

**BODY & ACCESSORIES****09**  
SECTION

ON-BOARD DIAGNOSTIC  
[ADVANCED KEYLESS AND  
START SYSTEM]..... 09-02A

ON-BOARD  
DIAGNOSTIC[IMMOBILIZER  
SYSTEM (ADVANCED  
KEYLESS AND START  
SYSTEM)] ..... 09-02B

ON-BOARD  
DIAGNOSTIC[IMMOBILIZER  
SYSTEM (KEYLESS ENTRY  
SYSTEM)]..... 09-02C

ON-BOARD DIAGNOSTIC  
[THEFT-DETERRENT  
SYSTEM]..... 09-02D

ON-BOARD DIAGNOSTIC  
[AUDIO] ..... 09-02E

ON-BOARD  
DIAGNOSTIC[INSTRUMENT  
CLUSTER] ..... 09-02F

ON-BOARD DIAGNOSTIC  
[BCM]..... 09-02G

ON-BOARD DIAGNOSTIC  
[MULTIPLEX  
COMMUNICATION  
SYSTEM (R.H.D.)]..... 09-02I

SYMPTOM  
TROUBLESHOOTING  
[POWER WINDOW  
SYSTEM]..... 09-03A

SYMPTOM  
TROUBLESHOOTING  
[ADVANCED KEYLESS  
AND START SYSTEM] ..... 09-03B

SYMPTOM  
TROUBLESHOOTING  
[KEYLESS ENTRY  
SYSTEM] ..... 09-03C

SYMPTOM  
TROUBLESHOOTING  
[IMMOBILIZER SYSTEM] ... 09-03D

SYMPTOM  
TROUBLESHOOTING  
[AUDIO] ..... 09-03E

SYMPTOM  
TROUBLESHOOTING  
[RADIO] ..... 09-03F

SYMPTOM  
TROUBLESHOOTING  
[CD]..... 09-03G

SYMPTOM  
TROUBLESHOOTING  
[INSTRUMENT  
CLUSTER] ..... 09-03H

BODY PANELS ..... 09-10

DOORS AND LIFTGATE ..... 09-11

GLASS/WINDOWS/  
MIRRORS ..... 09-12

SEATS ..... 09-13

SECURITY AND LOCKS ..... 09-14

EXTERIOR TRIM ..... 09-16

INTERIOR TRIM ..... 09-17

LIGHTING SYSTEMS ..... 09-18

WIPER/WASHER SYSTEM ... 09-19

ENTERTAINMENT ..... 09-20

POWER SYSTEMS ..... 09-21

INSTRUMENTATION/DRIVER  
INFO..... 09-22

CONTROL SYSTEM ..... 09-40

TECHNICAL DATA ..... 09-50

SERVICE TOOLS ..... 09-60

## 09-02A ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

RESTRAINTS SST .....	09-02A-3	DTC B10C8:1F [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-18
SYSTEM WIRING DIAGRAM [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-4	Detection Condition .....	09-02A-18
FOREWORD [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-5	Possible Causes .....	09-02A-18
DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-5	System Wiring Diagram .....	09-02A-19
CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-5	Diagnostic Procedure .....	09-02A-19
DTC TABLE [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-5	DTC B10C9:1F [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-20
DTC B1026:51 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-9	Detection Condition .....	09-02A-20
Detection Condition .....	09-02A-9	Possible Causes .....	09-02A-20
Possible Causes .....	09-02A-9	System Wiring Diagram .....	09-02A-21
Diagnostic Procedure .....	09-02A-9	Diagnostic Procedure .....	09-02A-21
DTC B1026:87 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-9	DTC B10D1:23 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-22
Detection Condition .....	09-02A-9	Detection Condition .....	09-02A-22
Possible Causes .....	09-02A-9	Possible Causes .....	09-02A-22
System Wiring Diagram .....	09-02A-10	System Wiring Diagram .....	09-02A-22
Diagnostic Procedure .....	09-02A-10	Diagnostic Procedure .....	09-02A-22
DTC B1026:96 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-11	DTC B10D3:23 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-23
Detection Condition .....	09-02A-11	Detection Condition .....	09-02A-23
Possible Causes .....	09-02A-11	Possible Causes .....	09-02A-23
Diagnostic Procedure .....	09-02A-11	System Wiring Diagram .....	09-02A-24
DTC B102B:51 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-11	Diagnostic Procedure .....	09-02A-24
Detection Condition .....	09-02A-11	DTC B10E7:16 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-25
Possible Causes .....	09-02A-11	Detection Condition .....	09-02A-25
Diagnostic Procedure .....	09-02A-12	Possible Causes .....	09-02A-25
DTC B108A:29 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-12	System Wiring Diagram .....	09-02A-25
Detection Condition .....	09-02A-12	Diagnostic Procedure .....	09-02A-25
Possible Causes .....	09-02A-12	DTC B113E:11 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-26
System Wiring Diagram .....	09-02A-13	Detection Condition .....	09-02A-26
Diagnostic Procedure .....	09-02A-13	Possible Causes .....	09-02A-26
DTC B10A5:12 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-14	System Wiring Diagram .....	09-02A-27
Detection Condition .....	09-02A-14	Diagnostic Procedure .....	09-02A-27
Possible Causes .....	09-02A-14	DTC B11FD:1F [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-28
System Wiring Diagram .....	09-02A-14	Detection Condition .....	09-02A-28
Diagnostic Procedure .....	09-02A-15	Possible Causes .....	09-02A-28
DTC B10C6:1F [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-15	System Wiring Diagram .....	09-02A-29
Detection Condition .....	09-02A-15	Diagnostic Procedure .....	09-02A-29
Possible Causes .....	09-02A-15	DTC B1210:1F [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-30
System Wiring Diagram .....	09-02A-16	Detection Condition .....	09-02A-30
Diagnostic Procedure .....	09-02A-16	Possible Causes .....	09-02A-30
DTC B10C7:1F [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-17	System Wiring Diagram .....	09-02A-30
Detection Condition .....	09-02A-17	Diagnostic Procedure .....	09-02A-31
Possible Causes .....	09-02A-17	DTC P1794:16, P1794:17 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-31
System Wiring Diagram .....	09-02A-17	Detection Condition .....	09-02A-31
Diagnostic Procedure .....	09-02A-18	Possible Causes .....	09-02A-31
		System Wiring Diagram .....	09-02A-32
		Diagnostic Procedure .....	09-02A-32
		DTC U0028:87 [ADVANCED KEYLESS AND START SYSTEM] .....	09-02A-33
		Detection Condition .....	09-02A-33
		Possible Causes .....	09-02A-33
		Diagnostic Procedure .....	09-02A-33

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

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PAGE 2 OF 2

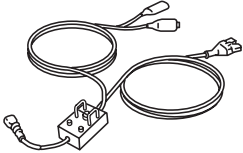
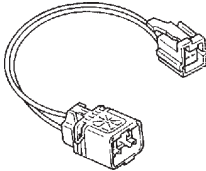


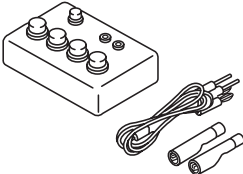
<b>DTC U0401:68 [ADVANCED KEYLESS AND START SYSTEM]</b> . . . . .	<b>09-02A-34</b>
Detection Condition . . . . .	09-02A-34
Possible Causes . . . . .	09-02A-34
Diagnostic Procedure . . . . .	09-02A-34
<b>DTC U201F:00 [ADVANCED KEYLESS AND START SYSTEM]</b> . . . . .	<b>09-02A-34</b>
Detection Condition . . . . .	09-02A-34
Possible Causes . . . . .	09-02A-34
System Wiring Diagram . . . . .	09-02A-35
Diagnostic Procedure . . . . .	09-02A-35
<b>DTC U201F:13 [ADVANCED KEYLESS AND START SYSTEM]</b> . . . . .	<b>09-02A-36</b>
Detection Condition . . . . .	09-02A-36
Possible Causes . . . . .	09-02A-36
System Wiring Diagram . . . . .	09-02A-36
Diagnostic Procedure . . . . .	09-02A-36
<b>DTC U2100:00 [ADVANCED KEYLESS AND START SYSTEM]</b> . . . . .	<b>09-02A-37</b>
Detection Condition . . . . .	09-02A-37
Possible Causes . . . . .	09-02A-37
Diagnostic Procedure . . . . .	09-02A-37

<b>DTC U3000:41 [ADVANCED KEYLESS AND START SYSTEM]</b> . . . . .	<b>09-02A-38</b>
Detection Condition . . . . .	09-02A-38
Possible Causes . . . . .	09-02A-38
Diagnostic Procedure . . . . .	09-02A-38
<b>DTC U3003:16, U3003:17 [ADVANCED KEYLESS AND START SYSTEM]</b> . . . . .	<b>09-02A-38</b>
Detection Condition . . . . .	09-02A-38
Possible Causes . . . . .	09-02A-38
System Wiring Diagram . . . . .	09-02A-38
Diagnostic Procedure . . . . .	09-02A-39
<b>DTC U3004:16 [ADVANCED KEYLESS AND START SYSTEM]</b> . . . . .	<b>09-02A-40</b>
Detection Condition . . . . .	09-02A-40
Possible Causes . . . . .	09-02A-40
System Wiring Diagram . . . . .	09-02A-40
Diagnostic Procedure . . . . .	09-02A-41
<b>PID/DATA MONITOR INSPECTION [ADVANCED KEYLESS AND START SYSTEM]</b> . . . . .	<b>09-02A-42</b>
<b>PID/DATA MONITOR TABLE [ADVANCED KEYLESS AND START SYSTEM]</b> . . . . .	<b>09-02A-42</b>

ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

RESTRAINTS SST

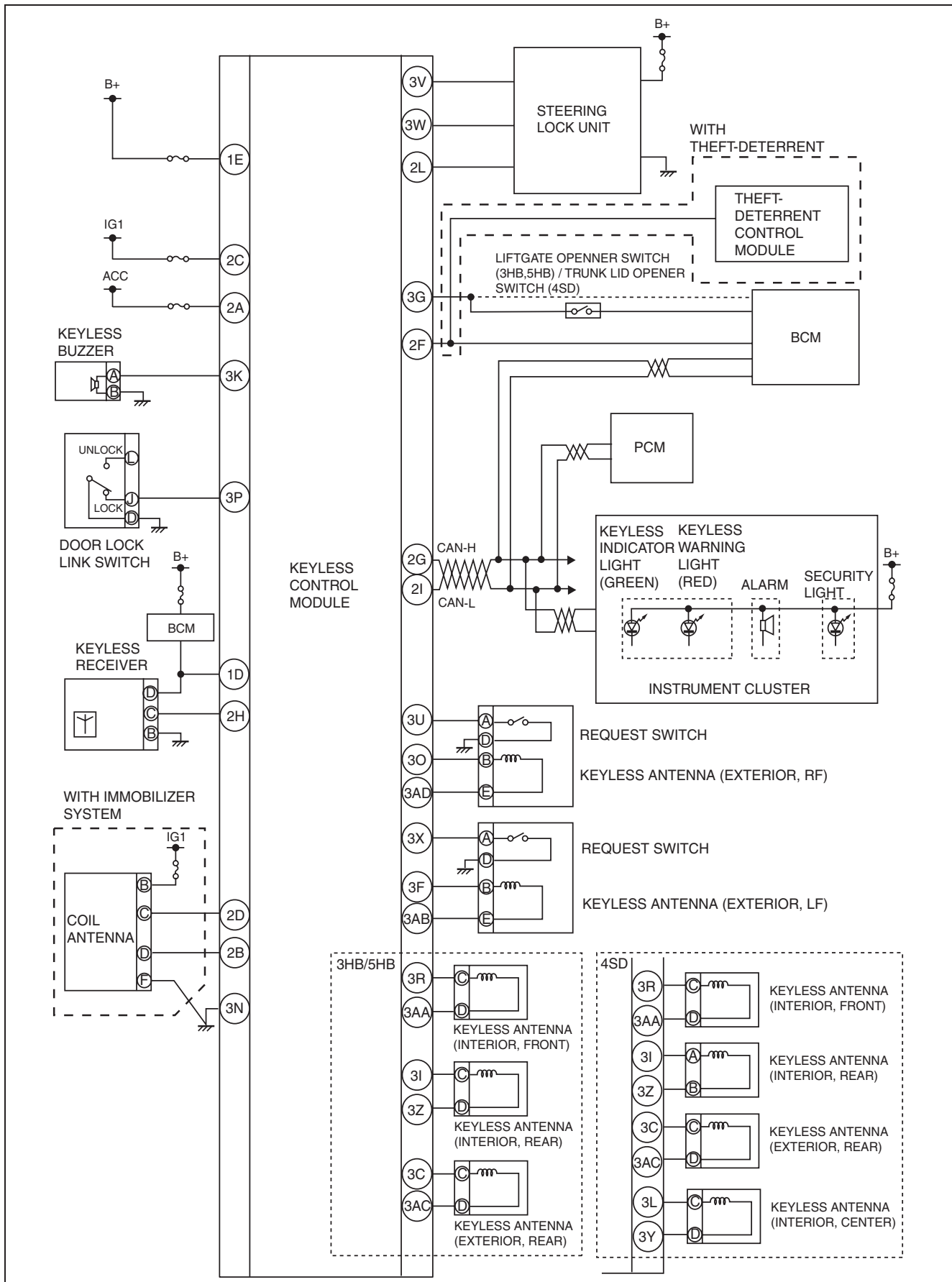
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<div>49 H066 002</div> <div>Deployment tool</div> <div></div>	<div>49 D066 002</div> <div>Adapter harness</div> <div></div>	<div>49 L066 002</div> <div>Adapter harness</div> <div></div>
<div>49 G066 003</div> <div>Adapter harness</div> <div></div>	<div>49 N088 0A0</div> <div>Fuel and Thermometer checker</div> <div></div>	<div>-</div>

# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## SYSTEM WIRING DIAGRAM [ADVANCED KEYLESS AND START SYSTEM]

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# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## FOREWORD [ADVANCED KEYLESS AND START SYSTEM]

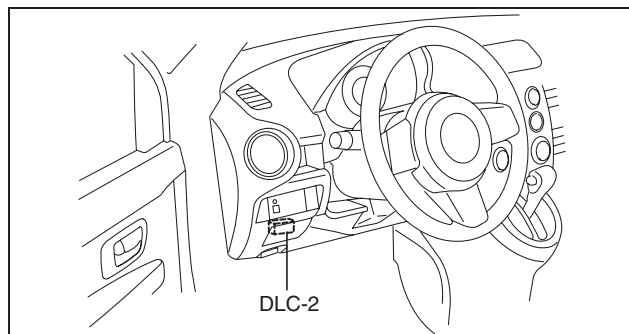
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- The OBD (on-board diagnostic) system has the following functions:
  - Malfunction detection function: Detects malfunctions in the advanced keyless and start system and outputs DTCs.
  - PID/data monitor function: Reads out specific input/output signals and the system status.
- Diagnostic DTCs can be read/cleared using the M-MDS.

## DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM]

id0902e1345400

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Self Test".
    2. Select "Modules".
    3. Select "RKE".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "RKE".
    3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
  - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.
4. After completion of repairs, clear all DTCs stored in the keyless control module. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)

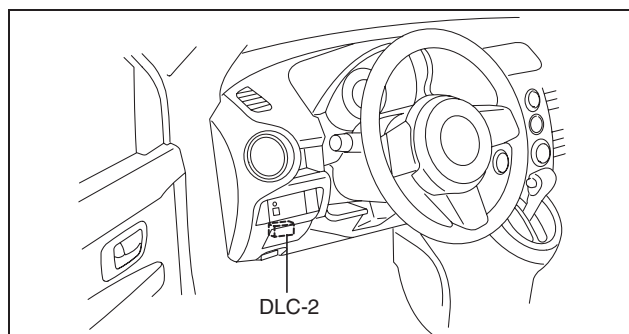


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## CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM]

id0902e1400300

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Self Test".
    2. Select "Modules".
    3. Select "RKE".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "RKE".
    3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
4. Press the clear button on the DTC screen to clear the DTC.
5. Turn the ignition switch to the LOCK position.
6. Turn the ignition switch to the ON position and wait for **5 s more**.
7. Perform DTC inspection. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)
8. Verify that no DTCs are displayed.



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## DTC TABLE [ADVANCED KEYLESS AND START SYSTEM]

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DTC	Detection condition	Reference
M-MDS display		
B1026:51	Steering lock unit not programmed	(See 09-02A-9 DTC B1026:51 [ADVANCED KEYLESS AND START SYSTEM].)
B1026:87	Communication error between keyless control module and steering lock unit	(See 09-02A-9 DTC B1026:87 [ADVANCED KEYLESS AND START SYSTEM].)
B1026:96	Steering lock unit status malfunction signal detected	(See 09-02A-11 DTC B1026:96 [ADVANCED KEYLESS AND START SYSTEM].)
B102B:51	No advanced key programming record (programming never performed in past)	(See 09-02A-11 DTC B102B:51 [ADVANCED KEYLESS AND START SYSTEM].)

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

DTC	Detection condition	Reference
M-MDS display		
B108A:29	Push switch off signal detected while ignition switch is at ON	(See 09-02A-12 DTC B108A:29 [ADVANCED KEYLESS AND START SYSTEM].)
B10A5:12	Keyless beeper output voltage malfunction	(See 09-02A-14 DTC B10A5:12 [ADVANCED KEYLESS AND START SYSTEM].)
B10C6:1F	Cannot receive signal correctly from keyless antenna (exterior, rear)	(See 09-02A-15 DTC B10C6:1F [ADVANCED KEYLESS AND START SYSTEM].)
B10C7:1F	Cannot receive signal correctly from keyless antenna (interior, rear)	(See 09-02A-17 DTC B10C7:1F [ADVANCED KEYLESS AND START SYSTEM].)
B10C8:1F*1	Cannot receive signal correctly from keyless antenna (interior, center)	(See 09-02A-18 DTC B10C8:1F [ADVANCED KEYLESS AND START SYSTEM].)
B10C9:1F	Cannot receive signal correctly from keyless antenna (interior, front)	(See 09-02A-20 DTC B10C9:1F [ADVANCED KEYLESS AND START SYSTEM].)
B10D1:23	Request switch (LF) ON signal detected while driving	(See 09-02A-22 DTC B10D1:23 [ADVANCED KEYLESS AND START SYSTEM].)
B10D3:23	Request switch (RF) ON signal detected while driving	(See 09-02A-23 DTC B10D3:23 [ADVANCED KEYLESS AND START SYSTEM].)
B10E7:16	Keyless control module IG1 power voltage malfunction	(See 09-02A-25 DTC B10E7:16 [ADVANCED KEYLESS AND START SYSTEM].)
B113E:11	Liftgate opener switch (3HB/5HB)/Trunk lid opener switch (4SD) input voltage malfunction	(See 09-02A-26 DTC B113E:11 [ADVANCED KEYLESS AND START SYSTEM].)
B11FD:1F	Cannot receive signal correctly from keyless antenna (LF)	(See 09-02A-28 DTC B11FD:1F [ADVANCED KEYLESS AND START SYSTEM].)
B1210:1F	Cannot receive signal correctly from keyless antenna (RF)	(See 09-02A-30 DTC B1210:1F [ADVANCED KEYLESS AND START SYSTEM].)
P1794:16	Keyless control module power voltage low (power from P/W 20 A fuse)	(See 09-02A-31 DTC P1794:16, P1794:17 [ADVANCED KEYLESS AND START SYSTEM].)
P1794:17	Keyless control module power voltage rising (power from P/W 20 A fuse)	
U0001:88	Module communication error (HS-CAN)	(See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
U0028:87	Correct data cannot be received from BCM (no response for <b>10 times</b> )	(See 09-02A-33 DTC U0028:87 [ADVANCED KEYLESS AND START SYSTEM].)
U0100:00	Communication error (no response) between keyless control module and PCM	(See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
U0401:68	Correct data cannot be received from PCM	(See 09-02A-34 DTC U0401:68 [ADVANCED KEYLESS AND START SYSTEM].)
U201F:00	Communication error between keyless control module and keyless receiver	(See 09-02A-34 DTC U201F:00 [ADVANCED KEYLESS AND START SYSTEM].)



## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]











DTC	Detection condition	Reference
M-MDS display		
U201F:13	Keyless receiver not connecting	(See 09-02A-36 DTC U201F:13 [ADVANCED KEYLESS AND START SYSTEM].)
U2100:00	Configuration error	(See 09-02A-37 DTC U2100:00 [ADVANCED KEYLESS AND START SYSTEM].)
U3000:41	Keyless control module internal malfunction	(See 09-02A-38 DTC U3000:41 [ADVANCED KEYLESS AND START SYSTEM].)
U3003:16	Keyless control module power voltage low (power from ROOM 15 A fuse)	(See 09-02A-38 DTC U3003:16, U3003:17 [ADVANCED KEYLESS AND START SYSTEM].)
U3003:17	Keyless control module power voltage rising (power from ROOM 15 A fuse)	
U3004:16	Keyless control module ACC power voltage malfunction	(See 09-02A-40 DTC U3004:16 [ADVANCED KEYLESS AND START SYSTEM].)

\*1 : 4SD



## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

### With Immobilizer System

DTC		Detection condition	Reference
M-MDS display	Security light flashing pattern		
B10D5:13		<ul style="list-style-type: none"><li>Coil antenna malfunction</li><li>The PCM determined a malfunction in the coil antenna even though it is normal.</li></ul>	(See 09-02B-8 SECURITY LIGHT: 12, DTC: B10D5:13/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
B10D7:05		Key ID number program error	(See 09-02B-9 SECURITY LIGHT: 13, DTC: B10D7:05/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
B10D7:51		Keyless control module detected unprogrammed key ID number.	(See 09-02B-14 SECURITY LIGHT: 15, DTC: B10D7:51/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
B10D7:81		The keyless control module cannot read key ID number data normally.	(See 09-02B-13 SECURITY LIGHT: 14, DTC: B10D7:81/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
B10D7:94		The key ID number data cannot be read.	(See 09-02B-11 SECURITY LIGHT: 13, DTC: B10D7:94/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
B10D8:00		Only one key has been programmed.	(See 09-02B-17 SECURITY LIGHT: 21, DTC: B10D8:00/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
B10D9:87		No detected communication with the coil antenna.	(See 09-02B-6 SECURITY LIGHT: 11, DTC: B10D9:87/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
B10DA:51		Communication error between keyless control module and PCM (data transfer error)	(See 09-02B-18 SECURITY LIGHT: 22, DTC: B10DA:51/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
B10DA:62		ID number data between keyless control module and PCM are different.	(See 09-02B-19 SECURITY LIGHT: 23, DTC: B10DA:62/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
U0100:87		Communication error between the keyless control module and the PCM (no response/condition mismatch)	(See 09-02B-16 SECURITY LIGHT: 16, DTC: U0100:87/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

### DTC B1026:51 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1387000

#### Detection Condition

- Steering lock unit not programmed

#### Possible Causes

- Programmed not performed after steering lock unit replacement
- Steering lock unit malfunction
- Keyless control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM STEERING LOCK UNIT PROGRAMMING</b> <ul style="list-style-type: none"><li>Perform the steering lock unit programming. (See 09-14-134 STEERING LOCK UNIT ID CODE REGISTRATION [ADVANCED KEYLESS AND START SYSTEM].)</li><li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li><li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li><li>Is the DTC B1026:51 displayed?</li></ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>INSPECT STEERING LOCK UNIT</b> <ul style="list-style-type: none"><li>Inspect the steering lock unit. (See 09-21-6 STEERING LOCK UNIT INSPECTION [WITH ADVANCED KEYLESS AND START SYSTEM].)</li><li>Is the steering lock unit normal?</li></ul>	Yes Go to the next step.
		No Replace the steering lock unit and perform steering lock unit programming.  (See 09-14-134 STEERING LOCK UNIT ID CODE REGISTRATION [ADVANCED KEYLESS AND START SYSTEM].) Go to the next step.
3	<b>VERIFY DTCs</b> <ul style="list-style-type: none"><li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li><li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li><li>Is the DTC B1026:51 displayed?</li></ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B1026:87 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1387100

#### Detection Condition

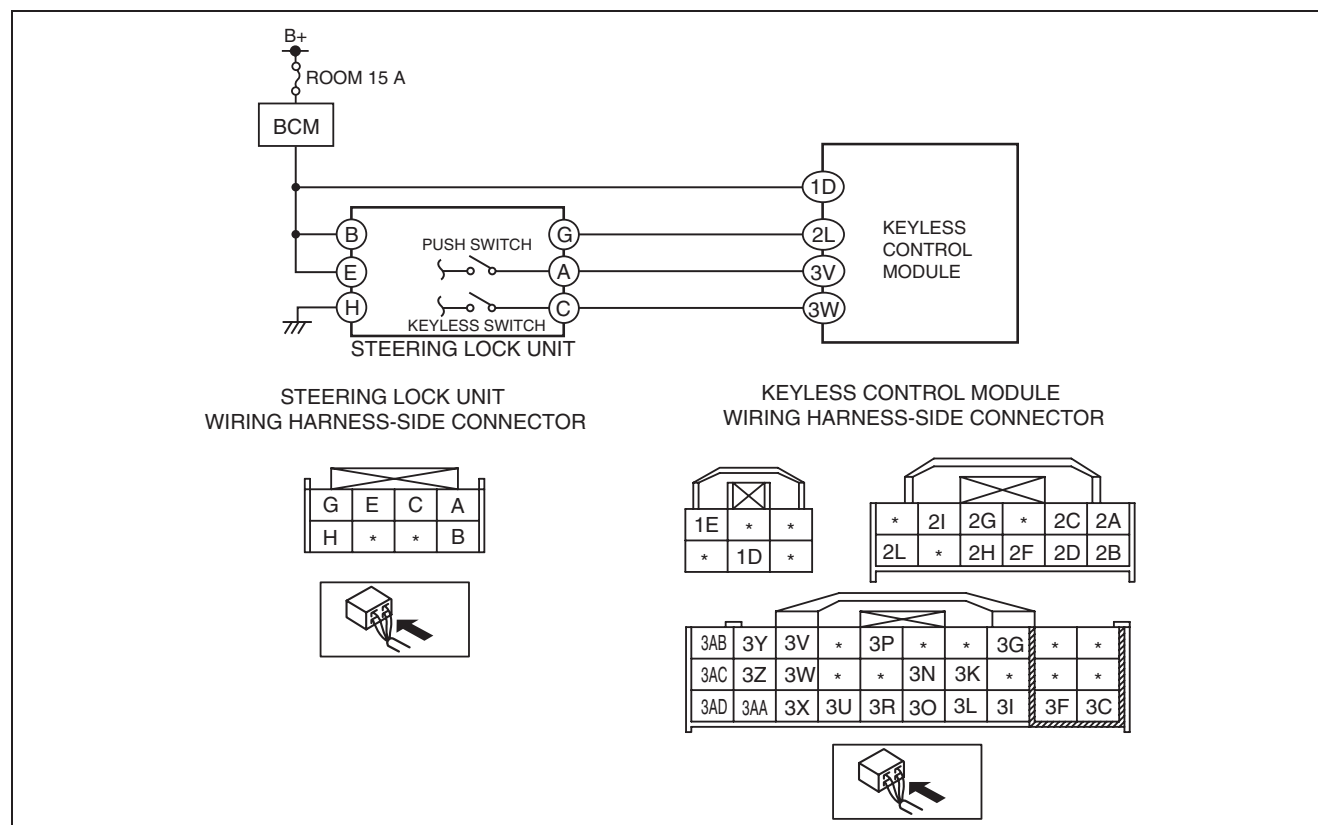
- Communication error between keyless control module and steering lock unit

#### Possible Causes

- Steering lock unit connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Open or short circuit in wiring harness between steering lock unit and keyless control module
- Steering lock unit malfunction
- Keyless control module malfunction

# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## System Wiring Diagram



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## Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT STEERING LOCK UNIT CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the steering lock unit connector.</li> <li>Inspect the steering lock unit connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the steering lock unit connector or terminal, then <b>go to Step 5</b> .
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 5</b> .
3	<b>INSPECT WIRING HARNESS BETWEEN STEERING LOCK UNIT AND KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between keyless control module terminal 2L and steering lock unit terminal G for the following: <ul style="list-style-type: none"> <li>Short to ground</li> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between steering lock unit and keyless control module, then <b>go to Step 5</b> .

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
4	<b>INSPECT STEERING LOCK UNIT</b> <ul style="list-style-type: none"> <li>Inspect the steering lock unit. (See 09-21-6 STEERING LOCK UNIT INSPECTION [WITH ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the steering lock unit normal?</li> </ul>	Yes Go to the next step.
		No Replace the steering lock unit and perform steering lock unit programming. (See 06-13-10 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION [R.H.D.].) (See 09-14-134 STEERING LOCK UNIT ID CODE REGISTRATION [ADVANCED KEYLESS AND START SYSTEM].) Go to the next step.
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B1026:87 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B1026:96 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1387200

#### Detection Condition

- Steering lock unit status malfunction signal detected

#### Possible Causes

- Steering lock unit malfunction
- Keyless control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT STEERING LOCK UNIT</b> <ul style="list-style-type: none"> <li>Inspect the steering lock unit. (See 09-21-6 STEERING LOCK UNIT INSPECTION [WITH ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the steering lock unit normal?</li> </ul>	Yes Go to the next step.
		No Replace the steering lock unit and perform steering lock unit programming. (See 06-13-10 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION [R.H.D.].) (See 09-14-134 STEERING LOCK UNIT ID CODE REGISTRATION [ADVANCED KEYLESS AND START SYSTEM].) Go to the next step.
2	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B1026:96 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B102B:51 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1387300

#### Detection Condition

- No advanced key programming record (programming never performed in past)

#### Note

- If the advanced key has never been programmed, DTC B102B:51 cannot be detected even if the advanced key is cleared.

#### Possible Causes

- Advanced key is not programmed.

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

- Keyless control module malfunction

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY NUMBER OF PROGRAMMED ADVANCED KEYS</b> <ul style="list-style-type: none"><li>• Using the M-MDS, perform the PID/data monitor inspection and verify the number of programmed advanced keys. (See 09-02A-42 PID/DATA MONITOR INSPECTION [ADVANCED KEYLESS AND START SYSTEM].) — NUMCARD (See 09-02A-42 PID/DATA MONITOR TABLE [ADVANCED KEYLESS AND START SYSTEM].)</li><li>• Is there a programmed advanced key?</li></ul>	Yes Go to the next step.
		No Program the advanced key, then go to the next step. (See 09-14-123 ADVANCED KEY ID CODE REGISTRATION [ADVANCED KEYLESS AND START SYSTEM].)
2	<b>VERIFY DTCs</b> <ul style="list-style-type: none"><li>• Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li><li>• Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li><li>• Is the DTC B102B:51 displayed?</li></ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B108A:29 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1387400

#### Detection Condition

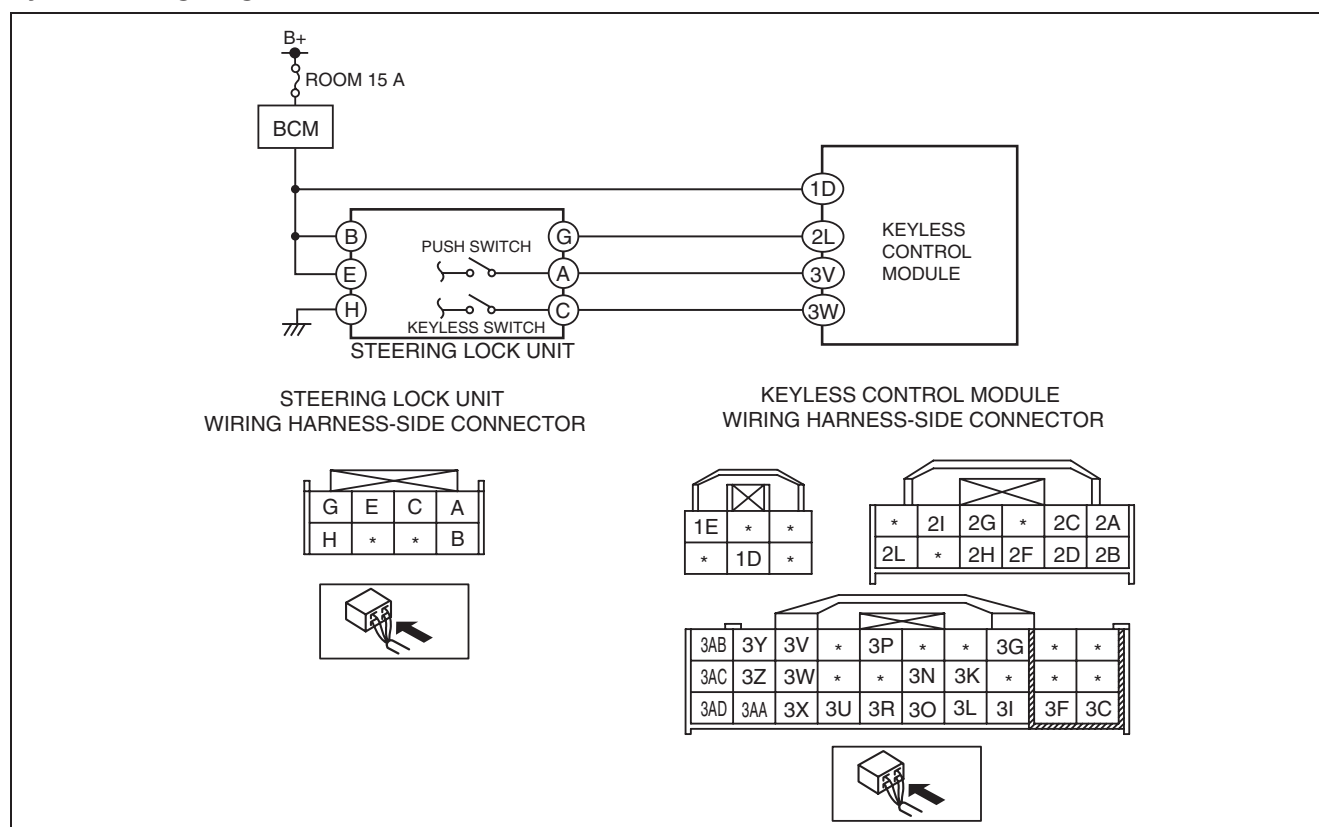
- Push switch off signal detected while ignition switch is at ON

#### Possible Causes

- Steering lock unit connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Open or short circuit in wiring harness between steering lock unit and keyless control module
- Steering lock unit malfunction
- Keyless control module malfunction

# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## System Wiring Diagram



am2zzw0000503

## Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT STEERING LOCK UNIT CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the steering lock unit connector.</li> <li>Inspect the steering lock unit connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the steering lock unit connector or terminal, then <b>go to Step 5</b> .
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 5</b> .
3	<b>INSPECT WIRING HARNESS BETWEEN STEERING LOCK UNIT AND KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between keyless control module terminal 3V and steering lock unit terminal A for the following: <ul style="list-style-type: none"> <li>Short to ground</li> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between steering lock unit and keyless control module, then <b>go to Step 5</b> .

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
4	<b>STEERING LOCK UNIT INSPECTION</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Inspect the voltage of steering lock unit terminals A, B, E, and H. (See 09-21-6 STEERING LOCK UNIT INSPECTION [WITH ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the voltage normal?</li> </ul>	Yes Go to the next step.
		No Replace the steering lock unit and perform steering lock unit programming. (See 06-13-10 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION [R.H.D.].) (See 09-14-134 STEERING LOCK UNIT ID CODE REGISTRATION [ADVANCED KEYLESS AND START SYSTEM].) Go to the next step.
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B108A:29 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B10A5:12 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1387600

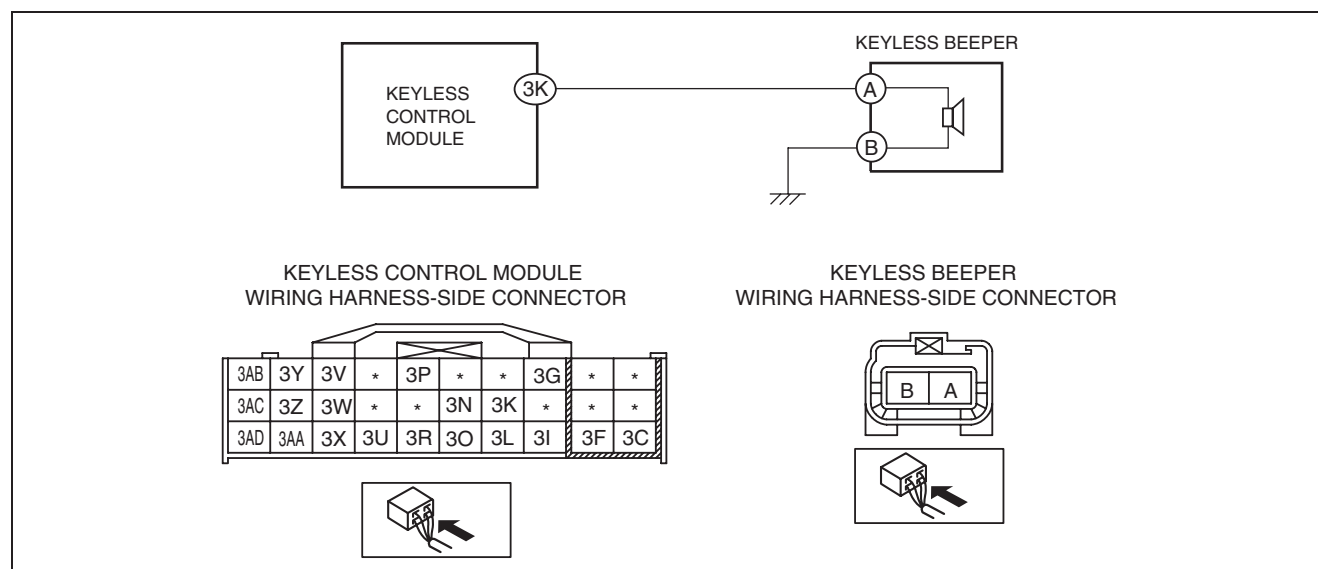
#### Detection Condition

- Keyless beeper output voltage malfunction

#### Possible Causes

- Keyless beeper connector or terminals malfunction
- Open circuit in wiring harness between keyless beeper and body ground
- Keyless control module connector or terminals malfunction
- Open or short circuit in wiring harness between keyless beeper and keyless control module
- Keyless beeper malfunction
- Keyless control module malfunction

#### System Wiring Diagram



am2zzw0000503



## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

### Diagnostic Procedure

Step	Inspection		Action
1	<b>INSPECT KEYLESS BEEPER CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless beeper connector.</li> <li>Inspect the keyless beeper connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes	Go to the next step.
		No	Repair/replace the keyless beeper connector or terminal, then go to Step 6.
2	<b>INSPECT WIRING HARNESS BETWEEN KEYLESS BEEPER AND GROUND</b> <ul style="list-style-type: none"> <li>Keyless beeper connector is disconnected.</li> <li>Inspect for continuity between keyless beeper terminal B (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness between keyless beeper and body ground, then go to Step 6.
3	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes	Go to the next step.
		No	Repair/replace the keyless control module connector or terminal, then go to Step 6.
4	<b>INSPECT WIRING HARNESS BETWEEN KEYLESS BEEPER AND KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between keyless beeper terminal A and keyless control module terminal 3K for the following: <ul style="list-style-type: none"> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness between keyless beeper and keyless control module, then go to Step 6.
5	<b>INSPECT KEYLESS BEEPER</b> <ul style="list-style-type: none"> <li>Inspect the keyless beeper. (See 09-14-131 KEYLESS BEEPER INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the keyless beeper normal?</li> </ul>	Yes	Go to the next step.
		No	Replace the keyless beeper, then go to the next step. (See 09-14-130 KEYLESS BEEPER REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
6	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10A5:12 displayed?</li> </ul>	Yes	Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No	DTC troubleshooting completed.

### DTC B10C6:1F [ADVANCED KEYLESS AND START SYSTEM]

id0902e1387700

#### Detection Condition

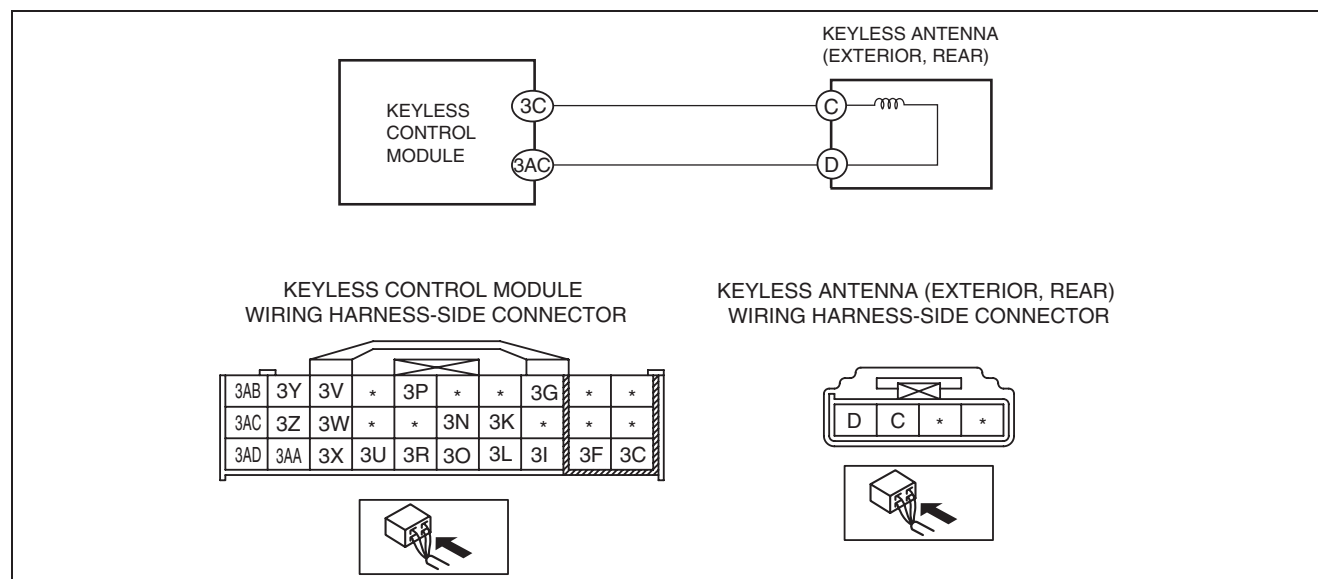
- Cannot receive signal correctly from keyless antenna (exterior, rear)

#### Possible Causes

- Keyless antenna (exterior, rear) connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Open or short circuit in wiring harness between keyless antenna (exterior, rear) and keyless control module
- Keyless antenna (exterior, rear) malfunction
- Keyless control module malfunction

# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## System Wiring Diagram



am2zzw0000503

## Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT KEYLESS ANTENNA (EXTERIOR, REAR) CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless antenna (exterior, rear) connector.</li> <li>Inspect the keyless antenna (exterior, rear) connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless antenna (exterior, rear) connector or terminal, then <b>go to Step 5</b> .
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 5</b> .
3	<b>INSPECT WIRING HARNESS BETWEEN KEYLESS ANTENNA (EXTERIOR, REAR) AND KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between keyless antenna (exterior, rear) terminal C and keyless control module terminal 3C, and keyless antenna (exterior, rear) terminal D and keyless control module terminal 3AC for the following: <ul style="list-style-type: none"> <li>— Short to ground</li> <li>— Short to power supply</li> <li>— Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between keyless antenna (exterior, rear) and keyless control module, then <b>go to Step 5</b> .
4	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10C6:1F displayed?</li> </ul>	Yes Replace the keyless antenna (exterior, rear), then go to the next step. (See 09-14-125 KEYLESS ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10C6:1F displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B10C7:1F [ADVANCED KEYLESS AND START SYSTEM]

id0902e1387800

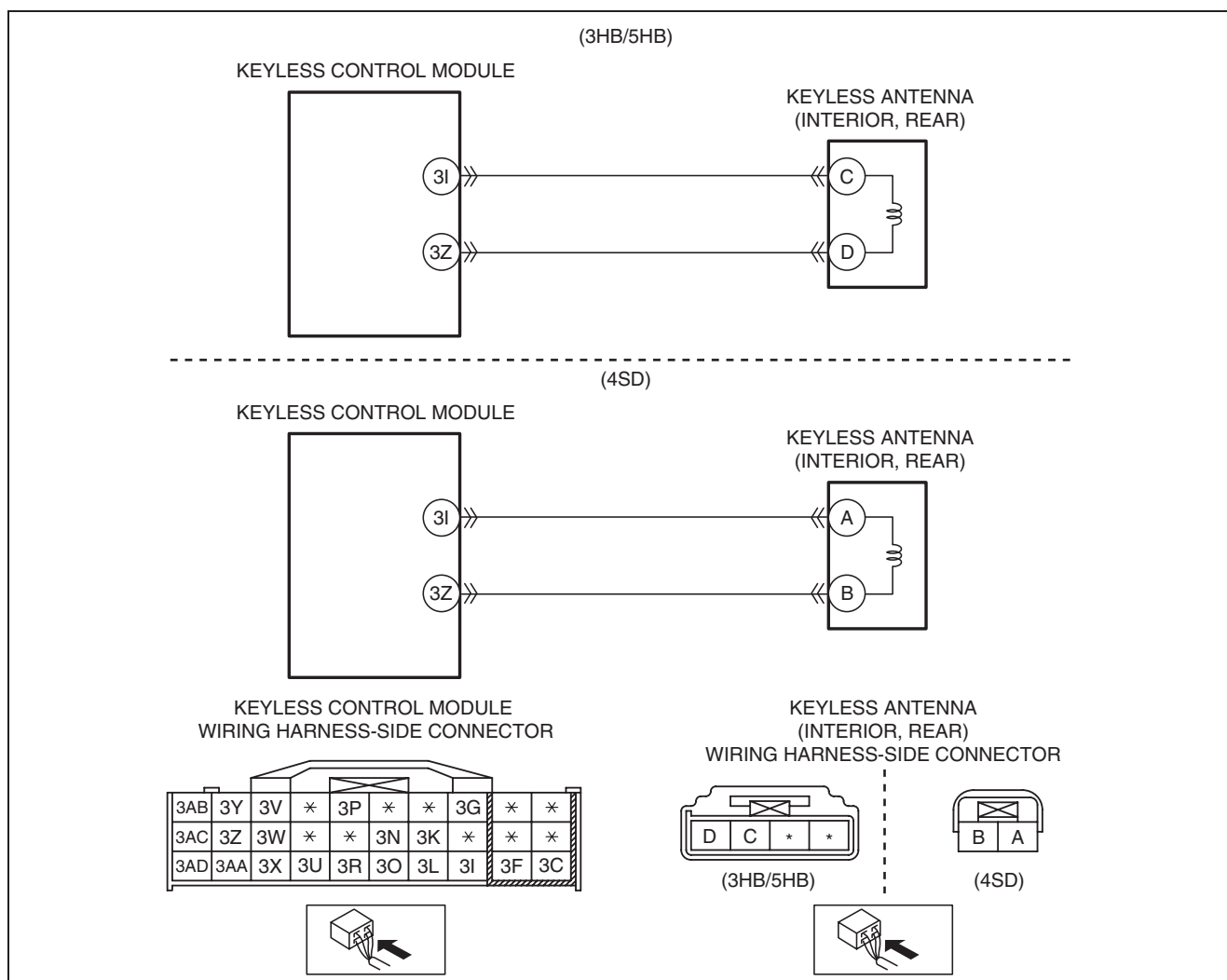
#### Detection Condition

- Cannot receive signal correctly from keyless antenna (interior, rear)

#### Possible Causes

- Keyless antenna (interior, rear) connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Open or short circuit in wiring harness between keyless antenna (interior, rear) and keyless control module
- Keyless antenna (interior, rear) malfunction
- Keyless control module malfunction

#### System Wiring Diagram



am2zzw0000504

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT KEYLESS ANTENNA (INTERIOR, REAR) CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless antenna (interior, rear) connector.</li> <li>Inspect the keyless antenna (interior, rear) connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless antenna (interior, rear) connector or terminal, then go to Step 5.
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then go to Step 5.
3	<b>INSPECT WIRING HARNESS BETWEEN KEYLESS ANTENNA (INTERIOR, REAR) AND KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between keyless antenna (interior, rear) terminal C (3HB/5HB)/terminal A (4SD) and keyless control module terminal 3I, and keyless antenna (interior, rear) terminal D (3HB/5HB)/terminal B (4SD) and keyless control module terminal 3Z for the following: <ul style="list-style-type: none"> <li>Short to ground</li> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between keyless antenna (interior, rear) and keyless control module, then go to Step 5.
4	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10C7:1F displayed?</li> </ul>	Yes Replace the keyless antenna (interior, rear), then go to the next step. (See 09-14-125 KEYLESS ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10C7:1F displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B10C8:1F [ADVANCED KEYLESS AND START SYSTEM]

id0902e1387900

#### Detection Condition

- Cannot receive signal correctly from keyless antenna (interior, center)

#### Possible Causes

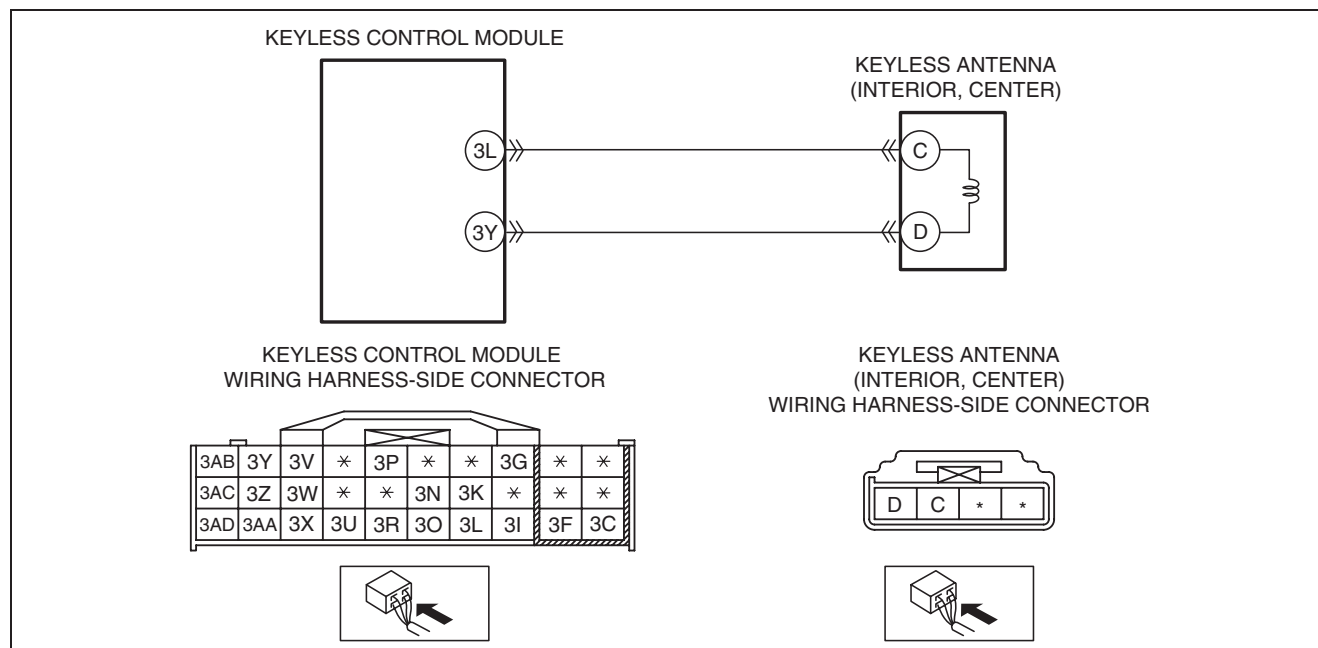
- Keyless antenna (interior, center) connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Short to ground in wiring harness between keyless antenna (interior, center) and keyless control module
- Short to power supply in wiring harness between keyless antenna (interior, center) and keyless control module
- Open circuit in wiring harness between keyless antenna (interior, center) and keyless control module
- Keyless antenna (interior, center) malfunction

## 09-02A-18

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

- Keyless control module malfunction

### System Wiring Diagram



### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT KEYLESS ANTENNA (INTERIOR, CENTER) CONNECTOR</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch to the LOCK position.</li> <li>• Disconnect the negative battery cable.</li> <li>• Disconnect the keyless antenna (interior, center) connector.</li> <li>• Inspect the keyless antenna (interior, center) connector. (Corrosion, damage, and disconnected pins)</li> <li>• Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless antenna (interior, center) connector or terminal, then <b>go to Step 7.</b>
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>• Disconnect the keyless control module connector.</li> <li>• Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>• Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 7.</b>
3	<b>INSPECT KEYLESS ANTENNA (INTERIOR, CENTER) CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>• Keyless antenna (interior, center) and keyless control module connectors are disconnected.</li> <li>• Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>— Keyless antenna (interior, center) terminal C</li> <li>— Keyless antenna (interior, center) terminal D</li> </ul> </li> <li>• Is there continuity?</li> </ul>	Yes Repair or replace the wiring harness for a possible short to ground, then <b>go to Step 7.</b>
		No Go to the next step.

