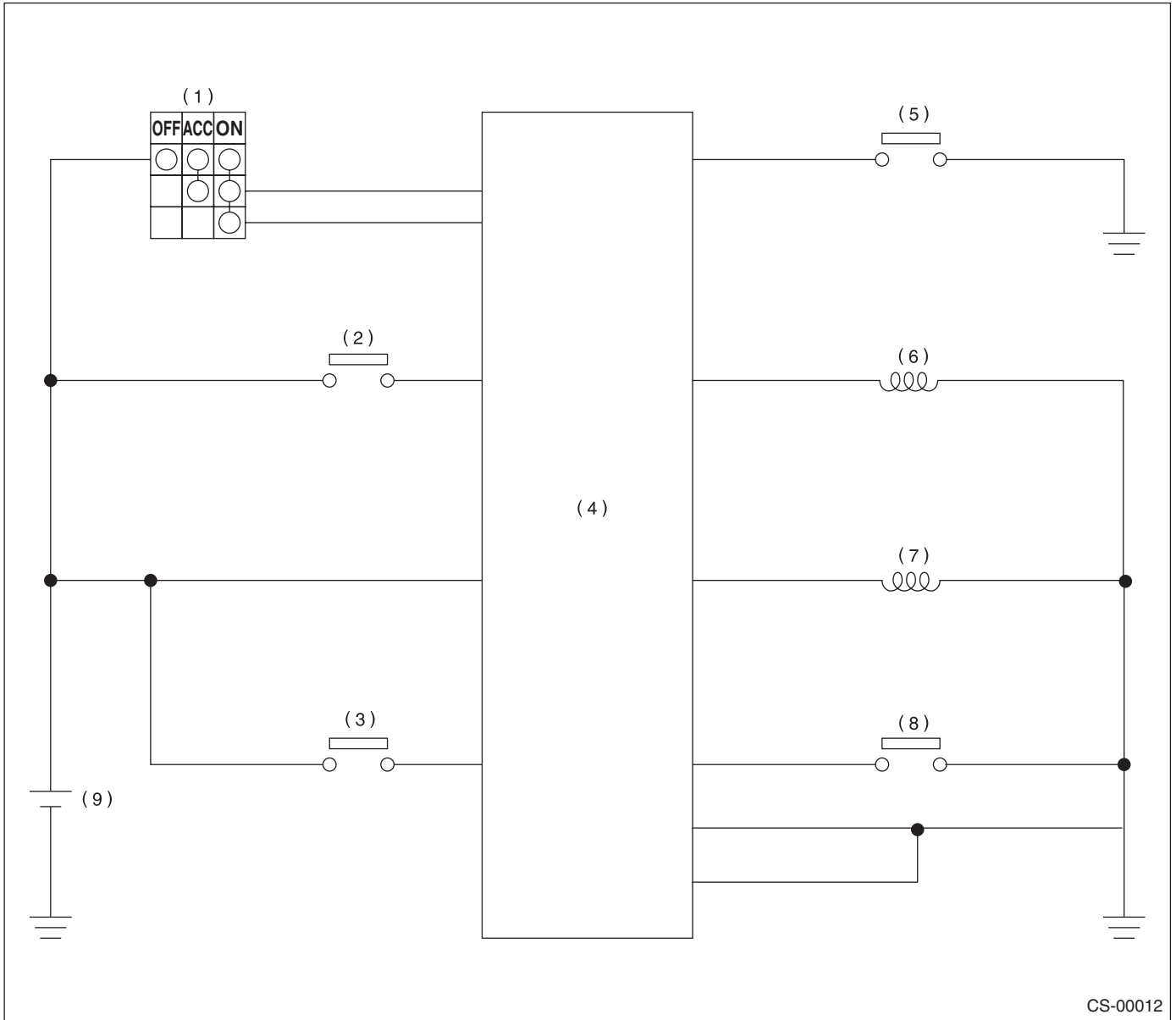


Contents	To Connector No.	Terminal No.	Input/Output signal
			Measured value and measuring conditions
Battery power supply	B280	2	9 — 16 V
Ignition power supply	B281	19	10 — 15 V when ignition switch is at ON or START.
Ignition power supply	B281	10	10 — 15 V when ignition switch is at ACC or ON.
Inhibitor Switch (“P” range)	B281	5	0 V when select lever is in “P” range. 9 — 16 V when select lever is in other ranges than “P” range.
Stop light switch	B281	9	9 — 16 V when stop light switch is ON. 0 V when stop light switch is OFF.
“P” range switch	B281	6	0 V when select lever is in “P” range. 9 — 16 V when select lever is in other ranges than “P” range.
Shift lock solenoid signal	B280	9	8.5 — 16 V when shift lock is released. 0 V when shift lock is operating.
Key warning switch signal	B281	20	9 — 16 V when key is inserted. 0 V when key is removed.
Key lock solenoid signal	B280	3	Pulse is output when switching key lock between locked and unlocked. 0 V at other conditions than above.
Ground	B280	4	—
Ground	B280	13	—

AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

B: WIRING DIAGRAM



- (1) Ignition switch
- (2) Stop light switch
- (3) Key warning switch

- (4) Body integrated unit
- (5) Inhibitor switch
- (6) Key lock solenoid

- (7) Shift lock solenoid
- (8) "P" range switch
- (9) Battery

C: INSPECTION

1. SHIFT LOCK OPERATION

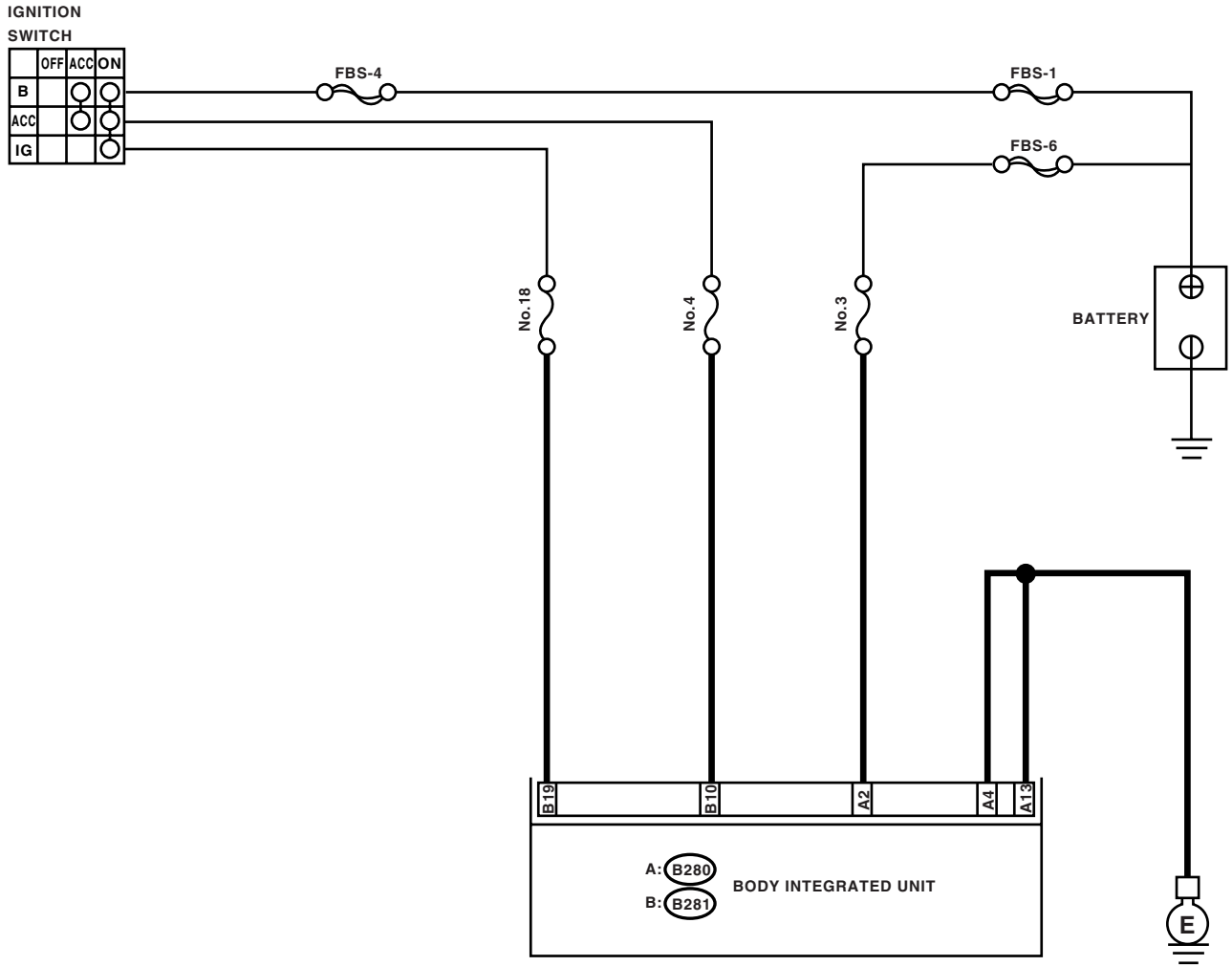
Step	Check	Yes	No	
1	CHECK SHIFT LOCK. 1) Turn the ignition switch ON. 2) Move the select lever to "P" range.	While the brake pedal is not depressed, can select lever move from "P" range to other ranges?	Inspect "SELECT LEVER SHIFT LOCK CANNOT BE RELEASED". <Ref. to CS-16, SELECT LEVER SHIFT LOCK CANNOT BE RELEASED, INSPECTION, AT Shift Lock System.>	Go to step 2.
2	CHECK SHIFT LOCK.	While the brake pedal is depressed, can select lever move from "P" range to other ranges?	Go to step 3.	Inspect "SELECT LEVER CANNOT BE SHIFT LOCKED". <Ref. to CS-14, SELECT LEVER CANNOT BE SHIFT LOCKED, INSPECTION, AT Shift Lock System.>
3	CHECK KEY INTERLOCK.	When the select lever is in other than "P" range, does ignition switch turn to "LOCK" position?	Inspect "KEY INTERLOCK DOES NOT BE LOCKED OR RELEASED. <Ref. to CS-19, KEY INTERLOCK DOES NOT LOCK OR RELEASE, INSPECTION, AT Shift Lock System.>	Go to step 4.
4	CHECK KEY INTERLOCK.	When the select lever is in "P" range, does ignition switch turn to "LOCK" position?	AT shift lock system is normal.	Inspect "KEY INTERLOCK DOES NOT BE LOCKED OR RELEASED. <Ref. to CS-19, KEY INTERLOCK DOES NOT LOCK OR RELEASE, INSPECTION, AT Shift Lock System.>

AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

2. BODY INTEGRATED UNIT POWER SUPPLY AND GROUND LINE

WIRING DIAGRAM:



(B281)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

(B280)

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

CS-00087

AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

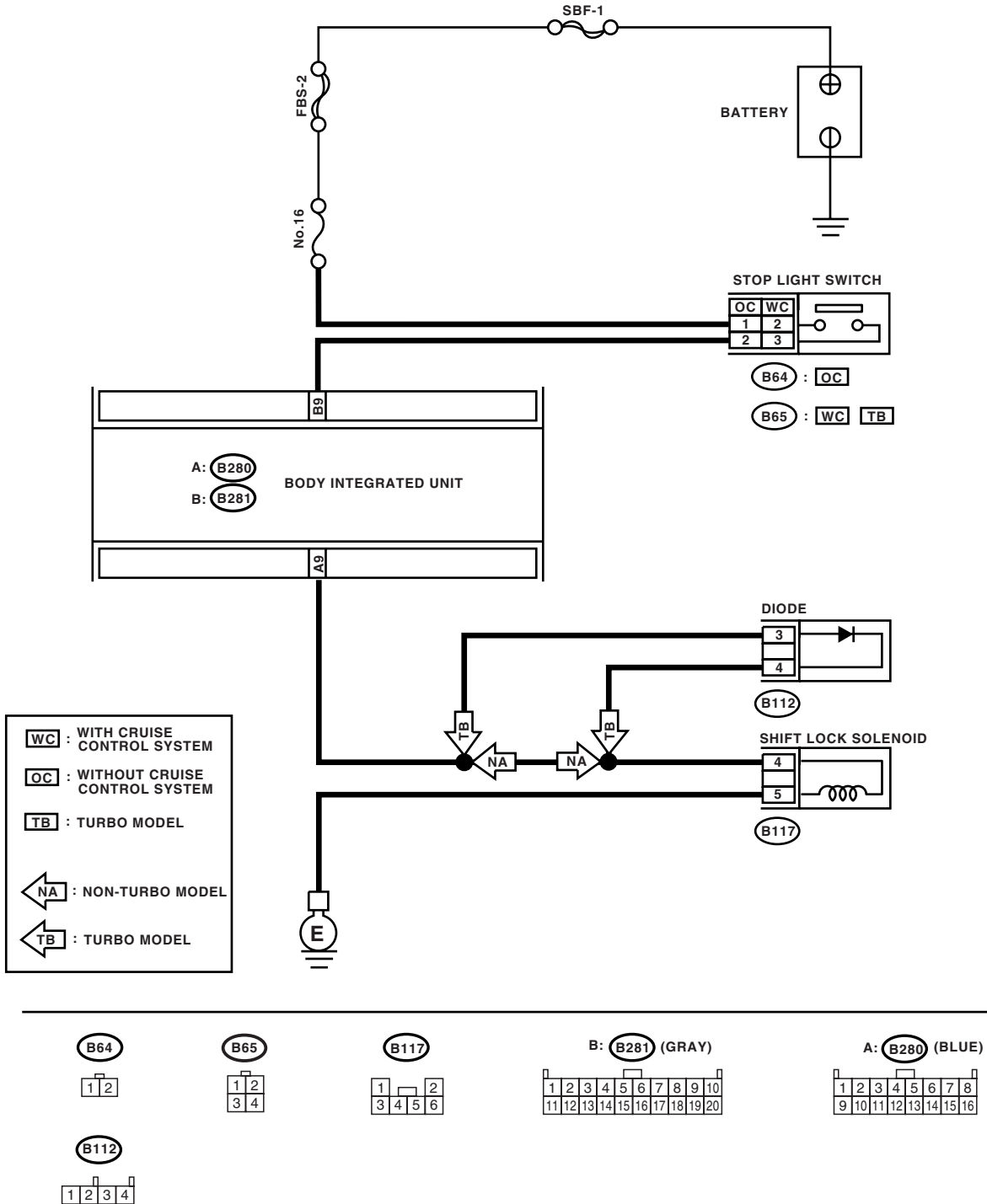
Step	Check	Yes	No
1 CHECK FUSE. Remove the fuse (No. 3, 4 and 18).	Is the fuse (No. 3, 4 and 18) blown out?	Replace the fuse (No. 3, 4 and 18). If the replaced fuse (No. 3, 4 and 18) has blown out easily, repair short circuit in harness between fuse and body integrated unit.	Go to step 2.
2 CHECK HARNESS CONNECTOR BETWEEN BODY INTEGRATED UNIT AND BODY GROUND. 1) Turn the ignition switch to OFF. 2) Measure the resistance of harness between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B280) No. 4 — Chassis ground:</i> <i>(B280) No. 13 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Go to step 3.	Repair the open circuit in harness between body integrated unit and body ground.
3 CHECK BATTERY POWER SUPPLY. 1) Turn the ignition switch to ON (engine OFF). 2) Measure the voltages between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B280) No. 2 (+) — Chassis ground (-):</i>	Is the voltage more than 9 V?	Go to step 4.	Repair the open circuit harness between battery and body integrated unit, and poor contact in coupling connector.
4 CHECK IGNITION POWER SUPPLY CIRCUIT. 1) Turn the ignition switch to ACC. 2) Measure the voltage between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B281) No. 10 (+) — Chassis ground (-):</i>	Is the voltage more than 9 V?	Go to step 5.	Repair the open circuit harness between battery and body integrated unit, and poor contact in coupling connector.
5 CHECK IGNITION POWER SUPPLY CIRCUIT. 1) Turn the ignition switch to ON (engine OFF). 2) Measure the voltage between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B281) No. 19 (+) — Chassis ground (-):</i>	Is the voltage more than 9 V?	Go to step 6.	Repair the open circuit harness between battery and body integrated unit, and poor contact in coupling connector.
6 CHECK POOR CONTACT.	Is there poor contact in connector?	Repair the poor contact.	Replace the body integrated unit.

AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

3. SELECT LEVER CANNOT BE SHIFT LOCKED

WIRING DIAGRAM:



CS-00337

AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

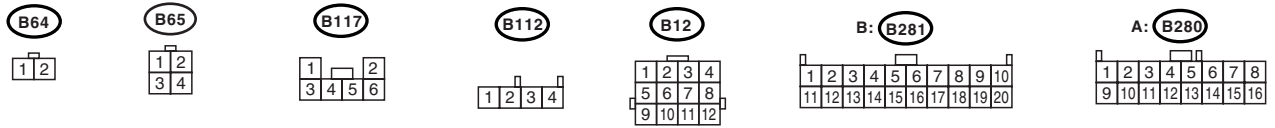
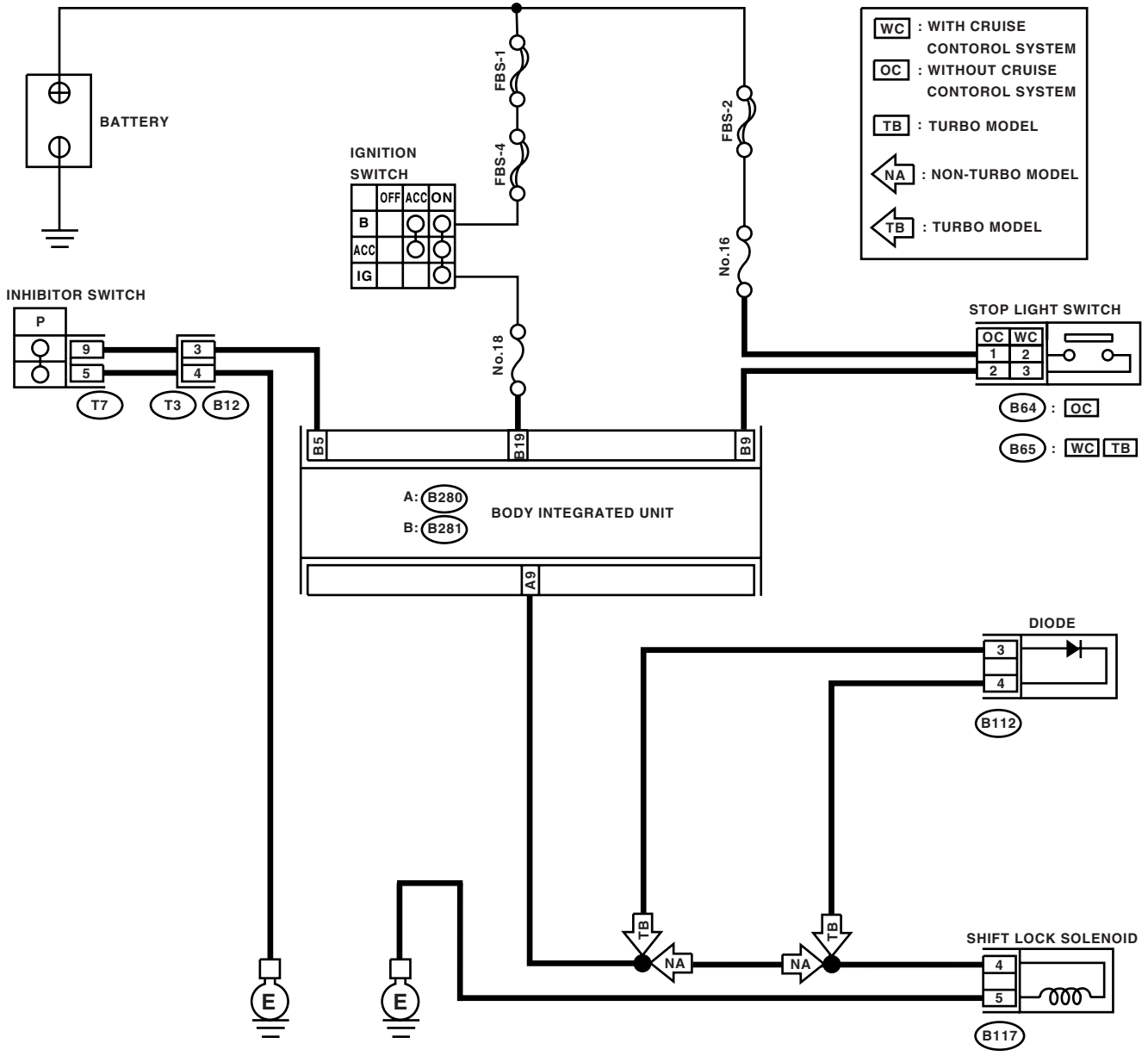
Step	Check	Yes	No
1 CHECK STOP LIGHT SWITCH. Depress the brake pedal.	Does the stop light turn on?	Go to step 2.	Inspect the stop light system.
2 CHECK HARNESS BETWEEN STOP LIGHT SWITCH AND BODY INTEGRATED UNIT. 1) Turn the ignition switch to OFF. 2) Disconnect the body integrated unit and stoplight switch connector. 3) Measure the resistance of harness between stop light switch and body integrated unit. <i>Connector & terminal</i> <i>Without cruise control system</i> <i>(B64) No. 2 — (B281) No. 9:</i> <i>With cruise control system</i> <i>(B65) No. 3 — (B281) No. 9:</i>	Is the resistance more than 1 M Ω ?	Repair the open circuit in harness between body integrated unit and stop light switch.	Go to step 3.
3 CHECK HARNESS BETWEEN STOP LIGHT SWITCH AND BODY INTEGRATED UNIT. Measure the resistance of harness between stop light switch and chassis ground. <i>Connector & terminal</i> <i>Without cruise control system</i> <i>(B64) No. 2 — Chassis ground:</i> <i>With cruise control system</i> <i>(B65) No. 3 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Repair the short circuit in harness between body integrated unit and stop light switch.	Go to step 4.
4 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND SHIFT LOCK SOLENOID. 1) Disconnect the shift lock solenoid connector. 2) Measure the resistance of harness between body integrated unit and shift lock solenoid. <i>Connector & terminal</i> <i>(B117) No. 4 — (B280) No. 9:</i>	Is the resistance more than 1 M Ω ?	Repair the open circuit in harness between body integrated unit and shift lock solenoid.	Go to step 5.
5 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND SHIFT LOCK SOLENOID. Measure the resistance of harness between shift lock solenoid and chassis ground. <i>Connector & terminal</i> <i>(B117) No. 4 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Repair the short circuit in harness between body integrated unit and shift lock solenoid.	Go to step 6.
6 CHECK HARNESS BETWEEN SHIFT LOCK SOLENOID AND CHASSIS GROUND. Measure the resistance of harness between shift lock solenoid and chassis ground. <i>Connector & terminal</i> <i>(B117) No. 5 — Chassis ground:</i>	Is the resistance more than 1 M Ω ?	Repair the open circuit in harness between shift lock solenoid and body ground.	Go to step 7.
7 CHECK SHIFT LOCK SOLENOID. Measure the resistance of shift lock solenoid connector terminals. <i>Terminal</i> <i>No. 4 — No. 5:</i>	Is the resistance 20 — 40 Ω ?	Go to step 8.	Replace the shift lock solenoid.
8 CHECK SHIFT LOCK SOLENOID. Connect the battery with shift lock solenoid connector terminal and operate solenoid. <i>Terminal</i> <i>No. 4 (+) — No. 5 (-):</i>	Does the shift lock solenoid operate properly?	Go to step 9.	Replace the shift lock solenoid.
9 CHECK POOR CONTACT.	Is there poor contact in connector?	Repair the poor contact.	Replace the body integrated unit.

AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

4. SELECT LEVER SHIFT LOCK CANNOT BE RELEASED

WIRING DIAGRAM:



CS-00338

AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

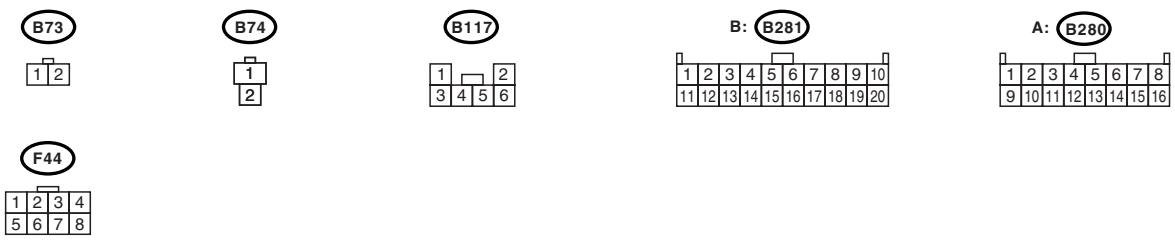
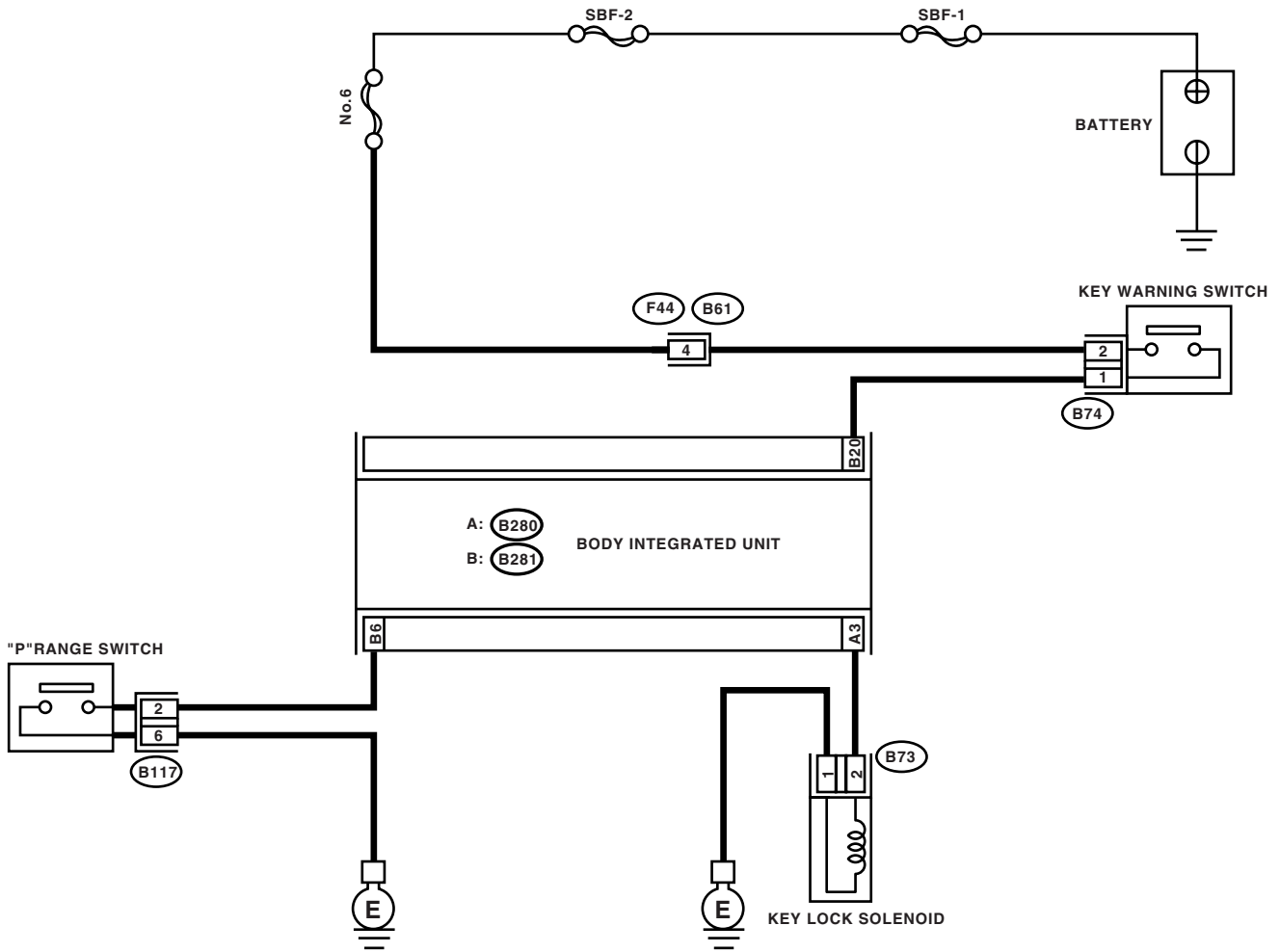
Step	Check	Yes	No
1 CHECK INHIBITOR SWITCH. 1) Turn the ignition switch to ON (engine OFF). 2) Move the select lever from "P" to "1" range.	Are combination meter indicator light and select lever "P", "R", "N", "3", "2" and "1" correctly matched?	Go to step 2.	Adjust the inhibitor switch and select cable.
2 CHECK IGNITION POWER SUPPLY CIRCUIT. 1) Turn the ignition switch to ON (engine OFF). 2) Measure the voltage between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B281) No. 19 (+) — Chassis ground (-):</i>	Is the voltage more than 9V?	Go to step 3.	Repair the open circuit harness between battery and body integrated unit, and poor contact in coupling connector.
3 CHECK HARNESS BETWEEN INHIBITOR SWITCH AND BODY INTEGRATED UNIT. 1) Turn the ignition switch to OFF. 2) Disconnect the connector of transmission harness and body integrated unit. 3) Measure the resistance of harness between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B280) No. 5 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Repair the short circuit in harness between body integrated unit and transmission connector.	Go to step 4.
