Diagnostic Information and Procedures

Power Door Lock System Symptom Diagnosis (If Equipped)

NOTE

- Use of SUZUKI scan tool makes it easy to check whether a faulty condition is on the input side or output side of BCM. For checking procedure, refer to “Diagnosis Using Output Test Function of SUZUKI Scan Tool” under “Scan Tool Data in Section 10B”.
- Check each part in the order from the top of the following list.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Possible cause</th>
<th>Correction / Reference Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>All door can not be locked / unlocked by all of switches</td>
<td>Circuit fuse blown</td>
<td>Replace fuse and check for short circuit.</td>
</tr>
<tr>
<td>Writing or grounding faulty</td>
<td>Replace circuit.</td>
<td></td>
</tr>
<tr>
<td>BCM faulty</td>
<td>Replace after making sure that none of above parts is faulty.</td>
<td></td>
</tr>
<tr>
<td>All door can not be locked / unlocked by only power door lock switch</td>
<td>Circuit fuse blown</td>
<td>Replace fuse and check for short circuit.</td>
</tr>
<tr>
<td>Writing harness connected to power door lock switch faulty</td>
<td>Check power door lock switch referring to “Power Door Lock Switch Inspection (If Equipped)”.</td>
<td></td>
</tr>
<tr>
<td>Writing or grounding faulty</td>
<td>Repair circuit.</td>
<td></td>
</tr>
<tr>
<td>BCM faulty</td>
<td>Replace after making sure that none of above parts is faulty.</td>
<td></td>
</tr>
<tr>
<td>All door can not be locked / unlocked by only key cylinder switch</td>
<td>Circuit fuse blown</td>
<td>Replace fuse and check for short circuit.</td>
</tr>
<tr>
<td>Key cylinder switch faulty</td>
<td>Check key cylinder switch referring to “Door Key Cylinder Switch Inspection (If Equipped)”.</td>
<td></td>
</tr>
<tr>
<td>Writing or grounding faulty</td>
<td>Repair circuit.</td>
<td></td>
</tr>
<tr>
<td>BCM faulty</td>
<td>Replace after making sure that none of above parts is faulty.</td>
<td></td>
</tr>
<tr>
<td>Only one door can not be locked / unlocked</td>
<td>Power door lock actuator faulty</td>
<td>Check actuator referring to &quot;Power Door Lock Actuator Inspection (If Equipped)&quot;.</td>
</tr>
<tr>
<td>Wiring harness connected to applicable door lock actuator faulty</td>
<td>Repair.</td>
<td></td>
</tr>
<tr>
<td>BCM faulty</td>
<td>Replace after making sure that none of above parts is faulty.</td>
<td></td>
</tr>
</tbody>
</table>

Power Door Lock System Operation Inspection (If Equipped)

1) Check the following operation:
   a) Turn the driver side key cylinder is turned LOCK once, check all doors lock.
   b) Turn the driver side door key cylinder is turned UNLOCK position with door key twice, check all doors unlock.
   c) With all doors unlocked, insert key in key cylinder of driver side door and turn it to lock side, turn it again to lock side within 3 seconds and check that no door can be opened even when door lock knob is moved to unlock side (dead lock function, if equipped).

If malfunction is found, go to "Power Door Lock System Symptom Diagnosis (If Equipped)".
## Keyless Entry System Symptom Diagnosis (If Equipped)