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
4	<b>INSPECT KEYLESS ANTENNA (INTERIOR, CENTER) CIRCUIT FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Keyless antenna (interior, center) and keyless control module connectors are disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminals (wiring harness-side): <ul style="list-style-type: none"> <li>— Keyless antenna (interior, center) terminal C</li> <li>— Keyless antenna (interior, center) terminal D</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.
		No Go to the next step.
5	<b>INSPECT KEYLESS ANTENNA (INTERIOR, CENTER) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Keyless antenna (interior, center) and keyless control module connectors are disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminals (wiring harness-side): <ul style="list-style-type: none"> <li>— Keyless antenna (interior, center) terminal C—Keyless control module terminal 3L</li> <li>— Keyless antenna (interior, center) terminal D—Keyless control module terminal 3Y</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible open circuit, then go to Step 7.
6	<b>VERIFY KEYLESS ANTENNA (INTERIOR, CENTER) MALFUNCTION</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10C8:1F displayed?</li> </ul>	Yes Replace the keyless antenna (interior, center), then go to the next step. (See 09-14-125 KEYLESS ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.
7	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10C8:1F displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B10C9:1F [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388000

#### Detection Condition

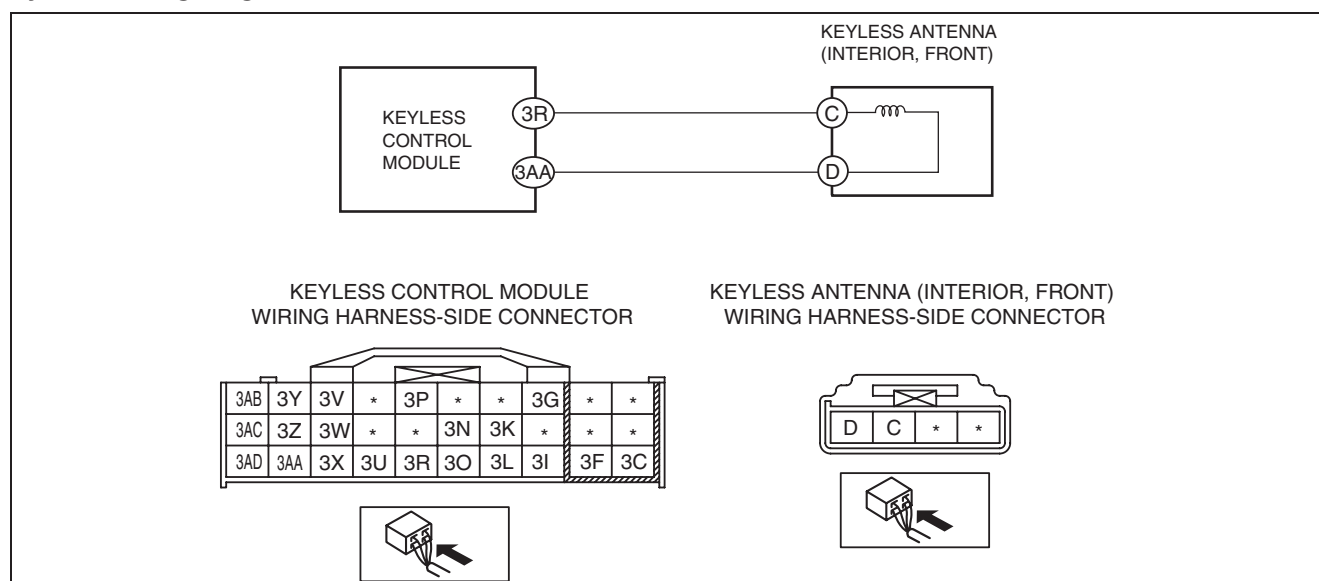
- Cannot receive signal correctly from keyless antenna (interior, front)

#### Possible Causes

- Keyless antenna (interior, front) connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Open or short circuit in wiring harness between keyless antenna (interior, front) and keyless control module
- Keyless antenna (interior, front) malfunction
- Keyless control module malfunction

# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## System Wiring Diagram



am2zzw0000504

## Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT KEYLESS ANTENNA (INTERIOR, FRONT) CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless antenna (interior, front) connector.</li> <li>Inspect the keyless antenna (interior, front) connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless antenna (interior, front) connector or terminal, then <b>go to Step 5</b> .
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 5</b> .
3	<b>INSPECT WIRING HARNESS BETWEEN KEYLESS ANTENNA (INTERIOR, FRONT) AND KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between keyless antenna (interior, front) terminal C and keyless control module terminal 3R, and keyless antenna (interior, front) terminal D and keyless control module terminal 3AA for the following: <ul style="list-style-type: none"> <li>Short to ground</li> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between keyless antenna (interior, front) and keyless control module, then <b>go to Step 5</b> .
4	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10C9:1F displayed?</li> </ul>	Yes Replace the keyless antenna (interior, front), then go to the next step. (See 09-14-125 KEYLESS ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.



## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10C9:1F displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B10D1:23 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388100

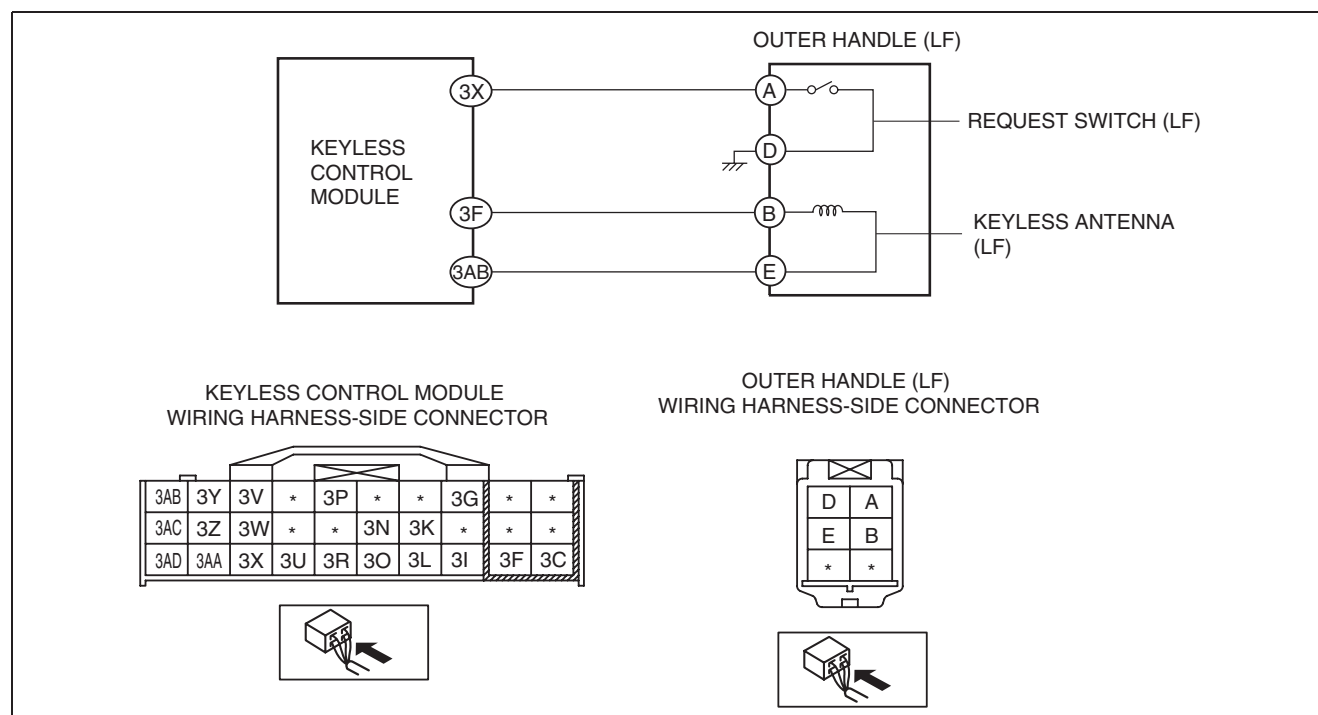
#### Detection Condition

- Request switch (LF) ON signal detected while driving

#### Possible Causes

- Outer handle (LF) connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Short to ground in wiring harness between outer handle (LF) and keyless control module
- Request switch (LF) malfunction
- Keyless control module malfunction

#### System Wiring Diagram



am2zzw0000504

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT OUTER HANDLE (LF) CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the outer handle (LF) connector.</li> <li>Inspect the outer handle (LF) connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the outer handle (LF) connector or terminal, then go to Step 5.

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then go to Step 5.
3	<b>INSPECT WIRING HARNESS BETWEEN OUTER HANDLE (LF) AND KEYLESS CONTROL MODULE FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Outer handle (LF) and keyless control module connectors are disconnected.</li> <li>Inspect for continuity between outer handle (LF) terminal A (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the wiring harness between outer handle (LF) and keyless control module, then go to Step 5.
		No Go to the next step.
4	<b>INSPECT REQUEST SWITCH (LF)</b> <ul style="list-style-type: none"> <li>Inspect the request switch (LF). (See 09-14-132 REQUEST SWITCH INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the request switch (LF) normal?</li> </ul>	Yes Go to the next step.
		No Replace the request switch (LF), then go to the next step. (See 09-14-132 REQUEST SWITCH REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10D1:23 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B10D3:23 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388200

#### Detection Condition

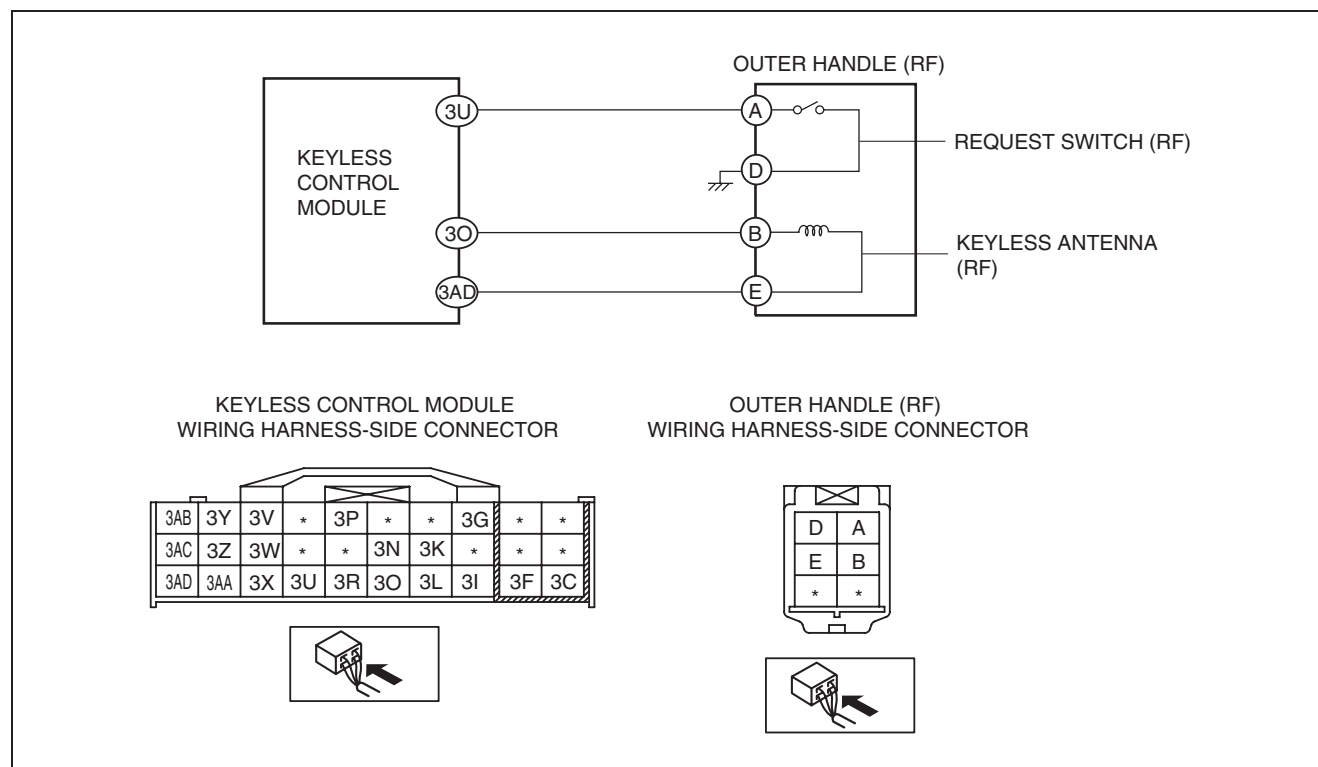
- Request switch (RF) ON signal detected while driving

#### Possible Causes

- Outer handle (RF) connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Short to ground in wiring harness between outer handle (RF) and keyless control module
- Request switch (RF) malfunction
- Keyless control module malfunction

# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## System Wiring Diagram



am2zzw0000504

## Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT OUTER HANDLE (RF) CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the outer handle (RF) connector.</li> <li>Inspect the outer handle (RF) connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the outer handle (RF) connector or terminal, then <b>go to Step 5</b> .
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 5</b> .
3	<b>INSPECT WIRING HARNESS BETWEEN OUTER HANDLE (RF) AND KEYLESS CONTROL MODULE FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Outer handle (RF) and keyless control module connectors are disconnected.</li> <li>Inspect for continuity between outer handle (RF) terminal A (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the wiring harness between outer handle (RF) and keyless control module, then <b>go to Step 5</b> .
		No Go to the next step.
4	<b>INSPECT REQUEST SWITCH (RF)</b> <ul style="list-style-type: none"> <li>Inspect the request switch (RF). (See 09-14-132 REQUEST SWITCH INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the request switch (RF) normal?</li> </ul>	Yes Go to the next step.
		No Replace the request switch (RF), then go to the next step. (See 09-14-132 REQUEST SWITCH REMOVAL/ INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10D3:23 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B10E7:16 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388300

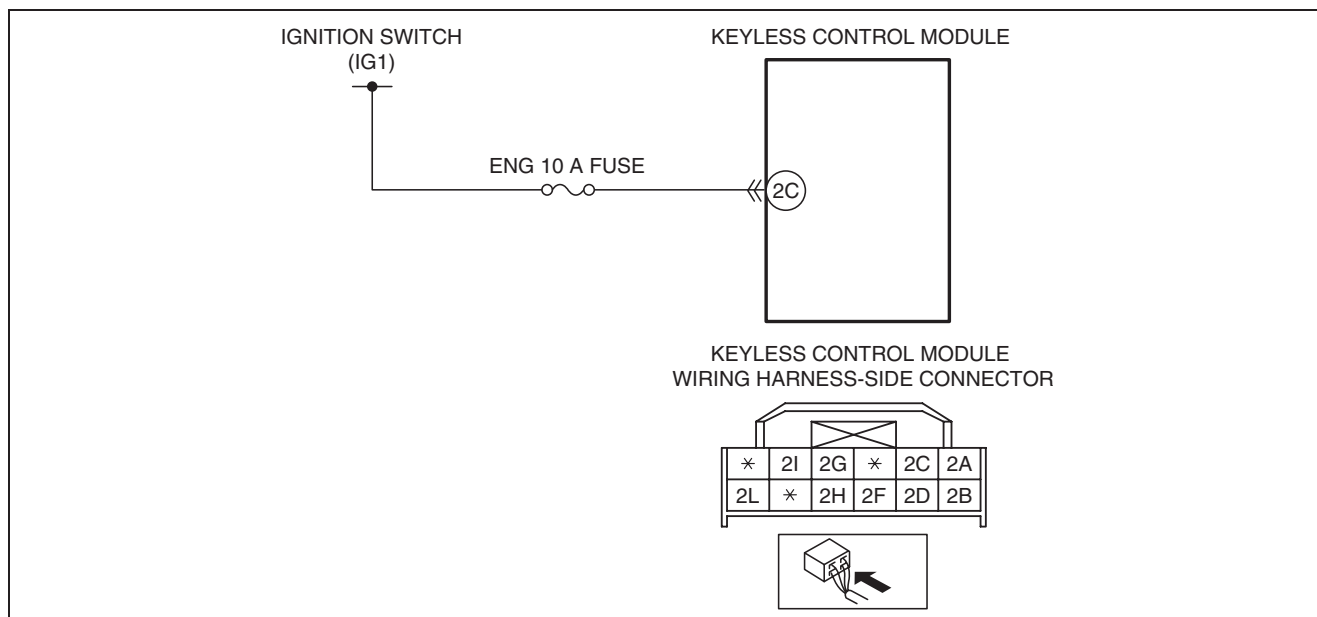
#### Detection Condition

- Keyless control module IG1 power voltage malfunction

#### Possible Causes

- Battery malfunction
- Generator malfunction
- Keyless control module connector or terminals malfunction
- Short to ground or open circuit in wiring harness between ignition switch (IG1) and keyless control module
  - Short to ground in wiring harness between ignition switch (IG1) and keyless control module terminal 2C
  - ENG 10 A fuse malfunction
  - Open circuit in wiring harness between ignition switch (IG1) and keyless control module terminal 2C
- Keyless control module malfunction

#### System Wiring Diagram



am2zzw0000506

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY PCM DTCs</b> <ul style="list-style-type: none"> <li>Verify the PCM DTCs using the M-MDS. (See 01-02A-8 ON-BOARD DIAGNOSTIC TEST [ZJ, ZY].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Go to the applicable DTC inspection. (See 01-02A-14 DTC TABLE [ZJ, ZY].)
		No Go to the next step.

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action	
2	<b>BATTERY INSPECTION</b> <ul style="list-style-type: none"> <li>Inspect the battery. (See 01-17A-4 BATTERY INSPECTION [ZJ, ZY].) (See 01-17C-2 BATTERY INSPECTION [MZ-CD 1.6 (Y6)].) (See 01-17B-2 BATTERY INSPECTION [MZ-CD 1.4 DI Turbo].)</li> <li>Is the battery normal?</li> </ul>	Yes	Go to the next step.
		No	Recharge or replace the battery, then go to Step 6. (See 01-17A-5 BATTERY RECHARGING [ZJ, ZY].)
3	<b>GENERATOR INSPECTION</b> <ul style="list-style-type: none"> <li>Inspect the generator. (See 01-17A-7 GENERATOR INSPECTION [ZJ, ZY].)</li> <li>Is the generator normal?</li> </ul>	Yes	Go to the next step.
		No	Replace the generator, then go to Step 6. (See 01-17A-6 GENERATOR REMOVAL/INSTALLATION [ZJ, ZY].)
4	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes	Go to the next step.
		No	Repair/replace the keyless control module connector or terminal, then go to Step 6.
5	<b>INSPECT WIRING HARNESS BETWEEN IGNITION SWITCH (IG1) AND KEYLESS CONTROL MODULE FOR SHORT TO GROUND AND OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Keyless control module connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Measure the voltage at the keyless control module terminal 2C (wiring harness-side).</li> <li>Is the voltage <b>B+</b>?</li> </ul>	Yes	Go to the next step.
		No	Inspect the ENG 10 A fuse. <ul style="list-style-type: none"> <li>If the fuse is melt:               <ul style="list-style-type: none"> <li>Repair or replace the wiring harness for a possible short to ground.</li> <li>Replace the fuse.</li> </ul> </li> <li>If the fuse is deterioration:               <ul style="list-style-type: none"> <li>Replace the fuse.</li> </ul> </li> <li>If the fuse is normal:               <ul style="list-style-type: none"> <li>Repair or replace the wiring harness for a possible open circuit.</li> </ul> </li> </ul> Go to the next step.
6	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the advanced keyless and start system DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B10E7:16 displayed?</li> </ul>	Yes	Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No	DTC troubleshooting completed.

### DTC B113E:11 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388400

#### Detection Condition

- Liftgate opener switch (3HB/5HB)/Trunk lid opener switch (4SD) input voltage malfunction

#### Possible Causes

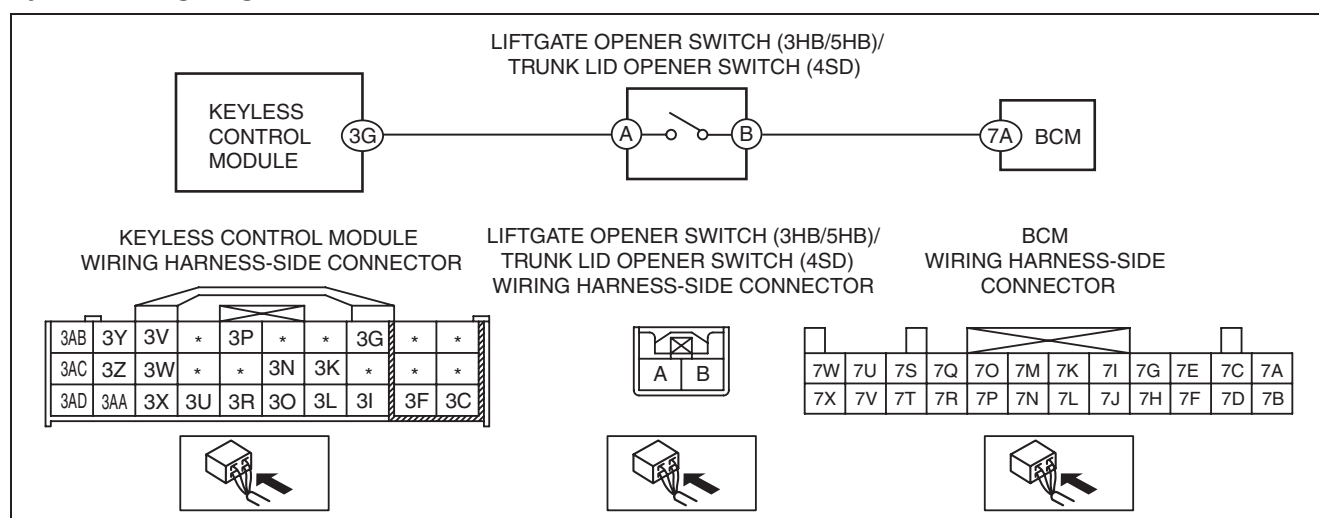
- Liftgate opener switch (3HB/5HB)/Trunk lid opener switch (4SD) connector or terminals malfunction

## 09-02A-26

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

- BCM connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Short to ground in wiring harness between BCM and liftgate opener switch (3HB/5HB)/trunk lid opener switch (4SD)
- Short to ground in wiring harness between keyless control module and liftgate opener switch (3HB/5HB)/trunk lid opener switch (4SD)
- Liftgate opener switch (3HB/5HB)/Trunk lid opener switch (4SD) malfunction
- BCM malfunction
- Keyless control module malfunction

### System Wiring Diagram



am2zzw0000504

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT LIFTGATE OPENER SWITCH (3HB/5HB)/TRUNK LID OPENER SWITCH (4SD) CONNECTOR</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch to the LOCK position.</li> <li>• Disconnect the negative battery cable.</li> <li>• Disconnect the liftgate opener switch (3HB/5HB)/trunk lid opener switch (4SD) connector.</li> <li>• Inspect the liftgate opener switch (3HB/5HB)/trunk lid opener switch (4SD) connector. (Corrosion, damage, and disconnected pins)</li> <li>• Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the liftgate opener switch (3HB/5HB)/trunk lid opener switch (4SD) connector or terminal, then <b>go to Step 7</b> .
2	<b>INSPECT BCM CONNECTOR</b> <ul style="list-style-type: none"> <li>• Disconnect the BCM connector.</li> <li>• Inspect the BCM connector. (Corrosion, damage, and disconnected pins)</li> <li>• Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the BCM connector or terminal, then <b>go to Step 7</b> .
3	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>• Disconnect the keyless control module connector.</li> <li>• Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>• Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 7</b> .

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
4	<b>INSPECT LIFTGATE OPENER SWITCH (3HB/5HB)/TRUNK LID OPENER SWITCH (4SD) CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Liftgate opener switch (3HB/5HB)/trunk lid opener switch (4SD), BCM and keyless control module connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>Liftgate opener switch (3HB/5HB)/Trunk lid opener switch (4SD) terminal A</li> <li>Liftgate opener switch (3HB/5HB)/Trunk lid opener switch (4SD) terminal B</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the wiring harness for a possible short to ground, then go to Step 7.
		No Go to the next step.
5	<b>INSPECT LIFTGATE OPENER SWITCH (3HB/5HB)/TRUNK LID OPENER SWITCH (4SD)</b> <ul style="list-style-type: none"> <li>Inspect the liftgate opener switch (3HB/5HB)/trunk lid opener switch (4SD). (See 09-14-92 LIFTGATE OPENER SWITCH INSPECTION.) (See 09-14-97 TRUNK LID OPENER SWITCH INSPECTION.)</li> <li>Is the liftgate opener switch (3HB/5HB)/trunk lid opener switch (4SD) normal?</li> </ul>	Yes Go to the next step.
		No Replace the liftgate opener switch (3HB/5HB)/trunk lid opener switch (4SD), then go to Step 7. (See 09-14-91 LIFTGATE OPENER SWITCH REMOVAL/INSTALLATION.) (See 09-14-97 TRUNK LID OPENER SWITCH REMOVAL/INSTALLATION.)
6	<b>INSPECT BCM</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the BCM terminal 7A (wiring harness-side). (See 09-40-4 BODY CONTROL MODULE (BCM) INSPECTION.)</li> <li>Is the voltage normal?</li> </ul>	Yes Go to the next step.
		No Replace the BCM, then go to the next step. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
7	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B113E:11 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B11FD:1F [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388500

#### Detection Condition

- Cannot receive signal correctly from keyless antenna (LF)

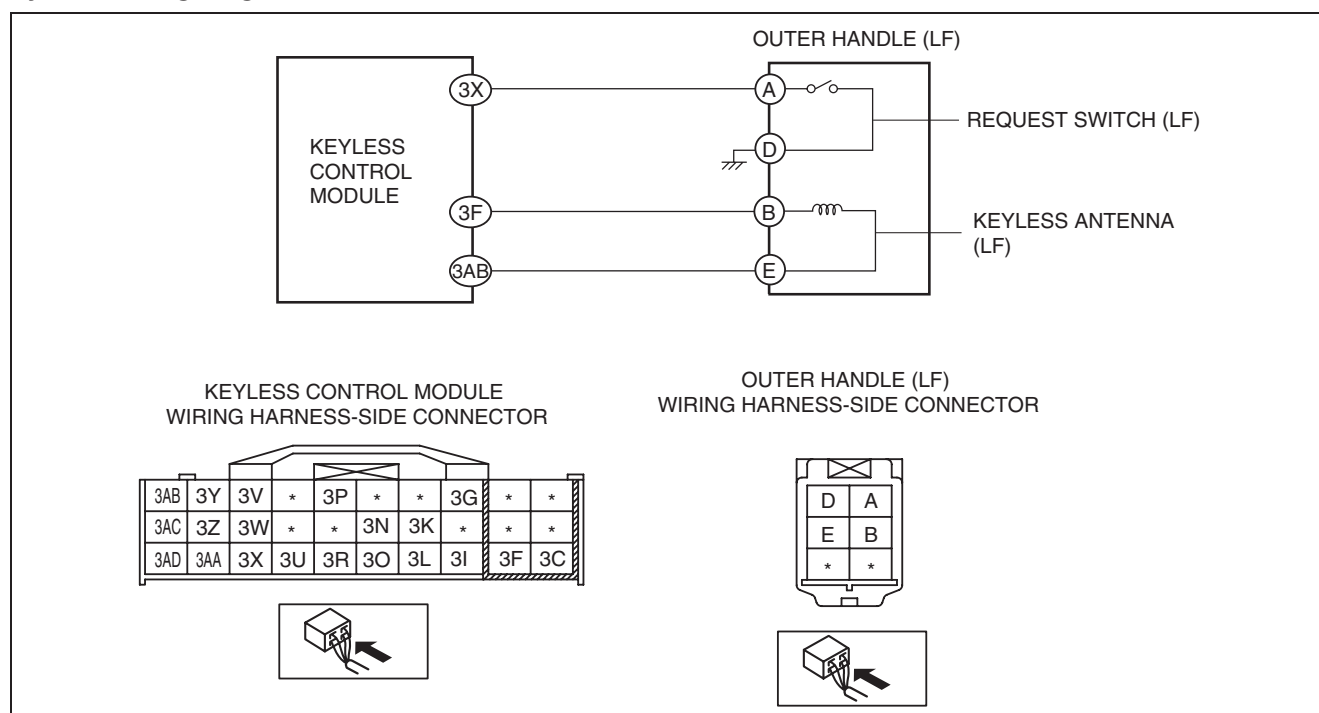
#### Possible Causes

- Outer handle (LF) connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Open or short circuit in wiring harness between outer handle (LF) and keyless control module
- Keyless antenna (LF) malfunction
- Keyless control module malfunction



# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## System Wiring Diagram



am2zzw0000504

## Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT OUTER HANDLE (LF) CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the outer handle (LF) connector.</li> <li>Inspect the outer handle (LF) connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the outer handle (LF) connector or terminal, then <b>go to Step 5</b> .
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 5</b> .
3	<b>INSPECT WIRING HARNESS BETWEEN OUTER HANDLE (LF) AND KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between outer handle (LF) terminal B and keyless control module terminal 3F, and outer handle (LF) terminal E and keyless control module terminal 3AB for the following: <ul style="list-style-type: none"> <li>Short to ground</li> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between outer handle (LF) and keyless control module, then <b>go to Step 5</b> .

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
4	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B11FD:1F displayed?</li> </ul>	Yes Replace the keyless antenna (LF), then go to the next step. (See 09-14-125 KEYLESS ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B11FD:1F displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC B1210:1F [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388600

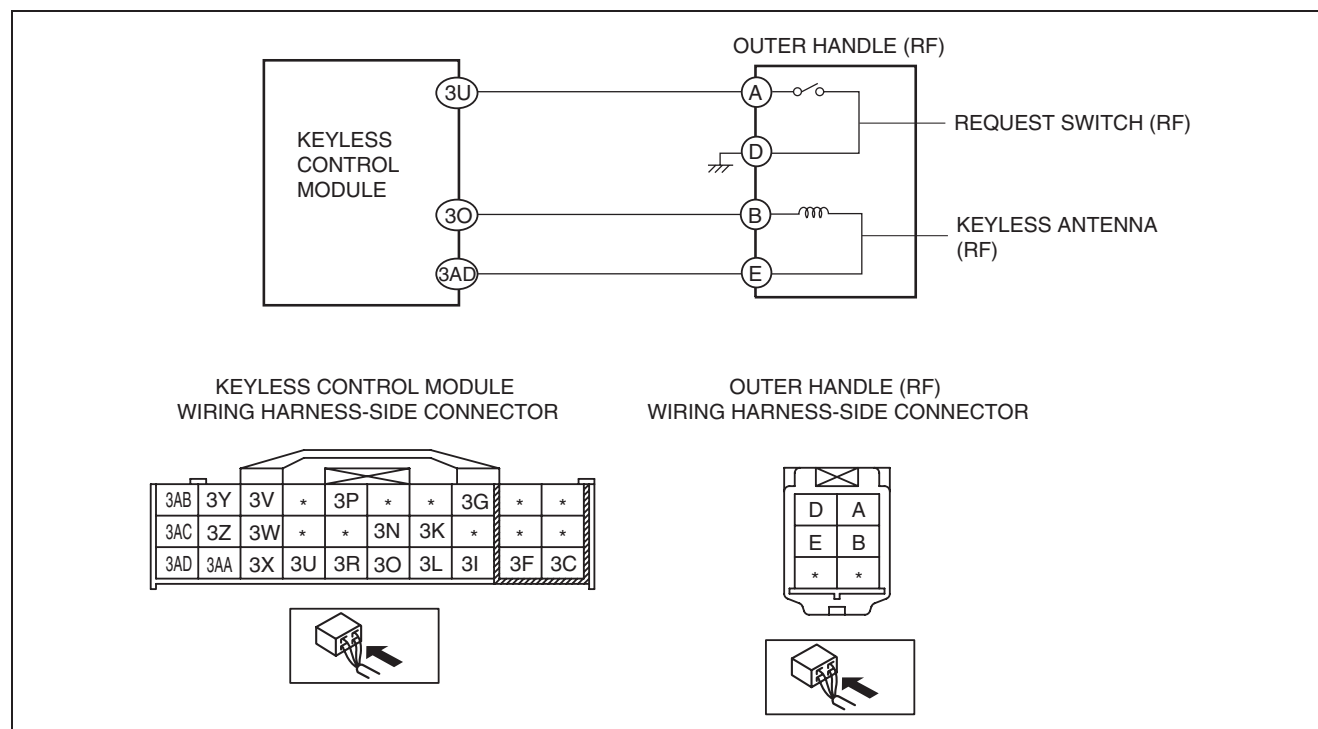
#### Detection Condition

- Cannot receive signal correctly from keyless antenna (RF)

#### Possible Causes

- Outer handle (RF) connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Open or short circuit in wiring harness between outer handle (RF) and keyless control module
- Keyless antenna (RF) malfunction
- Keyless control module malfunction

#### System Wiring Diagram



am2zzw0000504

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT OUTER HANDLE (RF) CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the outer handle (RF) connector.</li> <li>Inspect the outer handle (RF) connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the outer handle (RF) connector or terminal, then go to Step 5.
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then go to Step 5.
3	<b>INSPECT WIRING HARNESS BETWEEN OUTER HANDLE (RF) AND KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between outer handle (RF) terminal B and keyless control module terminal 3O, and outer handle (RF) terminal E and keyless control module terminal 3AD for the following: <ul style="list-style-type: none"> <li>Short to ground</li> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between outer handle (RF) and keyless control module, then go to Step 5.
4	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B1210:1F displayed?</li> </ul>	Yes Replace the keyless antenna (RF), then go to the next step. (See 09-14-125 KEYLESS ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC B1210:1F displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC P1794:16, P1794:17 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388700

#### Detection Condition

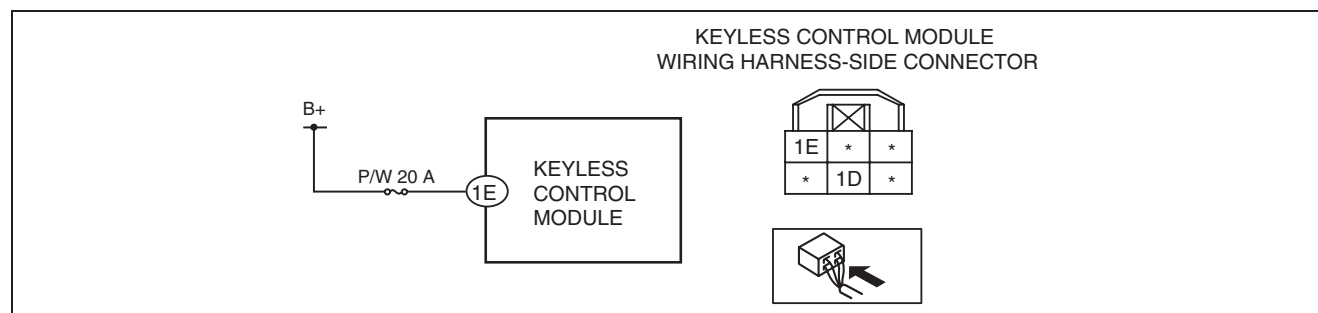
- P1794:16: Keyless control module power voltage low (power from P/W 20 A fuse)
- P1794:17: Keyless control module power voltage rising (power from P/W 20 A fuse)

#### Possible Causes

- Battery malfunction
- Generator malfunction
- Keyless control module connector or terminals malfunction
- Short to ground or open circuit in wiring harness between battery and keyless control module
  - Short to ground in wiring harness between battery positive terminal and keyless control module terminal 1E
  - P/W 20 A fuse malfunction
  - Open circuit in wiring harness between battery positive terminal and keyless control module terminal 1E
- Keyless control module malfunction

# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## System Wiring Diagram



## Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY PCM DTCs</b> <ul style="list-style-type: none"> <li>Verify the PCM DTCs using the M-MDS. (See 01-02A-8 ON-BOARD DIAGNOSTIC TEST [ZJ, ZY].) (See 01-02C-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.6 (Y6)].) (See 01-02B-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.4 DI Turbo].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Go to the applicable DTC inspection. (See 01-02A-14 DTC TABLE [ZJ, ZY].) (See 01-02C-8 DTC TABLE [MZ-CD 1.6 (Y6)].) (See 01-02B-8 DTC TABLE [MZ-CD 1.4 DI Turbo].)
		No Go to the next step.
2	<b>BATTERY INSPECTION</b> <ul style="list-style-type: none"> <li>Inspect the battery. (See 01-17A-4 BATTERY INSPECTION [ZJ, ZY].) (See 01-17C-2 BATTERY INSPECTION [MZ-CD 1.6 (Y6)].) (See 01-17B-2 BATTERY INSPECTION [MZ-CD 1.4 DI Turbo].)</li> <li>Is the battery normal?</li> </ul>	Yes Go to the next step.
		No Recharge or replace the battery, then <b>go to Step 6</b> . (See 01-17A-5 BATTERY RECHARGING [ZJ, ZY].) (See 01-17C-3 BATTERY RECHARGING [MZ-CD 1.6 (Y6)].) (See 01-17B-3 BATTERY RECHARGING [MZ-CD 1.4 DI Turbo].) (See 01-17A-1 BATTERY REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17C-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-17B-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)
3	<b>GENERATOR INSPECTION</b> <ul style="list-style-type: none"> <li>Inspect the generator. (See 01-17A-7 GENERATOR INSPECTION [ZJ, ZY].) (See 01-17C-5 GENERATOR INSPECTION [MZ-CD 1.6 (Y6)].) (See 01-17B-4 GENERATOR INSPECTION [MZ-CD 1.4 DI Turbo].)</li> <li>Is the generator normal?</li> </ul>	Yes Go to the next step.
		No Replace the generator, then <b>go to Step 6</b> . (See 01-17A-6 GENERATOR REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17C-4 GENERATOR REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-17B-4 GENERATOR REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)
4	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 6</b> .

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
5	<b>INSPECT WIRING HARNESS BETWEEN BATTERY AND KEYLESS CONTROL MODULE FOR SHORT TO GROUND AND OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Keyless control module connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the keyless control module terminal 1E (wiring harness-side).</li> <li>Is the voltage <b>B+</b>?</li> </ul>	Yes Go to the next step.
		No Inspect the P/W 20 A fuse. <ul style="list-style-type: none"> <li>If the fuse is melt: <ul style="list-style-type: none"> <li>Repair or replace the wiring harness for a possible short to ground.</li> <li>Replace the fuse.</li> </ul> </li> <li>If the fuse is deterioration: <ul style="list-style-type: none"> <li>Replace the fuse.</li> </ul> </li> <li>If the fuse is normal: <ul style="list-style-type: none"> <li>Repair or replace the wiring harness for a possible open circuit.</li> </ul> </li> </ul> Go to the next step.
6	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the advanced keyless and start system DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the following DTC displayed? <ul style="list-style-type: none"> <li>P1794:16</li> <li>P1794:17</li> </ul> </li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC U0028:87 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1399500

#### Detection Condition

- Correct data cannot be received from BCM (no response for **10 times**)

#### Possible Causes

- BCM malfunction
- Keyless control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the advanced keyless and start system DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC U0028:87 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY BCM DTCs</b> <ul style="list-style-type: none"> <li>Verify the BCM DTCs using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Go to the applicable DTC inspection, then <b>go to Step 4.</b> (See 09-02G-3 DTC TABLE [BCM].)
		No Go to the next step.
3	<b>VERIFY BCM</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the advanced keyless and start system DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC U0028:87 displayed?</li> </ul>	Yes Replace the BCM, then go the next step. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
4	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the advanced keyless and start system DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC U0028:87 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC U0401:68 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1399300

#### Detection Condition

- Correct data cannot be received from PCM

#### Possible Causes

- PCM malfunction
- Keyless control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY PCM DTCs</b> <ul style="list-style-type: none"> <li>Verify the PCM DTCs using the M-MDS. (See 01-02A-8 ON-BOARD DIAGNOSTIC TEST [ZJ, ZY].) (See 01-02C-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.6 (Y6)].) (See 01-02B-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.4 DI Turbo].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Go to the applicable DTC inspection. (See 01-02A-14 DTC TABLE [ZJ, ZY].) (See 01-02C-8 DTC TABLE [MZ-CD 1.6 (Y6)].) (See 01-02B-8 DTC TABLE [MZ-CD 1.4 DI Turbo].)
		No Go to the next step.
2	<b>VERIFY PCM</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the advanced keyless and start system DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC U0401:68 displayed?</li> </ul>	Yes Replace the PCM, then go to the next step. (See 01-40A-8 PCM REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-40C-5 PCM REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-40B-6 PCM REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)
		No DTC troubleshooting completed.
3	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the advanced keyless and start system DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC U0401:68 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC U201F:00 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388800

#### Detection Condition

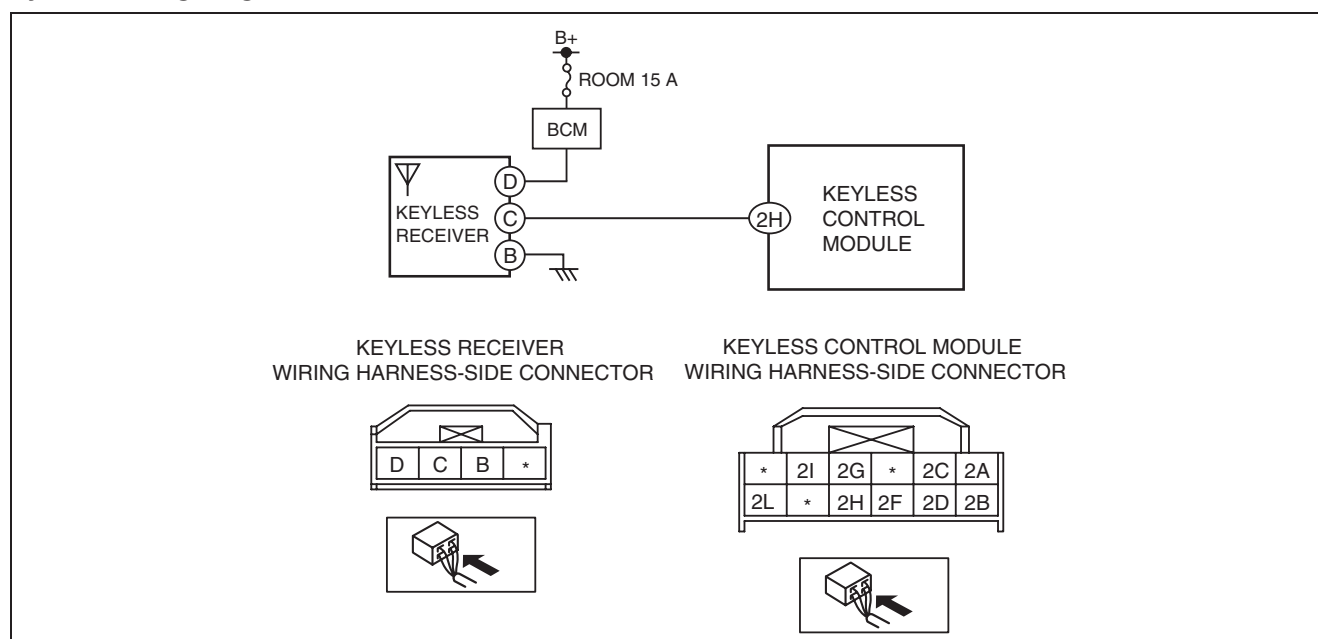
- Communication error between keyless control module and keyless receiver

#### Possible Causes

- Keyless receiver connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Short circuit in wiring harness between keyless receiver and keyless control module
- Keyless receiver malfunction
- Keyless control module malfunction

# ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

## System Wiring Diagram



am2zzw0000259

## Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT KEYLESS RECEIVER CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless receiver connector.</li> <li>Inspect the keyless receiver connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless receiver connector or terminal, then <b>go to Step 5</b> .
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 5</b> .
3	<b>INSPECT KEYLESS RECEIVER SIGNAL CIRCUIT</b> <ul style="list-style-type: none"> <li>Inspect the wiring harnesses between keyless receiver terminal C and keyless control module terminal 2H for the following: <ul style="list-style-type: none"> <li>Short to ground</li> <li>Short to power supply</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between keyless receiver and keyless control module, then <b>go to Step 5</b> .
4	<b>INSPECT KEYLESS RECEIVER</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Inspect the keyless receiver. (See 09-14-109 KEYLESS RECEIVER INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the keyless receiver normal?</li> </ul>	Yes Go to the next step.
		No Replace the keyless receiver, then go to the next step. (See 09-14-108 KEYLESS RECEIVER REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)



## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC U201F:00 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC U201F:13 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1388900

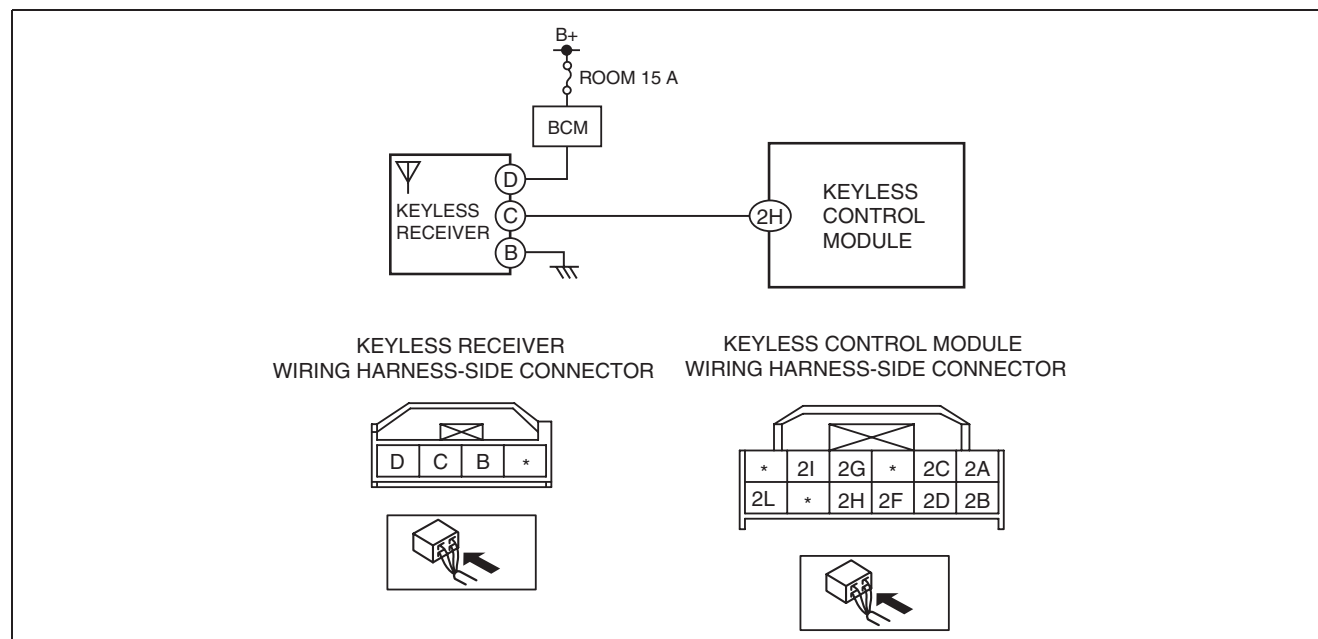
#### Detection Condition

- Keyless receiver not connecting

#### Possible Causes

- Keyless receiver connector or terminals malfunction
- Keyless control module connector or terminals malfunction
- Open circuit in wiring harness between keyless receiver and keyless control module
- Keyless receiver malfunction
- Keyless control module malfunction

#### System Wiring Diagram



am2zzw0000089

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT KEYLESS RECEIVER CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless receiver connector.</li> <li>Inspect the keyless receiver connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless receiver connector or terminal, then go to Step 5.