4 CHECK HARNESS BETWEEN INHIBITOR SWITCH AND BODY INTEGRATED UNIT. Measure the resistance of harness between body integrated unit and inhibitor switch. <i>Connector & terminal</i> <i>(B12) No. 3 — (B281) No. 5:</i>	Is the resistance more than 1 $M\Omega$?	Repair the open circuit in harness between body integrated unit and transmission connector	Go to step 5.
5 CHECK HARNESS BETWEEN INHIBITOR SWITCH AND CHASSIS GROUND. Measure the resistance of harness between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B12) No. 4 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Go to step 6.	Repair the open circuit in harness between body integrated unit and chassis ground.
6 CHECK INHIBITOR SWITCH. 1) Move the select lever to "P" range. 2) Measure the resistance of transmission harness connector terminals. <i>Connector & terminal</i> <i>(T3) No. 3 — No. 4:</i>	Is the resistance more than 1 $M\Omega$?	Repair or replace the inhibitor switch.	Go to step 7.
7 CHECK OUTPUT SIGNAL FOR BODY INTEGRATED UNIT. 1) Connect all connectors. 2) Turn the ignition switch to ON. 3) Measure the voltage between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B281) No. 5 (+) — Chassis ground (-):</i>	Is the voltage 9 — 16 V?	Go to step 8.	Go to step 16.
8 CHECK STOP LIGHT SWITCH. Depress the brake pedal.	Does the stop light turn on?	Go to step 9.	Inspect the stop light system.
9 CHECK HARNESS BETWEEN STOP LIGHT SWITCH AND AT SHIFT LOCK CONTROL MODULE. 1) Depress the brake pedal. 2) Measure the voltage between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B281) No. 9 (+) — Chassis ground (-):</i>	Is the voltage more than 9 V?	Go to step 10.	Repair the open or short circuit in harness between body integrated unit and stop light switch.

AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

Step	Check	Yes	No
10 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND SHIFT LOCK SOLENOID. 1) Turn the ignition switch to OFF. 2) Disconnect the connector from shift lock solenoid and body integrated unit. 3) Measure the resistance of harness between body integrated unit and shift lock solenoid. <i>Connector & terminal</i> <i>(B280) No. 9 — (B117) No. 4:</i>	Is the resistance more than 1 M Ω ?	Repair the open circuit in harness between body integrated unit and shift lock solenoid.	Go to step 11.
11 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND SHIFT LOCK SOLENOID. Measure the resistance of harness between shift lock solenoid and chassis ground. <i>Connector & terminal</i> <i>(B280) No. 9 — Chassis ground:</i>	Is the resistance less than 10 Ω ?	Go to step 12.	Repair the short circuit in harness between body integrated unit and shift lock solenoid.
12 CHECK HARNESS BETWEEN SHIFT LOCK SOLENOID AND CHASSIS GROUND. Measure the resistance of harness between shift lock solenoid and chassis ground. <i>Connector & terminal</i> <i>(B117) No. 5 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Go to step 13.	Repair the open circuit in harness between shift lock solenoid and chassis ground.
13 CHECK SHIFT LOCK SOLENOID. Measure the resistance of shift lock solenoid connector terminals. <i>Terminal</i> <i>No. 4 — No. 5:</i>	Is the resistance 20 — 40 Ω ?	Go to step 14.	Replace the shift lock solenoid.
14 CHECK SHIFT LOCK SOLENOID. Connect the battery with shift lock solenoid connector terminal and operate solenoid. <i>Terminal</i> <i>No. 4 (+) — No. 5 (-):</i>	Is the shift lock solenoid operating properly?	Go to step 15.	Replace the shift lock solenoid.
15 CHECK OUTPUT SIGNAL FOR AT SHIFT LOCK CONTROL MODULE. 1) Turn the ignition switch to ON (engine OFF). 2) Measure the voltage between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B280) No. 9 (+) — Chassis ground (-):</i>	Is the voltage more than 8.5 V?	Go to step 16.	Replace the body integrated unit.
16 CHECK POOR CONTACT.	Is there poor contact in connector?	Repair the poor contact.	Replace the body integrated unit.