### NOTE

- Confirm that power door lock system is in good condition before referring to the following possible causes.
- Check each part in the order from the top of the following list.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Possible cause</th>
<th>Correction / Reference Item</th>
</tr>
</thead>
</table>
| **All door can not be locked / unlocked by only keyless entry transmitter** | Transmitter battery dead | Replace battery referring to “Replacement of Transmitter Battery (Other than Keyless Start Model)”.
| All door can not be locked / unlocked by only keyless entry transmitter | Door switch faulty | Check door switch referring to “Door Switch (Front / Rear Door) Inspection in Section 9C” and/or “Rear End Door Switch Inspection in Section 9C”.
| All door can not be locked / unlocked by only keyless entry transmitter | Transmitter faulty | Replace transmitter.
| All door can not be locked / unlocked by only keyless entry transmitter | Key reminder switch in ignition switch faulty | Check keyless entry receiver referring to “Keyless Entry Receiver and Its Circuit Inspection (If Equipped)”.
| All door can not be locked / unlocked by only keyless entry transmitter | Wiring or grounding faulty | Repair circuit.
| **Turn signal lights can not be flashed when doors are locked / unlocked by keyless entry transmitter** | Turn signal and hazard warning relay faulty | Check turn signal and hazard warning relay referring to “Turn Signal and Hazard Warning Relay Inspection in Section 9B”.
| Turn signal lights can not be flashed when doors are locked / unlocked by keyless entry transmitter | Wiring or grounding faulty | Repair circuit.
| Turn signal lights can not be flashed when doors are locked / unlocked by keyless entry transmitter | BCM faulty | Replace after making sure that none of above parts is faulty.
| **Interior light does not light when doors are unlocked by keyless entry transmitter** | Wiring or grounding faulty | Repair circuit.
| Interior light does not light when doors are unlocked by keyless entry transmitter | BCM faulty | Replace after making sure that none of above parts is faulty.
| **Hazard warning lights do not light when doors are locked/unlocked by keyless entry transmitter** | Turn signal and hazard warning relay faulty | Check turn signal and hazard warning relay referring to “Turn Signal and Hazard Warning Relay Inspection in Section 9B”.
| Hazard warning lights do not light when doors are locked/unlocked by keyless entry transmitter | Wiring or grounding faulty | Repair circuit.
| Hazard warning lights do not light when doors are locked/unlocked by keyless entry transmitter | BCM faulty | Replace after making sure that none of above parts is faulty.
| **Transmitter code can not be programmed to BCM** | Door switch faulty | Check door switch referring to “Door Switch (Front / Rear Door) Inspection in Section 9C” and/or “Rear End Door Switch Inspection in Section 9C”.
| Transmitter code can not be programmed to BCM | Keyless entry receiver faulty | Check keyless entry receiver referring to “Keyless Entry Receiver and Its Circuit Inspection (If Equipped)”.
| Transmitter code can not be programmed to BCM | Key reminder switch in ignition switch faulty | Check ignition switch referring to “Ignition Switch Inspection in Section 9C”.
| Transmitter code can not be programmed to BCM | Wiring or grounding faulty | Repair circuit.
| Transmitter code can not be programmed to BCM | BCM faulty | Replace after making sure that none of above parts is faulty.
Keyless Entry System Operation Inspection (If Equipped)

NOTE
When performing this inspection, make sure to have any of the door once opened / closed after the ignition key has been removed from the ignition key cylinder.

1) Confirm that power door lock system operates normally, refer to “Power Door Lock System Operation Inspection (If Equipped)”.

2) All doors are closed and unlocked.

3) Check the following operation:
   a) Push “lock” button (1) on transmitter (2) or remote controller once, and check all doors lock and hazard warning lights flash once.
   b) Push “unlock” button (3) on transmitter (2) or remote controller twice, and check all doors unlock and hazard warning lights flash twice and interior light turns on several seconds with the interior light switch in the middle position.

If malfunction is found, go to “Keyless Entry System Symptom Diagnosis (If Equipped)”.

Door Lock Function of Keyless Start System Symptom Diagnosis (If Equipped)

Proceed to “Keyless Start System Symptom Diagnosis in Section 10E” in case that doors cannot be locked and unlocked by operating the request switch at the outside door handle.

Rear End Door Opener System Symptom Diagnosis (If Equipped)

NOTE
• Use of SUZUKI scan tool makes it easy to check whether a faulty condition is on the input side or output side of BCM. For checking procedure, refer to “Diagnosis Using Output Test Function of SUZUKI Scan Tool” under “Scan Tool Data in Section 10B”.
• Check each part in the order from the top of the following list.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Possible cause</th>
<th>Correction / Reference Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear end door can not be opened</td>
<td>Circuit fuse blown</td>
<td>Replace fuse and check for short circuit.</td>
</tr>
<tr>
<td></td>
<td>Rear end door opener switch faulty</td>
<td>Check rear end door opener switch referring to “Rear End Door Opener Switch Inspection (If Equipped)”</td>
</tr>
<tr>
<td></td>
<td>Rear end door actuator faulty</td>
<td>Check rear end door actuator referring to “Power Door Lock Actuator Inspection (If Equipped)”</td>
</tr>
<tr>
<td></td>
<td>Wiring or grounding faulty</td>
<td>Repair circuit.</td>
</tr>
<tr>
<td></td>
<td>BCM faulty</td>
<td>Replace after making sure that none of above parts is faulty.</td>
</tr>
</tbody>
</table>

Rear End Door Opener System Operation Inspection (If Equipped)

1) Unlock all doors by using manual lock switch, keyless entry transmitter, or key cylinder switch.