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
2	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then go to Step 5.
3	<b>INSPECT KEYLESS RECEIVER SIGNAL OUTPUT CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Keyless receiver and keyless control module connectors are disconnected.</li> <li>Inspect for continuity between keyless receiver terminal C (wiring harness-side) and keyless control module terminal 2H (wiring harness-side).</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible open circuit, then go to Step 5.
4	<b>INSPECT KEYLESS RECEIVER</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Inspect the keyless receiver. (See 09-14-109 KEYLESS RECEIVER INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the keyless receiver normal?</li> </ul>	Yes Go to the next step.
		No Replace the keyless receiver, then go to the next step. (See 09-14-108 KEYLESS RECEIVER REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC U201F:13 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC U2100:00 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1399000

#### Detection Condition

- Configuration error

#### Possible Causes

- Configuration was not done correctly for some reason.
- Keyless control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM CONFIGURATION</b> <ul style="list-style-type: none"> <li>Perform the configuration for the keyless control module using the M-MDS. (See 09-14-102 KEYLESS CONTROL MODULE CONFIGURATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC U2100:00 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

### DTC U3000:41 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1399100

#### Detection Condition

- Keyless control module internal malfunction

#### Possible Causes

- Keyless control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"><li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li><li>Verify the DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li><li>Is the DTC U3000:41 displayed?</li></ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC U3003:16, U3003:17 [ADVANCED KEYLESS AND START SYSTEM]

id0902e1399400

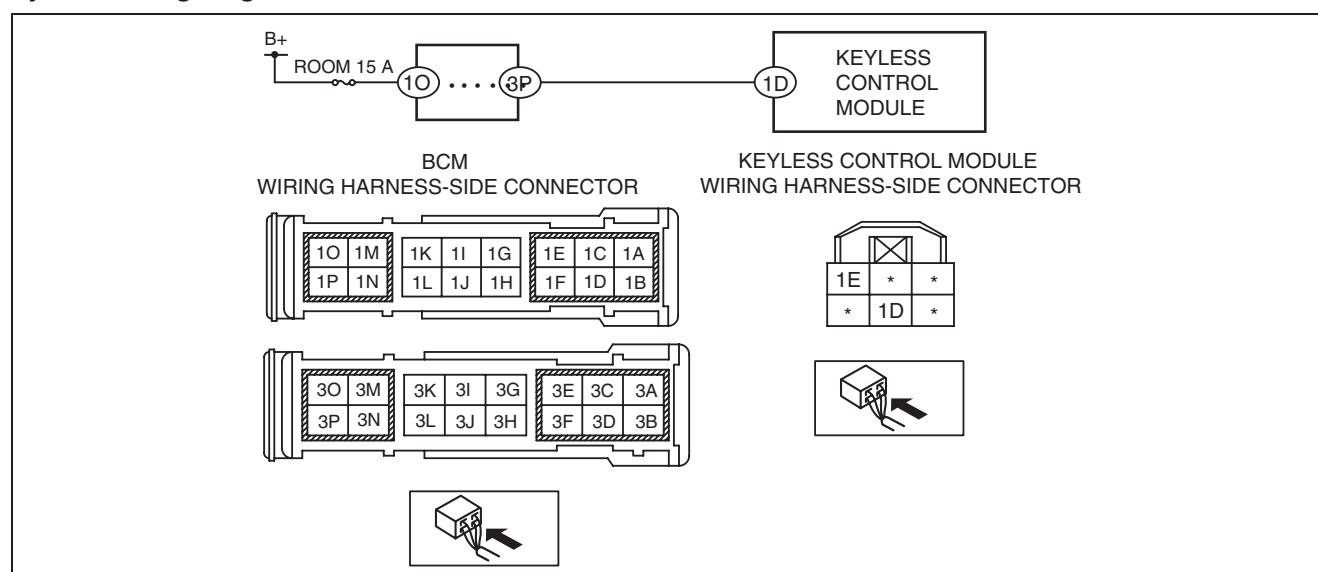
#### Detection Condition

- U3003:16: Keyless control module power voltage low (power from ROOM 15 A fuse)
- U3003:17: Keyless control module power voltage rising (power from ROOM 15 A fuse)

#### Possible Causes

- Battery malfunction
- Generator malfunction
- BCM connector or terminals malfunction
- Short to ground or open circuit in wiring harness between battery and BCM
  - Short to ground in wiring harness between battery positive terminal and BCM terminal 1O
  - ROOM 15 A fuse malfunction
  - Open circuit in wiring harness between battery positive terminal and BCM terminal 1O
- Keyless control module connector or terminals malfunction
- Short to ground or open circuit in wiring harness between BCM and keyless control module
  - Short to ground in wiring harness between BCM terminal 3P and keyless control module terminal 1D
  - Open circuit in wiring harness between BCM terminal 3P and keyless control module terminal 1D
- BCM malfunction
- Keyless control module malfunction

#### System Wiring Diagram



am2zzw0000089

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY PCM DTCs</b> <ul style="list-style-type: none"> <li>Verify the PCM DTCs using the M-MDS. (See 01-02A-8 ON-BOARD DIAGNOSTIC TEST [ZJ, ZY].)</li> <li>(See 01-02C-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.6 (Y6)].)</li> <li>(See 01-02B-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.4 DI Turbo].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Go to the applicable DTC inspection. (See 01-02A-14 DTC TABLE [ZJ, ZY].) (See 01-02C-8 DTC TABLE [MZ-CD 1.6 (Y6)].) (See 01-02B-8 DTC TABLE [MZ-CD 1.4 DI Turbo].)
		No Go to the next step.
2	<b>VERIFY BCM DTCs</b> <ul style="list-style-type: none"> <li>Verify the BCM DTCs using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Go to the applicable DTC inspection. (See 09-02G-3 DTC TABLE [BCM].)
		No Go to the next step.
3	<b>BATTERY INSPECTION</b> <ul style="list-style-type: none"> <li>Inspect the battery. (See 01-17A-4 BATTERY INSPECTION [ZJ, ZY].)</li> <li>(See 01-17C-2 BATTERY INSPECTION [MZ-CD 1.6 (Y6)].)</li> <li>(See 01-17B-2 BATTERY INSPECTION [MZ-CD 1.4 DI Turbo].)</li> <li>Is the battery normal?</li> </ul>	Yes Go to the next step.
		No Recharge or replace the battery, then <b>go to Step 10</b> . (See 01-17A-5 BATTERY RECHARGING [ZJ, ZY].) (See 01-17C-3 BATTERY RECHARGING [MZ-CD 1.6 (Y6)].) (See 01-17B-3 BATTERY RECHARGING [MZ-CD 1.4 DI Turbo].) (See 01-17A-1 BATTERY REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17C-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-17B-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)
4	<b>GENERATOR INSPECTION</b> <ul style="list-style-type: none"> <li>Inspect the generator. (See 01-17A-7 GENERATOR INSPECTION [ZJ, ZY].)</li> <li>(See 01-17C-5 GENERATOR INSPECTION [MZ-CD 1.6 (Y6)].)</li> <li>(See 01-17B-4 GENERATOR INSPECTION [MZ-CD 1.4 DI Turbo].)</li> <li>Is the generator normal?</li> </ul>	Yes Go to the next step.
		No Replace the generator, then <b>go to Step 10</b> . (See 01-17A-6 GENERATOR REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17C-4 GENERATOR REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-17B-4 GENERATOR REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)
5	<b>INSPECT BCM CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the BCM connector.</li> <li>Inspect the BCM connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the BCM connector or terminal, then <b>go to Step 10</b> .
6	<b>INSPECT WIRING HARNESS BETWEEN BATTERY AND BCM FOR SHORT TO GROUND AND OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>BCM connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the BCM terminal 10 (wiring harness-side).</li> <li>Is the voltage <b>B+</b>?</li> </ul>	Yes Go to the next step.
		No Inspect the ROOM 15 A fuse. <ul style="list-style-type: none"> <li>If the fuse is melt: <ul style="list-style-type: none"> <li>Repair or replace the wiring harness for a possible short to ground.</li> <li>Replace the fuse.</li> </ul> </li> <li>If the fuse is deterioration: <ul style="list-style-type: none"> <li>Replace the fuse.</li> </ul> </li> <li>If the fuse is normal: <ul style="list-style-type: none"> <li>Repair or replace the wiring harness for a possible open circuit.</li> </ul> </li> </ul> <b>Go to Step 10.</b>
7	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 10</b> .

## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
8	<b>INSPECT WIRING HARNESS BETWEEN BCM AND KEYLESS CONTROL MODULE FOR SHORT TO GROUND AND OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>BCM and keyless control module connectors are disconnected.</li> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the keyless control module terminal 1D (wiring harness-side).</li> <li>Is the voltage <b>B+</b>?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible short to ground or open circuit, then go to Step 10.
9	<b>INSPECT BCM</b> <ul style="list-style-type: none"> <li>Measure the voltage at the BCM terminals 1O and 3P (wiring harness-side). (See 09-40-4 BODY CONTROL MODULE (BCM) INSPECTION.)</li> <li>Is the voltage normal?</li> </ul>	Yes Go to the next step.
		No Replace the BCM, then go to the next step. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
10	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the advanced keyless and start system DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the following DTC displayed? <ul style="list-style-type: none"> <li>— U3003:16</li> <li>— U3003:17</li> </ul> </li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC U3004:16 [ADVANCED KEYLESS AND START SYSTEM]

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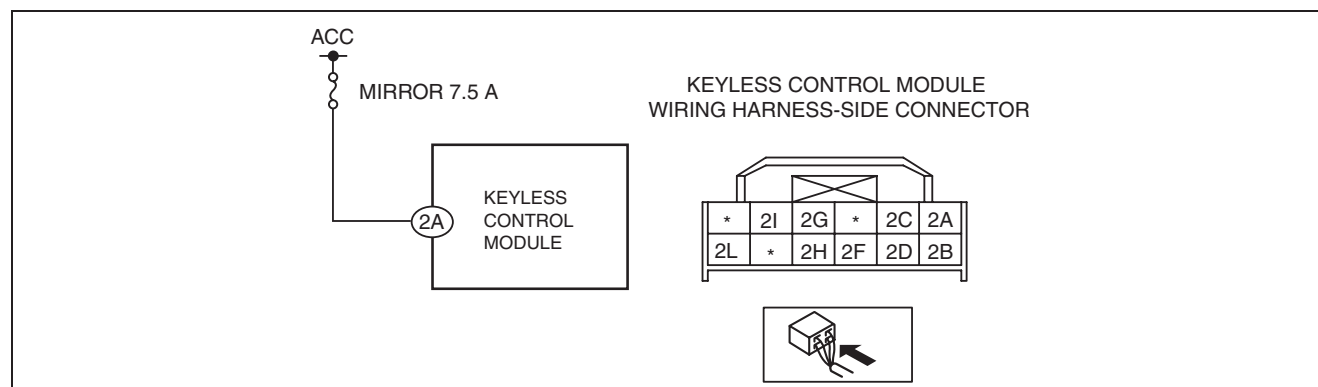
#### Detection Condition

- Keyless control module ACC power voltage malfunction

#### Possible Causes

- Battery malfunction
- Generator malfunction
- Keyless control module connector or terminals malfunction
- Short to ground or open circuit in wiring harness between ignition switch (ACC) and keyless control module
  - Short to ground in wiring harness between ignition switch (ACC) and keyless control module terminal 2A
  - MIRROR 7.5 A fuse malfunction
  - Open circuit in wiring harness between ignition switch (ACC) and keyless control module terminal 2A
- Keyless control module malfunction

#### System Wiring Diagram



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## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY PCM DTCs</b> <ul style="list-style-type: none"> <li>Verify the PCM DTCs using the M-MDS. (See 01-02A-8 ON-BOARD DIAGNOSTIC TEST [ZJ, ZY].) (See 01-02C-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.6 (Y6)].) (See 01-02B-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.4 DI Turbo].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Go to the applicable DTC inspection. (See 01-02A-14 DTC TABLE [ZJ, ZY].) (See 01-02C-8 DTC TABLE [MZ-CD 1.6 (Y6)].) (See 01-02B-8 DTC TABLE [MZ-CD 1.4 DI Turbo].)
		No Go to the next step.
2	<b>BATTERY INSPECTION</b> <ul style="list-style-type: none"> <li>Inspect the battery. (See 01-17A-4 BATTERY INSPECTION [ZJ, ZY].) (See 01-17C-2 BATTERY INSPECTION [MZ-CD 1.6 (Y6)].) (See 01-17B-2 BATTERY INSPECTION [MZ-CD 1.4 DI Turbo].)</li> <li>Is the battery normal?</li> </ul>	Yes Go to the next step.
		No Recharge or replace the battery, then <b>go to Step 6</b> . (See 01-17A-5 BATTERY RECHARGING [ZJ, ZY].) (See 01-17C-3 BATTERY RECHARGING [MZ-CD 1.6 (Y6)].) (See 01-17B-3 BATTERY RECHARGING [MZ-CD 1.4 DI Turbo].) (See 01-17A-1 BATTERY REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17C-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-17B-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)
3	<b>GENERATOR INSPECTION</b> <ul style="list-style-type: none"> <li>Inspect the generator. (See 01-17A-7 GENERATOR INSPECTION [ZJ, ZY].) (See 01-17C-5 GENERATOR INSPECTION [MZ-CD 1.6 (Y6)].) (See 01-17B-4 GENERATOR INSPECTION [MZ-CD 1.4 DI Turbo].)</li> <li>Is the generator normal?</li> </ul>	Yes Go to the next step.
		No Replace the generator, then <b>go to Step 6</b> . (See 01-17A-6 GENERATOR REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17C-4 GENERATOR REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-17B-4 GENERATOR REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)
4	<b>INSPECT KEYLESS CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless control module connector.</li> <li>Inspect the keyless control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the keyless control module connector or terminal, then <b>go to Step 6</b> .
5	<b>INSPECT WIRING HARNESS BETWEEN IGNITION SWITCH (ACC) AND KEYLESS CONTROL MODULE FOR SHORT TO GROUND AND OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Keyless control module connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Turn the ignition switch to the ACC position.</li> <li>Measure the voltage at the keyless control module terminal 2A (wiring harness-side).</li> <li>Is the voltage <b>B+</b>?</li> </ul>	Yes Go to the next step.
		No Inspect the MIRROR 7.5 A fuse. <ul style="list-style-type: none"> <li>If the fuse is melt:               <ul style="list-style-type: none"> <li>Repair or replace the wiring harness for a possible short to ground.</li> <li>Replace the fuse.</li> </ul> </li> <li>If the fuse is deterioration:               <ul style="list-style-type: none"> <li>Replace the fuse.</li> </ul> </li> <li>If the fuse is normal:               <ul style="list-style-type: none"> <li>Repair or replace the wiring harness for a possible open circuit.</li> </ul> </li> </ul> Go to the next step.



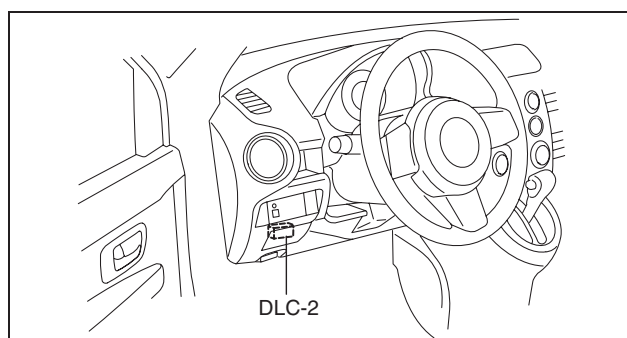
## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
6	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02A-5 CLEARING DTC [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Verify the advanced keyless and start system DTCs using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC U3004:16 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### PID/DATA MONITOR INSPECTION [ADVANCED KEYLESS AND START SYSTEM]

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- Connect the M-MDS to the DLC-2.
- After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    - Select "DataLogger".
    - Select "Modules".
    - Select "RKE".
  - When using the PDS (Pocket PC)
    - Select "Module Tests".
    - Select "RKE".
    - Select "DataLogger".
- Select the applicable PID from the PID table.
- Verify the PID data according to the directions on the screen.



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#### Note

- The PID data screen function is used for monitoring the calculated value of input/output signals in the module. Therefore, if the monitored value of the output parts is not within the specification, it is necessary to inspect the monitored value of input parts corresponding to the applicable output part control. In addition, because the system does not display an output part malfunction as an abnormality in the monitored value, it is necessary to inspect the output parts individually.

### PID/DATA MONITOR TABLE [ADVANCED KEYLESS AND START SYSTEM]

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PID name (definition)	Unit/Operation	Data contents	Inspection item (s)	Terminal
BZR_OUT (Keyless beeper status)	Off/On	<ul style="list-style-type: none"> <li>Keyless beeper sound: On</li> <li>Keyless beeper not sound: Off</li> </ul>	Keyless beeper inspection	3K
DTC_CNT (Number of DTCs)	—	<ul style="list-style-type: none"> <li>DTC detected: 1—255</li> <li>DTC not detected: 0</li> </ul>	Separate DTC inspection	—
IG_KEY_IN (Ignition key cylinder status)	Key-Out/Key-In	<ul style="list-style-type: none"> <li>Ignition key auxiliary key inserted: Key-In</li> <li>No ignition key auxiliary key: Key-Out</li> </ul>	Steering lock unit inspection	3W
IG_SW_ST (Ignition switch status)	Not Pushed/ Pushed	<ul style="list-style-type: none"> <li>Push switch pushed: Pushed</li> <li>Push switch released: Not pushed</li> </ul>	Steering lock unit inspection	3V
IMMOBI (Immobilizer function present/not present)	Off/On*	<ul style="list-style-type: none"> <li>Immobilizer function present: On</li> <li>Immobilizer function not present: Off</li> </ul>	Keyless control module inspection	—



## ON-BOARD DIAGNOSTIC [ADVANCED KEYLESS AND START SYSTEM]

PID name (definition)	Unit/Operation	Data contents	Inspection item (s)	Terminal
LOCK_SW_D (Door lock-link switch status)	Lock/Unlock	<ul style="list-style-type: none"> <li>Driver's door: UNLOCK: Unlock</li> <li>Driver's door: LOCK: Lock</li> </ul>	Door lock-link switch inspection	3P
MASTERKEY* (Master key present/not present)	Not Pushed/ Pushed	<ul style="list-style-type: none"> <li>Master key present: Present</li> <li>Master key not present: Not present</li> </ul>	Keyless control module inspection	—
NUMCARD (Number of advanced keys)	—	<ul style="list-style-type: none"> <li>Number of programmed advanced keys: 0—6</li> </ul>	Keyless control module inspection	—
NUMKEY* (Number of key codes)	—	<ul style="list-style-type: none"> <li>Number of programmed key codes: 0—8</li> </ul>	Keyless control module inspection	—
PWR_ACC (ACC power supply status)	Off/On	<ul style="list-style-type: none"> <li>Ignition switch at ACC: On</li> <li>Ignition switch at LOCK: Off</li> </ul>	Ignition switch inspection	2A
REQ_SW_BK (Liftgate opener switch status)	Off/On	<ul style="list-style-type: none"> <li>Liftgate opener switch pressed: On</li> <li>Liftgate opener switch released: Off</li> </ul>	Liftgate opener switch inspection	3G
REQ_SW_R Request switch (RF) status	Off/On	<ul style="list-style-type: none"> <li>Request switch (RF) pressed: On</li> <li>Request switch (RF) released: Off</li> </ul>	Request switch (RF) inspection	3U
REQ_SW_L Request switch (LF) status	Off/On	<ul style="list-style-type: none"> <li>Request switch (LF) pressed: On</li> <li>Request switch (LF) released: Off</li> </ul>	Request switch (LF) inspection	3X
VPWR_B+ (Keyless control module power supply voltage)	V	<ul style="list-style-type: none"> <li>Continuous: Approx. 12 V</li> </ul>	Battery inspection	1D

\* : With immobilizer system

## **09-02B ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]**

<b>FOREWORD [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-1</b>	<b>SECURITY LIGHT: 14, DTC: B10D7:81/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-13</b>
<b>DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-2</b>	Diagnostic Procedure .....	<b>09-02B-13</b>
Security light .....	<b>09-02B-2</b>	<b>SECURITY LIGHT: 15, DTC: B10D7:51/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-14</b>
M-MDS .....	<b>09-02B-2</b>	Diagnostic Procedure .....	<b>09-02B-15</b>
<b>CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-3</b>	<b>SECURITY LIGHT: 16, DTC: U0100:87/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-16</b>
<b>DTC TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-3</b>	Diagnostic Procedure .....	<b>09-02B-16</b>
<b>SECURITY LIGHT: 11, DTC: B10D9:87/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-6</b>	<b>SECURITY LIGHT: 21, DTC: B10D8:00/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-17</b>
System wiring diagram .....	<b>09-02B-7</b>	Diagnostic Procedure .....	<b>09-02B-17</b>
Diagnostic Procedure .....	<b>09-02B-7</b>	<b>SECURITY LIGHT: 22, DTC: B10DA:51 /P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-18</b>
<b>SECURITY LIGHT: 12, DTC: B10D5:13/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-8</b>	Diagnostic Procedure .....	<b>09-02B-18</b>
Diagnostic Procedure .....	<b>09-02B-8</b>	<b>SECURITY LIGHT: 23, DTC: B10DA:62/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-19</b>
<b>SECURITY LIGHT: 13, DTC: B10D7:05/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-9</b>	Diagnostic Procedure .....	<b>09-02B-19</b>
Diagnostic Procedure .....	<b>09-02B-10</b>	<b>PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> ....	<b>09-02B-20</b>
<b>SECURITY LIGHT: 13, DTC: B10D7:94/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> .....	<b>09-02B-11</b>	<b>PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]</b> ....	<b>09-02B-21</b>
Diagnostic Procedure .....	<b>09-02B-11</b>		

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# ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

## FOREWORD [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

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- DTCs are recorded in the PCM and keyless control module when a malfunction is detected. The stored DTCs can be verified using the flashing pattern of the security light and M-MDS. There are some DTCs which cannot be verified using the security light. Verify the DTCs that were detected using the M-MDS prior to beginning the servicing.  
(See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
- If more than one DTC is detected, the security light only displays the DTC with the lowest number. Begin repairs based on the DTC displayed by the security light. All DTCs can be read by the M-MDS.
- It is possible for several DTCs to be displayed for a one malfunction cause. Erase the DTCs after one repair and then re-inspect the DTCs.
- If immobilizer system DTCs are not recorded even if the engine cannot be started, perform symptom troubleshooting.  
(See 01-03-12 NO.3 WILL NOT CRANK [ZJ, ZY].)
- The PID/data monitor function can be used to verify the number of key ID numbers programmed for a single vehicle.  
(See 09-02B-21 PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)

### Note

- Due to the possibility that the engine cannot be started because transmission between the key and the vehicle is obstructed, do not allow the following items to contact the key ring.
  - Any metallic object
  - Spare keys or keys for other vehicles equipped with an immobilizer system
  - Any electronic device, or any credit or other card with magnetic strips

#### EXAMPLES:



METAL RING LYING ON KEY HEAD



METAL PART OF ANOTHER KEY TOUCHING KEY HEAD



KEY IS NEAR OR TOUCHING ANOTHER IMMOBILIZER SYSTEM KEY

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## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

### DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

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#### Security light

1. Turn the ignition switch to the ON position.
2. Verify the security light status.
  - If a malfunction is detected, the DTC pattern begins flashing after the security light flashes or illuminates for approx. 1 min according to the DTC. However, because there are DTCs which cannot be confirmed using the security light, verify the DTCs that were detected using the M-MDS prior to beginning the servicing.
    - DTC 16 or below: Flashes for **approx. 1 min** and the DTC flash pattern repeats 10 times.
    - DTC 21 or higher: Illuminates for **approx. 1 min** and the DTC flash pattern repeats 10 times.
    - If more than one DTC is detected, only the DTC with the lowest number is displayed.
  - If there is no malfunction, the security light illuminates for **approx. 3 s**, and then turns off.

#### Note

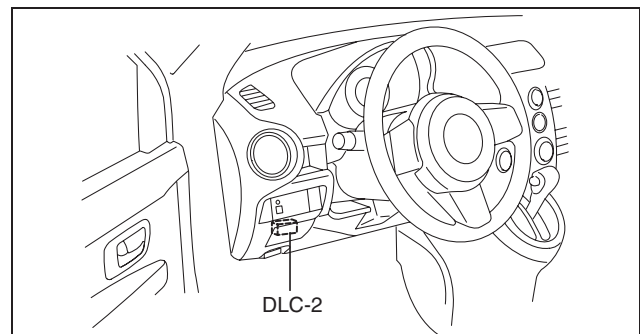
- The service code flashing pattern repeats **10 times**.
  - If more than one DTC is detected, only the DTC with the lowest number is displayed.
3. If there is a malfunction, verify the DTCs using the M-MDS. When several DTCs are detected, repair the malfunctioning location based on the DTC displayed by the security light.

#### Note

- Because of the possibility that one malfunction cause could result in several DTCs being detected, erase the DTCs after the repair is completed, and then re-inspect the DTCs.
4. After completion of repairs, clear all DTCs stored in the keyless control module. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)

#### M-MDS

1. Connect the M-MDS to the DLC-2.
2. After vehicle identification, the following can be selected from the M-MDS initialization screen.
  - Using an IDS (laptop PC)
    1. Select "Self-test".
    2. Select "Module".
    3. Select "RKE".
  - Using a PDS (pocket PC):
    1. Select "Module test".
    2. Select "RKE".
    3. Select "Self-test".
3. Verify the DTC according to the directions on the screen.
  - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection. When several DTCs are detected, repair the malfunctioning location based on the DTC displayed by the security light. (See 09-02B-3 DTC TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)



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## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

### Note

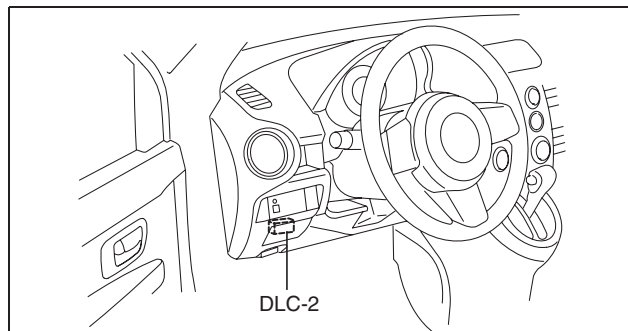
- Because of the possibility that one malfunction cause could result in several DTCs being detected, erase the DTCs after the repair is completed, and then check for DTCs again.

- After completion of repairs, clear all DTCs stored in the keyless control module. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)

### CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

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- Connect the M-MDS to the DLC-2.
- After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    - Select "Self Test".
    - Select "Modules".
    - Select "RKE".
  - When using the PDS (Pocket PC)
    - Select "Module Tests".
    - Select "RKE".
    - Select "Self Test".
- Verify the DTC according to the directions on the screen.
- Press the clear button on the DTC screen to clear the DTC.
- Turn the ignition switch to the LOCK position.
- Turn the ignition switch to the ON position and wait for **5 s more**.
- Perform DTC inspection. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
- Verify that no DTCs are displayed.




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### DTC TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]





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### Note





- The security light flashes or illuminates under the following conditions when the ignition switch is turned to the LOCK or ACC position.
  - If there is any malfunction:
    - DTC 16 or below: Flashes for **approx. 1 min** and the DTC flash pattern indicated in the table below repeats 10 times.
    - DTC 21 or higher: Illuminates for **approx. 1 min** and the DTC flash pattern indicated in the table below repeats 10 times.
    - If more than one DTC is detected, only the DTC with the lowest number is displayed.
  - If there is no malfunction:
    - The security light illuminates for **approx. 3 s** and then turns off.

DTC					Detection Condition	Reference
Security light flashing pattern		Keyless warning light	M-MDS display*			
			Keyless control module	PCM		
11		Illuminated	B10D9:87	P1260:00	No detected communication with the coil antenna.	(See 09-02B-6 SECURITY LIGHT: 11, DTC: B10D9:87/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

DTC					Detection Condition	Reference
Security light flashing pattern		Keyless warning light	M-MDS display*			
			Keyless control module	PCM		
12		Illuminated	B10D5:13	P1260:0 0	<ul style="list-style-type: none"><li>Coil antenna malfunction</li><li>The PCM determined a malfunction in the coil antenna even though it is normal.</li></ul>	(See 09-02B-8 SECURITY LIGHT: 12, DTC: B10D5:13/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
13		Not illuminated	B10D7:05	P1260:0 0	Key ID number program error	(See 09-02B-9 SECURITY LIGHT: 13, DTC: B10D7:05/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
		Not illuminated	B10D7:94	P1260:0 0	The key ID number data cannot be read.	(See 09-02B-11 SECURITY LIGHT: 13, DTC: B10D7:94/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
14		Not illuminated	B10D7:81	P1260:0 0	The keyless control module cannot read key ID number data normally.	(See 09-02B-13 SECURITY LIGHT: 14, DTC: B10D7:81/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
15		Not illuminated	B10D7:51	P1260:0 0	Keyless control module detected unprogrammed key ID number.	(See 09-02B-14 SECURITY LIGHT: 15, DTC: B10D7:51/ P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

DTC					Detection Condition	Reference
Security light flashing pattern		Keyless warning light	M-MDS display*			
			Keyless control module	PCM		
16		Not illuminated	U0100:87	P1260:00	Communication error between the keyless control module and the PCM (no response/condition mismatch)	(See 09-02B-16 SECURITY LIGHT: 16, DTC: U0100:87/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
21		Illuminated	B10D8:00	P1260:00	Only one key has been programmed.	(See 09-02B-17 SECURITY LIGHT: 21, DTC: B10D8:00/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
22		Not illuminated	B10DA:51	P1260:00	Communication error between keyless control module and PCM (data transfer error)	(See 09-02B-18 SECURITY LIGHT: 22, DTC: B10DA:51/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
23		Not illuminated	B10DA:62	P1260:00	ID number data between keyless control module and PCM are different.	(See 09-02B-19 SECURITY LIGHT: 23, DTC: B10DA:62/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)



## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

DTC				Detection Condition	Reference
Security light flashing pattern	Keyless warning light	M-MDS display*			
		Keyless control module	PCM		
Not illuminated	Illuminated	U0001:88	U0073:00	Module communication error (HS-CAN)	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	Illuminated	U0100:00	-	PCM communication error	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)

\* : The letters at the beginning of each DTC are only displayed when using the M-MDS, and refer to the following:  
B= Body system, P= Powertrain system, U= Network communication system.

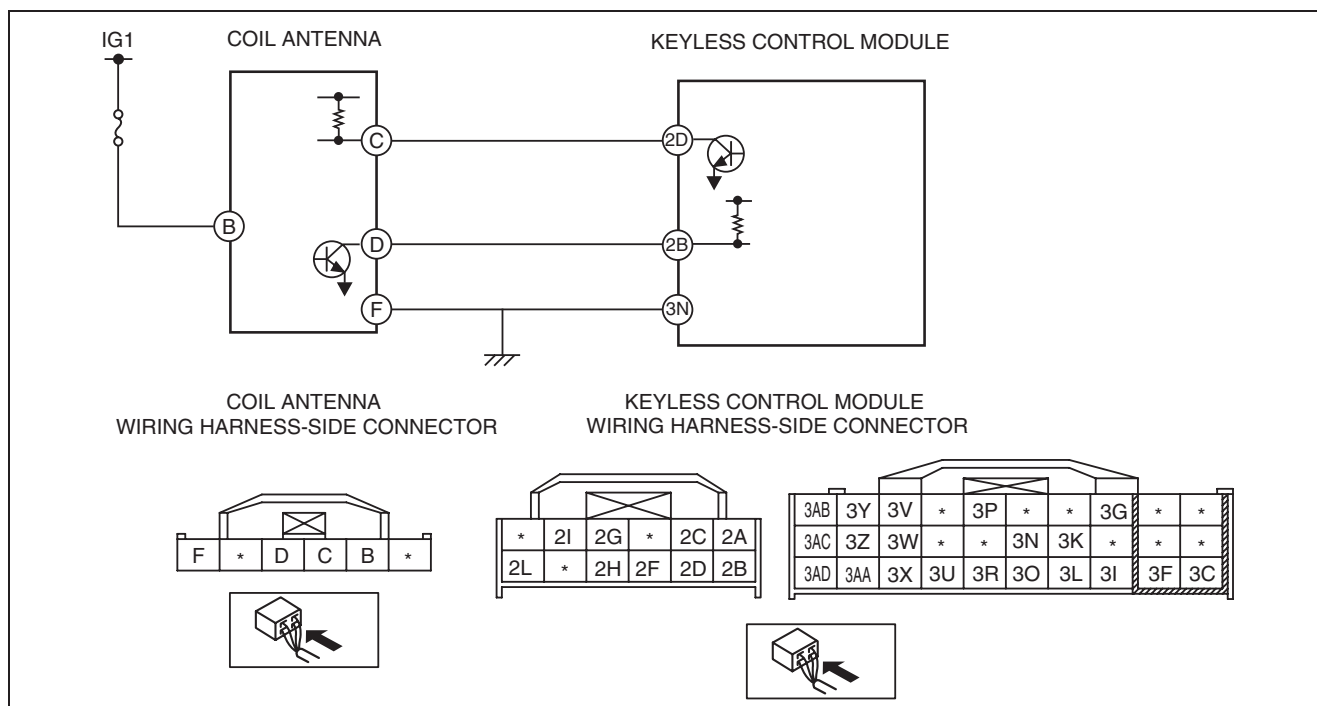
### SECURITY LIGHT: 11, DTC: B10D9:87/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

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DTC	Security light flashing pattern		11	No detected communication with coil antenna.
	M-MDS display	Keyless control module	B10D9:87	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• ENG 10 A fuse malfunction</li><li>• The coil antenna is pulled out.</li><li>• Coil antenna malfunction</li><li>• Keyless control module malfunction</li><li>• Related wiring harnesses malfunction</li></ul>

# ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

## System wiring diagram



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## Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY COIL ANTENNA CORRECTLY INSTALLED</b> <ul style="list-style-type: none"> <li>Verify the installation condition of the coil antenna.</li> <li>Is the coil antenna correctly installed? (Is the connector pulled out?)</li> </ul>	Yes Go to the next step.
		No Install the coil antenna correctly, then go to the next step. (See 09-14-133 COIL ANTENNA REMOVAL/ INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
2	<b>FUSE INSPECTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Remove the ENG 10 A fuse.</li> <li>Is the fuse normal?</li> </ul>	Yes Go to the next step.
		No Replace the fuse, then go to Step 9.
3	<b>INSPECT COIL ANTENNA POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Disconnect the coil antenna connector.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Measure the voltage at coil antenna connector terminal B.</li> <li>— Is the voltage 8 V or more?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness, then go to Step 9.
4	<b>INSPECT WIRING HARNESS BETWEEN COIL ANTENNA AND GROUND</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Measure the continuity of the wiring harness between coil antenna connector terminal C and ground.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness, then go to Step 9.
5	<b>INSPECT COMMUNICATION CIRCUIT (INPUT) FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>Disconnect the keyless control module connector</li> <li>Measure the continuity of the wiring harness between coil antenna connector terminal C and keyless control module connector terminal 2D.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between the coil antenna and the keyless control module, then go to Step 9.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

Step	Inspection	Action
6	<b>INSPECT COMMUNICATION CIRCUIT (OUTPUT) FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>Measure the continuity of the wiring harness between coil antenna connector terminal D and keyless control module connector terminal 2B.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between the coil antenna and the keyless control module, then go to Step 9.
7	<b>INSPECT COIL ANTENNA INPUT SIGNAL CIRCUIT</b> <ul style="list-style-type: none"> <li>Connect the coil antenna connector.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Measure the voltage at coil antenna connector terminal C.</li> <li>— Is the voltage <b>8 V or more</b>?</li> </ul>	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Replacing the coil antenna. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to Step 9.</li> </ul>
8	<b>INSPECT COMMUNICATION CIRCUIT (OUTPUT) FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>Measure the continuity of the wiring harness between coil antenna connector terminal D and ground.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Replacing the coil antenna. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
9	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Reconnect the disconnected connectors.</li> <li>Connect the negative battery cable.</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D9:87 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the keyless control module and program the immobilizer system-related parts. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>(See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to the next step.
10	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

### SECURITY LIGHT: 12, DTC: B10D5:13/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

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DTC	Security light flashing pattern		12	<ul style="list-style-type: none"><li>• Coil antenna malfunction</li><li>• PCM determined a malfunction in coil antenna even though it is normal.</li></ul>
	M-MDS display	Keyless control module	B10D5:13	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Coil antenna malfunction</li><li>• Poor connection of the coil antenna connector</li><li>• PCM malfunction</li></ul>

### Diagnostic Procedure




Step	Inspection	Action
1	<b>INSPECT COIL ANTENNA CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the coil antenna connector.</li> <li>Is the coil antenna connector and the keyless control module connector securely connected without corrosion, damage or disconnected pins.</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replacing the coil antenna. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Securely connect the connectors, and go to the next step.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

Step	Inspection	Action
2	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Connect the negative battery cable.</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? <ul style="list-style-type: none"> <li>Keyless control module: B10D5:13</li> <li>PCM:P1260:00</li> </ul> </li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
3	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

### SECURITY LIGHT: 13, DTC: B10D7:05/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

id0902e3353200

DTC	Security light flashing pattern		13	Key ID number program error
	M-MDS display	Keyless control module	B10D7:05	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Errors during key ID number program procedure</li><li>• If any of the following items are touching or near key head, signal communication between key and vehicle is negatively affected, resulting in engine not starting.<ul style="list-style-type: none"><li>— Spare keys</li></ul></li></ul> <p>EXAMPLES:</p> <div><div></div><div>METAL RING LYING ON KEY HEAD</div><div></div><div>METAL PART OF ANOTHER KEY TOUCHING KEY HEAD</div><div></div><div>KEY IS NEAR OR TOUCHING ANOTHER IMMOBILIZER SYSTEM KEY</div><ul style="list-style-type: none"><li>— Keys for other vehicles equipped with immobilizer system</li><li>— Any metallic object</li><li>— Any electronic device, or any credit or other card with magnetic strips</li></ul></div>

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND




### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY NUMBER OF PROGRAMMED KEYS</b> <ul style="list-style-type: none"> <li>Using the M-MDS, perform the PID/data monitor inspection and verify the programmed keys. (See 09-02B-20 PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].) — NUMKEY (See 09-02B-21 PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].) • Are two or more keys programmed?</li> </ul>	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Program an additional key referring to the immobilizer system-related parts programming. (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].) • Go to the next step.</li> </ul>
2	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:05 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
3	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

# ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

SECURITY LIGHT: 13, DTC: B10D7:94/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

id0902e3356000

DTC	Security light flashing pattern		13	Key ID number data cannot be read.			
	M-MDS display	Keyless control module	B10D7:94				
		PCM	P1260:00				
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• There is no transponder in the key</li><li>• Transponder malfunction (key code is not output)</li><li>• If any of the following items are touching or near key head, signal communication between key and vehicle is negatively affected, resulting in engine not starting.<ul style="list-style-type: none"><li>— Spare keys</li></ul></li></ul>			
				EXAMPLES:			
				<div></div> <div>METAL RING LYING ON KEY HEAD</div>			
				<div></div> <div>METAL PART OF ANOTHER KEY TOUCHING KEY HEAD</div>			
				<div></div> <div>KEY IS NEAR OR TOUCHING ANOTHER IMMOBILIZER SYSTEM KEY</div>			
				<ul style="list-style-type: none"><li>— Keys for other vehicles equipped with immobilizer system</li><li>— Any metallic object</li><li>— Any electronic device, or any credit or other card with magnetic strips</li></ul>			
				<ul style="list-style-type: none"><li>• Coil antenna malfunction</li><li>• Keyless control module malfunction</li></ul>			

## Diagnostic Procedure

Step	Inspection		Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Is the DTC displayed again? <ul style="list-style-type: none"> <li>— Keyless control module: B10D7:94</li> <li>— PCM:P1260:00</li> </ul> </li> </ul>	Yes	Go to Step 3.
		No	Go to the next step.
2	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Is the DTC displayed again? <ul style="list-style-type: none"> <li>— Keyless control module: B10D7:05</li> <li>— PCM:P1260:00</li> </ul> </li> </ul>	Yes	Security light: 13, M-MDS: Inspect B10D7:05/P1260:00. (See 09-02B-9 SECURITY LIGHT: 13, DTC: B10D7:05/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)
		No	Go to the next step.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

Step	Inspection	Action
3	<b>VERIFY WHETHER KEY IS VALID OR NOT</b> <ul style="list-style-type: none"> <li>Are there any keys with which the engine can be started, other than the key that is a cause of the displayed DTC?</li> </ul>	Yes Go to Step 5.
		No Go to the next step.
4	<b>VERIFY WHETHER MALFUNCTION IS IN KEY OR COIL ANTENNA</b> <ul style="list-style-type: none"> <li>Program an additional key. (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Using the programmed key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:94 — PCM:P1260:00</li> </ul>	Yes Replace the coil antenna, then go to Step 6. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No <ul style="list-style-type: none"> <li>Dispose of the malfunctioning key.</li> <li>Program a new key if necessary. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to Step 8.</li> </ul>
5	<b>VERIFY WHETHER MALFUNCTION IS IN KEY OR COIL ANTENNA</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Using another valid key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:94 — PCM:P1260:00</li> </ul>	Yes Replace the coil antenna, then go to the next step. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No <ul style="list-style-type: none"> <li>Dispose of the malfunctioning key.</li> <li>Program a new key if necessary. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [KEYLESS ENTRY SYSTEM].)</li> <li>Go to Step 8.</li> </ul>
6	<b>INSPECT KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Using the programmed key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:94 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the keyless control module and program the immobilizer system-related parts. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>(See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 8.
7	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:94 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.






## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

Step	Inspection		Action
8	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes	Perform the corresponding DTC inspection.
		No	DTC troubleshooting completed.

### SECURITY LIGHT: 14, DTC: B10D7:81/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

id0902e3356600

DTC	Security light flashing pattern		14	The keyless control module cannot read key ID number data normally.
	M-MDS display	Keyless control module	B10D7:81	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Transponder (key) malfunction</li><li>• Coil antenna installation malfunction</li><li>• Coil antenna malfunction</li><li>• Keyless control module malfunction</li><li>• If any of the following items are touching or near key head, signal communication between key and vehicle is negatively affected, resulting in engine not starting.<ul style="list-style-type: none"><li>— Spare keys</li></ul></li></ul> <p>EXAMPLES:</p> <div><div></div><div>METAL RING LYING ON KEY HEAD</div><div></div><div>METAL PART OF ANOTHER KEY TOUCHING KEY HEAD</div><div></div><div>KEY IS NEAR OR TOUCHING ANOTHER IMMOBILIZER SYSTEM KEY</div><ul style="list-style-type: none"><li>— Keys for other vehicles equipped with an immobilizer system</li><li>— Any metallic object</li><li>— Any electronic device, or any credit or other card with magnetic strips</li></ul></div>

### Diagnostic Procedure

Step	Inspection		Action
1	<b>VERIFY COIL ANTENNA CORRECTLY INSTALLED</b> <ul style="list-style-type: none"> <li>Verify the installation condition of the coil antenna.</li> <li>Is the coil antenna correctly installed? (Is the connector not completely connected?)</li> </ul>	Yes	Go to the next step.
		No	Install the coil antenna correctly, then go to the next step. (See 09-14-133 COIL ANTENNA REMOVAL/ INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

Step	Inspection	Action
2	<b>VERIFY WHETHER KEY IS VALID OR NOT</b> <ul style="list-style-type: none"> <li>Using another programmed key, turn the ignition switch to the ON position.</li> <li>If there is not another programmed key, program an additional key and turn the ignition key to the ON position using the programmed key. (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:81 — PCM:P1260:00</li> </ul>	Yes Replace the coil antenna, then go to the next step. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No <ul style="list-style-type: none"> <li>Dispose of the malfunctioning key.</li> <li>Program a new key if necessary. (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to Step 4.</li> </ul>
3	<b>INSPECT KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Using another programmed key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:81 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the keyless control module and program the immobilizer system-related parts. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>(See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 5.
4	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:81 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
5	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

### SECURITY LIGHT: 15, DTC: B10D7:51/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

id0902e3356700

DTC	Security light flashing pattern		15	Keyless control module has detected unprogrammed key ID number.
	M-MDS display	Keyless control module	B10D7:51	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• No keys have been programmed after replacing keyless control module.</li><li>• Unprogrammed key used</li><li>• Attempt made to program ninth key</li><li>• Keyless control module malfunction</li></ul>

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY NUMBER OF PROGRAMMED KEYS</b> <ul style="list-style-type: none"> <li>Using the M-MDS, perform the PID/data monitor inspection and verify the programmed keys. (See 09-02B-20 PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].) — NUMKEY (See 09-02B-21 PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are one or more keys programmed?</li> </ul>	Yes Go to the next step.
		No Go to Step 3.
2	<b>VERIFY NUMBER OF PROGRAMMED KEYS</b> <ul style="list-style-type: none"> <li>Using the M-MDS, perform the PID/data monitor inspection and verify the programmed keys. (See 09-02B-20 PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].) — NUMKEY (See 09-02B-21 PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are eight keys programmed?</li> </ul>	Yes Erase the key ID number, then go to the next step. (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)
		No Go to the next step.
3	<b>INSPECT KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Program the key ID number. (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Two or more keys need to be programmed to start the engine.</li> </ul> <ul style="list-style-type: none"> <li>Using the programmed key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:51 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the keyless control module and program the immobilizer system-related parts. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>(See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 5.
4	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10D7:51 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
5	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

SECURITY LIGHT: 16, DTC: U0100:87/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

id0902e3356800

DTC	Security light flashing pattern		16	Communication error between keyless control module and PCM (no response/condition mismatch)
	M-MDS display	Keyless control module	U0100:87	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Malfunction in wiring harness (CAN line) between keyless control module and PCM</li><li>• PCM malfunction</li><li>• Keyless control module malfunction</li></ul>

### Diagnostic Procedure

Step	Inspection	Action	
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Is a DTC displayed for either the keyless control module or PCM, or both? — U0001:88</li> </ul>	Yes	Perform troubleshooting according to the corresponding DTC inspection. (See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
		No	Go to the next step.
2	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output? — Keyless control module: U0100:87 — PCM:P1260:00</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)</li> <li>Go to the next step.</li> </ul>
		No	Go to step 4.
3	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: U0100:87 — PCM:P1260:00</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Replace the keyless control module and program the immobilizer system-related parts. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>(See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No	Go to the next step.
4	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes	Perform the corresponding DTC inspection.
		No	DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

SECURITY LIGHT: 21, DTC: B10D8:00/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

id0902e3358000

DTC	Security light flashing pattern		21	Only one key has been programmed.
	M-MDS display	Keyless control module	B10D8:00	
		PCM	P1260:00	
POSSIBLE CAUSE				Only one key has been programmed.

### Diagnostic Procedure

Step	Inspection	Action	
1	<b>VERIFY NUMBER OF PROGRAMMED KEYS</b> <ul style="list-style-type: none"> <li>Using the M-MDS, perform the PID/data monitor inspection and verify the programmed keys. (See 09-02B-20 PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].) — NUMKEY (See 09-02B-21 PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are two or more keys programmed?</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Replace the keyless control module and program the immobilizer system-related parts. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].) (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to Step 3.</li> </ul>
		No	<ul style="list-style-type: none"> <li>Program an additional key referring to the immobilizer system-related parts programming. (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
2	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Using the programmed key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B108D:00 — PCM:P1260:00</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Replace the keyless control module and program the immobilizer system-related parts. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].) (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No	Go to Step 4.
3	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B108D:00 — PCM:P1260:00</li> </ul>	Yes	Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No	Go to the next step.
4	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes	Perform the corresponding DTC inspection.
		No	DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

SECURITY LIGHT: 22, DTC: B10DA:51/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

id0902e3358500

DTC	Security light flashing pattern		22	Communication error between keyless control module and PCM (data transfer error)
	M-MDS display	Keyless control module	B10DA:51	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Malfunction in wiring harness (CAN line) between keyless control module and PCM</li><li>• Keyless control module malfunction</li><li>• PCM malfunction</li><li>• The immobilizer system-related parts have not been programmed after replacing the keyless control module.</li></ul>

### Diagnostic Procedure

Step	Inspection		Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Is a DTC displayed for either the keyless control module or PCM, or both? — U0001:88</li> </ul>	Yes	Perform troubleshooting according to the corresponding DTC inspection. (See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
		No	Go to the next step.
2	<b>INSPECT KEYLESS CONTROL MODULE</b> <ul style="list-style-type: none"> <li>After replacing the keyless control module, have the immobilizer system-related parts been programmed?</li> </ul>	Yes	Go to step 7.
		No	<ul style="list-style-type: none"> <li>Perform programming of immobilizer system-related parts only when replacing the keyless control module. (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
3	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10DA:51 — PCM:P1260:00</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Perform programming of immobilizer system-related parts only when replacing the PCM. (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No	Go to Step 7.
4	<b>EXAMINE KEYLESS CONTROL MODULE AND PCM</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10DA:51 — PCM:P1260:00</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Replace the keyless control module and program the immobilizer system-related parts. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>(See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM])</li> <li>Go to the next step.</li> </ul>
		No	Go to Step 7.



## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

Step	Inspection	Action
5	<b>EXAMINE PCM</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10DA:51 — PCM:P1260:00</li> </ul>	<ul style="list-style-type: none"> <li>Replace the PCM and program the immobilizer system-related parts. (See 01-40A-8 PCM REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-40C-5 PCM REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-40B-6 PCM REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 7.
6	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10DA:51 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
7	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

### SECURITY LIGHT: 23, DTC: B10DA:62/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

id0902e3358600

DTC	Security light flashing pattern		23	ID number data between keyless control module and PCM are different.
	M-MDS display	Keyless control module	B10DA:62	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Necessary procedures were not performed using the M-MDS after replacing PCM.</li><li>• Keyless control module malfunction</li><li>• PCM malfunction</li></ul>

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Is a DTC displayed for either the keyless control module or PCM, or both? — U0001:88</li> </ul>	Yes Perform troubleshooting according to the corresponding DTC inspection. (See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
		No Go to the next step.



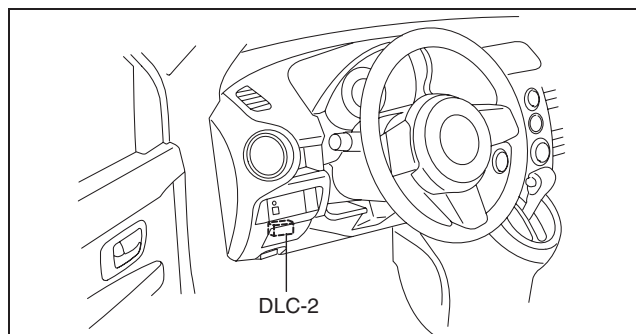
## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

Step	Inspection	Action
2	<b>EXAMINE KEYLESS CONTROL MODULE AND PCM</b> <ul style="list-style-type: none"> <li>Perform programming of immobilizer system-related parts only when replacing the PCM (See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10DA:62 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the keyless control module and program the immobilizer system-related parts. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>(See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM])</li> <li>Go to the next step.</li> </ul>
		No Go to Step 5.
3	<b>EXAMINE PCM</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10DA:62 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the PCM and program the immobilizer system-related parts. (See 01-40A-8 PCM REMOVAL/INSTALLATION [ZJ, ZY].)</li> <li>(See 01-40C-5 PCM REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].)</li> <li>(See 01-40B-6 PCM REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)</li> <li>(See 09-14-136 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 5.
4	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02B-3 CLEARING DTC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02B-2 DTC INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].)</li> <li>Are DTCs output again? — Keyless control module: B10DA:62 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
5	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

## PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

id0902e3400500

- Connect the M-MDS to the DLC-2.
- After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    - Select "DataLogger".
    - Select "Modules".
    - Select "RKE".
  - When using the PDS (Pocket PC)
    - Select "Module Tests".
    - Select "RKE".
    - Select "DataLogger".
- Select the applicable PID from the PID table.
- Verify the PID data according to the directions on the screen.



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## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND

### Note

- The PID data screen function is used for monitoring the calculated value of input/output signals in the module. Therefore, if the monitored value of the output parts is not within the specification, it is necessary to inspect the monitored value of input parts corresponding to the applicable output part control. In addition, because the system does not display an output part malfunction as an abnormality in the monitored value, it is necessary to inspect the output parts individually.

### PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]

100902e3345900

PID name (definition)	Detection Condition
NUMKEY (Number of key ID numbers programmed in keyless control module)	Number of programmed key ID numbers: 0—8

## **09-02C ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]**

<b>FOREWORD [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-1</b>	<b>SECURITY LIGHT: 14, DTC: B10D7:81/ P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-11</b>
<b>DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-2</b>	Diagnostic Procedure . . . . .	<b>09-02C-11</b>
Security Light . . . . .	<b>09-02C-2</b>	<b>SECURITY LIGHT: 15, DTC: B10D7:51/ P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-12</b>
M-MDS . . . . .	<b>09-02C-2</b>	Diagnostic Procedure . . . . .	<b>09-02C-12</b>
<b>CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-3</b>	<b>SECURITY LIGHT: 16, DTC: U0100:87/ P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-13</b>
<b>DTC TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-3</b>	Diagnostic Procedure . . . . .	<b>09-02C-13</b>
<b>SECURITY LIGHT: 11, DTC: B10D9:87/ P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-5</b>	<b>SECURITY LIGHT: 21, DTC: B10D8:00/ P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-14</b>
System wiring diagram . . . . .	<b>09-02C-5</b>	Diagnostic Procedure . . . . .	<b>09-02C-14</b>
Diagnostic Procedure . . . . .	<b>09-02C-5</b>	<b>SECURITY LIGHT: 22, DTC: B10DA:51/ P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-15</b>
<b>SECURITY LIGHT: 12, DTC: B10D5:13/ P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-7</b>	Diagnostic Procedure . . . . .	<b>09-02C-15</b>
Diagnostic Procedure . . . . .	<b>09-02C-7</b>	<b>SECURITY LIGHT: 23, DTC: B10DA:62/ P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-16</b>
<b>SECURITY LIGHT: 13, DTC: B10D7:05 /P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-8</b>	Diagnostic Procedure . . . . .	<b>09-02C-16</b>
Diagnostic Procedure . . . . .	<b>09-02C-8</b>	<b>PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-17</b>
<b>SECURITY LIGHT: 13, DTC: B10D7:94/ P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-9</b>	<b>PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]</b> . . . . .	<b>09-02C-18</b>
Diagnostic Procedure . . . . .	<b>09-02C-9</b>		

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## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

### FOREWORD [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

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- DTCs are recorded in the PCM and instrument cluster when a malfunction is detected. The stored DTCs can be verified using the flashing pattern of the security light and M-MDS. There are some DTCs which cannot be verified using the security light. Verify the DTCs that were detected using the M-MDS prior to beginning the servicing.  
(See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
- If more than one DTC is detected, the security light only displays the DTC with the lowest number. Begin repairs based on the DTC displayed by the security light. All DTCs can be read by the M-MDS.
- It is possible for several DTCs to be displayed for one malfunction cause. Erase the DTCs after one repair and then re-inspect the DTCs.
- If immobilizer system DTCs are not recorded even if the engine cannot be started, perform symptom troubleshooting.  
(See 01-03-12 NO.3 WILL NOT CRANK [ZJ, ZY].)
- The PID/data monitor function can be used to verify the number of key ID numbers programmed for a single vehicle.  
(See 09-02C-17 PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)

#### Note

- Due to the possibility that the engine cannot be started because transmission between the key and the vehicle is obstructed, do not allow the following items to contact the key ring.
  - Any metallic object
  - Spare keys or keys for other vehicles equipped with an immobilizer system
  - Any electronic device, or any credit or other card with magnetic strips

#### EXAMPLES:



METAL RING LYING ON KEY HEAD



METAL PART OF ANOTHER  
KEY TOUCHING KEY HEAD



KEY IS NEAR OR TOUCHING  
ANOTHER IMMOBILIZER SYSTEM KEY

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## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

### DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5345400

#### Security Light

1. Turn the ignition switch to the ON position.
2. Verify the security light status.
  - If a malfunction is detected, the DTC pattern begins flashing after the security light flashes or illuminates for approx. 1 min according to the DTC. However, because there are DTCs which cannot be confirmed using the security light, verify the DTCs that were detected using the M-MDS prior to beginning the servicing.
    - DTC 16 or below: Flashes for **approx. 1 min** and the DTC flash pattern repeats 10 times.
    - DTC 21 or higher: Illuminates for **approx. 1 min** and the DTC flash pattern repeats 10 times.
    - If more than one DTC is detected, only the DTC with the lowest number is displayed.
  - If there is no malfunction, the security light illuminates for **approx. 3 s**, and then turns off.

#### Note

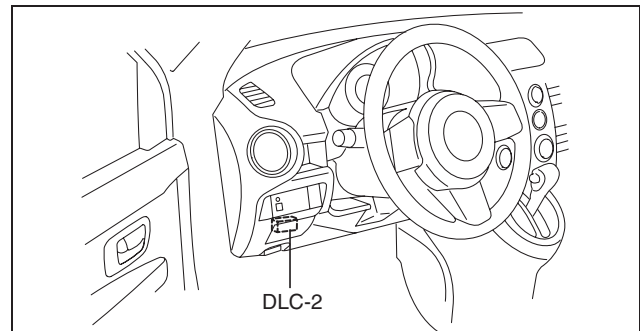
- The service code flashing pattern repeats **10 times**.
  - If more than one DTC is detected, only the DTC with the lowest number is displayed.
3. If there is a malfunction, verify the DTCs using the M-MDS. When several DTCs are detected, repair the malfunctioning location based on the DTC displayed by the security light.

#### Note

- Because of the possibility that one malfunction cause could result in several DTCs being detected, erase the DTCs after the repair is completed, and then re-inspect the DTCs.
4. After completion of repairs, clear all DTCs stored in the Instrument cluster. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)

#### M-MDS

1. Connect the M-MDS to the DLC-2.
2. After vehicle identification, the following can be selected from the M-MDS initialization screen.
  - Using an IDS (laptop PC)
    1. Select "Self-test".
    2. Select "Module".
    3. Select "IC".
  - Using a PDS (pocket PC):
    1. Select "Module test".
    2. Select "IC".
    3. Select "Self-test".
3. Verify the DTC according to the directions on the screen.
  - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection. When several DTCs are detected, repair the malfunctioning location based on the DTC displayed by the security light. (See 09-02C-3 DTC TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)



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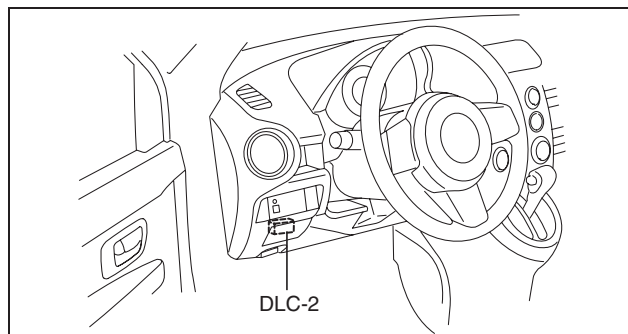
#### Note

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

- Because of the possibility that one malfunction cause could result in several DTCs being detected, erase the DTCs after the repair is completed, and then check for DTCs again.
4. After completion of repairs, clear all DTCs stored in the Instrument cluster. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)

### CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Self Test".
    2. Select "Modules".
    3. Select "IC".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "IC".
    3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
4. Press the clear button on the DTC screen to clear the DTC.
5. Turn the ignition switch to the LOCK position.
6. Turn the ignition switch to the ON position and wait for **5 s more**.
7. Perform DTC inspection. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
8. Verify that no DTCs are displayed.



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### DTC TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]








id0902e5347100

#### Note

- The security light flashes or illuminates under the following conditions when the ignition switch is turned to the LOCK or ACC position.
  - There is a malfunction:
    - DTC 16 or below: Flashes for **approx. 1 min** and the DTC flash pattern indicated in the table below repeats 10 times.
    - DTC 21 or higher: Illuminates for **approx. 1 min** and the DTC flash pattern indicated in the table below repeats 10 times.
    - If more than one DTC is detected, only the DTC with the lowest number is displayed.
  - There is no malfunction
    - The security light illuminates for **approx. 3 s** and then turns off.

DTC				Detection Condition	Page
Security light flashing pattern		M-MDS display *			
		Instrument cluster	PCM		
11		B10D9:87	P1260:00	No detected communication with the coil antenna.	(See 09-02C-5 SECURITY LIGHT: 11, DTC: B10D9:87/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
12		B10D5:13	P1260:00	<ul style="list-style-type: none"><li>• Coil antenna malfunction</li><li>• The PCM determined a malfunction in the coil antenna even though it is normal.</li></ul>	(See 09-02C-7 SECURITY LIGHT: 12, DTC: B10D5:13/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)

# ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

DTC		M-MDS display*		Detection Condition	Page
Security light flashing pattern		Instrument cluster	PCM		
13		B10D7:05	P1260:00	Key ID number program error	(See 09-02C-8 SECURITY LIGHT: 13, DTC: B10D7:05/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
		B10D7:94	P1260:00	The key ID number data cannot be read.	(See 09-02C-9 SECURITY LIGHT: 13, DTC: B10D7:94/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
14		B10D7:81	P1260:00	The instrument cluster cannot read key ID number data normally.	(See 09-02C-11 SECURITY LIGHT: 14, DTC: B10D7:81/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
15		B10D7:51	P1260:00	The instrument cluster has detected an unprogrammed key ID number.	(See 09-02C-12 SECURITY LIGHT: 15, DTC: B10D7:51/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
16		U0100:87	P1260:00	Communication error between the instrument cluster and the PCM (no response)	(See 09-02C-13 SECURITY LIGHT: 16, DTC: U0100:87/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
21		B10D8:00	P1260:00	Only one key has been programmed.	(See 09-02C-14 SECURITY LIGHT: 21, DTC: B10D8:00/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
22		B10DA:51	P1260:00	Communication error between the instrument cluster and the PCM (data transfer failure)	(See 09-02C-15 SECURITY LIGHT: 22, DTC: B10DA:51/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
23		B10DA:62	P1260:00	Communication error between the instrument cluster and the PCM (condition mismatch)	(See 09-02C-16 SECURITY LIGHT: 23, DTC: B10DA:62/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
Not illuminated		U0001:88	U0073:00	Module communication error (HS-CAN)	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
		U0100:00	-	PCM communication error	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)



# ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

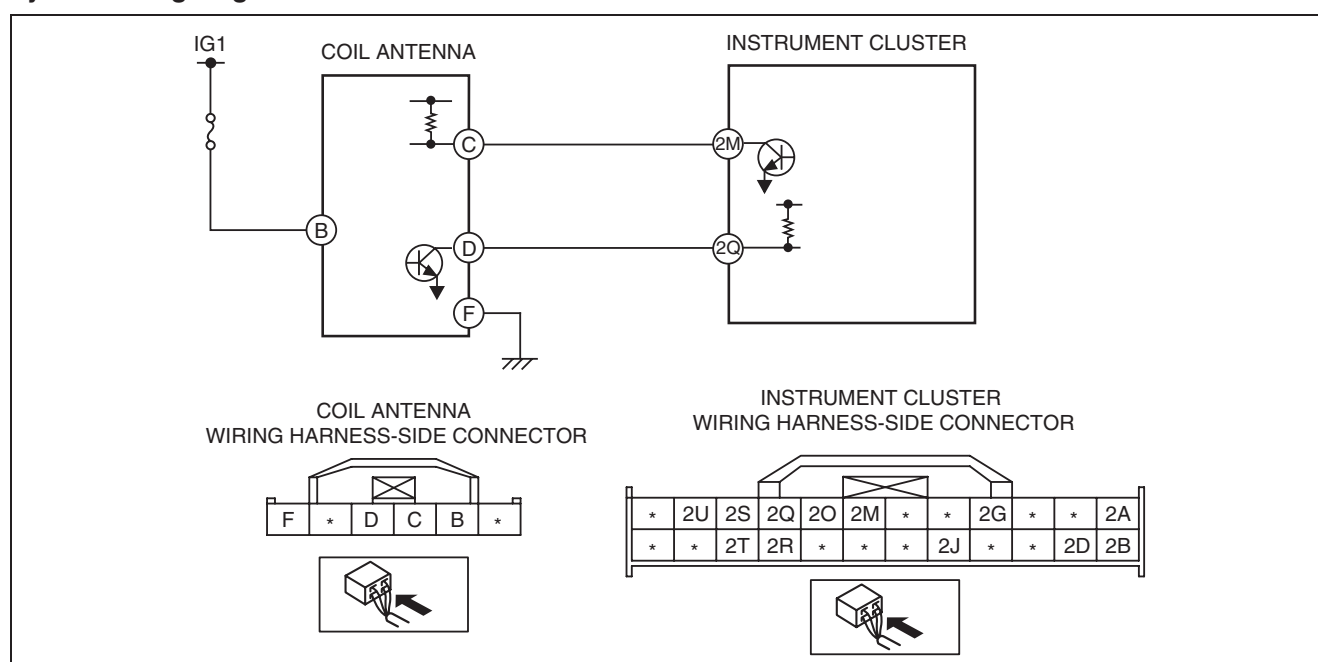
\* : The letters at the beginning of each DTC are only displayed when using the M-MDS, and refer to the following:  
B= Body system, P= Powertrain system, U= Network communication system.

## SECURITY LIGHT: 11, DTC: B10D9:87/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5353000

DTC	Security light flashing pattern		11	No detected communication with coil antenna.
	M-MDS display	Instrument cluster	B10D9:87	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• METER 10 A fuse malfunction</li><li>• Coil antenna malfunction</li><li>• Instrument cluster malfunction</li><li>• Related wiring harnesses malfunction</li></ul>

### System wiring diagram



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### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY COIL ANTENNA CORRECTLY INSTALLED</b> <ul style="list-style-type: none"> <li>Verify the installation condition of the coil antenna.</li> <li>Is the coil antenna correctly installed? (Is the connector pulled out?)</li> </ul>	Yes Go to the next step.
		No Install the coil antenna correctly, then go to the next step. (See 09-14-133 COIL ANTENNA REMOVAL/ INSTALLATION [KEYLESS ENTRY SYSTEM].)
2	<b>FUSE INSPECTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Remove the METER 10 A fuse.</li> <li>Is the fuse normal?</li> </ul>	Yes Go to the next step.
		No Replace the fuse, then go to Step 9.
3	<b>INSPECT COIL ANTENNA POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Disconnect the coil antenna connector.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Measure the voltage at coil antenna connector terminal B.</li> <li>— Is the voltage 8 V or more?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness, then go to Step 9.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

Step	Inspection	Action
4	<b>INSPECT WIRING HARNESS BETWEEN COIL ANTENNA AND GROUND</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Measure the continuity of the wiring harness between coil antenna connector terminal C and ground.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness, then go to Step 9.
5	<b>INSPECT COMMUNICATION CIRCUIT (INPUT) FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>Disconnect the instrument cluster connector.</li> <li>Measure the continuity of the wiring harness between coil antenna connector terminal C and instrument cluster connector terminal 2M.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between the coil antenna and the instrument cluster, then go to Step 9.
6	<b>INSPECT COMMUNICATION CIRCUIT (OUTPUT) FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>Measure the continuity of the wiring harness between coil antenna connector terminal D and instrument cluster connector terminal 2Q.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between the coil antenna and the instrument cluster, then go to Step 9.
7	<b>INSPECT COIL ANTENNA INPUT SIGNAL CIRCUIT</b> <ul style="list-style-type: none"> <li>Connect the coil antenna connector.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Measure the voltage at coil antenna connector terminal C.</li> <li>— Is the voltage <b>8 V or more</b>?</li> </ul>	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Replacing the coil antenna. (See 09-14-133 COIL ANTENNA REMOVAL/ INSTALLATION [KEYLESS ENTRY SYSTEM].)</li> <li>Go to Step 9.</li> </ul>
8	<b>INSPECT COMMUNICATION CIRCUIT (OUTPUT) FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>Measure the continuity of the wiring harness between coil antenna connector terminal ground.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Replacing the coil antenna. (See 09-14-133 COIL ANTENNA REMOVAL/ INSTALLATION [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
9	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Reconnect the disconnected connectors.</li> <li>Connect the negative battery cable.</li> <li>Clear the DTC. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify if any DTCs are displayed. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D9:87 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the instrument cluster and program the immobilizer system-related parts. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)</li> <li>(See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to the next step.
10	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

SECURITY LIGHT: 12, DTC: B10D5:13/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5353100

DTC	Security light flashing pattern		12	<ul style="list-style-type: none"><li>• Coil antenna malfunction</li><li>• PCM determined a malfunction in coil antenna even though it is normal.</li></ul>
	M-MDS display	Instrument cluster	B10D5:13	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Coil antenna malfunction</li><li>• Poor connection of the coil antenna connector</li><li>• PCM malfunction</li></ul>




### Diagnostic Procedure

Step	Inspection		Action
1	<b>INSPECT COIL ANTENNA CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the coil antenna connector.</li> <li>Is the coil antenna connector and the instrument cluster connector securely connected without corrosion, damage or disconnected pins.</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Replace the coil antenna. (See 09-14-133 COIL ANTENNA REMOVAL/ INSTALLATION [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No	Securely connect the connectors, and go to the next step.
2	<b>Verify after repair</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Connect the negative battery cable.</li> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D5:13 — PCM:P1260:00</li> </ul>	Yes	Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No	Go to the next step.
3	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes	Perform the corresponding DTC inspection.
		No	DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

SECURITY LIGHT: 13, DTC: B10D7:05/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5353200

DTC	Security light flashing pattern		13	Key ID number program error			
	M-MDS display	Instrument cluster	B10D7:05				
		PCM	P1260:00				
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Errors during key ID number program procedure</li><li>• If any of the following items are touching or near key head, signal communication between key and vehicle is negatively affected, resulting in engine not starting.<ul style="list-style-type: none"><li>— Spare</li></ul></li></ul>			
				EXAMPLES:			
				<div></div> <div>METAL RING LYING ON KEY HEAD</div>			
				<div></div> <div>METAL PART OF ANOTHER KEY TOUCHING KEY HEAD</div>			
				<div></div> <div>KEY IS NEAR OR TOUCHING ANOTHER IMMOBILIZER SYSTEM KEY</div>			

keys

- Keys for other vehicles equipped with an immobilizer system
- Any metallic object
- Any electronic device, or any credit or other card with magnetic strips




### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY NUMBER OF PROGRAMMED KEYS</b> <ul style="list-style-type: none"> <li>Using the M-MDS, perform the PID/data monitor inspection and verify the programmed keys. (See 09-02C-17 PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].) — NUMKEYS (See 09-02C-18 PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are two or more keys programmed?</li> </ul>	Yes Go to the next step.
		No Program an additional key referring to the immobilizer system-related parts programming. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)
2	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D7:05 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
3	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

# ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

## SECURITY LIGHT: 13, DTC: B10D7:94/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5356000

DTC	Security light flashing pattern		13	Key ID number data cannot be read.			
	M-MDS display	Instrument cluster	B10D7:94				
		PCM	P1260:00				
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• There is no transponder in the key</li><li>• Transponder malfunction (key code is not output)</li><li>• If any of the following items are touching or near key head, signal communication between key and vehicle is negatively affected, resulting in the engine not starting.<ul style="list-style-type: none"><li>— Spare</li></ul></li></ul>			
				EXAMPLES:			
				<div></div> <div>METAL RING LYING ON KEY HEAD</div>			
				<div></div> <div>METAL PART OF ANOTHER KEY TOUCHING KEY HEAD</div>			
				<div></div> <div>KEY IS NEAR OR TOUCHING ANOTHER IMMOBILIZER SYSTEM KEY</div>			
				<div>keys</div> <ul style="list-style-type: none"><li>— Keys for other vehicles equipped with immobilizer system</li><li>— Any metallic object</li><li>— Any electronic device, or any credit or other card with magnetic strips</li></ul> <ul style="list-style-type: none"><li>• Coil antenna malfunction</li><li>• Instrument cluster malfunction</li></ul>			

### Diagnostic Procedure

Step	Inspection	Action	
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Is the DTC displayed again? <ul style="list-style-type: none"> <li>Instrument cluster: B10D7:94</li> <li>PCM: P1260:00</li> </ul> </li> </ul>	Yes	Go to Step 3.
		No	Go to the next step.
2	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Is the DTC displayed again? <ul style="list-style-type: none"> <li>Instrument cluster: B10D7:05</li> <li>PCM: 1260:00</li> </ul> </li> </ul>	Yes	Security light: 13, inspect DTCs B10D7:05/P1260:00. (See 09-02C-8 SECURITY LIGHT: 13, DTC: B10D7:05/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
		No	Go to the next step.
3	<b>VERIFY WHETHER KEY IS VALID OR NOT</b> <ul style="list-style-type: none"> <li>Are there any keys with which the engine can be started other than the key that is a cause of the displayed DTC?</li> </ul>	Yes	Go to Step 5.
		No	Go to the next step.




## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

Step	Inspection	Action
4	<b>VERIFY WHETHER MALFUNCTION IS IN KEY OR COIL ANTENNA</b> <ul style="list-style-type: none"> <li>Program an additional key. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Using the programmed key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D7:94 — PCM:P1260:00</li> </ul>	Yes Replace the coil antenna, then go to Step 6. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [KEYLESS ENTRY SYSTEM].)
		No <ul style="list-style-type: none"> <li>Dispose of the malfunctioning key.</li> <li>Program a new key if necessary. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to Step 8.</li> </ul>
5	<b>VERIFY WHETHER MALFUNCTION IS IN KEY OR COIL ANTENNA</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Using another valid key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D7:94 — PCM:P1260:00</li> </ul>	Yes Replace the coil antenna, then go to the next step. (See 09-14-133 COIL ANTENNA REMOVAL/INSTALLATION [KEYLESS ENTRY SYSTEM].)
		No <ul style="list-style-type: none"> <li>Dispose of the malfunctioning key.</li> <li>Program a new key if necessary. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to Step 8.</li> </ul>
6	<b>INSPECT INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Using the programmed key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D7:94 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the instrument cluster and program the immobilizer system-related parts. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 8.
7	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D7:94 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
8	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

# ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

## SECURITY LIGHT: 14, DTC: B10D7:81/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5356600

DTC	Security light flashing pattern		14	Instrument cluster cannot read key ID number data normally.			
	M-MDS display	Instrument cluster	B10D7:81				
		PCM	P1260:00				
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Transponder (key) malfunction</li><li>• If any of the following items are touching or near key head, signal communication between key and vehicle is negatively affected, resulting in engine not starting.<ul style="list-style-type: none"><li>— Spare</li></ul></li></ul>			
				EXAMPLES:			
				<div></div> <div>METAL RING LYING ON KEY HEAD</div>			
				<div></div> <div>METAL PART OF ANOTHER KEY TOUCHING KEY HEAD</div>			
				<div></div> <div>KEY IS NEAR OR TOUCHING ANOTHER IMMOBILIZER SYSTEM KEY</div>			
				<div>keys</div> <ul style="list-style-type: none"><li>— Keys for other vehicles equipped with an immobilizer system</li><li>— Any metallic object</li><li>— Any electronic device, or any credit or other card with magnetic strips</li></ul> <ul style="list-style-type: none"><li>• Coil antenna installation malfunction</li><li>• Coil antenna malfunction</li><li>• Instrument cluster malfunction</li></ul>			

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY COIL ANTENNA CORRECTLY INSTALLED</b> <ul style="list-style-type: none"> <li>Verify the installation condition of the coil antenna.</li> <li>Is the coil antenna correctly installed? (Is the connector not completely connected?)</li> </ul>	Yes Go to the next step.
		No Install the coil antenna correctly, then go to the next step. (See 09-14-133 COIL ANTENNA REMOVAL/ INSTALLATION [KEYLESS ENTRY SYSTEM].)
2	<b>VERIFY WHETHER KEY IS VALID OR NOT</b> <ul style="list-style-type: none"> <li>Using another programmed key, turn the ignition switch to the ON position.</li> <li>If there is not another programmed key, program an additional key and turn the ignition key to the ON position using the programmed key. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? <ul style="list-style-type: none"> <li>— Instrument cluster: B10D7:81</li> <li>— PCM:P1260:00</li> </ul> </li> </ul>	Yes Replace the coil antenna, then go to the next step. (See 09-14-133 COIL ANTENNA REMOVAL/ INSTALLATION [KEYLESS ENTRY SYSTEM].)
		No <ul style="list-style-type: none"> <li>Dispose of the malfunctioning key.</li> <li>Program a new key if necessary. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to Step 4.</li> </ul>



## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

Step	Inspection	Action
3	<b>INSPECT INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>Using another programmed key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D7:81 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the instrument cluster and program the immobilizer system-related parts. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 5.
4	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D7:81 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
5	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

### SECURITY LIGHT: 15, DTC: B10D7:51/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5356700

DTC	Security light flashing pattern		15	Instrument cluster has detected unprogrammed key ID number.
	M-MDS display	Instrument cluster	B10D7:51	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• No keys have been programmed after replacing instrument cluster.</li><li>• Unprogrammed key used</li><li>• Attempt made to program a ninth key</li><li>• Instrument cluster malfunction</li></ul>

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY NUMBER OF PROGRAMMED KEYS</b> <ul style="list-style-type: none"> <li>Using the M-MDS, perform the PID/data monitor inspection and verify the programmed keys. (See 09-02C-17 PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].) — NUMKEYS (See 09-02C-18 PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are one or more keys programmed?</li> </ul>	Yes Go to the next step.
		No Go to Step 3.
2	<b>VERIFY NUMBER OF PROGRAMMED KEYS</b> <ul style="list-style-type: none"> <li>Using the M-MDS, perform the PID/data monitor inspection and verify the programmed keys. (See 09-02C-17 PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].) — NUMKEYS (See 09-02C-18 PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are eight keys programmed?</li> </ul>	Yes Erase the key ID number, then go to the next step. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)
		No Go to the next step.

## 09-02C-12

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

Step	Inspection	Action
3	<b>INSPECT INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>Program the key ID number. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> </ul> <b>Note</b> <ul style="list-style-type: none"> <li>Two or more keys need to be programmed to start the engine.</li> </ul>	<ul style="list-style-type: none"> <li>Replace the instrument cluster and program the immobilizer system-related parts. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		Go to Step 5.
4	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10D7:51 — PCM:P1260:00</li> </ul>	Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		Go to the next step.
5	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Perform the corresponding DTC inspection.
		DTC troubleshooting completed.

### SECURITY LIGHT: 16, DTC: U0100:87/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5356800

DTC	Security light flashing pattern		16	Communication error between instrument cluster and PCM (no response)
	M-MDS display	Instrument cluster	U0100:87	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Malfunction in wiring harness (CAN line) between instrument cluster and PCM</li><li>• PCM malfunction</li><li>• Instrument cluster malfunction</li></ul>

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Is a DTC displayed for either the instrument cluster or PCM, or both? — U0001:88</li> </ul>	Repair the malfunctioning part according to the separate DTC inspection. (See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
		Go to the next step.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

Step	Inspection	Action
2	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output? — Instrument cluster: U0100:87 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)</li> <li>Go to the next step.</li> </ul>
		No Go to step 4.
3	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: U0100:87 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the instrument cluster and program the immobilizer system-related parts. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to the next step.
4	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

### SECURITY LIGHT: 21, DTC: B10D8:00/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5358000

DTC	Security light flashing pattern	21	Only one key has been programmed.
	M-MDS display	B10D8:00	
	Instrument cluster PCM	P1260:00	
POSSIBLE CAUSE			Only one key has been programmed.

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY NUMBER OF PROGRAMMED KEYS</b> <ul style="list-style-type: none"> <li>Using the M-MDS, perform the PID/data monitor inspection and verify the programmed keys. (See 09-02C-17 PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].) — NUMKEYS (See 09-02C-18 PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are two or more keys programmed?</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the instrument cluster and program the immobilizer system-related parts. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to Step 3.</li> </ul>
		No <ul style="list-style-type: none"> <li>Program an additional key referring to the immobilizer system-related parts programming. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
2	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Using the programmed key, turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B108D:00 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the instrument cluster and program the immobilizer system-related parts. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 4.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

Step	Inspection	Action
3	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B108D:00 — PCM:P1260:00</li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
4	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

### SECURITY LIGHT: 22, DTC: B10DA:51/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5358500

DTC	Security light flashing pattern		22	Communication error between instrument cluster and PCM (data transfer failure)
	M-MDS display	Instrument cluster	B10DA:51	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Malfunction in wiring harness (CAN line) between instrument cluster and PCM</li><li>• Instrument cluster malfunction</li><li>• PCM malfunction</li><li>• The immobilizer system-related parts have not been programmed after replacing the instrument cluster.</li></ul>

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Is a DTC displayed for either the instrument cluster or PCM, or both? — U0001:88</li> </ul>	Yes Repair the malfunctioning part according to the separate DTC inspection. (See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
		No Go to the next step.
2	<b>INSPECT INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>After replacing the instrument cluster, have the immobilizer system-related parts been programmed?</li> </ul>	Yes Go to Step 7.
		No <ul style="list-style-type: none"> <li>Perform programming of immobilizer system-related parts only when replacing the instrument cluster. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
3	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10DA:51 — PCM:P1260:00</li> </ul>	Yes <ul style="list-style-type: none"> <li>Perform programming of immobilizer system-related parts only when replacing the PCM. (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 7.

## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

Step	Inspection	Action
4	<b>EXAMINE INSTRUMENT CLUSTER AND PCM</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10DA:51 — PCM:P1260:00</li> </ul>	<ul style="list-style-type: none"> <li>Replace the instrument cluster and program the immobilizer system-related parts. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		Go to Step 7.
5	<b>EXAMINE PCM</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10DA:51 — PCM:P1260:00</li> </ul>	<ul style="list-style-type: none"> <li>Replace the PCM and program the immobilizer system-related parts. (See 01-40A-8 PCM REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-40C-5 PCM REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-40B-6 PCM REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		Go to Step 7.
6	<b>VERIFY AFTER REPAIR</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? — Instrument cluster: B10DA:51 — PCM:P1260:00</li> </ul>	Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		Go to the next step.
7	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Perform the corresponding DTC inspection.
		DTC troubleshooting completed.

### SECURITY LIGHT: 23, DTC: B10DA:62/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5358600

DTC	Security light flashing pattern		23	ID number data in instrument cluster and PCM do not match.
	M-MDS display	Instrument cluster	B10DA:62	
		PCM	P1260:00	
POSSIBLE CAUSE				<ul style="list-style-type: none"><li>• Necessary procedures were not performed using M-MDS after replacing PCM.</li><li>• Instrument cluster malfunction</li><li>• PCM malfunction</li></ul>

### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Is a DTC displayed for either the instrument cluster or PCM, or both? — U0001:88</li> </ul>	Repair the malfunctioning part according to the separate DTC inspection. (See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
		Go to the next step.

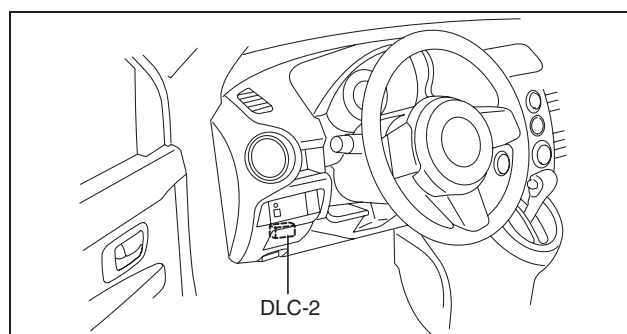
## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

Step	Inspection	Action
2	<b>EXAMINE INSTRUMENT CLUSTER AND PCM</b> <ul style="list-style-type: none"> <li>Perform programming of immobilizer system-related parts only when replacing the PCM (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? <ul style="list-style-type: none"> <li>Instrument cluster: B10DA:62</li> <li>PCM:P1260:00</li> </ul> </li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the instrument cluster and program the immobilizer system-related parts. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 5.
3	<b>EXAMINE PCM</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? <ul style="list-style-type: none"> <li>Instrument cluster: B10DA:62</li> <li>PCM:P1260:00</li> </ul> </li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the PCM and program the immobilizer system-related parts. (See 01-40A-8 PCM REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-40C-5 PCM REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-40B-6 PCM REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 09-14-150 IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING [KEYLESS ENTRY SYSTEM].)</li> <li>Go to the next step.</li> </ul>
		No Go to Step 5.
4	<b>Verify after repair</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02C-3 CLEARING DTC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Verify DTCs using the M-MDS. (See 09-02C-2 DTC INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>Are DTCs output again? <ul style="list-style-type: none"> <li>Instrument cluster: B10DA:62</li> <li>PCM:P1260:00</li> </ul> </li> </ul>	Yes Inspect DTC P1260:00. (See 01-02A-148 DTC P1260:00 [ZJ, ZY].)
		No Go to the next step.
5	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify if other DTCs are displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

## PID/DATA MONITOR INSPECTION [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5400500

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "DataLogger".
    2. Select "Modules".
    3. Select "IC".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "IC".
    3. Select "DataLogger".
3. Select the applicable PID from the PID table.
4. Verify the PID data according to the directions on the screen.



am2zzw0000210



## ON-BOARD DIAGNOSTIC [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

### Note

- The PID data screen function is used for monitoring the calculated value of input/output signals in the module. Therefore, if the monitored value of the output parts is not within the specification, it is necessary to inspect the monitored value of input parts corresponding to the applicable output part control. In addition, because the system does not display an output part malfunction as an abnormality in the monitored value, it is necessary to inspect the output parts individually.

### PID/DATA MONITOR TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]

id0902e5345900

PID name (definition)	Detection Condition
NUMKEYS (Number of key ID numbers programmed in the instrument cluster)	Number of programmed key ID numbers: 0–8



## **09-02D ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]**

<b>SYSTEM WIRING DIAGRAM</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-2</b>
Except AutoAlliance Thailand (AAT)	
manufactured vehicles . . . . .	<b>09-02D-2</b>
AutoAlliance Thailand (AAT)	
manufactured vehicles . . . . .	<b>09-02D-3</b>
<b>READING FREEZE FRAME DATA</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-3</b>
<b>CLEARING FREEZE FRAME DATA</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-4</b>
<b>DTC INSPECTION</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-4</b>
<b>CLEARING DTC</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-5</b>
<b>DTC TABLE</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-5</b>
<b>DTC B109F:49</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-6</b>
Detection Condition . . . . .	<b>09-02D-6</b>
Possible Causes . . . . .	<b>09-02D-6</b>
Diagnostic Procedure . . . . .	<b>09-02D-6</b>
<b>DTC B109F:86</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-6</b>
Detection Condition . . . . .	<b>09-02D-6</b>
Possible Causes . . . . .	<b>09-02D-6</b>
System Wiring Diagram . . . . .	<b>09-02D-7</b>
Diagnostic Procedure . . . . .	<b>09-02D-7</b>
<b>DTC B109F:87</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-8</b>
Detection Condition . . . . .	<b>09-02D-8</b>
Possible Causes . . . . .	<b>09-02D-8</b>
System Wiring Diagram . . . . .	<b>09-02D-8</b>
Diagnostic Procedure . . . . .	<b>09-02D-9</b>
<b>DTC B10A5:49</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-9</b>
Detection Condition . . . . .	<b>09-02D-9</b>
Possible Causes . . . . .	<b>09-02D-9</b>
Diagnostic Procedure . . . . .	<b>09-02D-9</b>
<b>DTC B10A5:86</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-10</b>
Detection Condition . . . . .	<b>09-02D-10</b>
Possible Causes . . . . .	<b>09-02D-10</b>
System Wiring Diagram . . . . .	<b>09-02D-10</b>
Diagnostic Procedure . . . . .	<b>09-02D-10</b>
<b>DTC B10A5:87</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-11</b>
Detection Condition . . . . .	<b>09-02D-11</b>
Possible Causes . . . . .	<b>09-02D-11</b>
System Wiring Diagram . . . . .	<b>09-02D-12</b>
Diagnostic Procedure . . . . .	<b>09-02D-12</b>
<b>DTC U0300:00, U2100:00,</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-13</b>
Detection Condition . . . . .	<b>09-02D-13</b>
Possible Causes . . . . .	<b>09-02D-13</b>
<b>DTC U3000:49</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-13</b>
Detection Condition . . . . .	<b>09-02D-13</b>
Possible Causes . . . . .	<b>09-02D-13</b>
<b>DTC U3003:16, U3003:17</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-13</b>
Detection Condition . . . . .	<b>09-02D-13</b>
Possible Causes . . . . .	<b>09-02D-13</b>
System Wiring Diagram . . . . .	<b>09-02D-14</b>
Diagnostic Procedure . . . . .	<b>09-02D-14</b>
<b>DTC B1172:13</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-16</b>
<b>DTC B1174:13</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-19</b>
<b>DTC B1175:13</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-24</b>
<b>DTC B1176:13</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-26</b>
<b>DTC B1178:11</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-28</b>
<b>DTC B11C0:13</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-30</b>
<b>DTC B11C1:13</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-32</b>
<b>DTC P254F:13</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-34</b>
<b>PID/DATA MONITOR INSPECTION</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-36</b>
<b>PID/DATA MONITOR TABLE</b>	
<b>[THEFT-DETERRENT SYSTEM]</b> . . . . .	<b>09-02D-36</b>
Foreword . . . . .	<b>09-02D-36</b>

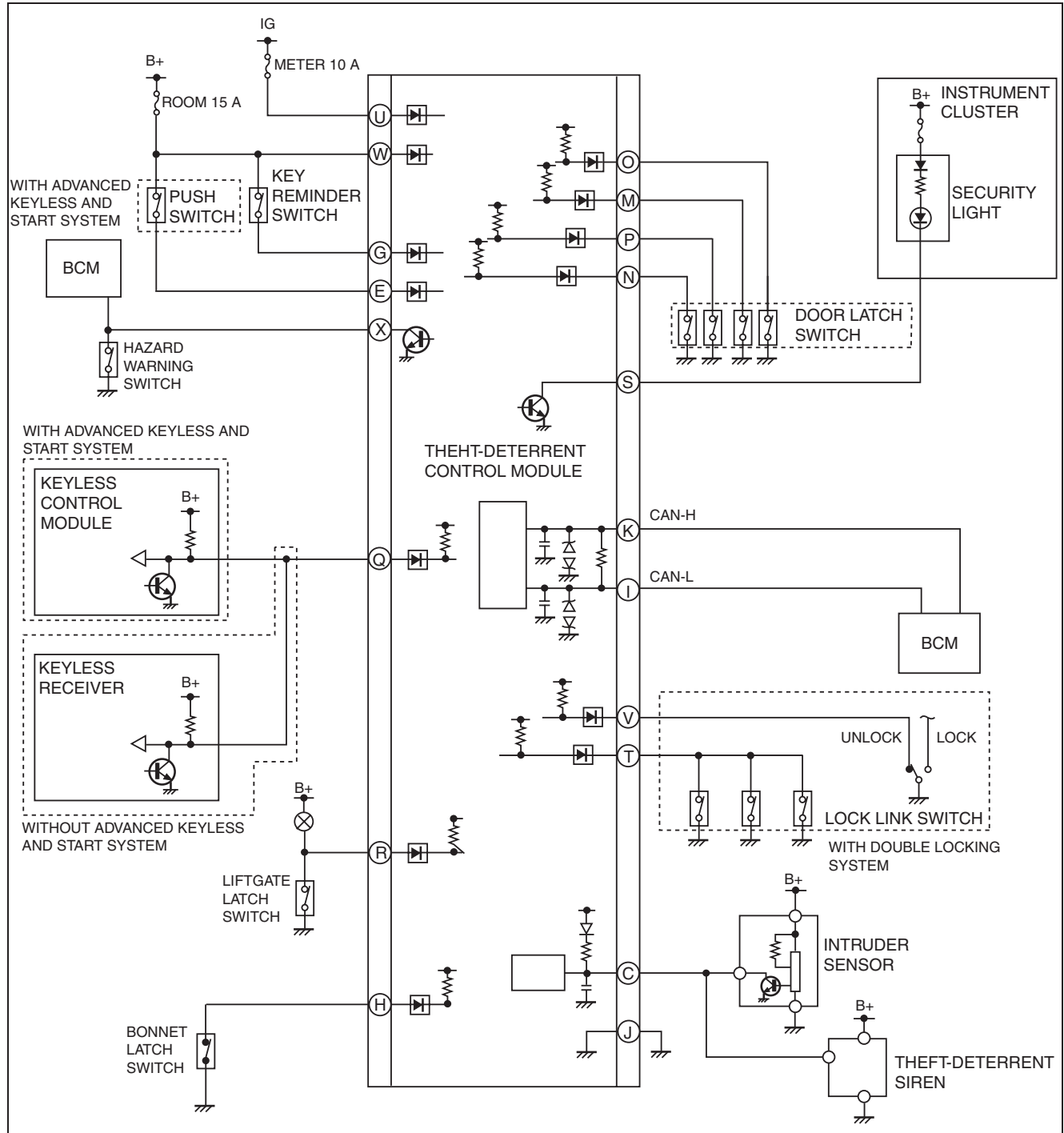
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# ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

## SYSTEM WIRING DIAGRAM [THEFT-DETERRENT SYSTEM]

id0902g7344500

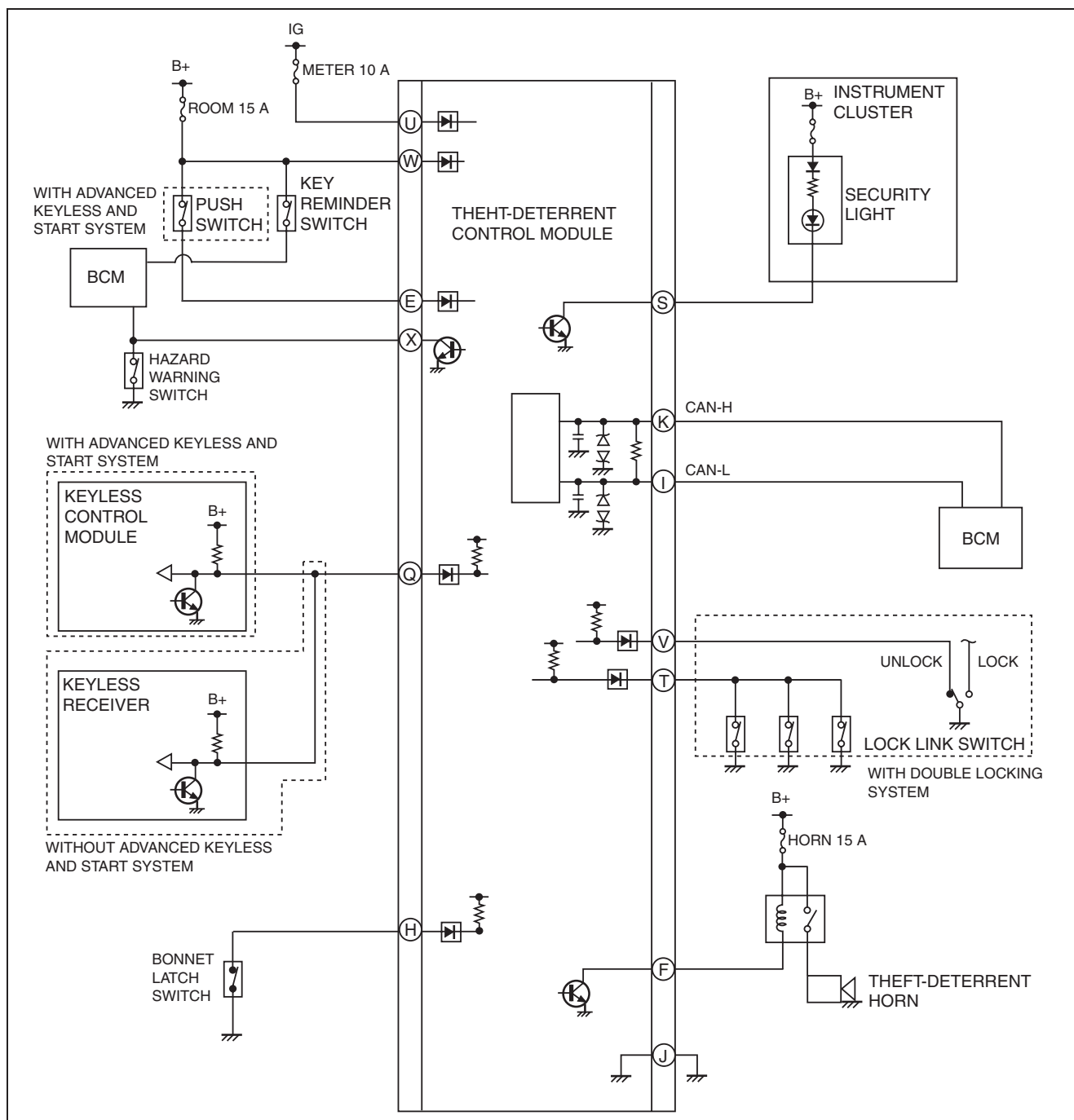
Except AutoAlliance Thailand (AAT) manufactured vehicles



am2zzw0000378

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

AutoAlliance Thailand (AAT) manufactured vehicles



am2zzw0000465

## READING FREEZE FRAME DATA [THEFT-DETERRENT SYSTEM]

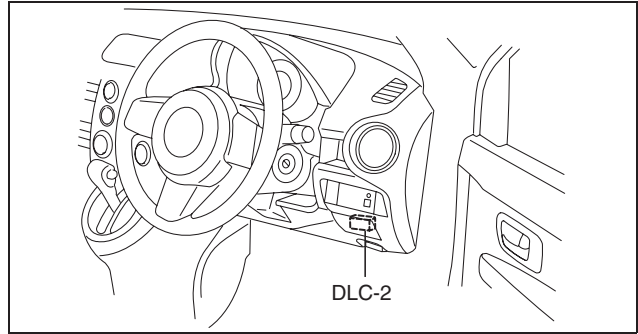
id0902g7466100

### Note

- Use the IDS (laptop PC) because the PDS (Pocket PC) does not support the READING FREEZE FRAME DATA.

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Body".
    2. Select "VSM Service Functions".
3. Then, select the following item from the screen menu.
  1. Select "Read FFD".
4. Read the record according to the directions on the screen.