5. KEY INTERLOCK DOES NOT LOCK OR RELEASE WIRING DIAGRAM:



AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

Step	Check	Yes	No
1 CHECK HARNESS BETWEEN BATTERY AND KEY WARNING SWITCH. 1) Disconnect the connector key warning switch. 2) Measure the voltage of harness between key warning switch and chassis ground. <i>Connector & terminal</i> <i>(B74) No. 2 (+) — Chassis ground (-):</i>	Is the voltage 9 — 16 V?	Go to step 2.	Repair the open or short circuit in harness between battery and key warning switch.
2 CHECK KEY WARNING SWITCH. Measure the resistance of key warning switch connector terminals. <i>Terminal</i> <i>No. 1 — No. 2:</i>	Is the resistance more than 1 M Ω ?	Replace the key warning switch.	Go to step 4.
3 CHECK KEY WARNING SWITCH. 1) Remove the key. 2) Measure the resistance of key warning switch connector terminals. <i>Terminal</i> <i>No. 1 — No. 2:</i>	Is the resistance more than 1 M Ω ?	Go to step 4.	Replace the key warning switch.
4 CHECK HARNESS BETWEEN AT SHIFT LOCK CONTROL MODULE AND KEY WARNING SWITCH. 1) Disconnect the body integrated unit connector. 2) Measure the voltage of harness body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B281) No. 20 (+) — Chassis ground (-):</i>	Is the voltage more than 9 V?	Go to step 5.	Repair the open circuit in harness between body integrated unit and key warning switch.
5 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND KEY LOCK SOLENOID. 1) Disconnect the connector of key lock solenoid. 2) Measure the resistance of harness between body integrated unit and key lock solenoid. <i>Connector & terminal</i> <i>(B73) No. 2 — (B280) No. 3:</i>	Is the resistance more than 1 M Ω ?	Repair the open circuit in harness between body integrated unit and key lock solenoid.	Go to step 6.
6 CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND KEY LOCK SOLENOID. Measure the resistance of harness between body integrated unit and chassis ground. <i>Connector & terminal</i> <i>(B280) No. 3 — Chassis ground:</i>	Is the resistance more than 1 Ω ?	Go to step 7.	Repair the short circuit in harness between body integrated unit and key lock solenoid.
7 CHECK HARNESS BETWEEN KEY LOCK SOLENOID AND CHASSIS GROUND. Measure the resistance of harness between key lock solenoid and chassis ground. <i>Connector & terminal</i> <i>(B73) No. 1 — Chassis ground:</i>	Is the resistance less than 10 Ω ?	Go to step 8.	Repair the open circuit in harness between key lock solenoid and chassis ground.
8 CHECK KEY LOCK SOLENOID. Measure the resistance of key lock solenoid connector terminals. <i>Terminal</i> <i>No. 1 — No. 2:</i>	Is the resistance 4 — 8 Ω ?	Go to step 14.	Replace the key lock solenoid.

AT SHIFT LOCK SYSTEM

CONTROL SYSTEMS

Step	Check	Yes	No
9 CHECK HARNESS BETWEEN “P” RANGE SWITCH AND CHASSIS GROUND. Measure the resistance of harness between “P” range switch and chassis ground. <i>Connector & terminal</i> <i>(B117) No. 2 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Go to step 10.	Repair the short circuit in harness between “P” range switch and body integrated unit.
10 CHECK HARNESS BETWEEN AT SHIFT LOCK CONTROL MODULE AND “P” RANGE SWITCH. 1) Disconnect the connector from “P” range switch. 2) Measure the resistance of harness between body integrated unit and “P” range switch. <i>Connector & terminal</i> <i>(B117) No. 2 — (B281) No. 6:</i>	Is the resistance more than 1 $M\Omega$?	Repair the open circuit in harness between body integrated unit and “P” range switch.	Go to step 11.
11 CHECK HARNESS BETWEEN “P” RANGE SWITCH AND CHASSIS GROUND. Measure the resistance of harness “P” range switch and chassis ground. <i>Connector & terminal</i> <i>(B117) No. 6 — Chassis ground:</i>	Is the resistance less than 1 $M\Omega$?	Go to step 12.	Repair the open circuit in harness between “P” range switch and chassis ground.
12 CHECK “P” RANGE SWITCH. 1) Move the select lever to “P” range. 2) Measure resistance between “P” range switch connector terminals. <i>Terminal</i> <i>No. 2 — No. 6:</i>	Is the resistance less than 1 Ω ?	Go to step 13.	Replace the “P” range switch.
13 CHECK “P” RANGE SWITCH. 1) Move the select lever to other than “P” range. 2) Measure resistance between “P” range switch connector terminals. <i>Terminal</i> <i>No. 2 — No. 6:</i>	Is the resistance more than 1 Ω ?	Go to step 14.	Replace the “P” range switch.
14 CHECK OUTPUT SIGNAL FOR BODY INTEGRATED UNIT. 1) Connect all connectors. 2) Turn the ignition switch to ON (engine OFF). 3) Move the select lever to “P” range. 4) Press the brake pedal. 5) Measure the voltage between body integrated unit connector and chassis ground. <i>Connector & terminal</i> <i>(B280) No. 3 (+) — Chassis ground (-):</i>	Is the voltage 7.5 — 16 V?	Go to step 15.	Replace the body integrated unit.
15 CHECK POOR CONTACT.	Is there poor contact in connector?	Repair the poor contact.	Replace the body integrated unit.