2) Make sure that latch of rear end door is released from striker when rear end door opener switch is pushed.
If malfunction is found, go to “Rear End Door Opener System Symptom Diagnosis (If Equipped)”.

Front Door Lock Assembly Components

Front Door Lock Assembly Removal and Installation

Removal
1) Remove door trim and door sealing cover referring to step 1) to 6) of “Front Door Glass Removal and Installation in Section 9E”.
2) Raise window all the way up.
3) Remove door sash (1).
4) Remove key cylinder mounting bolt (1), and then remove key cylinder (2).
5) Disconnect door opening control rod (1) from outside handle.
6) Disconnect door lock motor lead wire at coupler (if equipped).
7) Remove door latch screws (2) and remove door lock assembly (3).

Installation
Reverse removal procedure to install front door lock assembly noting the following instructions.
- Apply grease to sliding parts of door latch assembly.
  : Grease 99000-25011 (SUZUKI Super Grease A)
- Tighten door latch screws to specified torque.

Tightening torque
Door latch screw (a): 5.0 N·m (0.5 kgf-m, 4.0 lb-ft)

- Move door latch striker (2) up or down so its center aligns with the center of groove “A” on the door lock assembly (1) as shown. Striker should be moved vertically and placed level. Do not adjust door lock (1).

Tightening torque
Door latch striker screw (a): 10 N·m (1.0 kgf-m, 7.5 lb-ft)

- Move door latch striker (1) sideways to adjust door outer panel surface (2) flush with rear door outer panel or body outer panel surface (3) as shown.

Install door trim referring to “Front Door Glass Removal and Installation in Section 9E”.

[A]: Front door
[B]: Rear door
Front Door Lock Assembly Inspection

- Check that door open and closes smoothly and properly.
- Check that door stops in the secondary latched position properly (preventing door from opening freely) and that door closed completely in the fully latched position.
- Adjust door latch striker position referring to "Front Door Lock Assembly Removal and Installation", if necessary.

Power Door Lock Switch Inspection (If Equipped)

Check for continuity between terminals at each switch position. If check result is not as specified, replace switch.

Door Key Cylinder Switch Inspection (If Equipped)

1) Remove front door trim referring to Step 1) to 3) of “Front Door Glass Removal and Installation in Section 9E”.
2) Check for continuity between terminals at each switch position. If check result is not as specified, replace door lock assembly.
Power Door Lock Actuator Inspection (If Equipped)

1) Remove door trim from door panel.
   For front door, refer to Step 1) to 3) of "Front Door Glass Removal and Installation in Section 9E".
   For rear door, refer to Step 1) to 3) of "Rear Door Glass Removal and Installation in Section 9E".
   For rear end door, refer to Step 1) of "Rear End Door Assembly Removal and Installation in Section 9J".

2) Disconnect power door lock actuator coupler.

3) Connect battery positive (+) and negative (–) terminals to the door lock actuator terminals (a, b, c, d) as shown in figure.
   If it does not operate as specified in the following table, replace door lock assembly.

   **For front door**

   ![Diagram for front door]

<table>
<thead>
<tr>
<th>Right side switch terminals</th>
<th>d</th>
<th>b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left side switch terminals</td>
<td>a</td>
<td>c</td>
</tr>
<tr>
<td>Lock</td>
<td>→</td>
<td>Unlock</td>
</tr>
<tr>
<td>Unlock</td>
<td>→</td>
<td>Lock</td>
</tr>
</tbody>
</table>

   **For rear door**

   ![Diagram for rear door]

<table>
<thead>
<tr>
<th>Right side switch terminals</th>
<th>a</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left side switch terminals</td>
<td>d</td>
<td>b</td>
<td>a</td>
</tr>
<tr>
<td>Lock</td>
<td>→</td>
<td>Unlock</td>
<td></td>
</tr>
<tr>
<td>Unlock</td>
<td>→</td>
<td>Lock</td>
<td></td>
</tr>
<tr>
<td>Lock</td>
<td>→</td>
<td>Deadlock</td>
<td></td>
</tr>
<tr>
<td>Deadlock</td>
<td>→</td>
<td>Unlock</td>
<td></td>
</tr>
</tbody>
</table>

   **For rear end door**

   ![Diagram for rear end door]

   | Lock                       | → | Unlock |

   **Table legends**

   - [A]: Without deadlock
   - [B]: With deadlock
Rear Door Lock Assembly Components

Rear Door Lock Assembly Removal and Installation

**Removal**

1) Remove rear door glass referring to “Rear Door Glass Removal and Installation in Section 9E”.
2) Disconnect door lock motor lead wire (If equipped).
3) Remove door latch mounting screws (1) and remove door latch assembly (2).