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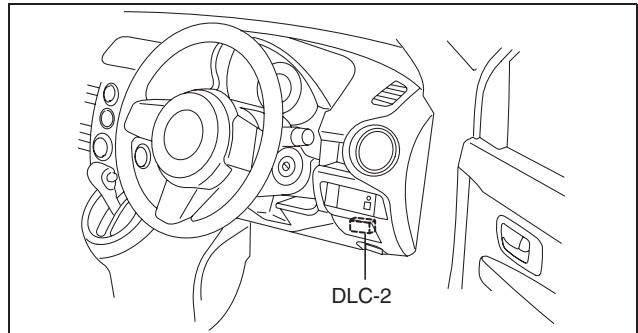
## CLEARING FREEZE FRAME DATA [THEFT-DETERRENT SYSTEM]

id0902g7466200

### Note

- Use the IDS (laptop PC) because the PDS (Pocket PC) does not support the CLEARING FREEZE FRAME DATA.

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Body".
    2. Select "VSM Service Functions".
3. Then, select the following item from the screen menu.
  1. Select "Clear FFD".
4. Clear the record according to the directions on the screen.

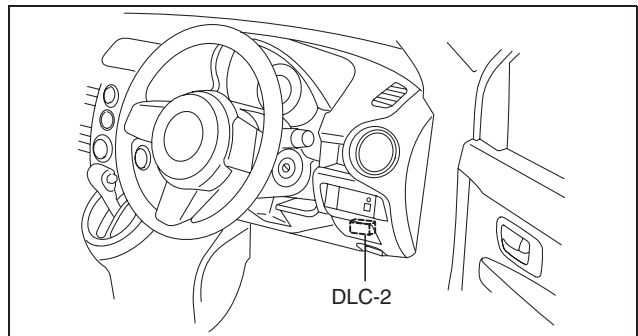


am2zzw0000065

## DTC INSPECTION [THEFT-DETERRENT SYSTEM]

id0902g7345400

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Self Test".
    2. Select "Modules".
    3. Select "VSM".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "VSM".
    3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
  - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.
4. After completion of repairs, clear all DTCs stored in the theft-deterrent control module. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM])



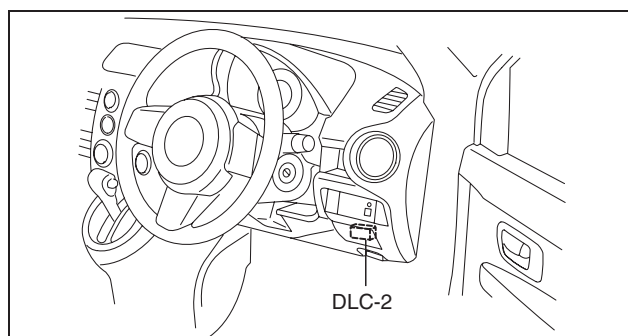
am2zzw0000065

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### CLEARING DTC [THEFT-DETERRENT SYSTEM]

id0902g7400300

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Self Test".
    2. Select "Modules".
    3. Select "VSM".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "VSM".
    3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
4. Press the clear button on the DTC screen to clear the DTC.
5. Turn the ignition switch to the LOCK position.
6. Turn the ignition switch to the ON position and wait for **5 s more**.
7. Perform DTC inspection. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)
8. Verify that no DTCs are displayed.



am2zzw0000065

### DTC TABLE [THEFT-DETERRENT SYSTEM]

id0902g7347100

DTC	Detection Condition	Reference
M-MDS display		
B109F:49* <sup>1</sup>	Intruder sensor internal malfunction	(See 09-02D-6 DTC B109F:49 [THEFT-DETERRENT SYSTEM].)
B109F:86* <sup>1</sup>	Signal error from intruder sensor	(See 09-02D-6 DTC B109F:86 [THEFT-DETERRENT SYSTEM].)
B109F:87* <sup>1</sup>	Communication error between intruder sensor and theft-deterrent control module	(See 09-02D-8 DTC B109F:87 [THEFT-DETERRENT SYSTEM].)
B10A5:49* <sup>1</sup>	Theft-deterrent siren internal malfunction	(See 09-02D-9 DTC B10A5:49 [THEFT-DETERRENT SYSTEM].)
B10A5:86* <sup>1</sup>	Signal error from theft-deterrent siren	(See 09-02D-10 DTC B10A5:86 [THEFT-DETERRENT SYSTEM].)
B10A5:87* <sup>1</sup>	Communication error between theft-deterrent siren and theft-deterrent control module	(See 09-02D-11 DTC B10A5:87 [THEFT-DETERRENT SYSTEM].)
B1172:13	Door lock-link switch (driver-side) circuit malfunction	(See 09-02D-16 DTC B1172:13 [THEFT-DETERRENT SYSTEM].)
B1174:13	Door lock-link switch (passenger-side/LR/RR) circuit malfunction	(See 09-02D-19 DTC B1174:13 [THEFT-DETERRENT SYSTEM].)
B1175:13* <sup>1</sup>	Front door latch switch (driver-side) circuit malfunction	(See 09-02D-24 DTC B1175:13 [THEFT-DETERRENT SYSTEM].)
B1176:13* <sup>1</sup>	Front door latch switch (passenger-side) circuit malfunction	(See 09-02D-26 DTC B1176:13 [THEFT-DETERRENT SYSTEM].)
B1178:11* <sup>1</sup>	Liftgate latch switch circuit malfunction	(See 09-02D-28 DTC B1178:11 [THEFT-DETERRENT SYSTEM].)
B11C0:13* <sup>1</sup>	Rear door latch switch (RH) circuit malfunction	(See 09-02D-30 DTC B11C0:13 [THEFT-DETERRENT SYSTEM].)
B11C1:13* <sup>1</sup>	Rear door latch switch (LH) circuit malfunction	(See 09-02D-32 DTC B11C1:13 [THEFT-DETERRENT SYSTEM].)
P254F:13	Bonnet latch switch (LH) circuit malfunction	(See 09-02D-34 DTC P254F:13 [THEFT-DETERRENT SYSTEM].)
U0001:88	Module communication error (HS-CAN)	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

DTC	Detection Condition	Reference
<b>M-MDS display</b>		
U0100:00	PCM communication error	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
U0140:00	BCM communication error	(See 09-02D-13 DTC U0300:00, U2100:00, [THEFT-DETERRENT SYSTEM].)
U0300:00	Configuration error	(See 09-02D-13 DTC U3000:49 [THEFT-DETERRENT SYSTEM].)
U2100:00		
U3000:49	Theft-deterrent control module internal malfunction	(See 09-02D-13 DTC U3000:49 [THEFT-DETERRENT SYSTEM].)
U3003:16	Theft-deterrent control module power supply voltage is <b>other than 9–16 V</b>	(See 09-02D-13 DTC U3003:16, U3003:17 [THEFT-DETERRENT SYSTEM].)
U3003:17		

\*1 : Except AutoAlliance Thailand (AAT) manufactured vehicles

### DTC B109F:49 [THEFT-DETERRENT SYSTEM]

id0902g7850000

#### Detection Condition

- Intruder sensor internal malfunction

#### Possible Causes

- Intruder sensor malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Verify DTCs using the M-MDS. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is DTC B109F:49 displayed?</li> </ul>	Yes Replace the intruder sensor. (See 09-14-135 INTRUDER SENSOR REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B109F:86 [THEFT-DETERRENT SYSTEM]

id0902g7850100

#### Detection Condition

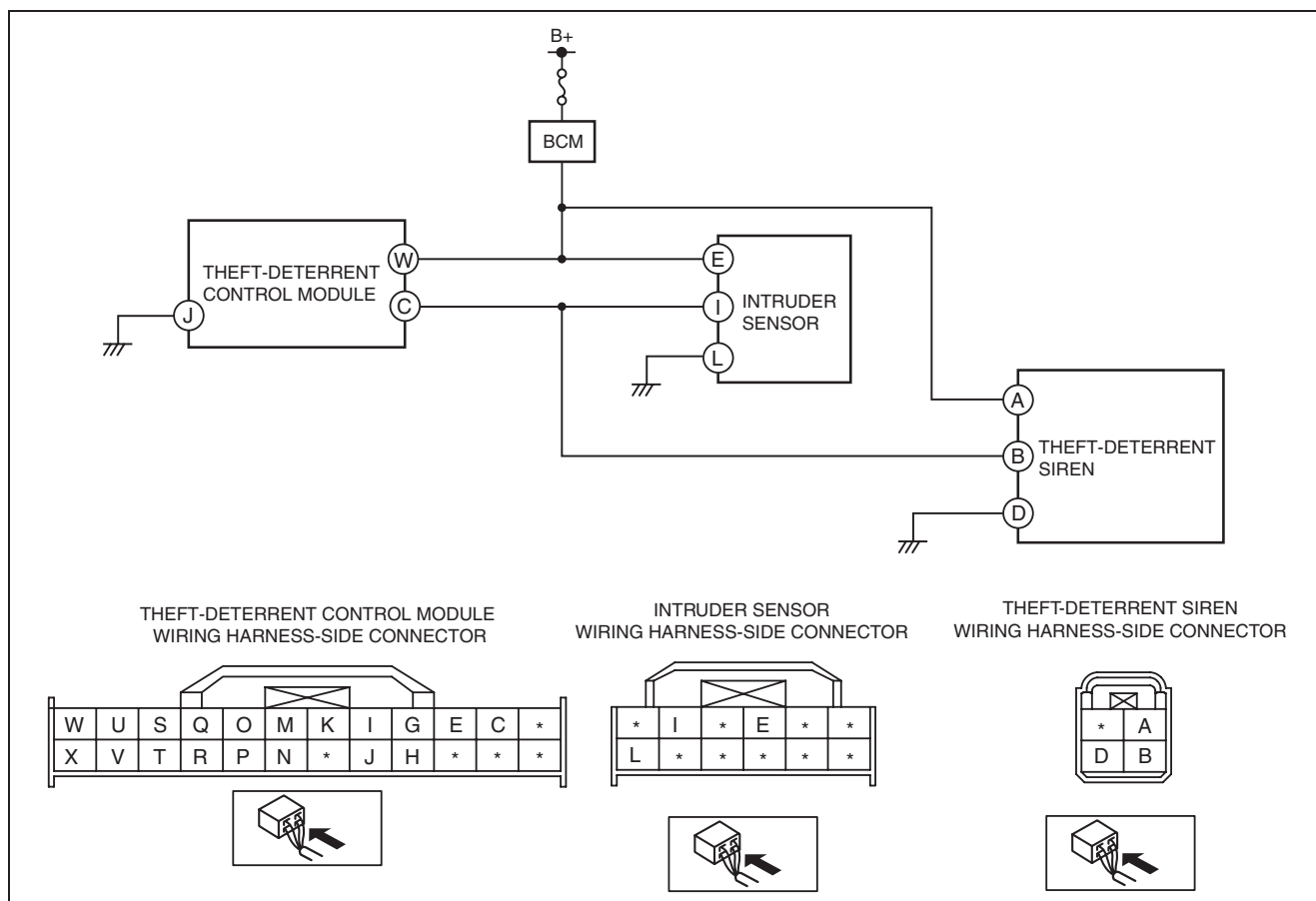
- Signal error from intruder sensor

#### Possible Causes

- Short circuit in wiring harness between intruder sensor and theft-deterrent control module
- Intruder sensor malfunction
- Theft-deterrent control module malfunction

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### System Wiring Diagram



am2zzw0000232

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT INTRUDER SENSOR CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the intruder sensor connector.</li> <li>Inspect the intruder sensor connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the intruder sensor connector or terminal.
2	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the theft-deterrent control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the theft-deterrent control module connector or terminal.
3	<b>INSPECT WIRING HARNESS BETWEEN INTRUDER SENSOR AND THEFT-DETERRENT CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between intruder sensor connector terminal I and theft-deterrent control module connector terminal C for the following:                             <ul style="list-style-type: none"> <li>Short to body ground</li> <li>Short to power supply</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between the intruder sensor and the theft-deterrent control module.



## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

Step	Inspection	Action
4	<b>INSPECT INTRUDER SENSOR</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Inspect the intruder sensor. (See 09-14-135 INTRUDER SENSOR INSPECTION.)</li> <li>Is the intruder sensor normal?</li> </ul>	Yes Replace the intruder sensor, then go to the next step. (See 09-14-135 INTRUDER SENSOR REMOVAL/INSTALLATION.)
		No Go to the next step.
5	<b>INSPECT DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Verify DTCs using the M-MDS. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is DTC B109F:86 displayed again?</li> </ul>	Yes Replace the theft-deterrent system control module. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B109F:87 [THEFT-DETERRENT SYSTEM]

id0902g7850200

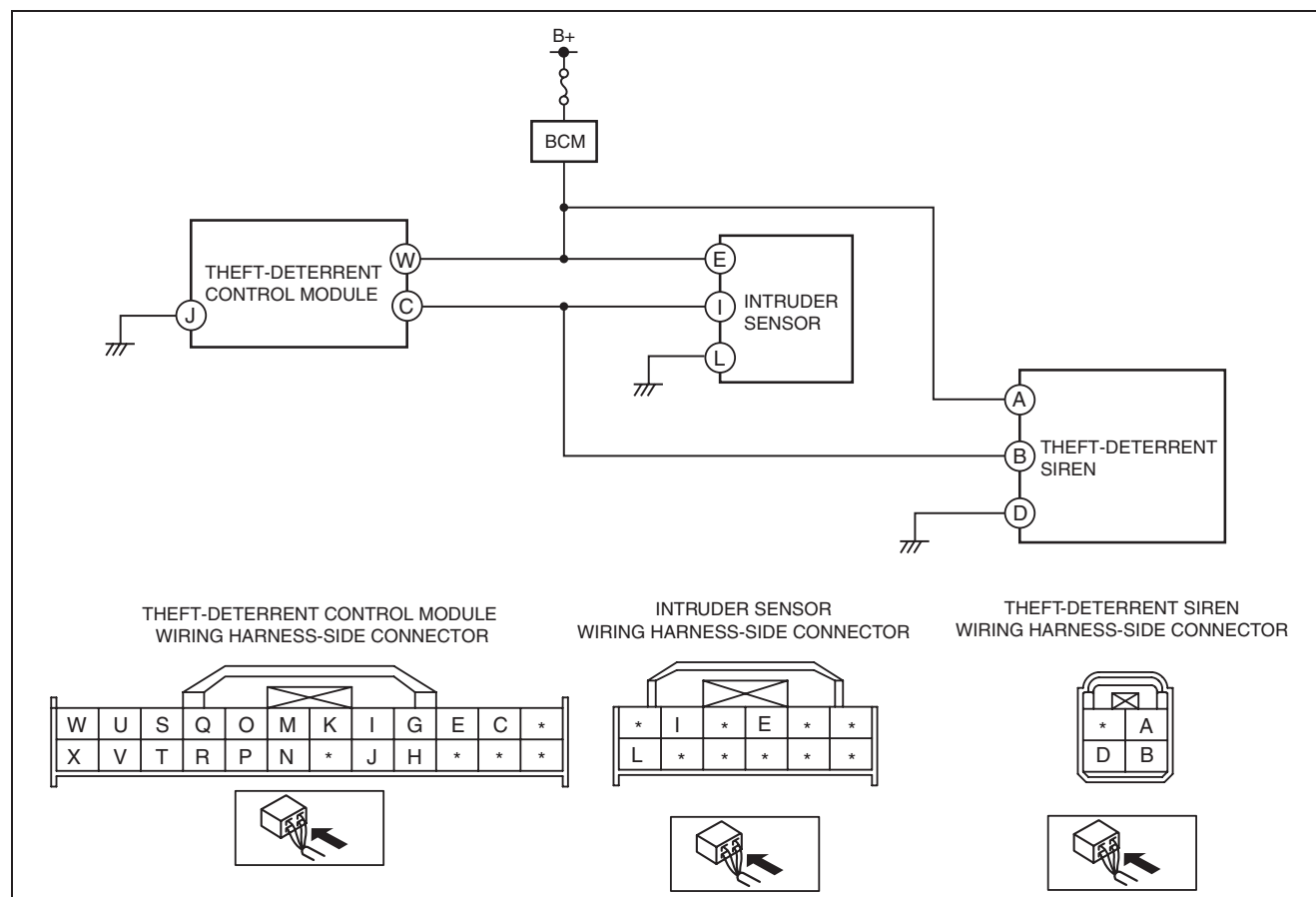
#### Detection Condition

- Communication error between intruder sensor and theft-deterrent control module

#### Possible Causes

- Open circuit or short in wiring harness between intruder sensor and theft-deterrent control module
- Intruder sensor malfunction
- Theft-deterrent control module malfunction

#### System Wiring Diagram



am2zzw0000232

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### Diagnostic Procedure

Step	Inspection		Action
1	<b>INSPECT INTRUDER SENSOR CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the intruder sensor connector.</li> <li>Inspect the intruder sensor connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes	Go to the next step.
		No	Repair/replace the intruder sensor connector or terminal.
2	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the theft-deterrent control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes	Go to the next step.
		No	Repair/replace the theft-deterrent control module connector or terminal.
3	<b>INSPECT WIRING HARNESS BETWEEN INTRUDER SENSOR AND THEFT-DETERRENT CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between intruder sensor connector terminal I and theft-deterrent control module connector terminal C for the following: <ul style="list-style-type: none"> <li>Short to body ground</li> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness between the intruder sensor and the theft-deterrent control module.
4	<b>INSPECT INTRUDER SENSOR</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Inspect the intruder sensor. (See 09-14-135 INTRUDER SENSOR INSPECTION.)</li> <li>Is the intruder sensor normal?</li> </ul>	Yes	Replace the intruder sensor, then go to the next step. (See 09-14-135 INTRUDER SENSOR REMOVAL/INSTALLATION.)
		No	Go to the next step.
5	<b>INSPECT DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Verify DTCs using the M-MDS. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is DTC B109F:87 displayed again?</li> </ul>	Yes	Replace the theft-deterrent system control module. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No	DTC troubleshooting completed.

### DTC B10A5:49 [THEFT-DETERRENT SYSTEM]

id0902g7850300

#### Detection Condition

- Theft-deterrent siren internal malfunction

#### Possible Causes

- Theft-deterrent siren malfunction

### Diagnostic Procedure

Step	Inspection		Action
1	<b>INSPECT DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Verify DTCs using the M-MDS. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is DTC B10A5:49 displayed?</li> </ul>	Yes	Replace the theft-deterrent siren. (See 09-14-102 THEFT-DETERRENT SIREN REMOVAL/INSTALLATION.)
		No	DTC troubleshooting completed.

# ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

## DTC B10A5:86 [THEFT-DETERRENT SYSTEM]

id0902g7850400

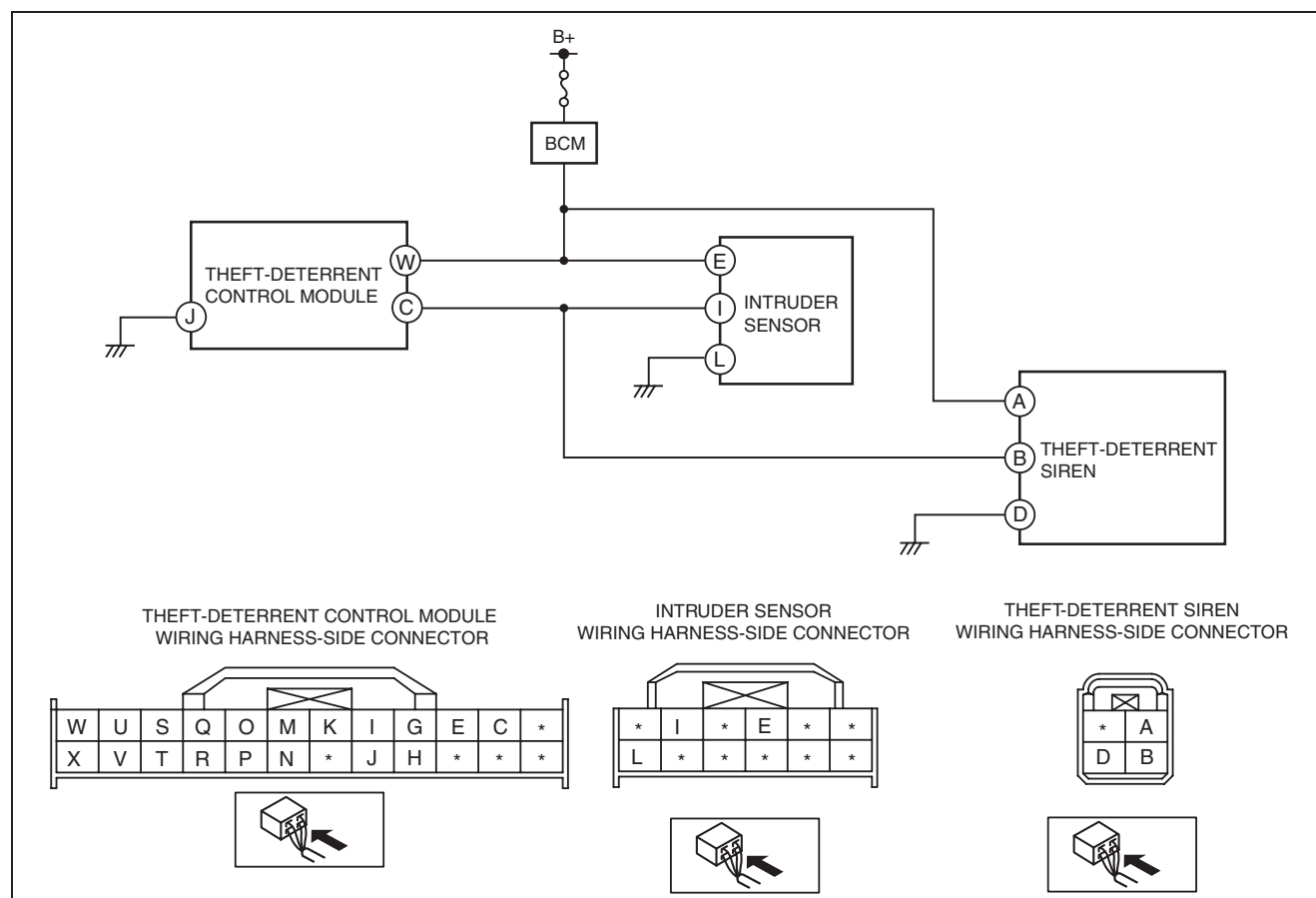
### Detection Condition

- Signal error from theft-deterrent siren

### Possible Causes

- Short to wiring harness between theft-deterrent siren and theft-deterrent control module
- Theft-deterrent siren malfunction
- Theft-deterrent control module malfunction

### System Wiring Diagram



am2zzw0000233

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT THEFT-DETERRENT SIREN CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the theft-deterrent siren connector.</li> <li>Inspect the theft-deterrent siren connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the theft-deterrent siren connector or terminal.
2	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the theft-deterrent control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the theft-deterrent control module connector or terminal.

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

Step	Inspection	Action	
3	<b>INSPECT WIRING HARNESS BETWEEN THEFT-DETERRENT SIREN AND THEFT-DETERRENT CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between theft-deterrent siren connector terminal B and theft-deterrent control module connector terminal C for the following: <ul style="list-style-type: none"> <li>— Short to body ground</li> <li>— Short to power supply</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness between the theft-deterrent siren and the theft-deterrent control module.
4	<b>INSPECT THEFT-DETERRENT SIREN</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Inspect the theft-deterrent siren. (See 09-14-104 THEFT-DETERRENT SIREN INSPECTION.)</li> <li>Is the theft-deterrent siren normal?</li> </ul>	Yes	Replace the theft-deterrent siren, then go to the next step. (See 09-14-102 THEFT-DETERRENT SIREN REMOVAL/INSTALLATION.)
		No	Go to the next step.
5	<b>INSPECT DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Verify DTCs using the M-MDS. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is DTC B10A5:86 displayed again?</li> </ul>	Yes	Replace the theft-deterrent system control module. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No	DTC troubleshooting completed.

### DTC B10A5:87 [THEFT-DETERRENT SYSTEM]

id0902g7850500

#### Detection Condition

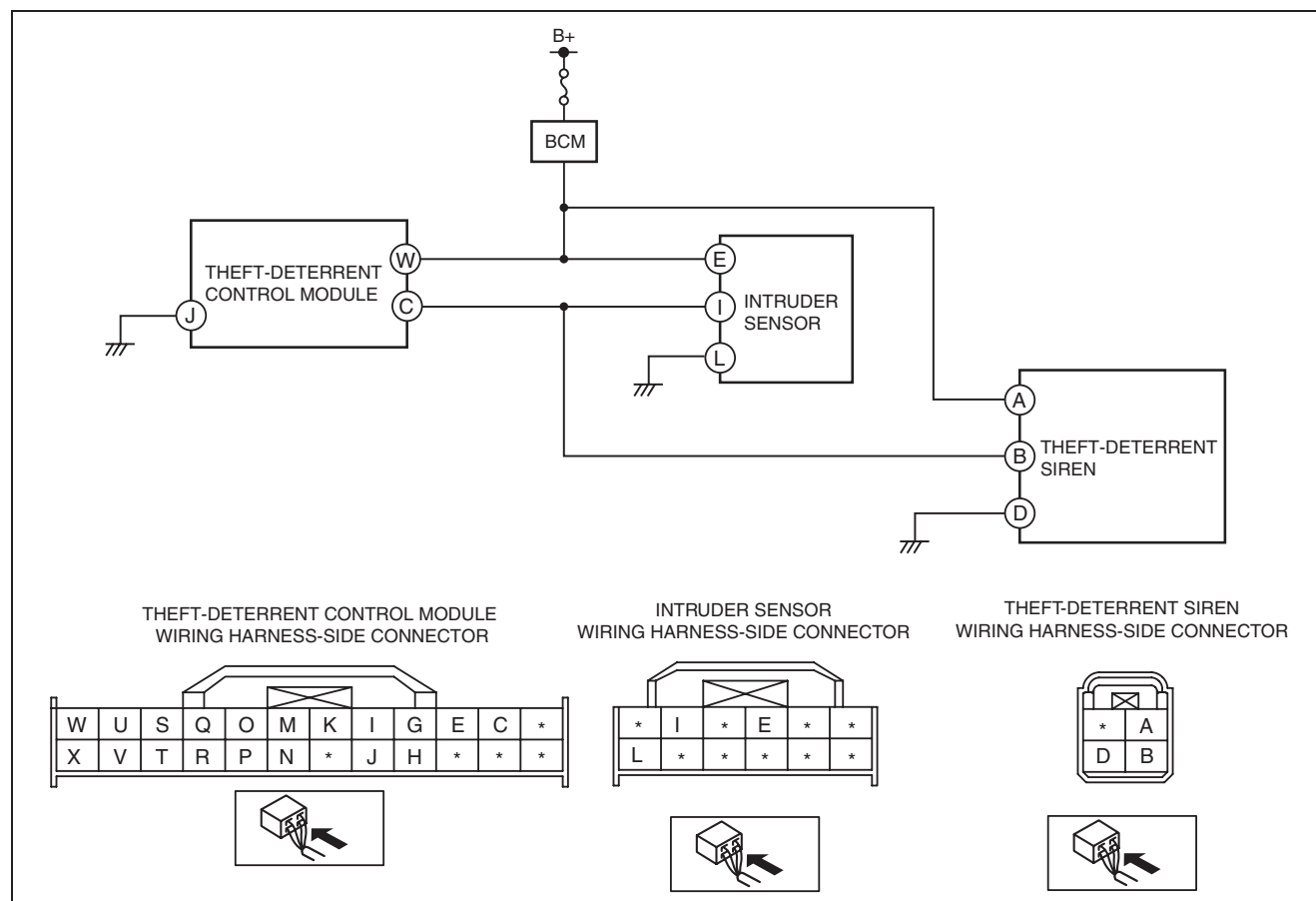
- Communication error between theft-deterrent siren and theft-deterrent control module

#### Possible Causes

- Open or short circuit to wiring harness between theft-deterrent siren and theft-deterrent control module
- Theft-deterrent siren malfunction
- Theft-deterrent control module malfunction

# ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

## System Wiring Diagram



am2zzw0000077

## Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT THEFT-DETERRENT SIREN CONNECTOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the theft-deterrent siren connector.</li> <li>Inspect the theft-deterrent siren connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the theft-deterrent siren connector or terminal.
2	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR</b> <ul style="list-style-type: none"> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the theft-deterrent control module connector. (Corrosion, damage, and disconnected pins)</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the theft-deterrent control module connector or terminal.
3	<b>INSPECT WIRING HARNESS BETWEEN THEFT-DETERRENT SIREN AND THEFT-DETERRENT CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between theft-deterrent siren connector terminal B and theft-deterrent control module connector terminal C for the following: <ul style="list-style-type: none"> <li>Short to body ground</li> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between the theft-deterrent siren and the theft-deterrent control module.

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

Step	Inspection	Action
4	<b>INSPECT THEFT-DETERRENT SIREN</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Inspect the theft-deterrent siren. (See 09-14-104 THEFT-DETERRENT SIREN INSPECTION.)</li> <li>Is the theft-deterrent siren normal?</li> </ul>	Yes Replace the theft-deterrent siren, then go to the next step. (See 09-14-102 THEFT-DETERRENT SIREN REMOVAL/INSTALLATION.)
		No Go to the next step.
5	<b>INSPECT DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Verify DTCs using the M-MDS. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is DTC B10A5:87 displayed again?</li> </ul>	Yes Replace the theft-deterrent system control module. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC U0300:00, U2100:00, [THEFT-DETERRENT SYSTEM]

id0902g7850600

#### Detection Condition

- Possible configuration error

#### Possible Causes

- Configuration has not been correctly performed for some reason
- Theft-deterrent control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Verify DTCs using the M-MDS. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is DTC U0300:00 or U2100:00 displayed?</li> </ul>	Yes Replace the theft-deterrent system control module. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC U3000:49 [THEFT-DETERRENT SYSTEM]

id0902g7850800

#### Detection Condition

- Theft-deterrent system control module internal malfunction

#### Possible Causes

- Theft-deterrent control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Verify DTCs using the M-MDS. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is DTC U3000:49 displayed?</li> </ul>	Yes Replace the theft-deterrent system control module. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC U3003:16, U3003:17 [THEFT-DETERRENT SYSTEM]

id0902g7850900

#### Detection Condition

- Theft-deterrent control module power supply voltage is **other than 9—16 V**

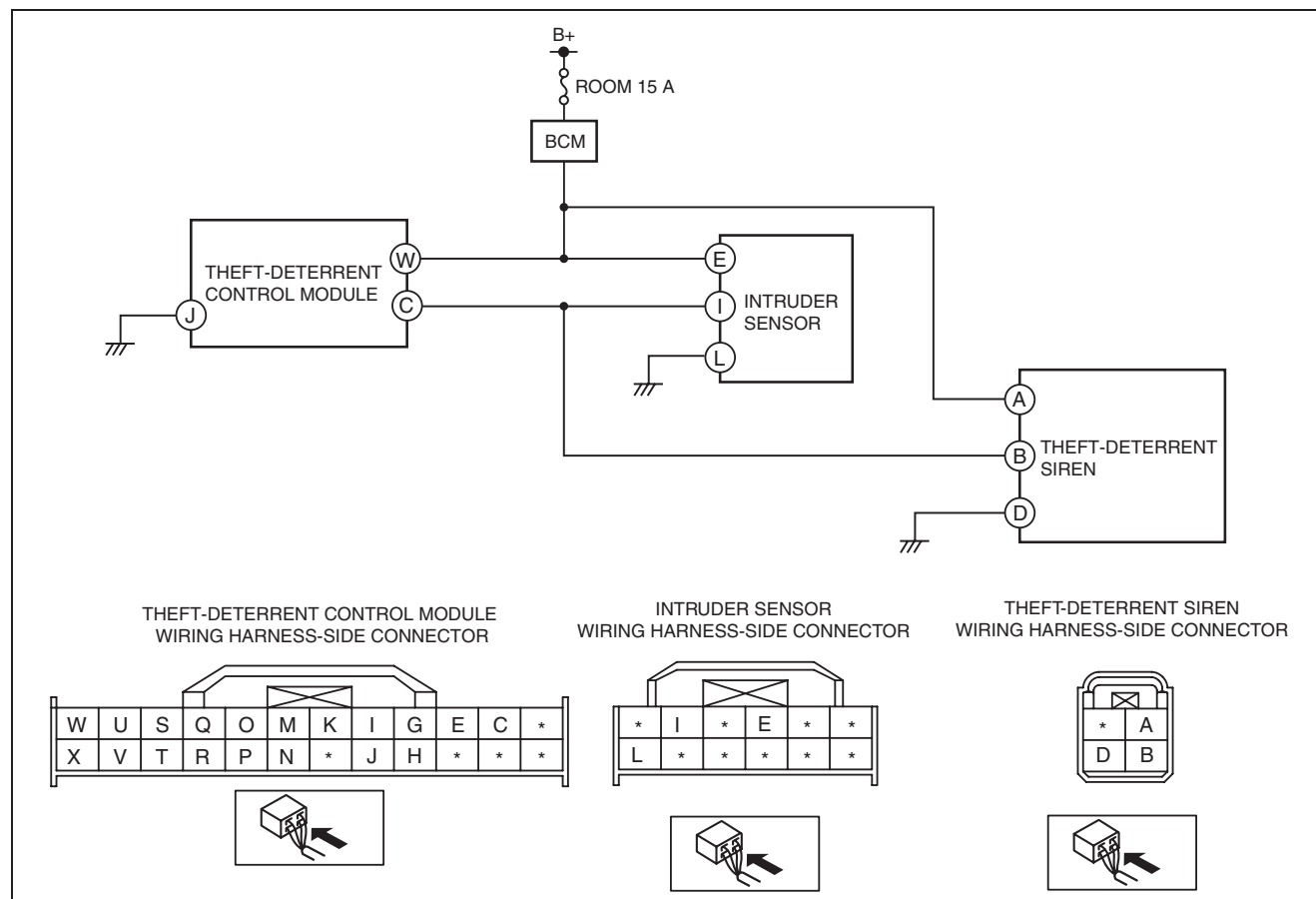
#### Possible Causes

- ROOM 15 A fuse malfunction
- Open or short circuit in wiring harness between battery and theft-deterrent control module
- Battery malfunction

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

- Theft-deterrent control module malfunction

### System Wiring Diagram



am2zzw0000253

### Diagnostic Procedure

Step	Inspection	Action
1	<b>FUSE INSPECTION</b>	Yes
	<ul style="list-style-type: none"> <li>• Turn the ignition switch to the LOCK position.</li> <li>• Disconnect the negative battery cable.</li> <li>• Remove the ROOM 15 A fuse.</li> <li>• Is the fuse normal?</li> </ul>	Go to the next step.
		No
		Replace the fuse.



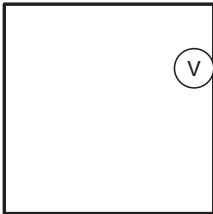
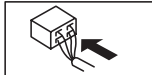
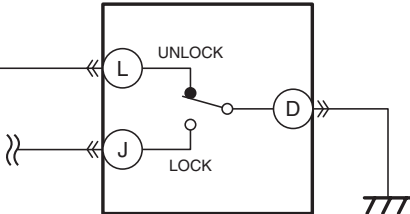
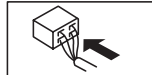
## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

Step	Inspection	Action
2	<b>BATTERY INSPECTION</b> <ul style="list-style-type: none"> <li>Measure the battery positive voltage.</li> <li>Is the voltage between <b>9—16 V</b>?</li> </ul>	Yes Go to the next step.
		No <b>Higher than specification</b> <ul style="list-style-type: none"> <li>Replace or inspection the battery. (See 01-17A-4 BATTERY INSPECTION [ZJ, ZY].) (See 01-17C-2 BATTERY INSPECTION [MZ-CD 1.6 (Y6)].) (See 01-17B-2 BATTERY INSPECTION [MZ-CD 1.4 DI Turbo].) (See 01-17A-1 BATTERY REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17C-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-17B-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)</li> <li>Go to Step 4.</li> </ul> <b>Lower than specification</b> <ul style="list-style-type: none"> <li>Replace or charge the battery. (See 01-17A-5 BATTERY RECHARGING [ZJ, ZY].) (See 01-17C-3 BATTERY RECHARGING [MZ-CD 1.6 (Y6)].) (See 01-17B-3 BATTERY RECHARGING [MZ-CD 1.4 DI Turbo].) (See 01-17A-1 BATTERY REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17C-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) (See 01-17B-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].)</li> <li>Go to Step 4.</li> </ul>
3	<b>INSPECT WIRING HARNESS BETWEEN BATTERY AND THEFT-DETERRENT CONTROL MODULE</b> <ul style="list-style-type: none"> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the wiring harness between the battery and theft-deterrent control module connector terminal W for the following:                             <ul style="list-style-type: none"> <li>Short to ground</li> <li>Short to power supply</li> <li>Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between the battery and the theft-deterrent control module.
4	<b>INSPECT BCM</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Measure the voltage of BCM connector terminal 3P. (See 09-40-4 BODY CONTROL MODULE (BCM) INSPECTION.)</li> <li>Is the wiring harness normal?</li> </ul>	Yes Go to the next step.
		No Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
5	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Verify DTCs using the M-MDS. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is DTC U3003:16, U3003:17 displayed?</li> </ul>	Yes Replace the theft-deterrent control module. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

# ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

## DTC B1172:13 [THEFT-DETERRENT SYSTEM]

id0902g7111400

DESCRIPTION	Door lock-link switch (driver-side) circuit malfunction																																				
DETECTION CONDITION	<ul style="list-style-type: none"><li>Open circuit in the door lock-link switch (driver-side) unlock-side circuit with the door lock-link switch (driver-side) unlocked.</li></ul>																																				
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>Front door latch and lock actuator (driver-side) connector or terminals malfunction</li><li>Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— Front door latch and lock actuator (driver-side) terminal D—Body ground</li></ul></li><li>Door lock-link switch (driver-side) malfunction</li><li>Theft-deterrent control module connector or terminals malfunction</li><li>Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— Front door latch and lock actuator (driver-side) terminal L—Theft-deterrent control module terminal V</li></ul></li><li>Theft-deterrent control module malfunction</li></ul>																																				
<div><div><p>THEFT-DETERRENT CONTROL MODULE</p><p>THEFT-DETERRENT CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR</p><table><tr><td>W</td><td>U</td><td>S</td><td>Q</td><td>O</td><td>M</td><td>K</td><td>I</td><td>G</td><td>E</td><td>C</td><td>A</td></tr><tr><td>X</td><td>V</td><td>T</td><td>R</td><td>P</td><td>N</td><td>K</td><td>J</td><td>H</td><td>F</td><td>D</td><td>B</td></tr></table></div><div><p>DOOR LOCK-LINK SWITCH (DRIVER-SIDE)</p><p>FRONT DOOR LATCH AND LOCK ACTUATOR (DRIVER-SIDE) WIRING HARNESS-SIDE CONNECTOR</p><table><tr><td>K</td><td>I</td><td>G</td><td>E</td><td>C</td><td>A</td></tr><tr><td>L</td><td>J</td><td>H</td><td>F</td><td>D</td><td>B</td></tr></table></div></div>		W	U	S	Q	O	M	K	I	G	E	C	A	X	V	T	R	P	N	K	J	H	F	D	B	K	I	G	E	C	A	L	J	H	F	D	B
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## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### Diagnostic Procedure

STEP	INSPECTION	ACTION
1	<b>CONFIRM THEFT-DETERRENT CONTROL MODULE DTC</b> <ul style="list-style-type: none"> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the door lock-link switch (driver-side) unlocked. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes Go to the next step.
		No Go to Step 9.
2	<b>INSPECT FRONT DOOR LATCH AND LOCK ACTUATOR (DRIVER-SIDE) CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the front door latch and lock actuator (driver-side) connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.
3	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver-side) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): — Front door latch and lock actuator (driver-side) terminal L</li> <li>Is there any voltage?</li> </ul>	Yes Go to the next step.
		No Go to Step 6.
4	<b>INSPECT DOOR LOCK-LINK SWITCH (DRIVER-SIDE) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver-side) connector is disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: — Front door latch and lock actuator (driver-side) terminal D</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible open circuit, then go to Step 8.
5	<b>INSPECT DOOR LOCK-LINK SWITCH (DRIVER-SIDE)</b> <ul style="list-style-type: none"> <li>Inspect the door lock-link switch (driver-side). (See 09-14-75 DOOR LOCK-LINK SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes Replace the front door latch and lock actuator (driver-side), then go to Step 8. (See 09-14-63 FRONT DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
		No Go to Step 8.
6	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable.</li> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

STEP	INSPECTION	ACTION	
7	<b>INSPECT DOOR LOCK-LINK SWITCH (DRIVER-SIDE) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver-side) and theft-deterrent control module connectors are disconnected.</li> <li>Reconnect the theft-deterrent control module connector.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>— Theft-deterrent control module terminal V</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
		No	Go to the next step.
8	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect the disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the door lock-link switch (driver-side) unlocked. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes	Replace the theft-deterrent control module, then go to the next step. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.
9	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>	Yes	Go to the applicable DTC inspection. (See 09-02D-5 DTC TABLE [THEFT-DETERRENT SYSTEM].)
		No	DTC troubleshooting completed.

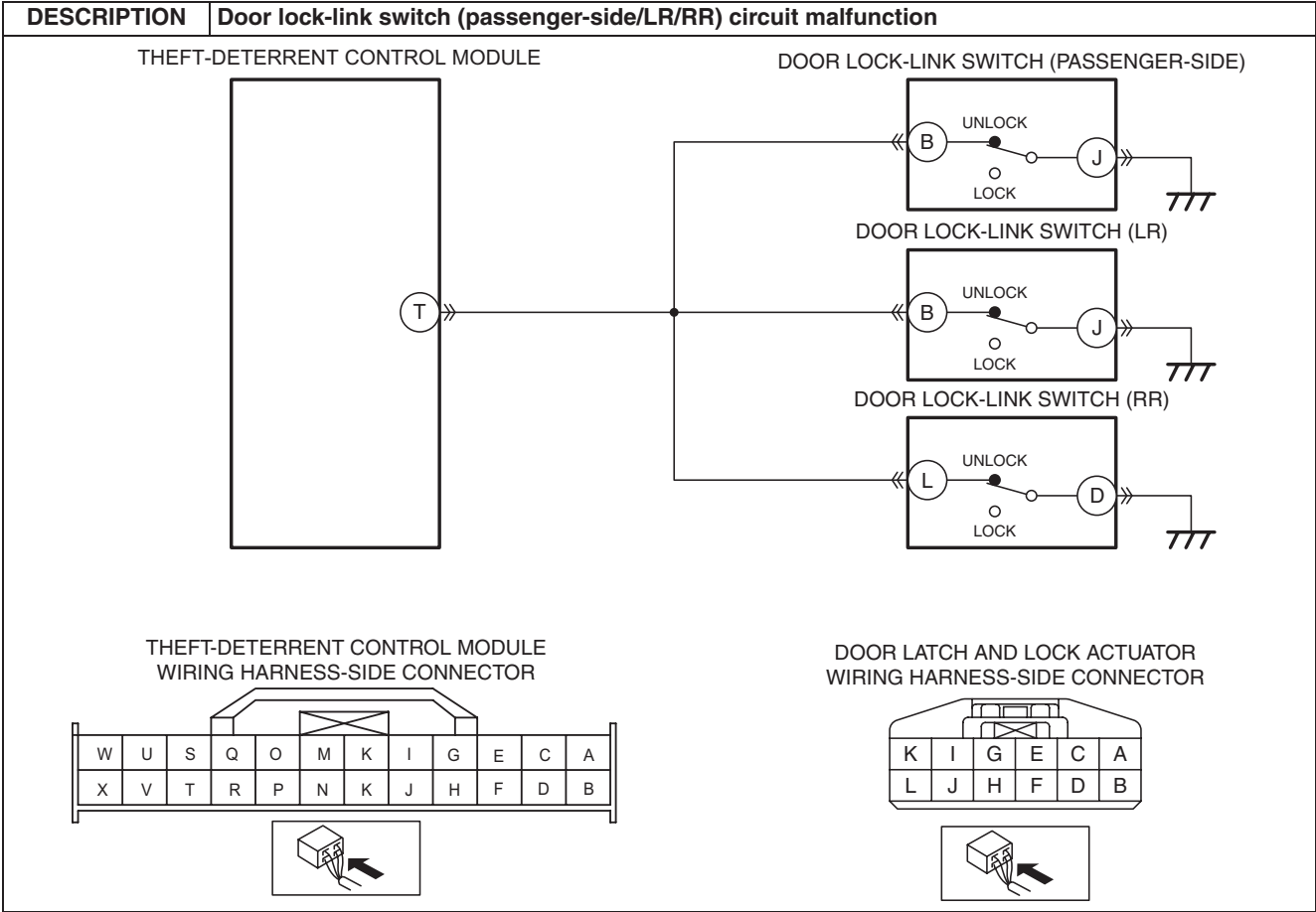
## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### DTC B1174:13 [THEFT-DETERRENT SYSTEM]

id0902g7111300

<b>DESCRIPTION</b>	<b>Door lock-link switch (passenger-side/LR/RR) circuit malfunction</b>
<b>DETECTION CONDITION</b>	<ul style="list-style-type: none"> <li>Open circuit in the door lock-link switch (passenger-side/LR/RR) circuit with the door lock-link switch (passenger-side/LR/RR) unlocked.</li> </ul>
<b>POSSIBLE CAUSE</b>	<p><b>All door lock-link switches do not operate:</b></p> <ul style="list-style-type: none"> <li>Theft-deterrent control module connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) terminal B/Rear door latch and lock actuator (LH) terminal B/Rear door latch and lock actuator (RH) terminal L—Theft-deterrent control module terminal T</li> </ul> </li> <li>Theft-deterrent control module malfunction</li> </ul> <p><b>Only the door lock-link switch (passenger-side) does not operate:</b></p> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) terminal J—Body ground</li> </ul> </li> <li>Door lock-link switch (passenger-side) malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) terminal B—Theft-deterrent control module terminal T</li> </ul> </li> <li>Theft-deterrent control module malfunction</li> </ul> <p><b>Only the door lock-link switch (LR) does not operate:</b></p> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) terminal J—Body ground</li> </ul> </li> <li>Door lock-link switch (LR) malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) terminal B—Theft-deterrent control module terminal T</li> </ul> </li> <li>Theft-deterrent control module malfunction</li> </ul> <p><b>Only the door lock-link switch (RR) does not operate:</b></p> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (RH) connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (RH) terminal D—Body ground</li> </ul> </li> <li>Door lock-link switch (RR) malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (RH) terminal L—Theft-deterrent control module terminal T</li> </ul> </li> <li>Theft-deterrent control module malfunction</li> </ul>

ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]



## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### Diagnostic Procedure

STEP	INSPECTION	ACTION
1	<b>CONFIRM THEFT-DETERRENT CONTROL MODULE DTC</b> <ul style="list-style-type: none"> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the door lock-link switch (passenger-side/LR/RR) unlocked. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes Go to the next step.
		No Go to Step 21.
2	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Operate the door lock-link switch lock and unlock.</li> <li>Is there a door lock-link switch that does not operate?</li> </ul>	Yes All door lock-link switches do not operate: <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul> Only the door lock-link switch (passenger-side) does not operate: <ul style="list-style-type: none"> <li>Go to Step 5.</li> </ul> Only the door lock-link switch (LR) does not operate: <ul style="list-style-type: none"> <li>Go to Step 10.</li> </ul> Only the door lock-link switch (RR) does not operate: <ul style="list-style-type: none"> <li>Go to Step 15.</li> </ul>
		No Go to Step 20.
3	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 20.
		No Go to the next step.
4	<b>INSPECT DOOR LOCK-LINK SWITCH (PASSENGER-SIDE/LR/RR) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Reconnect the theft-deterrent control module connector.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): — Theft-deterrent control module terminal T</li> <li>Is the voltage normal? (See 09-14-112 THEFT-DETERRENT CONTROL MODULE INSPECTION.)</li> </ul>	Yes Repair or replace the wiring harness for a possible open circuit, then go to Step 20.
		No Go to Step 20.
5	<b>INSPECT FRONT DOOR LATCH AND LOCK ACTUATOR (PASSENGER-SIDE) CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the front door latch and lock actuator (passenger-side) connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 20.
		No Go to the next step.
6	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): — Front door latch and lock actuator (passenger-side) terminal B</li> <li>Is there any voltage?</li> </ul>	Yes Go to the next step.
		No Go to Step 9.



## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

STEP	INSPECTION	ACTION	
7	<b>INSPECT DOOR LOCK-LINK SWITCH (PASSENGER-SIDE) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) connector is disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) terminal J</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then <b>go to Step 20</b> .
8	<b>INSPECT DOOR LOCK-LINK SWITCH (PASSENGER-SIDE)</b> <ul style="list-style-type: none"> <li>Inspect the door lock-link switch (passenger-side).</li> <li>(See 09-14-75 DOOR LOCK-LINK SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes	Replace the front door latch and lock actuator (passenger-side), then <b>go to Step 20</b> . (See 09-14-63 FRONT DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
		No	<b>Go to Step 20</b> .
9	<b>INSPECT DOOR LOCK-LINK SWITCH (PASSENGER-SIDE) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>Theft-deterrent control module terminal T</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Repair or replace the wiring harness between front door latch and lock actuator (passenger-side) terminal B and theft-deterrent control module terminal T. <b>Go to Step 20</b> .
		No	<b>Go to Step 20</b> .
10	<b>INSPECT REAR DOOR LATCH AND LOCK ACTUATOR (LH) CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the rear door latch and lock actuator (LH) connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes	Repair or replace the connector or terminals, then <b>go to Step 20</b> .
		No	Go to the next step.
11	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) terminal B</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Go to the next step.
		No	<b>Go to Step 14</b> .
12	<b>INSPECT DOOR LOCK-LINK SWITCH (LR) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) connector is disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) terminal J</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then <b>go to Step 20</b> .
13	<b>INSPECT DOOR LOCK-LINK SWITCH (LR)</b> <ul style="list-style-type: none"> <li>Inspect the door lock-link switch (LR).</li> <li>(See 09-14-75 DOOR LOCK-LINK SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes	Replace the rear door latch and lock actuator (LH), then <b>go to Step 20</b> . (See 09-14-79 REAR DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
		No	<b>Go to Step 20</b> .

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

STEP	INSPECTION	ACTION	
14	<b>INSPECT DOOR LOCK-LINK SWITCH (LR) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>— Theft-deterrent control module terminal T</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Repair or replace the wiring between rear door latch and lock actuator (LH) terminal B and theft-deterrent control module terminal T, then go to Step 20.
		No	Go to Step 20.
15	<b>INSPECT REAR DOOR LATCH AND LOCK ACTUATOR (RH) CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the rear door latch and lock actuator (RH) connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes	Repair or replace the connector or terminals, then go to Step 20.
		No	Go to the next step.
16	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (RH) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>— Rear door latch and lock actuator (RH) terminal L</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Go to the next step.
		No	Go to Step 19.
17	<b>INSPECT DOOR LOCK-LINK SWITCH (RR) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (RH) connector is disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>— Rear door latch and lock actuator (RH) terminal D</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to Step 20.
18	<b>INSPECT DOOR LOCK-LINK SWITCH (RR)</b> <ul style="list-style-type: none"> <li>Inspect the door lock-link switch (RR). (See 09-14-75 DOOR LOCK-LINK SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes	Replace the rear door latch and lock actuator (RH), then go to Step 20. (See 09-14-79 REAR DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
		No	Go to Step 20.
19	<b>INSPECT DOOR LOCK-LINK SWITCH (RR) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (RH) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>— Theft-deterrent control module terminal T</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Repair or replace the wiring between rear door latch and lock actuator (RH) terminal L and theft-deterrent control module terminal T, then go to the next step.
		No	Go to the next step.
20	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect the disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the door lock-link switch (passenger-side/LR/RR) unlocked. (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes	Replace the theft-deterrent control module, then go to the next step. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.

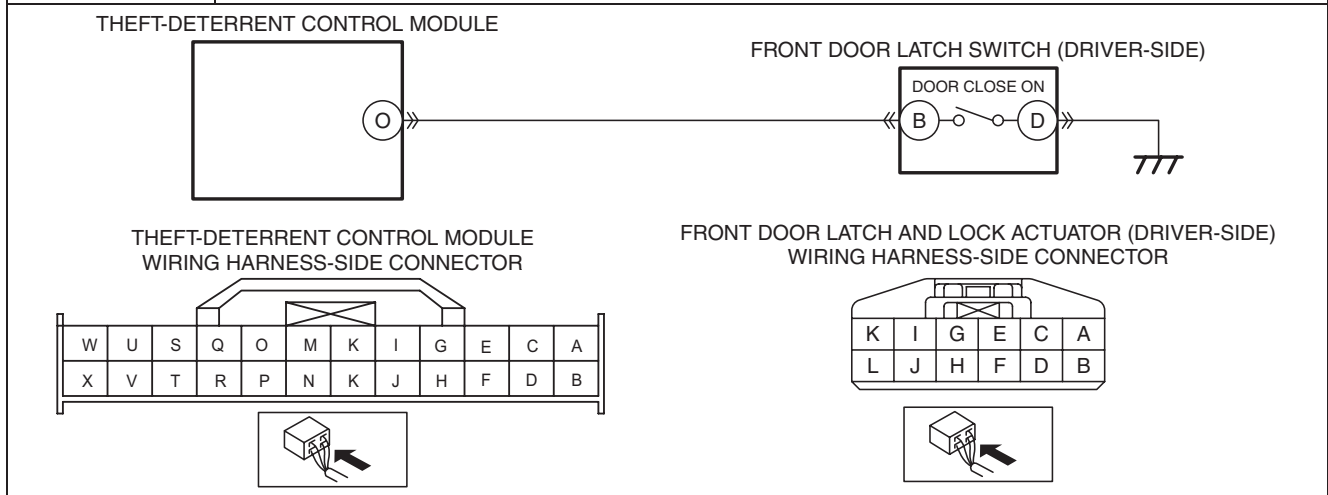
## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

STEP	INSPECTION	ACTION
21	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>	<div>Yes</div> Go to the applicable DTC inspection. (See 09-02D-5 DTC TABLE [THEFT-DETERRENT SYSTEM].)
		<div>No</div> DTC troubleshooting completed.

### DTC B1175:13 [THEFT-DETERRENT SYSTEM]

id0902g7111500

DESCRIPTION	Front door latch switch (driver-side) circuit malfunction
DETECTION CONDITION	<ul style="list-style-type: none"> <li>Open circuit in the front door latch switch (driver-side) circuit with the front door (driver-side) closed (front door latch switch (driver-side) on).</li> </ul>
POSSIBLE CAUSE	<ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver-side) connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver-side) terminal D—Body ground</li> </ul> </li> <li>Front door latch switch (driver-side) malfunction</li> <li>Theft-deterrent control module connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver-side) terminal B—Theft-deterrent control module terminal O</li> </ul> </li> <li>Theft-deterrent control module malfunction</li> </ul>



## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### Diagnostic Procedure


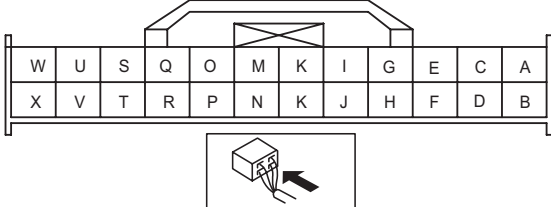
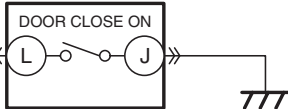
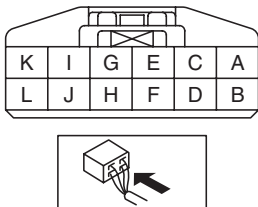
STEP	INSPECTION	ACTION
1	<b>CONFIRM THEFT-DETERRENT CONTROL MODULE DTC</b> <ul style="list-style-type: none"> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the front door (driver-side) closed (front door latch switch (driver-side) on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes Go to the next step.
		No Go to Step 9.
2	<b>INSPECT FRONT DOOR LATCH AND LOCK ACTUATOR (DRIVER-SIDE) CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the front door latch and lock actuator (driver-side) connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.
3	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver-side) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): — Front door latch and lock actuator (driver-side) terminal B</li> <li>Is there any voltage?</li> </ul>	Yes Go to the next step.
		No Go to Step 6.
4	<b>INSPECT FRONT DOOR LATCH SWITCH (DRIVER-SIDE) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver-side) connector is disconnected.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: — Front door latch and lock actuator (driver-side) terminal D</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible open circuit, then go to Step 8.
5	<b>INSPECT FRONT DOOR LATCH SWITCH (DRIVER-SIDE)</b> <ul style="list-style-type: none"> <li>Inspect the front door latch switch (driver-side).</li> <li>(See 09-14-74 FRONT DOOR LATCH SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes Replace the front door latch and lock actuator (driver-side), then go to Step 8. (See 09-14-63 FRONT DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
		No Go to Step 8.
6	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable.</li> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

STEP	INSPECTION	ACTION	
7	<b>INSPECT FRONT DOOR LATCH SWITCH (DRIVER-SIDE) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver-side) and theft-deterrent control module connectors are disconnected.</li> <li>Reconnect the theft-deterrent control module connector.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage between the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>— Theft-deterrent control module terminal O</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
		No	Go to the next step.
8	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect the disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the front door (driver-side) closed (front door latch switch (driver-side) on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes	Replace the theft-deterrent control module, then go to the next step. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.
9	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>	Yes	Go to the applicable DTC inspection. (See 09-02D-5 DTC TABLE [THEFT-DETERRENT SYSTEM].)
		No	DTC troubleshooting completed.

### DTC B1176:13 [THEFT-DETERRENT SYSTEM]

id0902g7111600

DESCRIPTION	Front door latch switch (passenger-side) circuit malfunction
DETECTION CONDITION	<ul style="list-style-type: none"> <li>Open circuit in the front door latch switch (passenger-side) circuit with the front door (passenger-side) closed (front door latch switch (passenger-side) on).</li> </ul>
POSSIBLE CAUSE	<ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>— Front door latch and lock actuator (passenger-side) terminal J—Body ground</li> </ul> </li> <li>Front door latch switch (passenger-side) malfunction</li> <li>Theft-deterrent control module connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>— Front door latch and lock actuator (passenger-side) terminal L—Theft-deterrent control module terminal M</li> </ul> </li> <li>Theft-deterrent control module malfunction</li> </ul>
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>THEFT-DETERRENT CONTROL MODULE</p>  <p>THEFT-DETERRENT CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR</p>  </div> <div style="text-align: center;"> <p>FRONT DOOR LATCH SWITCH (PASSENGER-SIDE)</p>  <p>FRONT DOOR LATCH AND LOCK ACTUATOR (PASSENGER-SIDE) WIRING HARNESS-SIDE CONNECTOR</p>  </div> </div> <p>The diagram shows a circuit connection from terminal M of the Theft-Deterrent Control Module to terminal L of the Front Door Latch Switch (Passenger-Side). The switch is labeled 'DOOR CLOSE ON'. The other side of the switch is connected to terminal J, which is grounded. The wiring harness-side connectors for both modules are shown with their respective terminal layouts.</p>	

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### Diagnostic Procedure


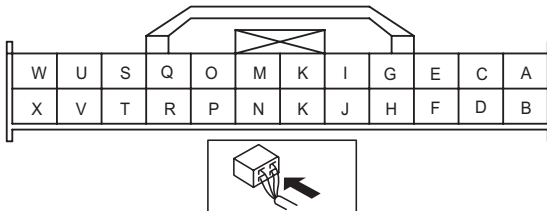
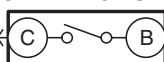

STEP	INSPECTION	ACTION
1	<b>CONFIRM THEFT-DETERRENT CONTROL MODULE DTC</b> <ul style="list-style-type: none"> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the front door (passenger-side) closed (front door latch switch (passenger-side) on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes Go to the next step.
		No Go to Step 9.
2	<b>INSPECT FRONT DOOR LATCH AND LOCK ACTUATOR (PASSENGER-SIDE) CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the front door latch and lock actuator (passenger-side) connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.
3	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): — Front door latch and lock actuator (passenger-side) terminal L</li> <li>Is there any voltage?</li> </ul>	Yes Go to the next step.
		No Go to Step 6.
4	<b>INSPECT FRONT DOOR LATCH SWITCH (PASSENGER-SIDE) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) connector is disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: — Front door latch and lock actuator (passenger-side) terminal J</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible open circuit, then go to Step 8.
5	<b>INSPECT FRONT DOOR LATCH SWITCH (PASSENGER-SIDE)</b> <ul style="list-style-type: none"> <li>Inspect the front door latch switch (passenger-side). (See 09-14-74 FRONT DOOR LATCH SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes Replace the front door latch and lock actuator (passenger-side), then go to Step 8. (See 09-14-63 FRONT DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
		No Go to Step 8.
6	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable.</li> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

STEP	INSPECTION	ACTION	
7	<b>INSPECT FRONT DOOR LATCH SWITCH (PASSENGER-SIDE) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger-side) and theft-deterrent control module connectors are disconnected.</li> <li>Reconnect the theft-deterrent control module connector.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>— Theft-deterrent control module terminal M</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
		No	Go to the next step.
8	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect the disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the front door (passenger-side) closed (front door latch switch (passenger-side) on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes	Replace the theft-deterrent control module, then go to the next step. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.
9	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>	Yes	Go to the applicable DTC inspection. (See 09-02D-5 DTC TABLE [THEFT-DETERRENT SYSTEM].)
		No	DTC troubleshooting completed.

### DTC B1178:11 [THEFT-DETERRENT SYSTEM]

id0902g7111100

DESCRIPTION	Liftgate latch switch circuit malfunction	
DETECTION CONDITION	<ul style="list-style-type: none"><li>Short to ground in the liftgate latch switch circuit with the liftgate closed (liftgate latch switch off).</li></ul>	
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>Liftgate latch switch connector or terminals malfunction</li><li>Theft-deterrent control module connector or terminals malfunction</li><li>Liftgate latch switch malfunction</li><li>Short to ground in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— Liftgate latch switch terminal C—Theft-deterrent control module terminal R</li></ul></li><li>Theft-deterrent control module malfunction</li></ul>	
<div><div><div>THEFT-DETERRENT CONTROL MODULE</div><div></div></div><div><div>THEFT-DETERRENT CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR</div><div></div></div></div> <div><div>LIFTGATE LATCH SWITCH</div><div></div></div> <div><div>LIFTGATE LATCH AND LOCK ACTUATOR WIRING HARNESS-SIDE CONNECTOR</div><div></div></div>		



## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]


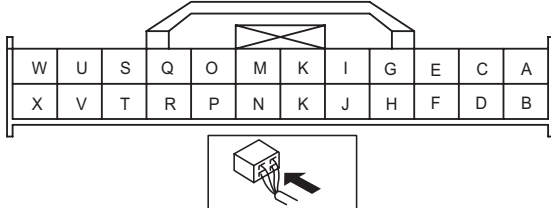
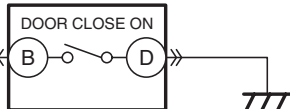
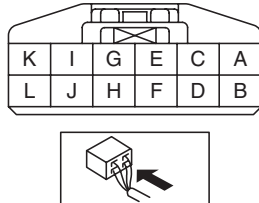
### Diagnostic Procedure

STEP	INSPECTION	ACTION
1	<b>CONFIRM THEFT-DETERRENT CONTROL MODULE DTC</b> <ul style="list-style-type: none"> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the liftgate closed (liftgate latch switch off). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes Go to the next step.
		No Go to Step 7.
2	<b>INSPECT LIFTGATE LATCH SWITCH CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the liftgate latch switch connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 6.
		No Go to the next step.
3	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 6.
		No Go to the next step.
4	<b>INSPECT LIFTGATE LATCH SWITCH CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Liftgate latch switch and theft-deterrent control module connectors are disconnected.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: — Liftgate latch switch terminal C</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the wiring harness for a possible short to ground, then go to Step 6.
		No Go to the next step.
5	<b>INSPECT LIFTGATE LATCH SWITCH</b> <ul style="list-style-type: none"> <li>Inspect the liftgate latch switch. (See 09-14-90 LIFTGATE LATCH SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes Replace the liftgate latch switch, then go to the next step. (See 09-14-88 LIFTGATE LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
		No Go to the next step.
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect the disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the liftgate closed (liftgate latch switch off). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes Replace the theft-deterrent control module, then go to the next step. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No Go to the next step.
7	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>	Yes Go to the applicable DTC inspection. (See 09-02D-5 DTC TABLE [THEFT-DETERRENT SYSTEM].)
		No DTC troubleshooting completed.

# ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

## DTC B11C0:13 [THEFT-DETERRENT SYSTEM]

id0902g7111700

DESCRIPTION	Rear door latch switch (RH) circuit malfunction	
DETECTION CONDITION	<ul style="list-style-type: none"><li>Open circuit in the rear door latch switch (RH) circuit with the rear door (RH) closed (rear door latch switch (RH) on).</li></ul>	
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>Rear door latch and lock actuator (RH) connector or terminals malfunction</li><li>Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— Rear door latch and lock actuator (RH) terminal D—Body ground</li></ul></li><li>Rear door latch switch (RH) malfunction</li><li>Theft-deterrent control module connector or terminals malfunction</li><li>Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— Rear door latch and lock actuator (RH) terminal B—Theft-deterrent control module terminal N</li></ul></li><li>Theft-deterrent control module malfunction</li></ul>	
<div><div><p>THEFT-DETERRENT CONTROL MODULE</p></div><div><p>THEFT-DETERRENT CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR</p></div></div> <div><p>REAR DOOR LATCH SWITCH (RH)</p></div> <div><p>REAR DOOR LATCH AND LOCK ACTUATOR (RH) WIRING HARNESS-SIDE CONNECTOR</p></div>		

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### Diagnostic Procedure

STEP	INSPECTION	ACTION
1	<b>CONFIRM THEFT-DETERRENT CONTROL MODULE DTC</b> <ul style="list-style-type: none"> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the rear door (RH) closed (rear door latch switch (RH) on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes Go to the next step.
		No Go to Step 9.
2	<b>INSPECT REAR DOOR LATCH AND LOCK ACTUATOR (RH) CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the rear door latch and lock actuator (RH) connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.
3	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (RH) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): — Rear door latch and lock actuator (RH) terminal B</li> <li>Is there any voltage?</li> </ul>	Yes Go to the next step.
		No Go to Step 6.
4	<b>INSPECT REAR DOOR LATCH SWITCH (RH) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (RH) connector is disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: — Rear door latch and lock actuator (RH) terminal D</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible open circuit, then go to Step 8.
5	<b>INSPECT REAR DOOR LATCH SWITCH (RH)</b> <ul style="list-style-type: none"> <li>Inspect the rear door latch switch (RH). (See 09-14-83 REAR DOOR LATCH SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes Replace the rear door latch and lock actuator (RH), then go to Step 8. (See 09-14-79 REAR DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
		No Go to Step 8.
6	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable.</li> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.

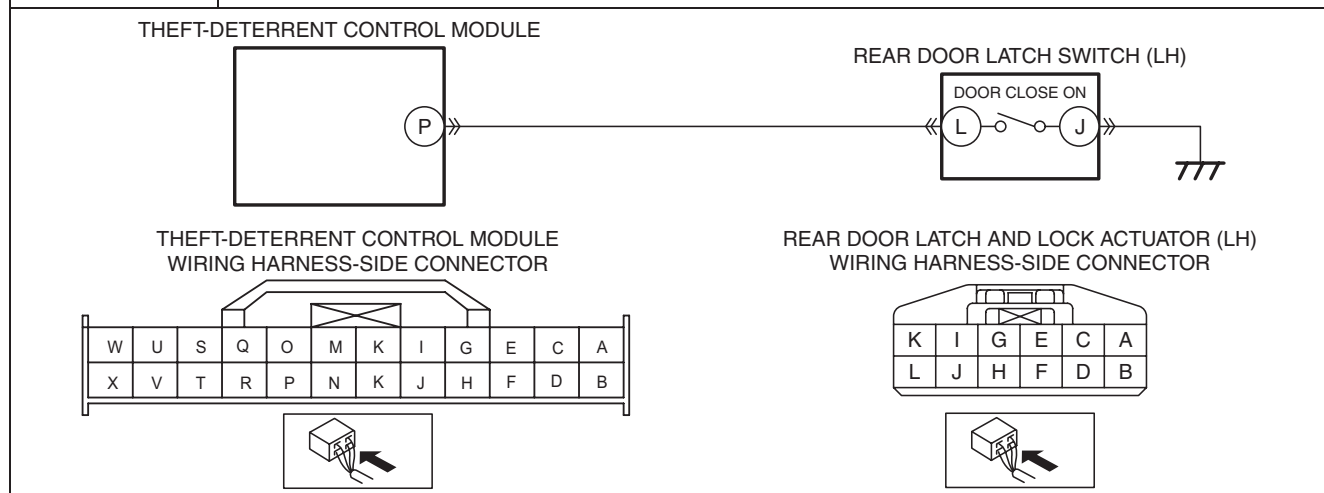
## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

STEP	INSPECTION	ACTION	
7	<b>INSPECT REAR DOOR LATCH SWITCH (RH) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (RH) and theft-deterrent control module connectors are disconnected.</li> <li>Reconnect the theft-deterrent control module connector.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>— Theft-deterrent control module terminal N</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
		No	Go to the next step.
8	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect the disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the rear door (RH) closed (rear door latch switch (RH) on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes	Replace the theft-deterrent control module, then go to the next step. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.
9	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>	Yes	Go to the applicable DTC inspection. (See 09-02D-5 DTC TABLE [THEFT-DETERRENT SYSTEM].)
		No	DTC troubleshooting completed.

### DTC B11C1:13 [THEFT-DETERRENT SYSTEM]

id0902g7111800

DESCRIPTION	Rear door latch switch (LH) circuit malfunction
<b>DETECTION CONDITION</b>	<ul style="list-style-type: none"> <li>Open circuit in the rear door latch switch (LH) circuit with the rear door (LH) closed (rear door latch switch (LH) on).</li> </ul>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>— Rear door latch and lock actuator (LH) terminal J—Body ground</li> </ul> </li> <li>Rear door latch switch (LH) malfunction</li> <li>Theft-deterrent control module connector or terminals malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>— Rear door latch and lock actuator (LH) terminal L—Theft-deterrent control module terminal P</li> </ul> </li> <li>Theft-deterrent control module malfunction</li> </ul>



## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### Diagnostic Procedure

STEP	INSPECTION	ACTION
1	<b>CONFIRM THEFT-DETERRENT CONTROL MODULE DTC</b> <ul style="list-style-type: none"> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the rear door (LH) closed (rear door latch switch (LH) on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes Go to the next step.
		No Go to Step 9.
2	<b>INSPECT REAR DOOR LATCH AND LOCK ACTUATOR (LH) CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the rear door latch and lock actuator (LH) connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.
3	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): — Rear door latch and lock actuator (LH) terminal L</li> <li>Is there any voltage?</li> </ul>	Yes Go to the next step.
		No Go to Step 6.
4	<b>INSPECT REAR DOOR LATCH SWITCH (LH) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) connector is disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: — Rear door latch and lock actuator (LH) terminal J</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible open circuit, then go to Step 8.
5	<b>INSPECT REAR DOOR LATCH SWITCH (LH)</b> <ul style="list-style-type: none"> <li>Inspect the rear door latch switch (LH). (See 09-14-83 REAR DOOR LATCH SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes Replace the rear door latch and lock actuator (LH), then go to Step 8. (See 09-14-79 REAR DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
		No Go to Step 8.
6	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable.</li> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]


STEP	INSPECTION	ACTION	
7	<b>INSPECT REAR DOOR LATCH SWITCH (LH) CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Rear door latch and lock actuator (LH) and theft-deterrent control module connectors are disconnected.</li> <li>Reconnect the theft-deterrent control module connector.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): <ul style="list-style-type: none"> <li>— Theft-deterrent control module terminal P</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
		No	Go to the next step.
8	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect the disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the rear door (LH) closed (rear door latch switch (LH) on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes	Replace the theft-deterrent control module, then go to the next step. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.
9	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>	Yes	Go to the applicable DTC inspection. (See 09-02D-5 DTC TABLE [THEFT-DETERRENT SYSTEM].)
		No	DTC troubleshooting completed.

### DTC P254F:13 [THEFT-DETERRENT SYSTEM]

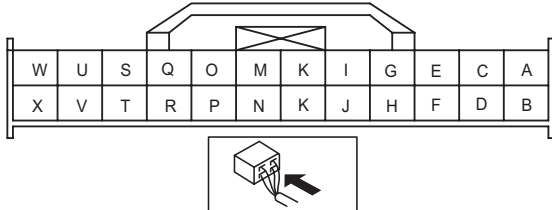
id0902g7111200

DESCRIPTION	Bonnet latch switch circuit malfunction	
DETECTION CONDITION	<ul style="list-style-type: none"><li>• Open circuit in the bonnet latch switch circuit with the bonnet closed (bonnet latch switch on).</li></ul>	
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>• Bonnet latch switch connector or terminals malfunction</li><li>• Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— Bonnet latch switch terminal B—Body ground</li></ul></li><li>• Bonnet latch switch malfunction</li><li>• Theft-deterrent control module connector or terminals malfunction</li><li>• Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— Bonnet latch switch terminal A—Theft-deterrent control module terminal H</li></ul></li><li>• Theft-deterrent control module malfunction</li></ul>	

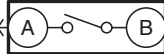
THEFT-DETERRENT CONTROL MODULE




THEFT-DETERRENT CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR



BONNET LATCH SWITCH



BONNET LATCH SWITCH WIRING HARNESS-SIDE CONNECTOR



## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

### Diagnostic Procedure

STEP	INSPECTION	ACTION
1	<b>CONFIRM THEFT-DETERRENT CONTROL MODULE DTC</b> <ul style="list-style-type: none"> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the bonnet closed (bonnet latch switch on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes Go to the next step.
		No Go to Step 9.
2	<b>INSPECT BONNET LATCH SWITCH CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the bonnet latch switch connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.
3	<b>VERIFY MALFUNCTIONING LOCATION</b> <ul style="list-style-type: none"> <li>Bonnet latch switch connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): — Bonnet latch switch terminal A</li> <li>Is there any voltage?</li> </ul>	Yes Go to the next step.
		No Go to Step 6.
4	<b>INSPECT BONNET LATCH SWITCH CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Bonnet latch switch connector is disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminal (wiring harness-side) and body ground: — Bonnet latch switch terminal B</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible open circuit, then go to Step 8.
5	<b>INSPECT BONNET LATCH SWITCH</b> <ul style="list-style-type: none"> <li>Inspect the bonnet latch switch. (See 09-14-31 BONNET LATCH SWITCH INSPECTION.)</li> <li>Is there any malfunction?</li> </ul>	Yes Replace the bonnet latch switch, then go to Step 8. (See 09-14-28 BONNET LATCH AND RELEASE LEVER REMOVAL/INSTALLATION.)
		No Go to Step 8.
6	<b>INSPECT THEFT-DETERRENT CONTROL MODULE CONNECTOR AND TERMINALS</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable.</li> <li>Disconnect the theft-deterrent control module connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Is there any malfunction?</li> </ul>	Yes Repair or replace the connector or terminals, then go to Step 8.
		No Go to the next step.
7	<b>INSPECT BONNET LATCH SWITCH CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Bonnet latch switch and theft-deterrent control module connectors are disconnected.</li> <li>Reconnect the theft-deterrent control module connector.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminal (wiring harness-side): — Theft-deterrent control module terminal H</li> <li>Is there any voltage?</li> </ul>	Yes Repair or replace the wiring harness for a possible open circuit, then go to the next step.
		No Go to the next step.



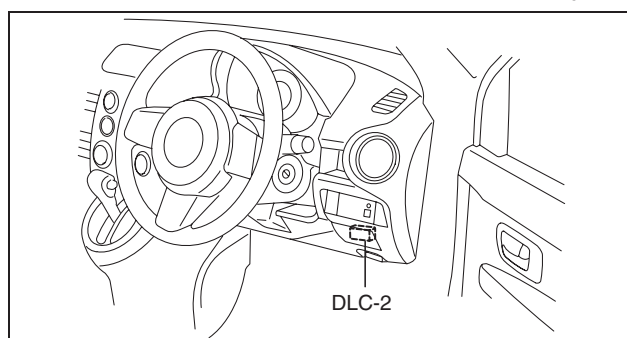
## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

STEP	INSPECTION	ACTION	
8	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect the disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTC using the M-MDS. (See 09-02D-5 CLEARING DTC [THEFT-DETERRENT SYSTEM].)</li> <li>Perform the theft-deterrent control module DTC inspection using the M-MDS with the bonnet closed (bonnet latch switch on). (See 09-02D-4 DTC INSPECTION [THEFT-DETERRENT SYSTEM].)</li> <li>Is the same DTC present?</li> </ul>	Yes	Replace the theft-deterrent control module, then go to the next step. (See 09-14-111 THEFT-DETERRENT CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.
9	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>	Yes	Go to the applicable DTC inspection. (See 09-02D-5 DTC TABLE [THEFT-DETERRENT SYSTEM].)
		No	DTC troubleshooting completed.

### PID/DATA MONITOR INSPECTION [THEFT-DETERRENT SYSTEM]

id0902g7400500

- Connect the M-MDS to the DLC-2.
- After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    - Select "DataLogger".
    - Select "Modules".
    - Select "VSM".
  - When using the PDS (Pocket PC)
    - Select "Module Tests".
    - Select "VSM".
    - Select "DataLogger".
- Select the applicable PID from the PID table.
- Verify the PID data according to the directions on the screen.



am2zzw0000065

#### Note

- The PID data screen function is used for monitoring the calculated value of input/output signals in the module. Therefore, if the monitored value of the output parts is not within the specification, it is necessary to inspect the monitored value of input parts corresponding to the applicable output part control. In addition, because the system does not display an output part malfunction as an abnormality in the monitored value, it is necessary to inspect the output parts individually.

### PID/DATA MONITOR TABLE [THEFT-DETERRENT SYSTEM]

id0902g7345900

#### Foreword

- When the theft-deterrent control module switches to the alert mode, it stores the related theft-deterrent control module control status data.
- Stored data up to the previous tow times can be checked using the PID/data monitor function.
- There are two storage fields (TRG\_1—TRG\_2), and the latest data is TRG\_1.

PID name (definition)	Unit/Operation	Data contents	Inspection item(s)	Terminal
DTC_CNT (Number of DTCs)	—	<ul style="list-style-type: none"> <li>DTC detected: 1–255</li> <li>DTC not detected: 0</li> </ul>	Separate DTC inspection	—
DRSW_D (Door latch switch (driver's door) status)	Close/Open	<ul style="list-style-type: none"> <li>Driver's door open: Open</li> <li>Driver's door closed: Close</li> </ul>	Door latch switch (driver's side)	O

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

PID name (definition)	Unit/Operation	Data contents	Inspection item(s)	Terminal
DRSW_P (Door latch switch (passenger's door) status)	Close/Open	<ul style="list-style-type: none"> <li>Passenger's door open: Open</li> <li>Passenger's door closed: Close</li> </ul>	Door latch switch (passenger's door)	M
DRSW_RR* 1 (Door latch switch (rear door (RH)) status)	Close/Open	<ul style="list-style-type: none"> <li>Rear door (RH) open: Open</li> <li>Rear door (RH) closed: Close</li> </ul>	Door latch switch (rear door (RH))	N
DRSW_LR* 1 (Door latch switch (rear door (LH)) status)	Close/Open	<ul style="list-style-type: none"> <li>Rear door (LH) open: Open</li> <li>Rear door (LH) closed: Close</li> </ul>	Door latch switch (rear door (LH))	P
HOOD_SW (Bonnet latch switch status)	Close/Open	<ul style="list-style-type: none"> <li>Bonnet open: Open</li> <li>Bonnet closed: Close</li> </ul>	Bonnet latch switch	H
LLSW_D (Door lock-link switch status)	Unlock/Lock	<ul style="list-style-type: none"> <li>Driver's door lock knob locked: Lock</li> <li>Driver's door lock knob unlocked: Unlock</li> </ul>	Door lock-link switch	V
LLSW_P+R (Door latch switch (passenger's door, rear) status)	Unlock/Lock	<ul style="list-style-type: none"> <li>Door lock knob other than driver's door locked: Lock</li> <li>Door lock knob other than driver's door unlocked: Unlock</li> </ul>	Door lock-link switch	T
T_GATE_SW (Liftgate latch switch status)	Close/Open	<ul style="list-style-type: none"> <li>Liftgate open: Close</li> <li>Liftgate closed: Open</li> </ul>	Liftgate latch switch	R
TRG1_01 (Door lock-link switch status)	Off/On	<ul style="list-style-type: none"> <li>Driver's door lock knob unlocked: On</li> <li>Driver's door lock knob locked: Off</li> </ul>	Door lock-link switch	V
TRG1_02 (Door latch switch (passenger's door, rear) status)	Off/On	<ul style="list-style-type: none"> <li>Door lock knob other than driver's door unlocked: On</li> <li>Door lock knob other than driver's door locked: Off</li> </ul>	Door lock-link switch	T
TRG1_03 (Theft-deterrent control module power supply voltage)	Off/On	<ul style="list-style-type: none"> <li>Theft-deterrent control module power supply interrupted: On</li> <li>Theft-deterrent control module power supply not interrupted: Off</li> </ul>	Theft-deterrent control module	W
TRG1_04 (Angle sensor status)	Off/On	<b>Note</b> <ul style="list-style-type: none"> <li>Displayed but not used in the inspection.</li> </ul>		-
TRG1_05 (Intruder sensor status)	Off/On	<ul style="list-style-type: none"> <li>Intruder sensor detected intrusion: On</li> <li>Intruder sensor did not detect intrusion: Off</li> </ul>	intruder sensor	C

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

PID name (definition)	Unit/Operation	Data contents	Inspection item(s)	Terminal
TRG1_06 (Door latch switch (driver's door) status)	Off/On	<ul style="list-style-type: none"> <li>Driver's door open: On</li> <li>Driver's door closed: Off</li> </ul>	Door latch switch (driver's side)	O
TRG1_07 (Door latch switch (passenger's door) status)	Off/On	<ul style="list-style-type: none"> <li>Passenger's door open: On</li> <li>Passenger's door closed: Off</li> </ul>	Door latch switch (passenger's door)	M
TRG1_08*1 (Door latch switch (rear door (LH) status)	Off/On	<ul style="list-style-type: none"> <li>Rear door (LH) open: On</li> <li>Rear door (LH) closed: Off</li> </ul>	Door latch switch (rear door (LH))	P
TRG1_09*1 (Door latch switch (rear door (RH) status)	Off/On	<ul style="list-style-type: none"> <li>Rear door (RH) open: On</li> <li>Rear door (RH) closed: Off</li> </ul>	Door latch switch (rear door (RH))	N
TRG1_10 (Liftgate latch switch status)	Off/On	<ul style="list-style-type: none"> <li>Liftgate open: On</li> <li>Liftgate closed: Off</li> </ul>	Liftgate latch switch	R
TRG1_11 (Bonnet latch switch status)	Off/On	<ul style="list-style-type: none"> <li>Bonnet open: On</li> <li>Bonnet closed: Off</li> </ul>	Bonnet latch switch	H
TRG1_12 (Ignition key cylinder status)	Off/On	<ul style="list-style-type: none"> <li>Key reminder switch or push switch off and ignition switch on: On</li> <li>Key reminder switch or push switch off and ignition switch off: Off</li> </ul>	Ignition key cylinder	—
TRG1_13 (Used key status)	Off/On	<b>Note</b> <ul style="list-style-type: none"> <li>Displayed but not used in inspection.</li> </ul>		-
TRG1_ST_A (Theft-deterrent system status)	Off/On	<ul style="list-style-type: none"> <li>Theft-deterrent system in stand-by preparatory mode: On</li> <li>Theft-deterrent system initial mode: Off</li> </ul>	Theft-deterrent control module	—
TRG1_ST_B (Theft-deterrent system status)	Off/On	<ul style="list-style-type: none"> <li>Theft-deterrent system in stand-by mode: On</li> <li>Theft-deterrent system stand-by preparatory mode: Off</li> </ul>	Theft-deterrent control module	—
TRG2_01 (Door lock-link switch status)	Off/On	<ul style="list-style-type: none"> <li>Driver's door lock knob unlocked: On</li> <li>Driver's door lock knob locked: Off</li> </ul>	Door lock-link switch	V
TRG2_02 (Door latch switch (passenger's door, rear) status)	Off/On	<ul style="list-style-type: none"> <li>Door lock knob other than driver's door unlocked: On</li> <li>Door lock knob other than driver's door locked: Off</li> </ul>	Door lock-link switch	T

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

PID name (definition)	Unit/Operation	Data contents	Inspection item(s)	Terminal
TRG2_03 (Theft-deterrent control module power supply voltage)	Off/On	<ul style="list-style-type: none"> <li>Theft-deterrent control module power supply interrupted: On</li> <li>Theft-deterrent control module power supply not interrupted: Off</li> </ul>	Theft-deterrent control module	W
TRG2_04 (Angle sensor status)	Off/On	<b>Note</b> <ul style="list-style-type: none"> <li>Displayed but not used in the inspection.</li> </ul>		-
TRG2_05 (Intruder sensor status)	Off/On	<ul style="list-style-type: none"> <li>Intruder sensor detected intrusion: On</li> <li>Intruder sensor did not detect intrusion: Off</li> </ul>	intruder sensor	C
TRG2_06 (Door latch switch (driver's door) status)	Off/On	<ul style="list-style-type: none"> <li>Driver's door open: On</li> <li>Driver's door closed: Off</li> </ul>	Door latch switch (driver's side)	O
TRG2_07 (Door latch switch (passenger's door) status)	Off/On	<ul style="list-style-type: none"> <li>Passenger's door open: On</li> <li>Passenger's door closed: Off</li> </ul>	Door latch switch (passenger's door)	M
TRG2_08*1 (Door latch switch (rear door (LH)) status)	Off/On	<ul style="list-style-type: none"> <li>Rear door (LH) open: On</li> <li>Rear door (LH) closed: Off</li> </ul>	Door latch switch (rear door (LH))	P
TRG2_09*1 (Door latch switch (rear door (RH)) status)	Off/On	<ul style="list-style-type: none"> <li>Rear door (RH) open: On</li> <li>Rear door (RH) closed: Off</li> </ul>	Door latch switch (rear door (RH))	N
TRG2_10 (Liftgate latch switch status)	Off/On	<ul style="list-style-type: none"> <li>Liftgate open: On</li> <li>Liftgate closed: Off</li> </ul>	Liftgate latch switch	R
TRG2_11 (Bonnet latch switch status)	Off/On	<ul style="list-style-type: none"> <li>Bonnet open: On</li> <li>Bonnet closed: Off</li> </ul>	Bonnet latch switch	H
TRG2_12 (Ignition key cylinder status)	Off/On	<ul style="list-style-type: none"> <li>Key reminder switch or push switch off and ignition switch on: On</li> <li>Key reminder switch or push switch off and ignition switch off: Off</li> </ul>	Ignition key cylinder	—
TRG2_13 (Used key status)	Off/On	<b>Note</b> <ul style="list-style-type: none"> <li>Displayed but not used in inspection.</li> </ul>		-
TRG2_ST_A (Theft-deterrent system status)	Off/On	<ul style="list-style-type: none"> <li>Theft-deterrent system in stand-by preparatory mode: On</li> <li>Theft-deterrent system initial mode: Off</li> </ul>	Theft-deterrent control module	—
TRG2_ST_B (Theft-deterrent system status)	Off/On	<ul style="list-style-type: none"> <li>Theft-deterrent system in stand-by mode: On</li> <li>Theft-deterrent system stand-by preparatory mode: Off</li> </ul>	Theft-deterrent control module	—

## ON-BOARD DIAGNOSTIC [THEFT-DETERRENT SYSTEM]

PID name (definition)	Unit/Operation	Data contents	Inspection item(s)	Terminal
VPWR (Theft- deterrent control module power supply voltage)	V	<ul style="list-style-type: none"><li>Continuous: Approx. 12 V</li></ul>	Battery	W

\*1 : 5HB

09-02E ON-BOARD DIAGNOSTIC [AUDIO]

STARTING PROCEDURE FOR ON-BOARD DIAGNOSTIC TEST MODE [AUDIO] . . . . .	09-02E-1	DTC TABLE [AUDIO] . . . . .	09-02E-3
SUPPLIER IDENTIFICATION PROCEDURE [AUDIO] . . . . .	09-02E-1	DIAGNOSTIC ASSIST FUNCTION [AUDIO] . . . . .	09-02E-4
Identification Using Label or Inscribed Lettering . . . . .	09-02E-1	LCD Inspection . . . . .	09-02E-4
Verify Using the Diagnostic Assist Function . . . . .	09-02E-2	Switch Inspection . . . . .	09-02E-5
CLEARING DTC [AUDIO] . . . . .	09-02E-3	Speaker Inspection . . . . .	09-02E-5
		Radio Reception Condition Inspection . . . . .	09-02E-5
		Center Panel Specification Inspection . . . . .	09-02E-6

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## ON-BOARD DIAGNOSTIC [AUDIO]

### STARTING PROCEDURE FOR ON-BOARD DIAGNOSTIC TEST MODE [AUDIO]

id0902f6358300

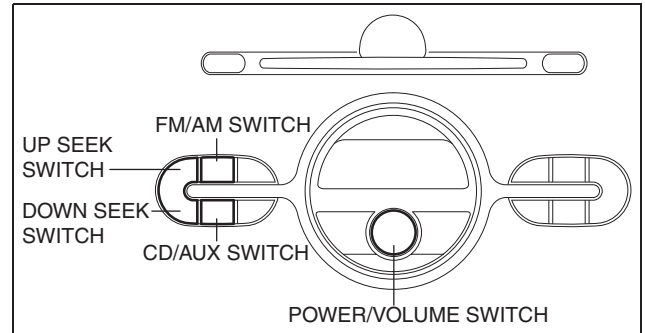
#### Note

- All DTCs displayed in the on-board diagnostic test mode should be entered in the Audio Repair Order Form.

1. Turn the ignition switch to the ACC or ON position.
2. Turn the center panel unit power to off.
3. While pressing the POWER/VOLUME switch, simultaneously press the FM/AM switch and the CD/AUX switch for **2 s or more**.

#### Note

- If several DTCs are in the memory, they can be displayed using the UP SEEK switch or DOWN SEEK switch.
4. To stop the on-board diagnostic test mode, turn the ignition switch to the LOCK position.



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### SUPPLIER IDENTIFICATION PROCEDURE [AUDIO]

id0902f6358400

#### Note

- When asking the supplier (service center) for repair or replacement, identify the supplier and fill in the Audio Repair Order Form using the following procedures.

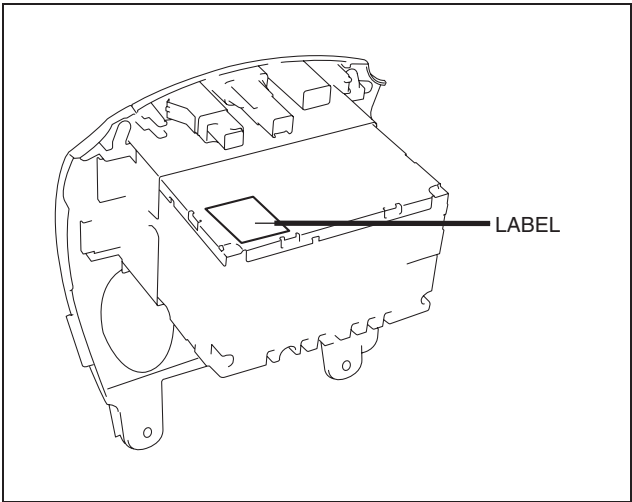
#### Identification Using Label or Inscribed Lettering

1. Disconnect the negative battery cable.
2. Remove the following parts:
  - (1) Shift lever knob (MTX) (See 05-16A-1 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION [F35M-R].) (See 05-16B-2 MANUAL TRANSAXLE SHIFT MECHANISM REMOVAL/INSTALLATION [B65M-R].)
  - (2) Side wall (See 09-17-33 SIDE WALL REMOVAL/INSTALLATION.)
  - (3) Front console component (See 09-17-36 FRONT CONSOLE COMPONENT REMOVAL/INSTALLATION.)
  - (4) Glove compartment (See 09-17-26 GLOVE COMPARTMENT REMOVAL/INSTALLATION.)
  - (5) Center panel unit (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.)



ON-BOARD DIAGNOSTIC [AUDIO]

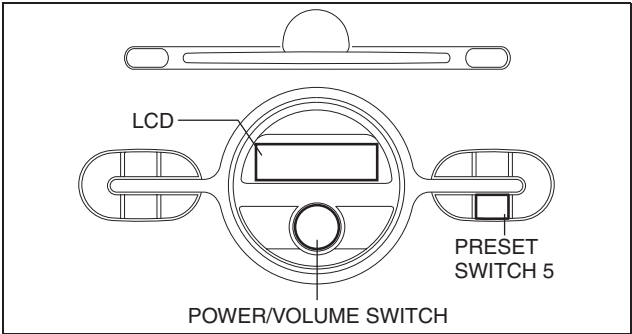
3. Verify the supplier indicated on the label attached on each unit.



am2zzw0000039

Verify Using the Diagnostic Assist Function

- 1. Turn the ignition switch to the ACC or ON position.
- 2. Turn the center panel unit power to on.
- 3. While pressing the POWER/VOLUME switch, simultaneously press the Preset switch 5 for **3 s or more**.



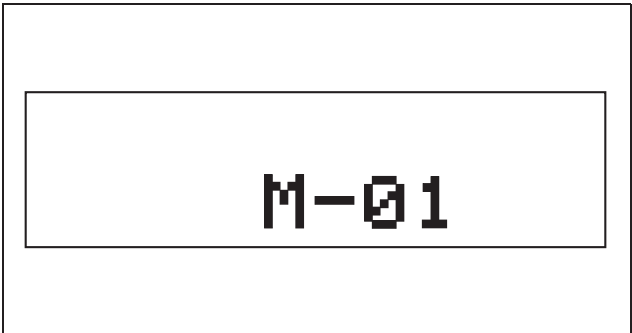
am2zzw00000376

4. Identify the supplier code by referring to the LCD.

Supplier code	Supplier name
01	SANYO Automedia
02	Panasonic
03	Clarion
04	Pioneer

Note

- The supplier code can also be identified from the DTC displays screen.
5. Cancel the diagnostic assist function by either turning off the center panel unit power or by turning the ignition switch to the LOCK position.



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am2zzw0000072

## ON-BOARD DIAGNOSTIC [AUDIO]

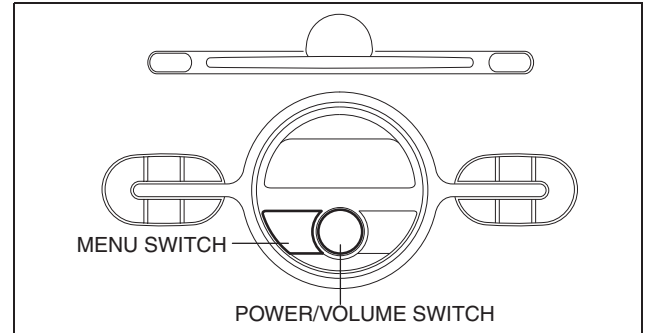
### CLEARING DTC [AUDIO]

id0902f6400300

#### Caution

- Before clearing the memory, be sure to enter all of the DTCs displayed in the on-board diagnostic test mode in the Audio Repair Order Form.

1. Launch the on-board diagnostic test mode. (See 09-02E-1 STARTING PROCEDURE FOR ON-BOARD DIAGNOSTIC TEST MODE [AUDIO].)
2. While pressing the POWER/VOLUME switch, simultaneously press the MENU switch for **2 s or more**.
3. To stop the on-board diagnostic test mode, turn the ignition switch to the LOCK position.



am2zzw0000376

### DTC TABLE [AUDIO]

id0902f6363000

Screen display			
DTC (When starting on-board diagnostic function)	Malfunction description	Inferred cause/verified content	Reference
09:Er20	Audio does not function	Battery voltage low	(See 09-03E-6 NO.2 NO POWER TO THE ENTIRE AUDIO SYSTEM [AUDIO].)
09:Er21	Audio unclear or no audio from radio and CD	<ul style="list-style-type: none"> <li>• Verify the symptoms described by the customer (such as occurrence frequency and mode).</li> <li>• Short to ground in the wiring harness between the audio unit and speakers</li> <li>• Audio unit malfunction</li> </ul>	(See 09-03E-9 NO.5 SOUND BREAK-UP OR POOR SOUND QUALITY [AUDIO].)
09:Er22	Radio not receiving signal	<ul style="list-style-type: none"> <li>• Verify the sometimes described by the customer (such as time and place of occurrence, and radio frequency).</li> <li>• Audio unit malfunction</li> </ul>	(See 09-03F-3 NO.1 NO RADIO RECEPTION (AM/FM)/NO OR LOW VOLUME [RADIO].)
10:Er01	MP3 applicable CD player cannot implement insert and eject commands.	Audio unit malfunction	(See 09-03G-3 NO.1 CD PLAYER/CHANGER DOES NOT LOAD THE CD OR EJECTS THE CD IMMEDIATELY [CD].) (See 09-03G-3 NO.2 CD PLAYER/CHANGER DOES NOT EJECT THE CD [CD].)
10:Er02	Cannot change tracks.	Audio unit malfunction	(See 09-03G-11 NO.11 TRACK CHANGE IS INOPERATIVE [CD].)
10:Er07	CD cannot playback (cannot operate)	<ul style="list-style-type: none"> <li>• CD incompatible (CD used by customer)</li> <li>• Recurs no matter the type of CD (no non-compatible CD)</li> </ul>	(See 09-03G-4 NO.3 CD PLAYER/CHANGER DOES NOT PLAY THE CD/NO SOUND [CD].)
10:Er10	MP3 applicable CD player does not operate.	<ul style="list-style-type: none"> <li>• Malfunction of connectors between audio unit and MP3 applicable CD player.</li> <li>• Audio unit malfunction</li> </ul>	(See 09-03G-4 NO.3 CD PLAYER/CHANGER DOES NOT PLAY THE CD/NO SOUND [CD].)
21:Er17	Operation differs from the selected switch	Verify the center panel and audio unit assembly.	(See 09-02E-4 DIAGNOSTIC ASSIST FUNCTION [AUDIO].)
21:Er18			

## ON-BOARD DIAGNOSTIC [AUDIO]

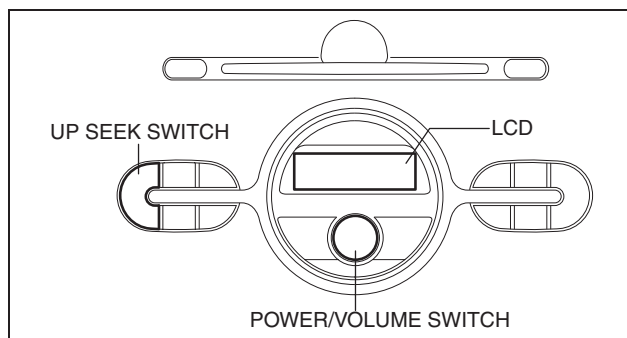
Screen display	Malfunction description	Inferred cause/verified content	Reference
DTC (When starting on-board diagnostic function)			
21:Er19	Communication error with center panel (audio switch system)	<ul style="list-style-type: none"> <li>Verify conditions such as the non-operation of all audio switches or the non-operation of any particular switch.</li> <li>Center panel (audio switch system) malfunction</li> </ul>	(See 09-03E-2 CONFIRMATION STEP 1: AUDIO SWITCH CONFIRMATION [AUDIO].)
22:Er01	MP3 applicable CD changer cannot implement insert, eject, and disc change commands.	<ul style="list-style-type: none"> <li>Defective CD (curved, broken or foreign material stuck/attached, etc.)</li> <li>Audio unit malfunction</li> </ul>	(See 09-03G-3 NO.1 CD PLAYER/CHANGER DOES NOT LOAD THE CD OR EJECTS THE CD IMMEDIATELY [CD].) (See 09-03G-3 NO.2 CD PLAYER/CHANGER DOES NOT EJECT THE CD [CD].)
22:Er02	Cannot change tracks.	<ul style="list-style-type: none"> <li>Defective CD (curved, broken or foreign material stuck/attached, etc.)</li> <li>Audio unit malfunction</li> </ul>	(See 09-03G-11 NO.11 TRACK CHANGE IS INOPERATIVE [CD].)
22:Er07	CD cannot playback (cannot operate)	<ul style="list-style-type: none"> <li>CD incompatible (CD used by customer)</li> <li>Rekurs no matter the type of CD (no non-compatible CD)</li> </ul>	(See 09-03G-4 NO.3 CD PLAYER/CHANGER DOES NOT PLAY THE CD/NO SOUND [CD].)
22:Er10	MP3 applicable CD changer does not operate.	<ul style="list-style-type: none"> <li>Malfunction of connectors between audio unit and MP3 applicable CD changer.</li> <li>Audio unit malfunction</li> </ul>	(See 09-03G-4 NO.3 CD PLAYER/CHANGER DOES NOT PLAY THE CD/NO SOUND [CD].)
no Err	—	DTC is not recorded.	—

### DIAGNOSTIC ASSIST FUNCTION [AUDIO]

id0902f6361100

#### LCD Inspection

- Turn the ignition switch to the ACC or ON position.
- Turn the center panel unit power to on.
- While pressing the POWER/VOLUME switch, simultaneously press the UP SEEK switch for **0.2 s or more**.
- Inspect according to the following table:



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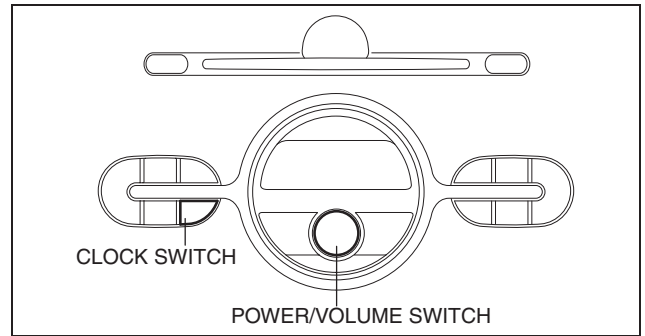
Inspection	Display	Action	
		Yes	No
<ul style="list-style-type: none"> <li>Launch the LCD inspection mode.</li> <li>The characters displayed on the LCD are not truncated or faint.</li> </ul>		Yes	LCD is normal.  Replace the center panel. (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ASSEMBLY.)