**Installation**

Reverse removal procedure to install rear door lock assembly referring to the following instruction and “Front Door Lock Assembly Removal and Installation”.

Rear Door Lock Assembly Inspection

- Tighten door latch screw to specified torque.

  **Tightening torque**

  **Door latch screw (a):** 5.0 N·m (0.5 kgf-m, 4.0 lb-ft)

  **Door latch screw (b):** 10 N·m (1.0 kgf-m, 7.5 lb-ft)

- Install door trim referring to "Rear Door Glass Removal and Installation in Section 9E".

- Check that door opens and closes smoothly and properly.
- Check that door stops in the secondary latched position properly (preventing door from opening freely) and that door closes completely in the fully latched position.
- Adjust door latch striker position referring to “Front Door Lock Assembly Removal and Installation”, if necessary.
Rear End Door Lock Assembly Components

1. Rear end door latch assembly (rear end door switch is built in this assembly)
2. Rear end door opener switch
3. Latch striker
4. Door handle
5. Emergency lever: Rear end door is unlocked by pushing emergency lever with flat head driver if rear end door lock can not be released by door opener switch.
6. Rear end door request switch (if equipped)
7. Rear end door license garnish
8. Rear end door license garnish mounting nut: Tighten nuts in such order as indicated in figure.

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>Torque Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear end door latch assembly</td>
<td>Rear end door latch assembly</td>
<td>10 N·m (1.0 kgf-m, 7.5 lb-ft)</td>
</tr>
<tr>
<td>Rear end door opener switch</td>
<td>Rear end door opener switch</td>
<td>23 N·m (2.3 kgf-m, 17.0 lb-ft)</td>
</tr>
<tr>
<td>Latch striker</td>
<td>Latch striker</td>
<td>6 N·m (0.6 kgf-m, 4.5 lb-ft)</td>
</tr>
<tr>
<td>Door handle</td>
<td>Door handle</td>
<td></td>
</tr>
</tbody>
</table>
Rear End Door Lock Assembly Removal and Installation

Removal
1) Remove door trim (1) from rear end door panel (2).
2) Disconnect door lock motor lead wire (if equipped).
3) Loosen door latch bolts (1) and remove door latch assembly (2).

Installation
Reverse removal procedure to install rear end door lock assembly noting the following instruction.
• Tighten rear end door latch bolt to specified torque.
  
  **Tightening torque**
  Rear end door latch bolt (a): 10 N·m (1.0 kgf·m, 7.5 lb-ft)

Rear End Door Lock Assembly Inspection

• Check that door opens and closes smoothly and properly.
• Check that door stops in the secondary latched position properly (preventing door from opening freely) and that door closes completely in the fully latched position.
• Adjust door latch striker position referring to “Front Door Lock Assembly Removal and Installation”, if necessary.

  **Tightening torque**
  Rear end door striker screw (a): 23 N·m (2.3 kgf-m, 17.0 lb-ft)
Rear End Door Opener Switch Inspection (If Equipped)

1) Remove rear end door trim.
2) Disconnect rear end door switch coupler.
3) Check that there is continuity between terminals “a” and “b” when rear end door opener switch (1) is pushed.
4) Check that there is no continuity between terminals when rear end door opener switch (1) is not pushed.

If check result is not as specified, replace switch.

Replacement of Transmitter Battery (Other than Keyless Start Model)

NOTE
For keyless start model, perform “Replacement of Remote Controller Battery in Section 10E” instead of “Replacement of Transmitter Battery (Other than Keyless Start Model)”.

If transmitter becomes unreliable, replace transmitter battery as follows.

1) Remove screw (1) and transmitter cover (2).
2) Remove transmitter (3) from transmitter holder (4).

⚠️ CAUTION
Use care not to allow grease or dirt to be attached on the printed circuit board and the battery.