- Cancel the diagnostic assist function by either turning off the center panel unit power or by turning the ignition switch to the LOCK position.

## ON-BOARD DIAGNOSTIC [AUDIO]

### Switch Inspection

1. Turn the ignition switch to the ACC or ON position.
2. Turn the center panel unit power to on.
3. While pressing the POWER/VOLUME switch, simultaneously press the CLOCK switch for **0.2 s or more**.
4. Inspect according to the following table:



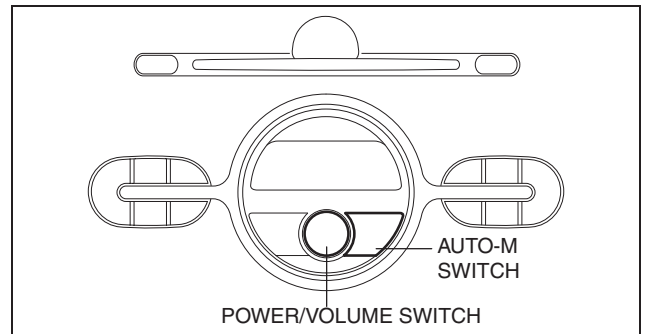
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Inspection	Display	Action	
		Yes	The switch is normal.
<ul style="list-style-type: none"> <li>• Launch the switch inspection mode.</li> <li>• Operate all of the switches (press).</li> <li>• Does the buzzer sound?</li> </ul>	—	No	Verify the switch. (See 09-03E-2 CONFIRMATION STEP 1: AUDIO SWITCH CONFIRMATION [AUDIO].)

5. Cancel the diagnostic assist function by either turning off the center panel unit power or by turning the ignition switch to the LOCK position.

### Speaker Inspection

1. Turn the ignition switch to the ACC or ON position.
2. Turn the center panel unit power to on.
3. While pressing the POWER/VOLUME switch, simultaneously press the AUTO-M switch for **0.2 s or more**.
4. Inspect according to the following table:



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Inspection	Display	Action	
		Yes	The speakers and the wiring harness between the audio unit and speakers are normal.
<ul style="list-style-type: none"> <li>• Launch the speaker inspection mode.</li> <li>• Does each speaker output sound in the following order?:               <ol style="list-style-type: none"> <li>1. Front door speaker (LH) and tweeter (LH)</li> <li>2. Front door speaker (RH) and tweeter (RH)</li> <li>3. Rear door speaker (RH)/rear speaker (RH) (3HB)</li> <li>4. Rear door speaker (LH)/rear speaker (LH) (3HB)</li> </ol> </li> </ul>	—	No	<ul style="list-style-type: none"> <li>• If no sound is produced from all of the speakers.                (See 09-03E-6 NO.3 NO SOUND FROM ALL SPEAKERS [AUDIO].)</li> <li>• If no sound is produced from some of the speakers.                (See 09-03E-7 NO.4 NO SOUND FROM SOME SPEAKERS [AUDIO].)</li> </ul>

5. Cancel the diagnostic assist function by either turning off the center panel unit power or by turning the ignition switch to the LOCK position.

### Radio Reception Condition Inspection

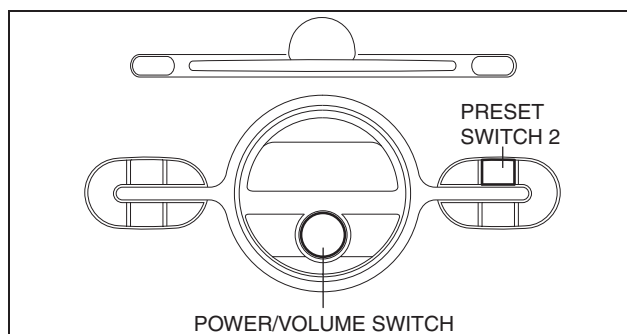
1. Turn the ignition switch to the ACC or ON position.
2. Turn the center panel unit power to on.
3. Tune in the radio.

## ON-BOARD DIAGNOSTIC [AUDIO]

4. While pressing the POWER/VOLUME switch, simultaneously press the Preset switch 2 for **0.2 s or more**.
5. Inspect according to the following table:

### Caution

- Even if the system is normal, radio reception may be difficult depending on where the system is inspected (indoors/outdoors, or conditions at the location). Before inspecting the system, verify that radio reception is adequate.
- When performing the inspection, select the best area for receiving radio frequencies.



am2zzw0000376

Inspection	Display (AM 522 kHz reception)	Action
Start the radio reception condition inspection mode.	<div>LEV-9 522</div> <div>LEV-5 522</div>	Center roof antenna, antenna feeder and audio unit are normal.
	<div>LEV-4 522</div> <div>LEV-3 522</div>	Change frequencies and re-perform the inspection.
	<div>LEV-2 522</div> <div>LEV-0 522</div>	Inspect the center roof antenna and antenna feeder. (See 09-20-15 CENTER ROOF ANTENNA INSPECTION.) (See 09-20-19 ANTENNA FEEDER NO.1 INSPECTION.) (See 09-20-21 ANTENNA FEEDER NO.2 INSPECTION.) <ul style="list-style-type: none"> <li>• If either the center roof antenna or the antenna feeder is not normal, replace the malfunctioning part.                (See 09-20-13 CENTER ROOF ANTENNA REMOVAL/INSTALLATION.)                (See 09-20-17 ANTENNA FEEDER NO.1 REMOVAL/INSTALLATION.)                (See 09-20-20 ANTENNA FEEDER NO.2 REMOVAL/INSTALLATION.)</li> <li>• If the center roof antenna and antenna feeder are normal, replace the audio unit.                (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.)                (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ASSEMBLY.)</li> </ul>

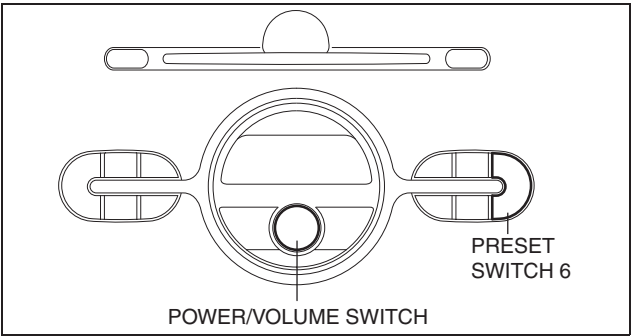
6. Cancel the diagnostic assist function by either turning off the center panel unit power or by turning the ignition switch to the LOCK position.

### Center Panel Specification Inspection

1. Turn the ignition switch to the ACC or ON position.
2. Turn the center panel unit power to on.

## ON-BOARD DIAGNOSTIC [AUDIO]

3. While pressing the POWER/VOLUME switch, simultaneously press the Preset switch 6 for **3 s or more**.
4. Inspect according to the following table:



am2zzw0000376

Inspection	Display	Action	
		Yes	No
<ul style="list-style-type: none"> <li>Launch the center panel destination mode.</li> <li>Is there a match to the destination?</li> </ul>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <div style="display: flex; justify-content: space-around; font-size: small;"> <span>ID</span><span>CODE</span> </div> <div style="font-size: large; font-weight: bold;">P-00-00</div> </div>	Yes	The center panel is normal.
		No	Replace the center panel. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)

ID	Specification	Code	Destination
00	Mazda 2	00	Europe
		01	Australia
		02	4A region (With AM frequency pitch: 5KHz pitch)
		03	4A region (With AM frequency pitch: 9KHz pitch)

5. Cancel the diagnostic assist function by either turning off the center panel unit power or by turning the ignition switch to the LOCK position.

## **09-02F ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]**

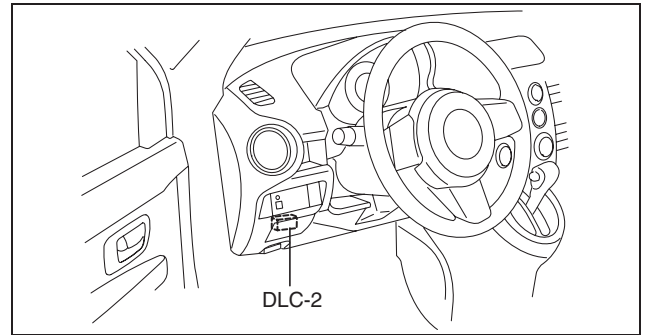
<b>DTC INSPECTION</b>		
[INSTRUMENT CLUSTER] .....	09-02F-1	
<b>CLEARING DTC</b>		
[INSTRUMENT CLUSTER] .....	09-02F-2	
<b>DTC TABLE</b>		
[INSTRUMENT CLUSTER] .....	09-02F-2	
<b>DTC B1A84:41/U0300:00</b>		
[INSTRUMENT CLUSTER] .....	09-02F-3	
<b>DTC B1A84:51/U2100:00</b>		
[INSTRUMENT CLUSTER] .....	09-02F-4	
<b>DTC B1B71:14</b>		
[INSTRUMENT CLUSTER] .....	09-02F-5	
System Wiring Diagram .....	09-02F-5	
<b>DTC P0070:14</b>		
[INSTRUMENT CLUSTER] .....	09-02F-7	
System Wiring Diagram .....	09-02F-7	
<b>DTC P193B:14</b>		
[INSTRUMENT CLUSTER] .....	09-02F-9	
System Wiring Diagram .....	09-02F-9	
<b>DTC U0401:68</b>		
[INSTRUMENT CLUSTER] .....	09-02F-11	
<b>DTC U0401:92</b>		
[INSTRUMENT CLUSTER] .....	09-02F-11	
<b>DTC U0402:92</b>		
[INSTRUMENT CLUSTER] .....	09-02F-12	
<b>DTC U0415:92</b>		
[INSTRUMENT CLUSTER] .....	09-02F-12	
<b>DTC U0420:92</b>		
[INSTRUMENT CLUSTER] .....	09-02F-13	
<b>DTC U0452:68</b>		
[INSTRUMENT CLUSTER] .....	09-02F-13	
<b>DTC U0452:92</b>		
[INSTRUMENT CLUSTER] .....	09-02F-13	
<b>DTC U0515:68</b>		
[INSTRUMENT CLUSTER] .....	09-02F-14	
<b>DTC U3000:41</b>		
[INSTRUMENT CLUSTER] .....	09-02F-14	
<b>DTC U3003:16</b>		
[INSTRUMENT CLUSTER] .....	09-02F-15	
System Wiring Diagram .....	09-02F-15	
Diagnostic Procedure .....	09-02F-16	
<b>PID/DATA MONITOR INSPECTION</b>		
[INSTRUMENT CLUSTER] .....	09-02F-17	
<b>PID/DATA MONITOR TABLE</b>		
[INSTRUMENT CLUSTER] .....	09-02F-17	
<b>ACTIVE COMMAND MODES INSPECTION</b>		
[INSTRUMENT CLUSTER] .....	09-02F-18	
<b>ACTIVE COMMAND MODES TABLE</b>		
[INSTRUMENT CLUSTER] .....	09-02F-18	

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## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### DTC INSPECTION [INSTRUMENT CLUSTER]

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Self Test".
    2. Select "Modules".
    3. Select "IC".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "IC".
    3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
  - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection.
4. After completion of repairs, clear all DTCs stored in the instrument cluster. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)



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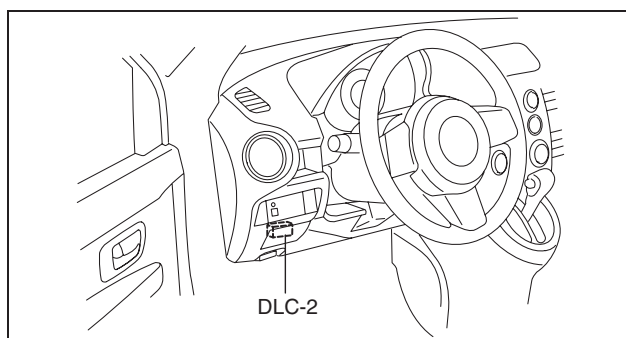


## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### CLEARING DTC [INSTRUMENT CLUSTER]

id0902e8400300

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Self Test".
    2. Select "Modules".
    3. Select "IC".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "IC".
    3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
4. Press the clear button on the DTC screen to clear the DTC.
5. Turn the ignition switch to the LOCK position.
6. Turn the ignition switch to the ON position and wait for 5 s more.
7. Perform DTC inspection. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)
8. Verify that no DTCs are displayed.



am2zzw0000250

### DTC TABLE [INSTRUMENT CLUSTER]

id0902e8347100

DTC	Malfunction location	Reference
B10D5:13	<ul style="list-style-type: none"> <li>• Coil antenna malfunction</li> <li>• The PCM determined a malfunction in the coil antenna even though it is normal.</li> </ul>	(See 09-02C-7 SECURITY LIGHT: 12, DTC: B10D5:13/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
B10D7:05	Key ID number program error	(See 09-02C-8 SECURITY LIGHT: 13, DTC: B10D7:05/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
B10D7:51	The instrument cluster has detected unprogrammed key ID number.	(See 09-02C-12 SECURITY LIGHT: 15, DTC: B10D7:51/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
B10D7:81	The instrument cluster cannot read key ID number data normally.	(See 09-02C-11 SECURITY LIGHT: 14, DTC: B10D7:81/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
B10D7:94	The key ID number data cannot be read.	(See 09-02C-9 SECURITY LIGHT: 13, DTC: B10D7:94/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
B10D8:00	Only one key ID number is programmed.	(See 09-02C-14 SECURITY LIGHT: 21, DTC: B10D8:00/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
B10D9:87	No detected communication with the coil antenna.	(See 09-02C-5 SECURITY LIGHT: 11, DTC: B10D9:87/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
B10DA:51	Communication error between the instrument cluster and the PCM (data transfer failure)	(See 09-02C-15 SECURITY LIGHT: 22, DTC: B10DA:51/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
B10DA:62	Communication error between the instrument cluster and the PCM (mismatched conditions)	(See 09-02C-16 SECURITY LIGHT: 23, DTC: B10DA:62/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
B1A84:41	Instrument cluster configuration data error	(See 09-02F-3 DTC B1A84:41/U0300:00 [INSTRUMENT CLUSTER].)
B1A84:51	Instrument cluster configuration not implemented	(See 09-02F-4 DTC B1A84:51/U2100:00 [INSTRUMENT CLUSTER].)
B1B71:14*	Evaporator temperature sensor circuit malfunction	(See 09-02F-5 DTC B1B71:14 [INSTRUMENT CLUSTER].)
P0070:14	Ambient temperature cannot be displayed on LCD of meter	(See 09-02F-7 DTC P0070:14 [INSTRUMENT CLUSTER].)
P193B:14*	Accelerator pedal position (APP) sensor circuit malfunction	(See 09-02F-9 DTC P193B:14 [INSTRUMENT CLUSTER].)

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

DTC	Malfunction location	Reference
U0001:88	Module communication error (HS-CAN)	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].)
U0100:00	PCM communication error	(See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
U0100:87	Communication error between the instrument cluster and the PCM (no response)	(See 09-02C-13 SECURITY LIGHT: 16, DTC: U0100:87/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]).
U0101:00	TCM communication error	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
U0121:00	ABS HU/CM communication error (With ABS) DSC HU/CM communication error (With DSC)	
U0131:00	EPS control module communication error	
U0140:00	BCM communication error	
U0151:00	SAS control module communication error	
U0214:00	Keyless control module communication error	
U0300:00	Instrument cluster configuration data error	(See 09-02F-3 DTC B1A84:41/U0300:00 [INSTRUMENT CLUSTER].)
U0401:68	Signal error from PCM	(See 09-02F-11 DTC U0401:68 [INSTRUMENT CLUSTER].)
U0401:92	Signal error from PCM	(See 09-02F-11 DTC U0401:92 [INSTRUMENT CLUSTER].)
U0402:92	Signal error from TCM	(See 09-02F-12 DTC U0402:92 [INSTRUMENT CLUSTER].)
U0415:92	Signal error from ABS HU/CM (With ABS) Signal error from DSC HU/CM (With DSC)	(See 09-02F-12 DTC U0415:92 [INSTRUMENT CLUSTER].)
U0420:92	Signal error from EPS	(See 09-02F-13 DTC U0420:92 [INSTRUMENT CLUSTER].)
U0452:68	Signal error from SAS control module	(See 09-02F-13 DTC U0452:68 [INSTRUMENT CLUSTER].)
U0452:92	Signal error from SAS control module	(See 09-02F-13 DTC U0452:92 [INSTRUMENT CLUSTER].)
U0515:68	Signal error from keyless control module	(See 09-02F-14 DTC U0515:68 [INSTRUMENT CLUSTER].)
U2100:00	Instrument cluster configuration not implemented	(See 09-02F-4 DTC B1A84:51/U2100:00 [INSTRUMENT CLUSTER].)
U3000:41	Instrument cluster internal malfunction	(See 09-02F-14 DTC U3000:41 [INSTRUMENT CLUSTER].)
U3003:16	Battery positive voltage is low	(See 09-02F-15 DTC U3003:16 [INSTRUMENT CLUSTER].)

\* : MZ-CD 1.4 DI Turbo, MZ-CD 1.6 (Y6)

### DTC B1A84:41/U0300:00 [INSTRUMENT CLUSTER]

id0902e8999900

<b>DTCs B1A84:41, U0300:00</b>	<b>Instrument cluster configuration error</b>
<b>Detection Condition</b>	Configuration error
<b>Possible Causes</b>	Configuration was not done correctly for some reason

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### Diagnostic Procedure

Step	Inspection		Action
1	<b>PERFORM INSTRUMENT CLUSTER CONFIGURATION</b> <ul style="list-style-type: none"> <li>Perform the instrument cluster configuration using the M-MDS. (See 09-22-7 INSTRUMENT CLUSTER CONFIGURATION.)</li> <li>Clear the DTC. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Inspect the instrument cluster DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Are DTCs B1A84:41, U0300:00 displayed?</li> </ul>	Yes	Replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.) Go to the next step.
		No	DTC troubleshooting completed.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Inspect the instrument cluster DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Are any other DTCs displayed?</li> </ul>	Yes	Perform the corresponding DTC inspection. (See 09-02F-2 DTC TABLE [INSTRUMENT CLUSTER].)
		No	DTC troubleshooting completed.

### DTC B1A84:51/U2100:00 [INSTRUMENT CLUSTER]

id0902e8999800

<b>DTCs B1A84:51, U2100:00</b>	<b>Instrument cluster configuration not implemented</b>
Detection Condition	Configuration setting has not been performed
Possible Causes	Instrument cluster configuration not implemented

### Diagnostic Procedure

Step	Inspection		Action
1	<b>PERFORM INSTRUMENT CLUSTER CONFIGURATION</b> <ul style="list-style-type: none"> <li>Perform the instrument configuration using the M-MDS. (See 09-22-7 INSTRUMENT CLUSTER CONFIGURATION.)</li> <li>Clear the DTC. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Inspect the instrument cluster DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Are DTCs B1A84:51, U2100:00 displayed?</li> </ul>	Yes	Replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.) Go to the next step.
		No	DTC troubleshooting completed.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Inspect the instrument cluster DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Are any other DTCs displayed?</li> </ul>	Yes	Perform the corresponding DTC inspection. (See 09-02F-2 DTC TABLE [INSTRUMENT CLUSTER].)
		No	DTC troubleshooting completed.

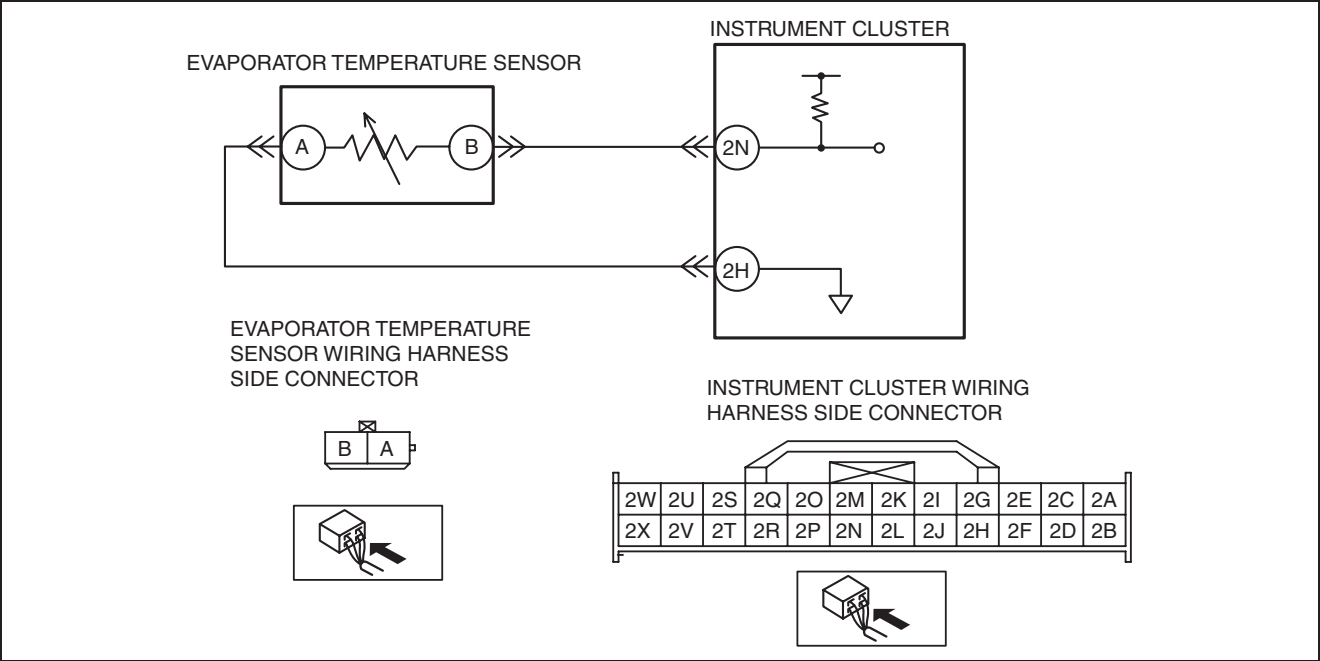
ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

DTC B1B71:14 [INSTRUMENT CLUSTER]

id0902e8998900

DTC B1B71:14	Evaporator temperature sensor circuit malfunction
Detection Condition	Evaporator temperature sensor resistance value not input for a continuous 5 s
Possible Causes	<ul style="list-style-type: none"><li>• Open or short to ground circuit in wiring harness between evaporator temperature sensor and instrument cluster</li><li>• Evaporator temperature sensor malfunction</li><li>• Instrument cluster malfunction</li></ul>

System Wiring Diagram



am2zzw0000273

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT EVAPORATOR TEMPERATURE SENSOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the evaporator temperature sensor connector. (See 07-40A-28 EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See 07-40B-21 EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION [MANUAL AIR CONDITIONER].)</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the connector or terminal. After repair procedure, <b>go to Step 9.</b>
2	<b>INSPECT EVAPORATOR TEMPERATURE SENSOR</b> <ul style="list-style-type: none"> <li>Inspect the evaporator temperature sensor. (See 07-40A-28 EVAPORATOR TEMPERATURE SENSOR INSPECTION [FULL-AUTO AIR CONDITIONER].) (See 07-40B-21 EVAPORATOR TEMPERATURE SENSOR INSPECTION [MANUAL AIR CONDITIONER].)</li> <li>Is the evaporator temperature sensor normal?</li> </ul>	Yes Go to the next step.
		No Replace the evaporator temperature sensor. (See 07-40A-28 EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See 07-40B-21 EVAPORATOR TEMPERATURE SENSOR REMOVAL/INSTALLATION [MANUAL AIR CONDITIONER].) After replacement, <b>go to Step 9.</b>
3	<b>INSPECT EVAPORATOR TEMPERATURE SENSOR FOR SHORT CIRCUIT TO GROUND</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness for continuity between evaporator temperature sensor connector terminal B and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair/replace the malfunctioning vehicle wiring harness. After repair procedure, go to Step 7.
		No Go to the next step.
4	<b>INSPECT EVAPORATOR TEMPERATURE SENSOR FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position.</li> <li>Measure the voltage at evaporator temperature sensor connector terminal B.</li> <li>Is the voltage <b>5 V</b>?</li> </ul>	Yes Go to Step 8.
		No Go to the next step.
5	<b>INSPECT EVAPORATOR TEMPERATURE SENSOR FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Measure the voltage at instrument cluster terminal 2N.</li> <li>Is the voltage <b>5 V</b>?</li> </ul>	Yes Repair/replace the malfunctioning vehicle wiring harness. After repair procedure, go to the next step.
		No Go to Step 8.
6	<b>INSPECT EVAPORATOR TEMPERATURE SENSOR FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Inspect the wiring harness for continuity between evaporator temperature sensor connector terminal A and body ground.</li> <li>Is there continuity?</li> </ul>	Yes <b>Go to Step 9.</b>
		No Go to the next step.
7	<b>OPEN CIRCUIT IN EVAPORATOR TEMPERATURE SENSOR CIRCUIT</b> <ul style="list-style-type: none"> <li>Inspect for continuity between instrument cluster terminal 2H and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair/replace the malfunctioning vehicle wiring harness. After repair procedure, go to the next step.
		No Go to the next step.
8	<b>VERIFY INSTRUMENT CLUSTER CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the instrument cluster connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the connector or terminal. After repair procedure, go to the next step.

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

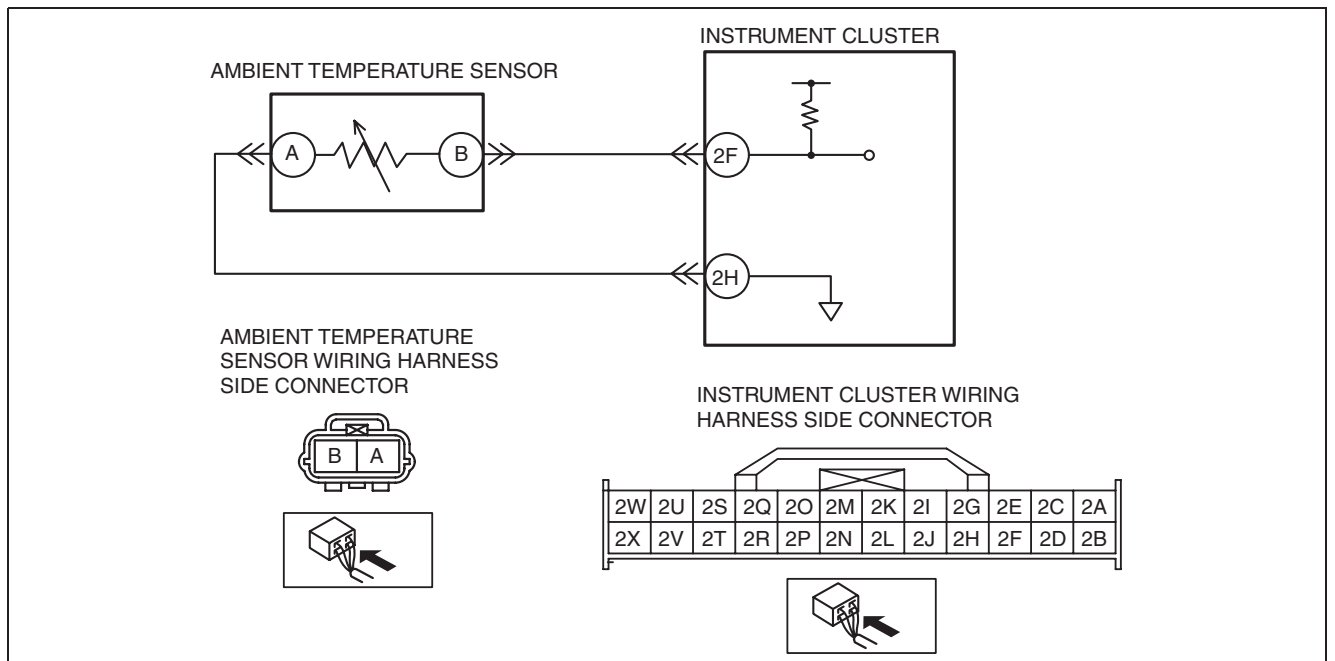
Step	Inspection	Action
9	<b>VERIFY THAT SAME DTC IS NOT OUTPUT AGAIN</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Clear the DTC. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>VERIFY DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC B1B71:14 output?</li> </ul>	Yes Repeat the inspection from Step 1. <ul style="list-style-type: none"> <li>If the malfunction does not recur, go to the next step.</li> <li>If the malfunction recurs, replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)</li> </ul>
		No Go to the next step.
10	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify other DTC displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

### DTC P0070:14 [INSTRUMENT CLUSTER]

id0902e8999300

<b>DTC P0070:14</b>	<b>Ambient temperature not displayed in LCD meter</b>
Detection Condition	Open or short circuit in wiring harness between ambient temperature sensor and instrument cluster
Possible Causes	<ul style="list-style-type: none"> <li>Open or short circuit in wiring harness between ambient temperature sensor and instrument cluster</li> <li>Ambient temperature sensor malfunction</li> <li>Instrument cluster malfunction</li> </ul>

### System Wiring Diagram



am2zzw0000092

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT AMBIENT TEMPERATURE SENSOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the ambient temperature sensor connector.</li> <li>(See 07-40A-26 AMBIENT TEMPERATURE SENSOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].)</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the connector or terminal. After repair procedure, <b>go to Step 9.</b>
2	<b>INSPECT AMBIENT TEMPERATURE SENSOR</b> <ul style="list-style-type: none"> <li>Inspect the ambient temperature sensor.</li> <li>Is the ambient temperature sensor normal?</li> </ul>	Yes Go to the next step.
		No Replace the ambient temperature sensor. (See 07-40A-26 AMBIENT TEMPERATURE SENSOR REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) After replacement, <b>go to Step 9.</b>
3	<b>INSPECT AMBIENT TEMPERATURE SENSOR FOR SHORT CIRCUIT TO GROUND</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness for continuity between ambient temperature sensor connector terminal B and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair/replace the malfunctioning vehicle wiring harness. After repair procedure, go to Step 7.
		No Go to the next step.
4	<b>INSPECT AMBIENT TEMPERATURE SENSOR FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position.</li> <li>Measure the voltage at ambient temperature sensor connector terminal B.</li> <li>Is the voltage <b>5 V</b>?</li> </ul>	Yes Go to Step 8.
		No Go to the next step.
5	<b>INSPECT AMBIENT TEMPERATURE SENSOR FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Measure the voltage at instrument cluster terminal 2F.</li> <li>Is the voltage <b>5 V</b>?</li> </ul>	Yes Repair/replace the malfunctioning vehicle wiring harness. After repair procedure, go to the next step.
		No Go to Step 8.
6	<b>INSPECT AMBIENT TEMPERATURE SENSOR FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Inspect the wiring harness for continuity between ambient temperature sensor connector terminal A and body ground.</li> <li>Is there continuity?</li> </ul>	Yes <b>Go to Step 9.</b>
		No Go to the next step.
7	<b>OPEN CIRCUIT IN AMBIENT TEMPERATURE SENSOR CIRCUIT</b> <ul style="list-style-type: none"> <li>Inspect for continuity between instrument cluster terminal 2H and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair/replace the malfunctioning vehicle wiring harness. After repair procedure, go to the next step.
		No Go to the next step.
8	<b>VERIFY INSTRUMENT CLUSTER CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the instrument cluster connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the connector or terminal. After repair procedure, go to the next step.



## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

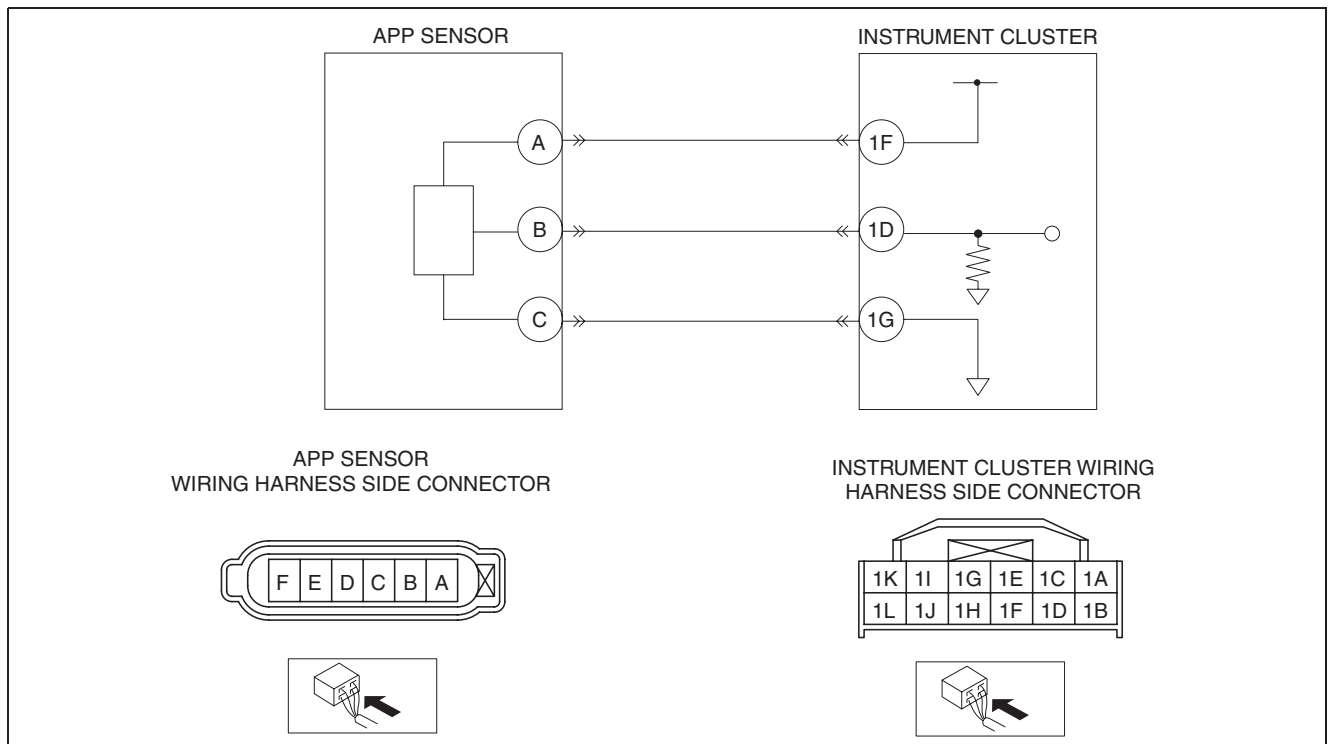
Step	Inspection	Action
9	<b>VERIFY THAT SAME DTC IS NOT OUTPUT AGAIN</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Clear the DTC. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>VERIFY DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC P0070:14 output?</li> </ul>	Yes Repeat the inspection from Step 1. <ul style="list-style-type: none"> <li>If the malfunction does not recur, go to the next step.</li> <li>If the malfunction recurs, replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)</li> </ul>
		No Go to the next step.
10	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify other DTC displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

### DTC P193B:14 [INSTRUMENT CLUSTER]

id0902e8998700

DTC P193B:14	Accelerator pedal position (APP) sensor circuit malfunction
Detection Condition	APP sensor resistance value not input for a continuous 5 s
Possible Causes	<ul style="list-style-type: none"> <li>Open or short to ground circuit in wiring harness between APP sensor and instrument cluster</li> <li>APP sensor malfunction</li> <li>Instrument cluster malfunction</li> </ul>

### System Wiring Diagram



am2zzw0000273

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT APP SENSOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the APP sensor connector. (See 01-13B-6 ACCELERATOR PEDAL REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 01-13C-3 ACCELERATOR PEDAL REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].)</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the connector or terminal. After repair procedure, go to Step 6.
2	<b>INSPECT APP SENSOR CIRCUIT FOR SHORT CIRCUIT TO GROUND</b> <ul style="list-style-type: none"> <li>Inspect for continuity between the following circuits: <ul style="list-style-type: none"> <li>APP sensor terminal A (wiring harness-side)</li> <li>APP sensor terminal B (wiring harness-side)</li> </ul> </li> <li>Is there any continuity?</li> </ul>	Yes Repair/replace the malfunctioning vehicle wiring harness. After repair procedure, go to Step 6.
		No Go to the next step.
3	<b>INSPECT APP SENSOR</b> <ul style="list-style-type: none"> <li>Inspect the APP sensor. (See 01-40B-27 ACCELERATOR PEDAL POSITION (APP) SENSOR INSPECTION [MZ-CD 1.4 DI Turbo].) (See 01-40C-24 ACCELERATOR PEDAL POSITION (APP) SENSOR INSPECTION [MZ-CD 1.6 (Y6)].)</li> <li>Is the APP sensor normal?</li> </ul>	Yes Go to the next step.
		No Replace the APP sensor. (See 01-13B-6 ACCELERATOR PEDAL REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 01-13C-3 ACCELERATOR PEDAL REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].) After replacement, go to Step 6.
4	<b>VERIFY INSTRUMENT CLUSTER CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the instrument cluster connector.</li> <li>Inspect the connector and terminals (corrosion, damage, pin disconnection).</li> <li>Are the connector and terminals normal?</li> </ul>	Yes Go to the next step.
		No Repair/replace the connector or terminal. After repair procedure, go to Step 6.
5	<b>INSPECT APP SENSOR CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Inspect for continuity between the following circuits: <ul style="list-style-type: none"> <li>APP sensor terminal A (wiring harness-side) and instrument cluster terminal 1F (wiring harness-side)</li> <li>APP sensor terminal B (wiring harness-side) and instrument cluster terminal 1D (wiring harness-side)</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness for a possible open circuit, then go to the next step.
6	<b>VERIFY THAT SAME DTC IS NOT OUTPUT AGAIN</b> <ul style="list-style-type: none"> <li>Reconnect the disconnected connectors.</li> <li>Clear the DTC. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>VERIFY DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC P193B:14 output?</li> </ul>	Yes Repeat the inspection from Step 1. <ul style="list-style-type: none"> <li>If the malfunction does not recur, go to the next step.</li> <li>If the malfunction recurs, replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)</li> </ul>
		No Go to the next step.
7	<b>VERIFY THAT NO OTHER DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Verify other DTC displayed.</li> <li>Are any other DTCs output?</li> </ul>	Yes Perform the corresponding DTC inspection.
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### DTC U0401:68 [INSTRUMENT CLUSTER]

id0902e8988800

<b>DTC U0401:68</b>	<b>Signal error from PCM</b>
<b>Detection Condition</b>	Correct data cannot be received from PCM
<b>Possible Causes</b>	PCM malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT FOR PCM MALFUNCTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Connect the M-MDS to the DLC-2.</li> <li>Perform the PCM DTC inspection using the M-MDS. (See 01-02A-8 ON-BOARD DIAGNOSTIC TEST [ZJ, ZY].) (See 01-02B-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.4 DI Turbo].) (See 01-02C-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.6 (Y6)].)</li> <li>Is the DTC displayed again?</li> </ul>	Yes Go to the applicable DTC inspection. (See 01-02A-14 DTC TABLE [ZJ, ZY].) (See 01-02B-8 DTC TABLE [MZ-CD 1.4 DI Turbo].) (See 01-02C-8 DTC TABLE [MZ-CD 1.6 (Y6)].)
		No Go to the next step.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Perform the instrument cluster DTC inspection using the M-MDS. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U0401:68 displayed?</li> </ul>	Yes Replace the PCM. (See 01-40A-8 PCM REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-40B-6 PCM REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 01-40C-5 PCM REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].)
		No DTC troubleshooting completed.

### DTC U0401:92 [INSTRUMENT CLUSTER]

id0902e8988700

<b>DTC U0401:92</b>	<b>On request from PCM</b>
<b>Detection Condition</b>	On request error from PCM
<b>Possible Causes</b>	PCM malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT FOR PCM MALFUNCTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Connect the M-MDS to the DLC-2.</li> <li>Perform the PCM DTC inspection using the M-MDS. (See 01-02A-8 ON-BOARD DIAGNOSTIC TEST [ZJ, ZY].) (See 01-02B-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.4 DI Turbo].) (See 01-02C-5 ON-BOARD DIAGNOSTIC TEST [MZ-CD 1.6 (Y6)].)</li> <li>Is the DTC displayed again?</li> </ul>	Yes Go to the applicable DTC inspection. (See 01-02A-14 DTC TABLE [ZJ, ZY].) (See 01-02B-8 DTC TABLE [MZ-CD 1.4 DI Turbo].) (See 01-02C-8 DTC TABLE [MZ-CD 1.6 (Y6)].)
		No Go to the next step.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Perform the instrument cluster DTC inspection using the M-MDS. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U0401:92 displayed?</li> </ul>	Yes Replace the PCM. (See 01-40A-8 PCM REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-40B-6 PCM REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 01-40C-5 PCM REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].)
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### DTC U0402:92 [INSTRUMENT CLUSTER]

id0902e8988600

<b>DTC U0402:92</b>	<b>On request from TCM</b>
<b>Detection Condition</b>	Illumination command signal from TCM continues for <b>20 s or more</b>
<b>Possible Causes</b>	TCM malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT FOR TCM MALFUNCTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Connect the M-MDS to the DLC-2.</li> <li>Perform the TCM DTC inspection using the M-MDS. (See 05-02B-3 ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [DJVA-EL].)</li> <li>Is the DTC displayed again?</li> </ul>	Yes Go to the applicable DTC inspection. (See 05-02B-3 ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [DJVA-EL].)
		No Go to the next step.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Perform the instrument cluster DTC inspection using the M-MDS. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U0402:92 displayed?</li> </ul>	Yes Replace the TCM. (See 05-19-28 TCM REMOVAL/INSTALLATION [DJVA-EL].)
		No DTC troubleshooting completed.

### DTC U0415:92 [INSTRUMENT CLUSTER]

id0902e8988400

#### Note

- If the ignition switch is turned off after reprogramming the PCM and then turned to the ON position within 30 s, the PCM reprogramming cannot be completed correctly and DTC U0415:92 is stored.

<b>DTC U0415:92</b>	<b>On request from ABS HU/CM or DSC HU/CM</b>
<b>Detection Condition</b>	On request malfunction from ABS HU/CM or DSC HU/CM
<b>Possible Causes</b>	<ul style="list-style-type: none"> <li>ABS HU/CM or DSC HU/CM malfunction</li> <li>The ignition switch is turned to the ON position within 30 s after the PCM reprogramming</li> </ul>

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT ABS HU/CM OR DSC HU/CM FOR MALFUNCTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Connect the M-MDS to the DLC-2.</li> <li>Perform the ABS HU/CM or DSC HU/CM DTC inspection using the M-MDS. (See 04-02A-2 ON-BOARD DIAGNOSIS [ABS].) (See 04-02B-2 ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].)</li> <li>Is the DTC displayed again?</li> </ul>	Yes Go to the applicable DTC inspection. (See 04-02A-2 ON-BOARD DIAGNOSIS [ABS].) (See 04-02B-2 ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].)
		No Go to the next step.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Perform the instrument cluster DTC inspection using the M-MDS. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U0415:92 displayed?</li> </ul>	Yes Replace the ABS HU/CM or DSC HU/CM. (See 04-13-3 ABS HU/CM REMOVAL/INSTALLATION [L.H.D.].) (See 04-13-6 ABS HU/CM REMOVAL/INSTALLATION [R.H.D.].) (See 04-15-5 DSC HU/CM REMOVAL/INSTALLATION [L.H.D.].) (See 04-15-9 DSC HU/CM REMOVAL/INSTALLATION [R.H.D.].)
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### DTC U0420:92 [INSTRUMENT CLUSTER]

id0902e8988300

<b>DTC U0420:92</b>	<b>On request from EPS control module</b>
<b>Detection Condition</b>	On request malfunction from EPS control module
<b>Possible Causes</b>	EPS control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT EPS CONTROL MODULE FOR MALFUNCTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Connect the M-MDS to the DLC-2.</li> <li>Perform the EPS control module DTC inspection using the M-MDS. (See 06-02-2 ELECTRIC POWER STEERING (EPS) ON-BOARD DIAGNOSIS.)</li> <li>Is the DTC displayed again?</li> </ul>	Yes Go to the applicable DTC inspection. (See 06-02-2 ELECTRIC POWER STEERING (EPS) ON-BOARD DIAGNOSIS.)
		No Go to the next step.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Perform the instrument cluster DTC inspection using the M-MDS. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U0420:92 displayed?</li> </ul>	Yes Replace the EPS control module. (See 06-13-4 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION [L.H.D.].) (See 06-13-10 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION [R.H.D.].)
		No DTC troubleshooting completed.

### DTC U0452:68 [INSTRUMENT CLUSTER]

id0902e8988100

<b>DTC U0452:68</b>	<b>Signal error from SAS control module</b>
<b>Detection Condition</b>	Correct data cannot be received from SAS control module
<b>Possible Causes</b>	SAS control module malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT FOR SAS CONTROL MODULE MALFUNCTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Connect the M-MDS to the DLC-2.</li> <li>Perform the DTC inspection for the SAS control module using the M-MDS. (See 08-02-6 DTC DISPLAY.)</li> <li>Is the DTC displayed again?</li> </ul>	Yes Go to the applicable DTC inspection. (See 08-02-7 DTC TABLE.)
		No Go to the next step.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Perform the instrument cluster DTC inspection using the M-MDS. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U0452:68 displayed?</li> </ul>	Yes Replace the SAS control module. (See 08-10-16 SAS CONTROL MODULE REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC U0452:92 [INSTRUMENT CLUSTER]

id0902e8988200

<b>DTC U0452:92</b>	<b>On request from SAS control module</b>
<b>Detection Condition</b>	On request malfunction from SAS control module
<b>Possible Causes</b>	SAS control module malfunction

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT SAS CONTROL MODULE FOR MALFUNCTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Connect the M-MDS to the DLC-2.</li> <li>Perform the DTC inspection for the SAS control module using the M-MDS. (See 08-02-6 DTC DISPLAY.)</li> <li>Is the DTC displayed again?</li> </ul>	Yes Go to the applicable DTC inspection. (See 08-02-7 DTC TABLE.)
		No Go to the next step.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Perform the instrument cluster DTC inspection using the M-MDS. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U0452:92 displayed?</li> </ul>	Yes Replace the SAS control module. (See 08-10-16 SAS CONTROL MODULE REMOVAL/ INSTALLATION.)
		No DTC troubleshooting completed.

### DTC U0515:68 [INSTRUMENT CLUSTER]

id0902e8988000

<b>DTC U0515:68</b>	<b>Signal error from keyless control module</b>
<b>Detection Condition</b>	Correct data cannot be received from keyless control module
<b>Possible Causes</b>	Keyless control module malfunction

### Diagnostic Procedure

Step	Inspection	Action
1	<b>INSPECT FOR KEYLESS CONTROL MODULE MALFUNCTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Connect the M-MDS to the DLC-2.</li> <li>Perform the keyless control module DTC inspection using the M-MDS. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the DTC displayed again?</li> </ul>	Yes Go to the applicable DTC inspection. (See 09-02A-5 DTC TABLE [ADVANCED KEYLESS AND START SYSTEM].)
		No Go to the next step.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Perform the instrument cluster DTC inspection using the M-MDS. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U0515:68 displayed?</li> </ul>	Yes Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
		No DTC troubleshooting completed.