3) With tip of flat blade screwdriver put in slot of transmitter, pry it open.
4) Replace the battery (lithium disc-type CR 1620 or equivalent battery) so its (+) terminal faces “+” mark on transmitter.
5) Fit together transmitter (3) and install it into transmitter holder (4).
6) Install transmitter cover (2) and screw (1).
7) Make sure that door locks can be operated with transmitter.

NOTE
- To prevent theft, be sure to break the transmitter before discarding it.
- Dispose of the used battery properly according to applicable rules or regulations. Do not dispose of lithium batteries with ordinary household trash.
Programming Transmitter Code for Keyless Entry System (Other than Keyless Start Model)  S6RW0C9606015

NOTE

• Three transmitter codes can be registered.
• When a new transmitter code is registered, the oldest one will be cleared.
• As for vehicle equipped with keyless start system, perform “Registration Procedure for Remote Controller ID Code in Section 10E” instead of “Programming Transmitter Code for Keyless Entry System (Other than Keyless Start Model)”.

If transmitter or BCM (included in junction block assembly) is replaced with a new one or additional transmitter(s) is necessary, program transmitter code(s).

1) Confirm that all doors are closed and ignition key is out of ignition key cylinder.
2) Open driver side door.
3) Turn ignition switch to ON position, and then drawn ignition key from ignition key cylinder within 10 seconds after that.
4) Push and release driver side door switch (1) at 3 times by hand within 20 seconds after removing ignition key from ignition key cylinder.
5) Turn ignition switch to ON position, and then drawn ignition key from ignition key cylinder within 10 seconds after that. All doors automatically lock and unlock once.
   With this, registration mode.
6) Push “UNLOCK” button (2) on transmitter (3) within 20 seconds after Step 5). All doors automatically lock and unlock once.
   With this, code registration is completed.
7) If an additional transmitter, needs to be programed repeat the procedure of Step 1).

Keyless Entry Answer Back Function Change-over Procedure (If Equipped)  S6RW0C9606016

Output of keyless entry answer back function can be switched over by performing the following procedure.

1) Confirm that all doors are closed, all doors are unlocked, ignition key is out of ignition key cylinder and interior light switch is in the middle position.
2) Perform Step a) through c) described below within 10 seconds.
   a) Insert ignition key in ignition key cylinder.
   b) Remove ignition key from ignition key cylinder.
   c) Repeat Step a) and b) once.
3) Push “UNLOCK” button on transmitter 3 times within 10 seconds.
4) Interior light flashes once which indicates that answer back function is changed over from A mode to B mode.

NOTE

When answer back function is changed from B mode to A mode, hazard warning lights flashes once.

<table>
<thead>
<tr>
<th></th>
<th>Answer back A mode</th>
<th>Answer back B mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard warning light</td>
<td>Flashes once</td>
<td>Flashes twice</td>
</tr>
<tr>
<td>Interior light</td>
<td>Turn on for a while</td>
<td>Flashes once</td>
</tr>
</tbody>
</table>

Keyless Entry Receiver Removal and Installation (If Equipped)  S6RW0C9606018

Removal
1) Disconnect negative cable at battery.
2) Remove groove box referring to Step 6) of “Instrument Panel Removal and Installation in Section 9C”.
3) Disconnect keyless entry receiver coupler.
4) Remove keyless entry receiver (1) from steering support member (2).

Installation
Reverse removal procedure.
Keyless Entry Receiver and Its Circuit Inspection (If Equipped)

1) Check that the voltage between the following terminals and body ground are specifications under each conditions. If check result is not as specified, check applicable circuit for open or short. If circuit is normal, proceed to next step.

**Terminal** | **Circuit** | **Specification** | **Condition** |
---|---|---|---|
1 | Power source | Figure [A] Push “Lock” or “Unlock” button on transmitter. | 0 – 1 V Except the above-mentioned condition. |
3 | Lock/Unlock output signal circuit | Figure [A] Push “Lock” or “Unlock” button on transmitter. | 0 – 1 V Except the above-mentioned condition. |
4 | Ground | | 0 – 1 V |

**Oscilloscope setting**
CH1: 2V/DIV
CH2: 2V/DIV
TIME: 200 ms/DIV

1) Recheck keyless entry receiver as follows.
   a) Substitute a known-good keyless entry receiver.
   b) Record key code referring to “Programming Transmitter Code for Keyless Entry System (Other than Keyless Start Model)”.
   c) Recheck keyless entry receiver system.