### DTC U3000:41 [INSTRUMENT CLUSTER]

id0902e8999500

<b>DTC U3000:41</b>	<b>Instrument cluster internal malfunction</b>
<b>Detection Condition</b>	Malfunction in internal circuit detected
<b>Possible Causes</b>	Instrument cluster internal malfunction

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### Diagnostic Procedure

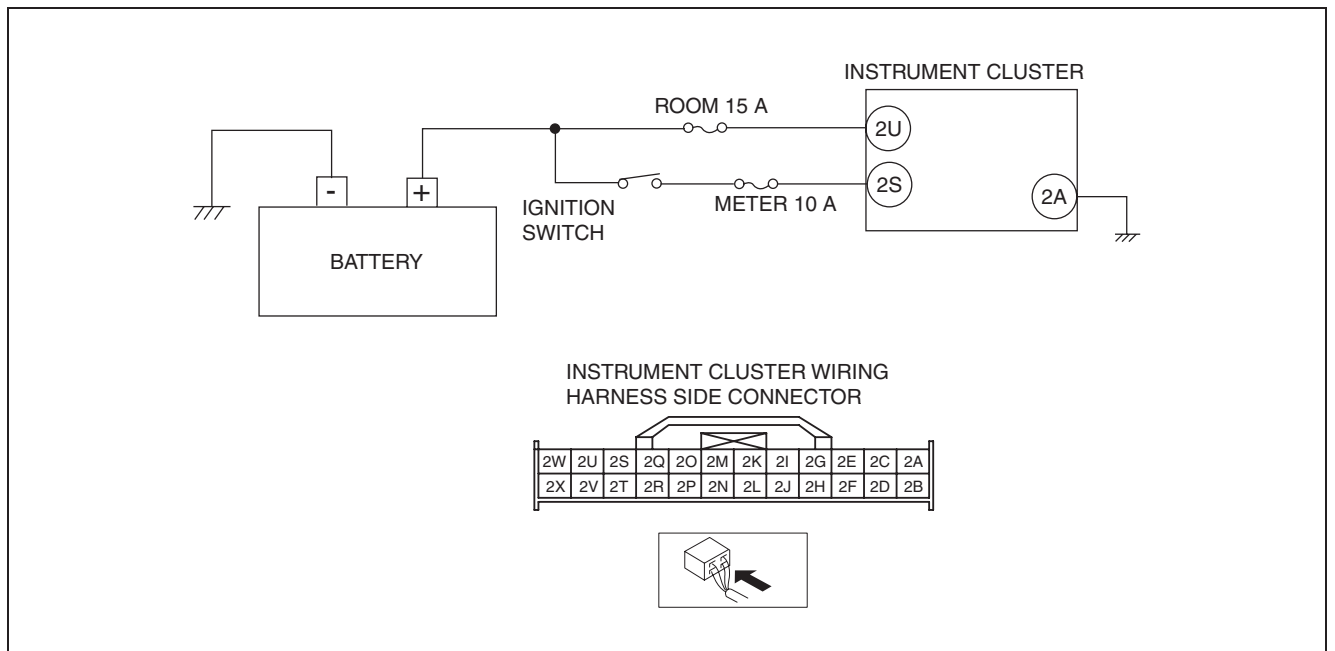
Step	Inspection	Action
1	<b>VERIFY DTCs</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Inspect the instrument cluster DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U0300:41 displayed?</li> </ul>	Yes Replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.) Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Inspect the instrument cluster DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Are any other DTCs displayed?</li> </ul>	Yes Perform the corresponding DTC inspection. (See 09-02F-2 DTC TABLE [INSTRUMENT CLUSTER].)
		No DTC troubleshooting completed.

### DTC U3003:16 [INSTRUMENT CLUSTER]

id0902e8999400

DTC U3003:16	Battery positive voltage is low
Detection Condition	Instrument cluster power supply voltage less than 10 V
Possible Causes	<ul style="list-style-type: none"> <li>Open circuit or short to ground in the wiring harness between the battery (+) terminal and instrument cluster terminal 2S or terminal 2U.</li> <li>Open circuit or short to the power supply in the wiring harness between the instrument cluster and body ground</li> <li>METER 10 A fuse malfunction</li> <li>ROOM 15 A fuse malfunction</li> <li>Battery malfunction</li> <li>Instrument cluster malfunction</li> </ul>

### System Wiring Diagram



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## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### Diagnostic Procedure

Step	Inspection	Action	
1	<b>BATTERY INSPECTION</b> <ul style="list-style-type: none"> <li>Refer to the battery inspection and inspect the battery. (See 01-17A-4 BATTERY INSPECTION [ZJ, ZY].) (See 01-17B-2 BATTERY INSPECTION [MZ-CD 1.4 DI Turbo].) (See 01-17C-2 BATTERY INSPECTION [MZ-CD 1.6 (Y6)].)</li> <li>Is the battery normal?</li> </ul>	Yes	Go to the next step.
		No	Replace or charge the battery. (See 01-17A-1 BATTERY REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17A-5 BATTERY RECHARGING [ZJ, ZY].) (See 01-17B-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 01-17B-3 BATTERY RECHARGING [MZ-CD 1.4 DI Turbo].) (See 01-17B-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 01-17C-3 BATTERY RECHARGING [MZ-CD 1.6 (Y6)].) (See 01-17C-1 BATTERY REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].)
2	<b>FUSE INSPECTION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Remove the METER 10 A fuse and ROOM 15 A fuse.</li> <li>Is the fuse normal?</li> </ul>	Yes	Go to the next step.
		No	Replace the METER 10 A fuse or ROOM 15 A fuse.
3	<b>INSPECT WIRING HARNESS BETWEEN BATTERY (+) TERMINAL AND INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Install the METER 10 A fuse and ROOM 15 A fuse.</li> <li>Remove the meter hood. (See 09-17-24 METER HOOD REMOVAL/INSTALLATION.)</li> <li>Remove the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)</li> <li>Disconnect the instrument cluster connector.</li> <li>Connect the negative battery cable.</li> <li>Measure the voltage between instrument cluster terminals 2S and 2U.</li> <li>Is the voltage between <b>9—15.9 V</b>?</li> </ul>	Yes	Go to the next step.
		No	Repair the related wiring harness.
4	<b>INSPECT WIRING HARNESS BETWEEN INSTRUMENT CLUSTER AND BODY GROUND</b> <ul style="list-style-type: none"> <li>Inspect the wiring harness between instrument cluster connector terminal 2A and body ground.                             <ul style="list-style-type: none"> <li>— Short to power supply</li> <li>— Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes	Go to the next step.
		No	Replace the wiring harness between the instrument cluster and body ground.
5	<b>PERFORM INSTRUMENT CLUSTER DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Connect the instrument cluster connector.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Perform the instrument cluster DTC inspection using the M-MDS. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Is DTC U3003:16 displayed?</li> </ul>	Yes	Replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/INSTALLATION.) Go to the next step.
		No	DTC troubleshooting completed.

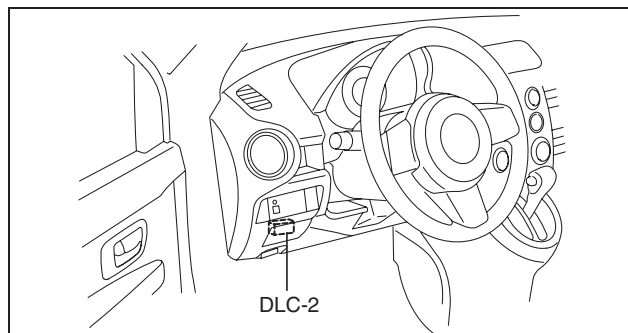
## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

Step	Inspection	Action
6	<b>VERIFY THAT NO OTHER DTCs ARE RECORDED</b> <ul style="list-style-type: none"> <li>Clear DTCs using the M-MDS. (See 09-02F-2 CLEARING DTC [INSTRUMENT CLUSTER].)</li> <li>Inspect the instrument cluster DTCs. (See 09-02F-1 DTC INSPECTION [INSTRUMENT CLUSTER].)</li> <li>Are any other DTCs displayed?</li> </ul>	Yes Perform the corresponding DTC inspection. (See 09-02F-2 DTC TABLE [INSTRUMENT CLUSTER].)
		No DTC troubleshooting completed.

### PID/DATA MONITOR INSPECTION [INSTRUMENT CLUSTER]

id0902e8400500

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "DataLogger".
    2. Select "Modules".
    3. Select "IC".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "IC".
    3. Select "DataLogger".
3. Select the applicable PID from the PID table.
4. Verify the PID data according to the directions on the screen.



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#### Note

- The PID data screen function is used for monitoring the calculated value of input/output signals in the module. Therefore, if the monitored value of the output parts is not within the specification, it is necessary to inspect the monitored value of input parts corresponding to the applicable output part control. In addition, because the system does not display an output part malfunction as an abnormality in the monitored value, it is necessary to inspect the output parts individually.

### PID/DATA MONITOR TABLE [INSTRUMENT CLUSTER]

id0902e8345900

PID name (definition)	Unit/status	Data contents	Terminal
SPDMTR (Speedometer)	KPH,MPH	Vehicle driven: Displays vehicle speed	2B, 2D
TACHOMTR (Tachometer)	RPM	When the engine is running: Indicate the engine speed	2B, 2D
NUMKEYS (Number of key codes)	—	Number of programmed key ID numbers: 0—8	—
VPWR (Instrument cluster power supply voltage)	V	Indicate the battery voltage	2S
ODO_CNT (Odometer rolling count)	m, ft	Displays odometer data  <b>Note</b> <ul style="list-style-type: none"> <li>Distance is displayed within a range of 0 to 51 m repeatedly. Data is reset to 0 m by turning the ignition switch to the LOCK position.</li> </ul>	2B, 2D
FUEL_GAUGE (Fuel gauge)	L	Displays remaining fuel quantity	2R
FUEL_INPUT (Fuel gauge sender unit)	ohm	Resistance value of fuel gauge sender unit	2R, 2T

## ON-BOARD DIAGNOSTIC [INSTRUMENT CLUSTER]

### ACTIVE COMMAND MODES INSPECTION [INSTRUMENT CLUSTER]

id0902e8465900

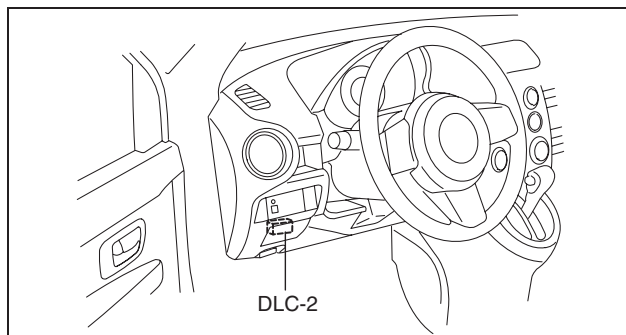
1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.

- When using the IDS (laptop PC)
  1. Select "DataLogger".
  2. Select "Modules".
  3. Select "IC".
- When using the PDS (Pocket PC)
  1. Select "Module Tests".
  2. Select "IC".
  3. Select "DataLogger".

3. Select the active command modes from the PID table.

4. Perform the active command modes, inspect the operations for each parts.

- If the operation of output parts cannot be verified after the active command mode inspection is performed, this could indicate the possibility of an open or short circuit, sticking, or operation malfunction in the output parts.



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### ACTIVE COMMAND MODES TABLE [INSTRUMENT CLUSTER]

id0902e8466000

Command name	Operation condition	Output part name	Unit/Operation
LCD_SEG	On : LCD segment displayed	LCD segment (Instrument cluster)	On/Off
WL+IL	On : Warning/indicator lights illuminate	Warning light, indicator light (Instrument cluster)	On/Off
ALARM	On : Warning alarm sounds	Warning alarm (Instrument cluster)	On/Off
SPDMTR	Off: Speedometer gauge needle moves to 0 km/h {0 mph} 60 km/h: Speedometer gauge needle moves to approx. 63 km/h {39 mph} 120 km/h: Speedometer gauge needle moves to approx. 126 km/h {78.3 mph}	Speedometer (Instrument cluster)	Off/60 km/h/120 km/h
TACHOMTR	Off: Tachometer gauge needle moves to 0 rpm 3,000 RPM: Tachometer gauge needle moves to approx. 3,100 rpm 6,000 RPM: Tachometer gauge needle moves to approx. 6,300 rpm	Tachometer (Instrument cluster)	Off/3000RPM/ 6000RPM

## 09-02G ON-BOARD DIAGNOSTIC [BCM]

<b>DTC INSPECTION [BCM]</b> .....	09-02G-2	Malfunction location .....	09-02G-28
<b>CLEARING DTC [BCM]</b> .....	09-02G-2	Detection condition .....	09-02G-28
<b>DTC TABLE [BCM]</b> .....	09-02G-3	Possible causes .....	09-02G-28
<b>DTC B1B55:96 [BCM]</b> .....	09-02G-4	System wiring diagram .....	09-02G-29
Malfunction Location .....	09-02G-4	Diagnostic procedure .....	09-02G-30
Detection Condition .....	09-02G-4	<b>DTC B1013:23 [BCM]</b> .....	09-02G-31
Possible Causes .....	09-02G-4	Malfunction Location .....	09-02G-31
Diagnostic Procedure.....	09-02G-4	Detection Condition.....	09-02G-31
<b>DTC B1C53:13 [BCM]</b> .....	09-02G-5	Possible Causes .....	09-02G-31
Malfunction Location .....	09-02G-5	System Wiring Diagram .....	09-02G-32
Detection Condition .....	09-02G-5	Diagnostic Procedure .....	09-02G-32
Possible Causes .....	09-02G-5	<b>DTC B1087:83/B1087:86/B1087:87/</b>	
System Wiring Diagram .....	09-02G-6	<b>B1087:88 [BCM]</b> .....	09-02G-33
Diagnostic Procedure.....	09-02G-7	Malfunction Location.....	09-02G-33
<b>DTC B1D06:11 [BCM]</b> .....	09-02G-8	Detection Condition.....	09-02G-33
Malfunction Location .....	09-02G-8	Possible Causes .....	09-02G-33
Detection Condition .....	09-02G-8	System Wiring Diagram .....	09-02G-34
Possible Causes .....	09-02G-8	Diagnostic Procedure .....	09-02G-34
System Wiring Diagram .....	09-02G-9	<b>DTC B1172:92 [BCM]</b> .....	09-02G-36
Diagnostic Procedure.....	09-02G-9	Malfunction Location .....	09-02G-36
<b>DTC B1D06:15 [BCM]</b> .....	09-02G-10	Detection Condition.....	09-02G-36
Malfunction Location .....	09-02G-10	Possible Causes .....	09-02G-36
Detection Condition .....	09-02G-10	System Wiring Diagram .....	09-02G-36
Possible Causes .....	09-02G-10	Diagnostic Procedure .....	09-02G-36
System Wiring Diagram .....	09-02G-11	<b>DTC B1175:13 [BCM]</b> .....	09-02G-37
Diagnostic Procedure.....	09-02G-12	Malfunction Location .....	09-02G-37
<b>DTC B1D07:11 [BCM]</b> .....	09-02G-14	Detection Condition.....	09-02G-37
Malfunction Location .....	09-02G-14	Possible Causes .....	09-02G-37
Detection Condition .....	09-02G-14	System Wiring Diagram .....	09-02G-38
Possible Causes .....	09-02G-14	Diagnostic Procedure .....	09-02G-38
System Wiring Diagram .....	09-02G-15	<b>DTC B1176:13 [BCM]</b> .....	09-02G-39
Diagnostic Procedure.....	09-02G-15	Malfunction Location .....	09-02G-39
<b>DTC B1D07:15 [BCM]</b> .....	09-02G-16	Detection Condition.....	09-02G-39
Malfunction Location .....	09-02G-16	Possible Causes .....	09-02G-39
Detection Condition .....	09-02G-16	System Wiring Diagram .....	09-02G-40
Possible Causes .....	09-02G-16	Diagnostic Procedure .....	09-02G-40
System Wiring Diagram .....	09-02G-17	<b>DTC B1178:11 [BCM]</b> .....	09-02G-41
Diagnostic Procedure.....	09-02G-18	3HB/5HB.....	09-02G-41
<b>DTC B1D13:12 [BCM]</b> .....	09-02G-20	4SD.....	09-02G-43
Malfunction Location .....	09-02G-20	<b>DTC U0028:81/U0028:83/U0028:87</b>	
Detection Condition .....	09-02G-20	<b>[BCM]</b> .....	09-02G-44
Possible Causes .....	09-02G-20	Malfunction Location .....	09-02G-44
System Wiring Diagram .....	09-02G-20	Detection Condition.....	09-02G-45
Diagnostic Procedure.....	09-02G-21	Possible Causes .....	09-02G-45
<b>DTC B1D35:11 [BCM]</b> .....	09-02G-21	System Wiring Diagram .....	09-02G-46
Malfunction Location .....	09-02G-21	Diagnostic Procedure .....	09-02G-46
Detection Condition .....	09-02G-21	<b>DTC U0415:68 [BCM]</b> .....	09-02G-49
Possible Causes .....	09-02G-21	Malfunction Location .....	09-02G-49
System Wiring Diagram .....	09-02G-22	Detection Condition.....	09-02G-49
Diagnostic Procedure.....	09-02G-22	Possible Causes .....	09-02G-49
<b>DTC B1D36:92 [BCM]</b> .....	09-02G-23	Diagnostic Procedure .....	09-02G-49
Malfunction Location .....	09-02G-23	<b>DTC U2100:00/U3000:44 [BCM]</b> .....	09-02G-50
Detection Condition .....	09-02G-23	Malfunction Location .....	09-02G-50
Possible Causes .....	09-02G-23	Detection Condition.....	09-02G-50
System Wiring Diagram .....	09-02G-23	Possible Causes .....	09-02G-50
Diagnostic Procedure.....	09-02G-24	Diagnostic Procedure .....	09-02G-50
<b>DTC B10A6:92 [BCM]</b> .....	09-02G-25	<b>DTC U3003:16/U3003:17 [BCM]</b> .....	09-02G-50
Malfunction Location .....	09-02G-25	Malfunction Location .....	09-02G-50
Detection Condition .....	09-02G-25	Detection Condition.....	09-02G-50
Possible Causes .....	09-02G-25	Possible Causes .....	09-02G-50
System Wiring Diagram .....	09-02G-26	System Wiring Diagram .....	09-02G-51
Diagnostic Procedure.....	09-02G-27	Diagnostic Procedure .....	09-02G-51
<b>DTC B1008:11 [BCM]</b> .....	09-02G-28		

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PID/DATA MONITOR INSPECTION		ACTIVE COMMAND MODES	
[BCM] .....	09-02G-52	INSPECTION [BCM]. ....	09-02G-54
PID/DATA MONITOR TABLE [BCM]. ....	09-02G-53	ACTIVE COMMAND MODES TABLE	
		[BCM] .....	09-02G-55

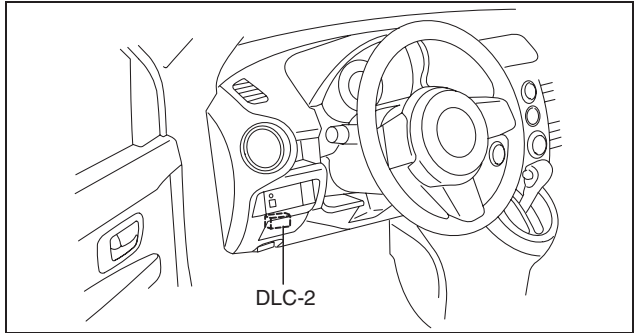
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## ON-BOARD DIAGNOSTIC [BCM]

### DTC INSPECTION [BCM]

id0902f5345400

1. Connect the M-MDS to the DLC-2.
2. Verify the following vehicle conditions:
  - Turn the ignition switch to the ON position.
  - All the switches are turned off (except the ignition switch).
  - All the doors, bonnet, liftgate (3HB/5HB)/trunk (4SD) are closed.
  - All the doors, liftgate (3HB/5HB)/trunk (4SD) are unlocked.
  - All the seat belts are unbuckled.
  - Parking brake lever is pulled.
3. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Self Test".
    2. Select "Modules".
    3. Select "BCM/GEM".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "BCM/GEM".
    3. Select "Self Test".
4. Verify the DTC according to the directions on the screen.
  - If any DTCs are displayed, perform troubleshooting according to the corresponding DTC inspection. (See **09-02G-3 DTC TABLE [BCM].**)
5. After completion of repairs, clear all DTCs stored in the BCM. (See **09-02G-2 CLEARING DTC [BCM].**)

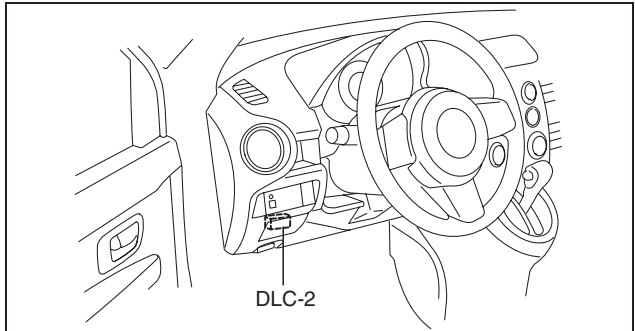


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### CLEARING DTC [BCM]

id0902f5400300

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "Self Test".
    2. Select "Modules".
    3. Select "BCM/GEM".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "BCM/GEM".
    3. Select "Self Test".
3. Verify the DTC according to the directions on the screen.
4. Press the clear button on the DTC screen to clear the DTC.
5. Turn the ignition switch to the LOCK position.
6. Turn the ignition switch to the ON position and wait for **5 s more**.
7. Perform DTC inspection. (See **09-02G-2 DTC INSPECTION [BCM].**)
8. Verify that no DTCs are displayed.



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## ON-BOARD DIAGNOSTIC [BCM]

### DTC TABLE [BCM]

id0902f5347100

#### DTC table

DTC No.	Description	Detection condition	Page
B1B55:96	Rain sensor internal circuit malfunction	Rain sensor malfunction	(See 09-02G-4 DTC B1B55:96 [BCM].)
B1C53:13	Windshield wiper switch circuit malfunction	Windshield wiper switch INT circuit malfunction	(See 09-02G-5 DTC B1C53:13 [BCM].)
B1D06:11	Turn light (LH) circuit malfunction	Short to ground in wiring harness between turn light (LH) and BCM	(See 09-02G-8 DTC B1D06:11 [BCM].)
B1D06:15	Turn light (LH) circuit malfunction	Open circuit or short to power supply in wiring harness between turn light (LH) and BCM	(See 09-02G-10 DTC B1D06:15 [BCM].)
B1D07:11	Turn light (RH) circuit malfunction	Short to ground in wiring harness between turn light (RH) and BCM	(See 09-02G-14 DTC B1D07:11 [BCM].)
B1D07:15	Turn light (RH) circuit malfunction	Open circuit or short to power supply in wiring harness between turn light (RH) and BCM	(See 09-02G-16 DTC B1D07:15 [BCM].)
B1D13:12	Interior light circuit malfunction	Short to power supply in wiring harness between interior light and BCM	(See 09-02G-20 DTC B1D13:12 [BCM].)
B1D35:11	Hazard warning switch circuit malfunction	Short to ground in wiring harness between hazard warning switch and BCM	(See 09-02G-21 DTC B1D35:11 [BCM].)
B1D36:92	Turn switch circuit malfunction	Short to ground in wiring harness between turn switch and BCM	(See 09-02G-23 DTC B1D36:92 [BCM].)
B10A6:92	Light switch circuit malfunction	Short to ground in wiring harness between light switch and BCM	(See 09-02G-25 DTC B10A6:92 [BCM].)
B1008:11	Windshield wiper switch circuit malfunction	Short to ground in wiring harness between windshield wiper and washer switch (windshield wiper INT) and BCM	(See 09-02G-28 DTC B1008:11 [BCM].)
B1013:23	Rear window defroster switch circuit malfunction	Rear window defroster switch is in a pressed condition for <b>2 min or more</b> (rear defroster switch stuck).	(See 09-02G-31 DTC B1013:23 [BCM].)
B1087:83	Error signal from rain sensor	Communication error between rain sensor and BCM	(See 09-02G-33 DTC B1087:83/B1087:86/B1087:87/B1087:88 [BCM].)
B1087:86	Communication error with rain sensor		
B1087:87	No response from rain sensor		
B1087:88	Rain sensor BUS off		
B1172:92	Door lock-link switch circuit malfunction	Lock/unlock signals are input simultaneously for <b>6 s or more</b> .	(See 09-02G-36 DTC B1172:92 [BCM].)
B1175:13	Front door latch switch (driver's side) circuit malfunction	Open circuit in wiring harness between front door latch switch in front door latch and lock actuator (driver's side) and BCM	(See 09-02G-37 DTC B1175:13 [BCM].)
B1176:13	Front door latch switch (passenger's side) circuit malfunction	Open circuit in wiring harness between front door latch switch in front door latch and lock actuator (passenger's side) and BCM	(See 09-02G-39 DTC B1176:13 [BCM].)
B1178:11	<ul style="list-style-type: none"> <li>Liftgate latch switch circuit malfunction (3HB/5HB)</li> <li>Trunk lid latch switch circuit malfunction (4SD)</li> </ul>	<ul style="list-style-type: none"> <li>Short to ground in wiring harness between liftgate latch switch in liftgate latch and lock actuator and BCM (3HB/5HB)</li> <li>Short to ground in wiring harness between trunk lid latch switch and BCM (4SD)</li> </ul>	(See 09-02G-41 DTC B1178:11 [BCM].)
U0001:88	Unit communication error	BCM CAN system error	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)

## ON-BOARD DIAGNOSTIC [BCM]

DTC No.	Description	Detection condition	Page
U0028:81	<ul style="list-style-type: none"> <li>Communication error with keyless control module (vehicles with advanced keyless and start system)</li> <li>Communication error with keyless receiver (vehicles with keyless entry system)</li> </ul>	<ul style="list-style-type: none"> <li>Communication error between keyless control module and BCM (vehicles with advanced keyless and start system)</li> <li>Communication error between keyless receiver and BCM (vehicles with keyless entry system)</li> </ul>	(See 09-02G-44 DTC U0028:81/U0028:83/U0028:87 [BCM].)
U0028:83	<ul style="list-style-type: none"> <li>Error signal from keyless control module (vehicles with advanced keyless and start system)</li> <li>Error signal from keyless receiver (vehicles with keyless entry system)</li> </ul>		
U0028:87	<ul style="list-style-type: none"> <li>No response from keyless control module (vehicles with advanced keyless and start system)</li> <li>No response from keyless receiver (vehicles with keyless entry system)</li> </ul>		
U0100:00	Communication error with PCM	Communication error between PCM and BCM	(See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].) (See 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
U0101:00*1	Communication error with TCM	Communication error between TCM and BCM	
U0121:00	<ul style="list-style-type: none"> <li>Communication error with ABS HU/CM (with ABS)</li> <li>Communication error with DSC HU/CM (with DSC)</li> </ul>	<ul style="list-style-type: none"> <li>Communication error between ABS HU/CM and BCM (with ABS)</li> <li>Communication error between DSC HU/CM and BCM (with DSC)</li> </ul>	
U0415:68	<ul style="list-style-type: none"> <li>Error signal from ABS HU/CM (with ABS)</li> <li>Error signal from DSC HU/CM (with DSC)</li> </ul>	<ul style="list-style-type: none"> <li>Correct data cannot be received from ABS HU/CM (with ABS).</li> <li>Correct data cannot be received from DSC HU/CM (with DSC).</li> </ul>	(See 09-02G-49 DTC U0415:68 [BCM].)
U2100:00	BCM configuration not set	BCM configuration setting not done correctly.	(See 09-02G-50 DTC U2100:00/U3000:44 [BCM].)
U3000:44	BCM configuration setting invalid		
U3003:16	BCM power supply voltage low ( <b>less than 10 V</b> )	BCM power supply voltage <b>less than 10 V</b>	(See 09-02G-50 DTC U3003:16/U3003:17 [BCM].)
U3003:17	BCM power supply voltage high ( <b>16 V or more</b> )	BCM power supply voltage <b>16 V or more</b>	

\*1 : ATX

### DTC B1B55:96 [BCM]

id0902f5389000

#### Malfunction Location

- Rain sensor internal circuit malfunction

#### Detection Condition

- Rain sensor malfunction

#### Possible Causes

- Rain sensor connector or terminals malfunction
- Rain sensor malfunction
- BCM malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b>	
	<ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the windshield wiper switch to AUTO.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1B55:96 displayed?</li> </ul>	<div>Yes</div> <div>Go to the next step.</div> <div>No</div> <div>DTC troubleshooting completed.</div>



## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
2	<b>VERIFY RAIN SENSOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the rain sensor connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY RAIN SENSOR CONDITION</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the windshield wiper switch to AUTO.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1B55:96 displayed?</li> </ul>	Yes Replace the rain sensor, then go to the final step. (See 09-19-28 RAIN SENSOR REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.
4	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the windshield wiper switch to AUTO.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1B55:96 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1C53:13 [BCM]

id0902f5389100

#### Malfunction Location

- Windshield wiper switch circuit malfunction

#### Detection Condition

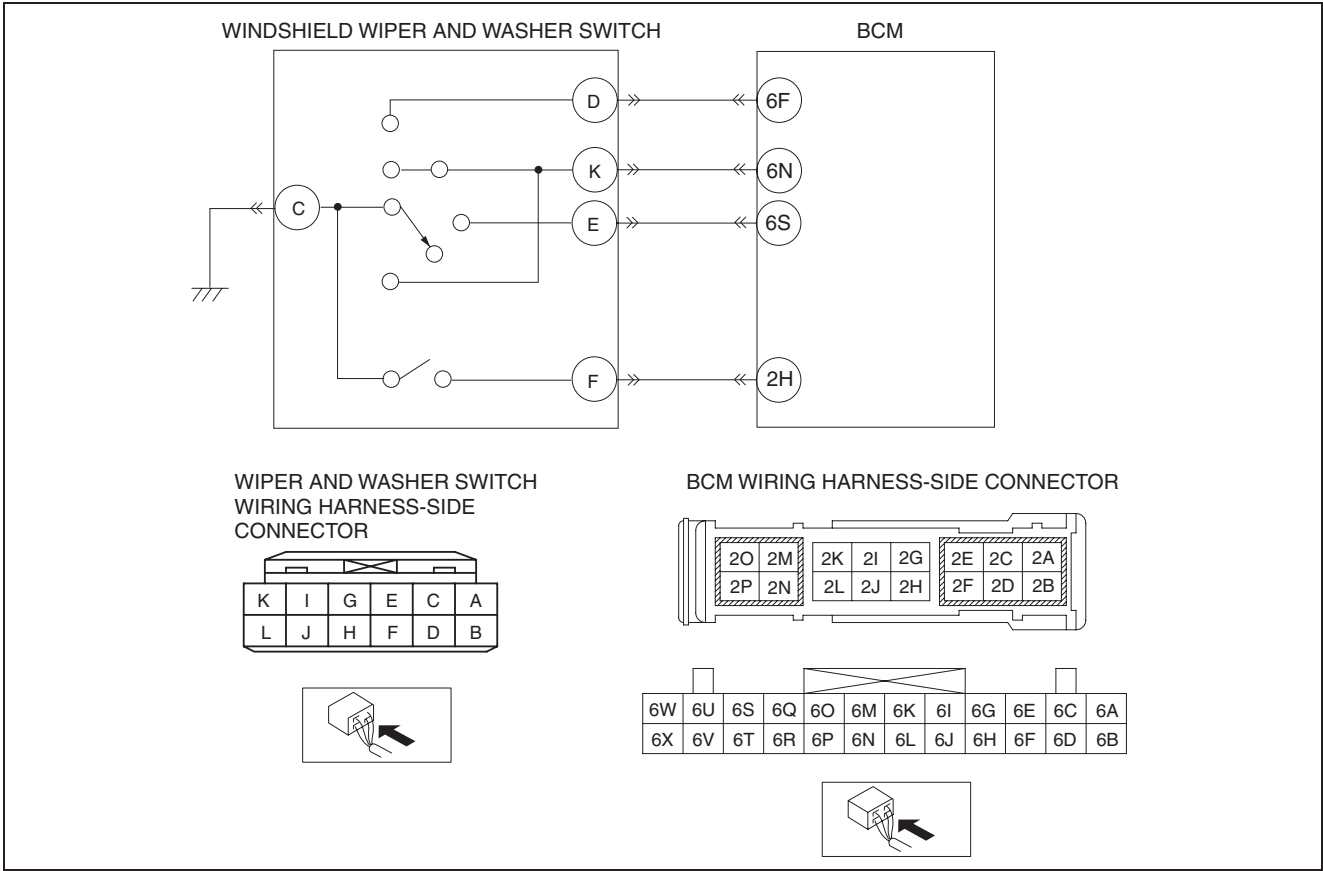
- Windshield wiper switch INT circuit malfunction

#### Possible Causes

- Wiper and washer switch connector or terminals malfunction
- BCM connector or terminals malfunction
- Open circuit in wiring harness between windshield wiper and washer switch terminal E and BCM terminal 6S (vehicles with wiper and washer switch on left side)
- Open circuit in wiring harness between windshield wiper and washer switch terminal I and BCM terminal 6S (vehicles with wiper and washer switch on right side)
- Windshield wiper and washer switch malfunction
- BCM malfunction

ON-BOARD DIAGNOSTIC [BCM]

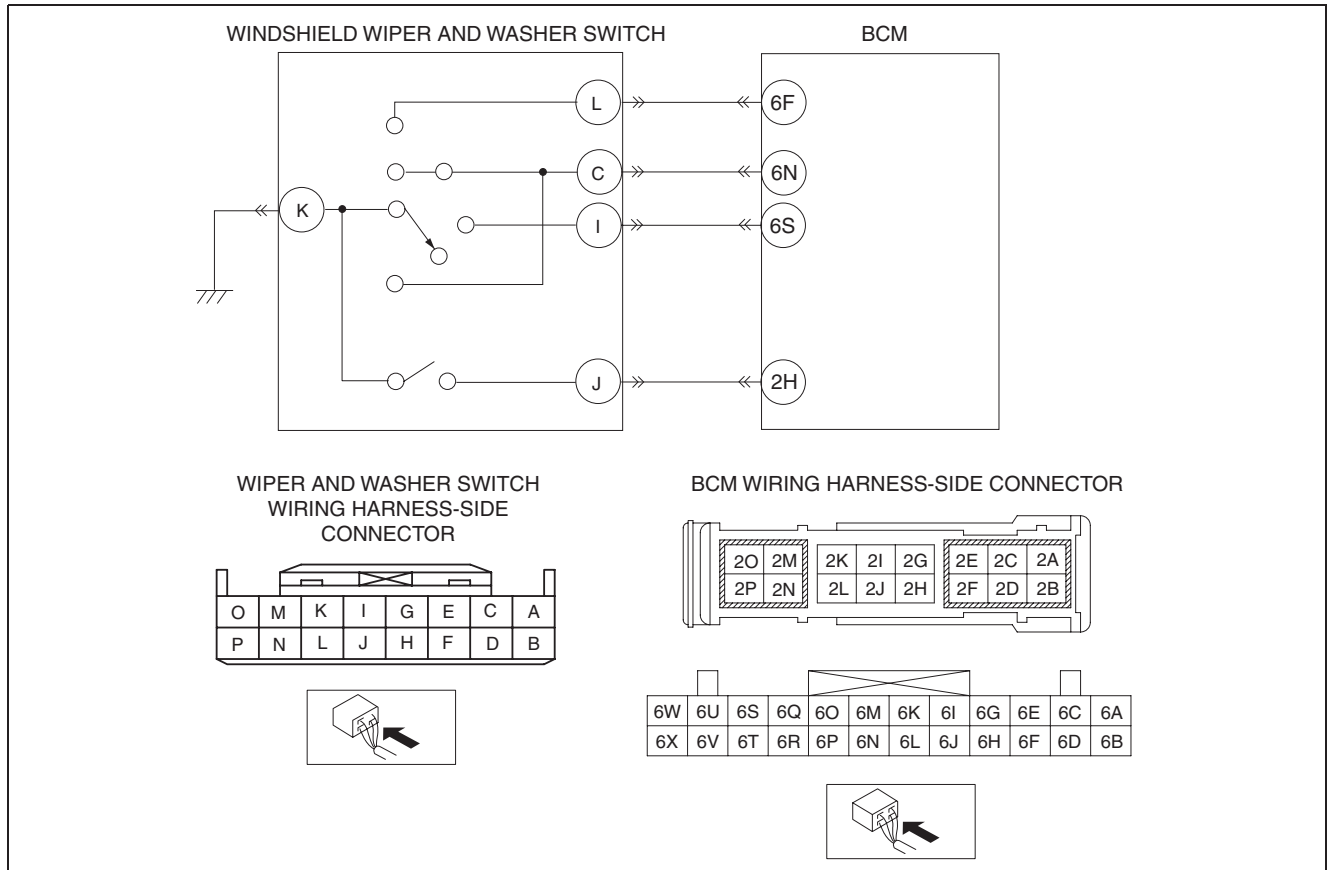
System Wiring Diagram  
Vehicles with wiper and washer switch on left side



am2zzw0000505

## ON-BOARD DIAGNOSTIC [BCM]

### Vehicles with wiper and washer switch on right side



am2zzw0000505

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the windshield wiper switch on.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1C53:13 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY WIPER AND WASHER SWITCH CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the wiper and washer switch connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
4	<b>VERIFY BETWEEN WINDSHIELD WIPER AND WASHER SWITCH AND BCM FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Wiper and washer switch and BCM connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side): <ul style="list-style-type: none"> <li>Between wiper and washer switch terminal E and BCM terminal 6S (vehicles with wiper and washer switch on left side)</li> <li>Between wiper and washer switch terminal I and BCM terminal 6S (vehicles with wiper and washer switch on right side)</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
5	<b>VERIFY WINDSHIELD WIPER AND WASHER SWITCH CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the windshield wiper and washer switch. (See 09-19-25 WINDSHIELD WIPER AND WASHER SWITCH INSPECTION.)</li> <li>Is the windshield wiper and washer switch normal?</li> </ul>	Yes Go to the next step.
		No Replace the wiper and washer switch, then go to the final step. (See 09-19-24 WIPER AND WASHER SWITCH REMOVAL/INSTALLATION.)
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the windshield wiper switch on.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1C53:13 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1D06:11 [BCM]

id0902f5389200

#### Malfunction Location

- Turn light (LH) circuit malfunction

#### Detection Condition

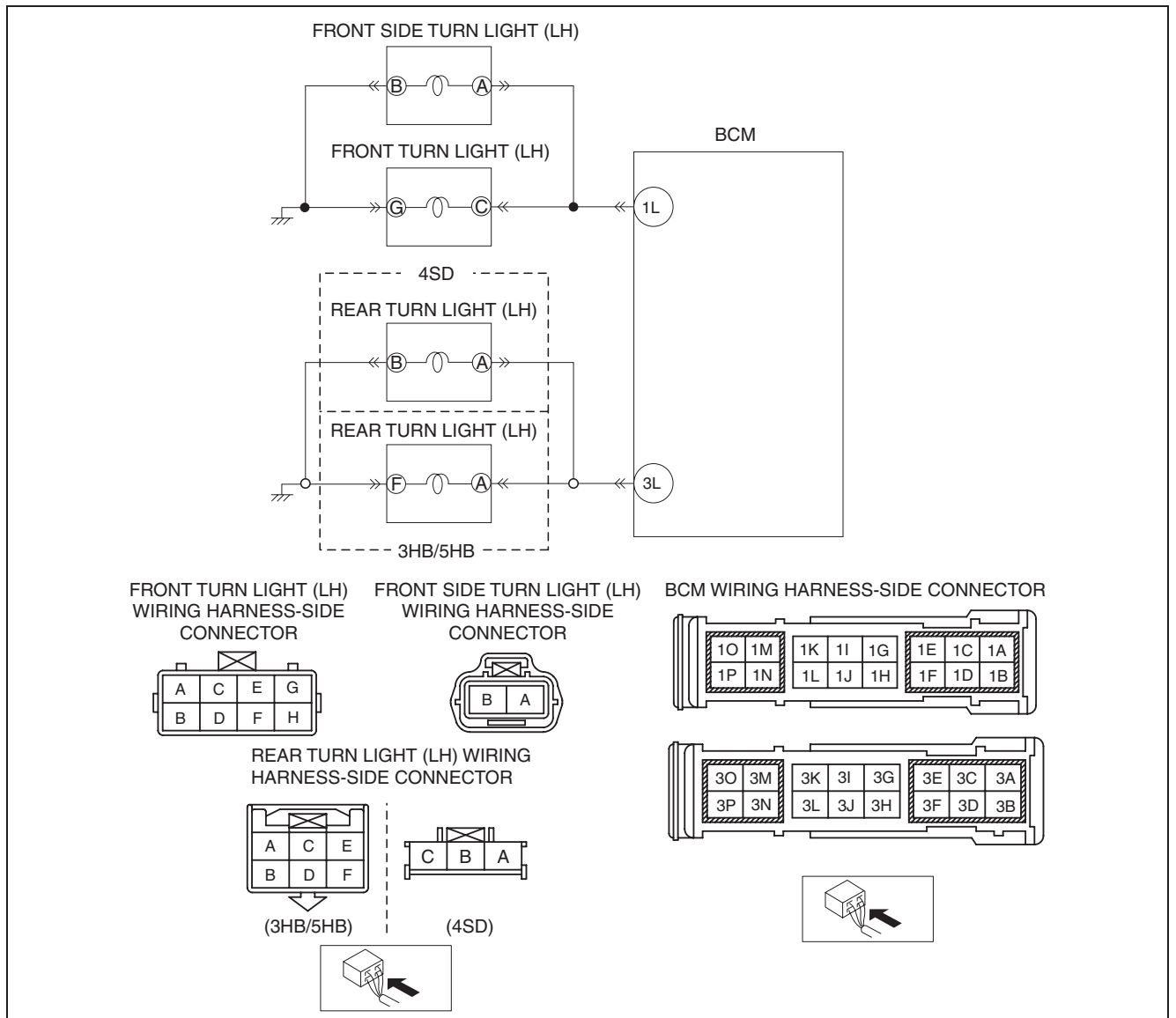
- Short to ground in wiring harness between turn light (LH) and BCM

#### Possible Causes

- Front turn light (LH) connector or terminals malfunction
- Front side turn light (LH) connector or terminals malfunction
- Rear turn light (LH) connector or terminals malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between front turn light (LH) terminal C and BCM terminal 1L
- Short to ground in wiring harness between front side turn light (LH) terminal A and BCM terminal 1L
- Short to ground in wiring harness between rear turn light (LH) terminal A and BCM terminal 3L
- BCM malfunction

# ON-BOARD DIAGNOSTIC [BCM]

## System Wiring Diagram



am2zzw0000505

## Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the turn switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D06:11 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY FRONT TURN LIGHT (LH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the front turn light (LH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
3	<b>VERIFY FRONT SIDE TURN LIGHT (LH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the front side turn light (LH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
4	<b>VERIFY REAR TURN LIGHT (LH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the rear turn light (LH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
5	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
6	<b>VERIFY FOR SHORT TO GROUND IN WIRING HARNESS BETWEEN FRONT TURN LIGHT (LH), FRONT SIDE TURN LIGHT (LH), REAR TURN LIGHT (LH) AND BCM</b> <ul style="list-style-type: none"> <li>Front turn light (LH), front side turn light (LH), rear turn light (LH) and BCM connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>— BCM terminal 1L</li> <li>— BCM terminal 3L</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
7	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the turn switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D06:11 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1D06:15 [BCM]

id0902f5389300

#### Malfunction Location

- Turn light (LH) circuit malfunction

#### Detection Condition

- Open circuit or short to power supply in wiring harness between turn light (LH) and BCM

#### Possible Causes

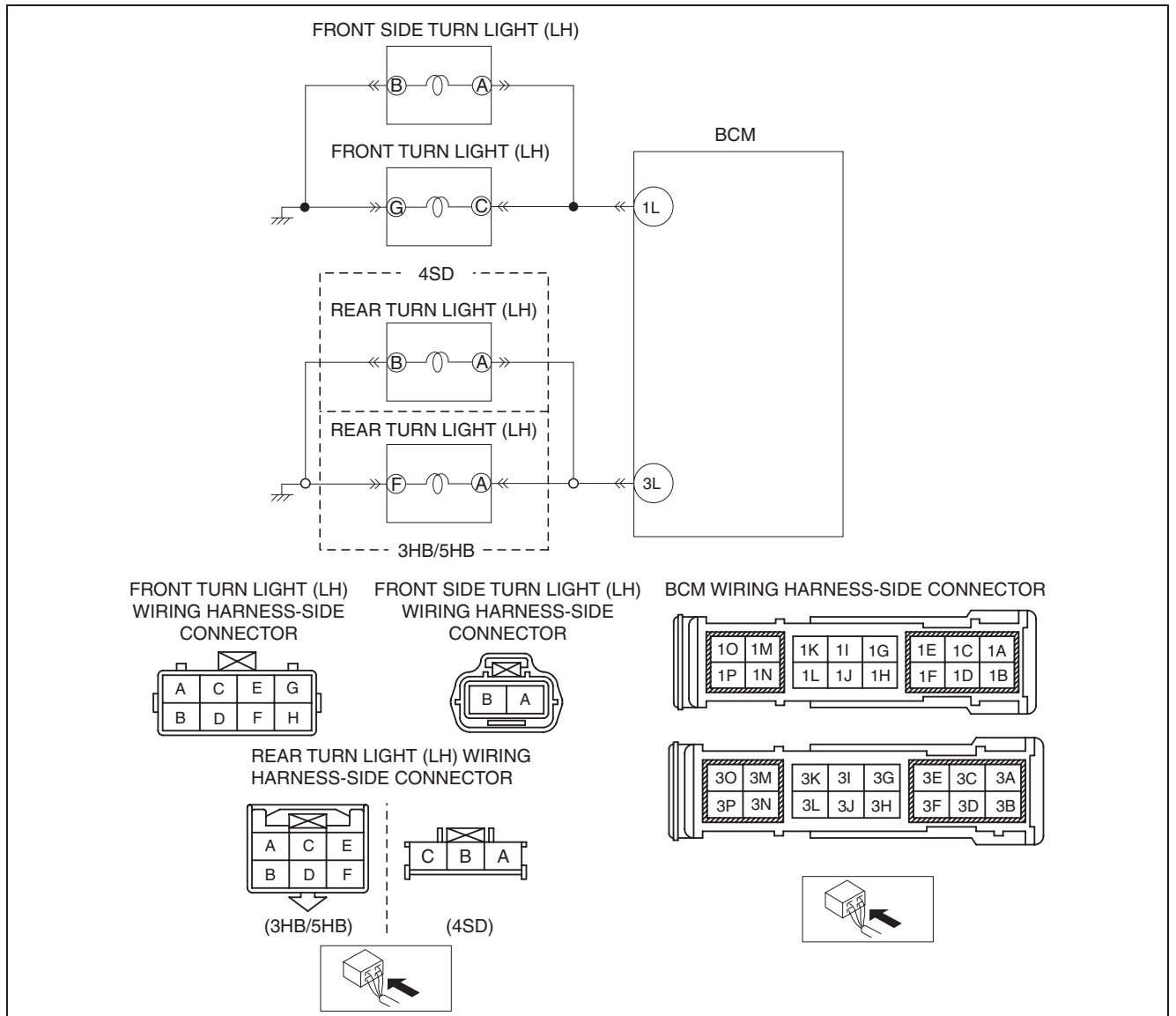
- Turn light malfunction
- Front turn light (LH) connector or terminals malfunction
- Open circuit in wiring harness between front turn light (LH) terminal G and body ground
- Front side turn light (LH) connector or terminals malfunction
- Open circuit in wiring harness between front side turn light (LH) terminal B and body ground

## 09-02G-10

## ON-BOARD DIAGNOSTIC [BCM]

- Rear turn light (LH) connector or terminals malfunction
- Open circuit in wiring harness between rear turn light (LH) terminal F and body ground (3HB/5HB)
- Open circuit in wiring harness between rear turn light (LH) terminal B and body ground (4SD)
- BCM connector or terminals malfunction
- Short to power supply in wiring harness between front turn light (LH) terminal C and BCM terminal 1L
- Short to power supply in wiring harness between front side turn light (LH) terminal A and BCM terminal 1L
- Short to power supply in wiring harness between rear turn light (LH) terminal A and BCM terminal 3L
- Open circuit in wiring harness between front turn light (LH) terminal C and BCM terminal 1L
- Open circuit in wiring harness between front side turn light (LH) terminal A and BCM terminal 1L
- Open circuit in wiring harness between rear turn light (LH) terminal A and BCM terminal 3L
- BCM malfunction

### System Wiring Diagram



am2zzw0000505

## ON-BOARD DIAGNOSTIC [BCM]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the turn switch on.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D06:15 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>PERFORM INSPECTION OF FRONT TURN LIGHT (LH), FRONT SIDE TURN LIGHT (LH), AND REAR TURN LIGHT (LH)</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Remove the bulb. (See 09-18-16 FRONT TURN LIGHT BULB REMOVAL/INSTALLATION.) (See 09-18-23 FRONT SIDE TURN LIGHT REMOVAL/INSTALLATION.) (See 09-18-25 REAR COMBINATION LIGHT BULB REMOVAL/INSTALLATION.)</li> <li>Inspect the front turn light (LH), front side turn light (LH), rear turn light (LH).</li> <li>Are the bulbs normal?</li> </ul>	Yes Go to the next step.
		No Replace the bulb, then go to the final step. (See 09-18-16 FRONT TURN LIGHT BULB REMOVAL/INSTALLATION.) (See 09-18-23 FRONT SIDE TURN LIGHT REMOVAL/INSTALLATION.) (See 09-18-25 REAR COMBINATION LIGHT BULB REMOVAL/INSTALLATION.)
3	<b>VERIFY FRONT TURN LIGHT (LH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the front turn light (LH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
4	<b>INSPECT WIRING HARNESS BETWEEN FRONT TURN LIGHT (LH) AND BODY GROUND FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front turn light (LH) connector is disconnected.</li> <li>Inspect for continuity between front turn light (LH) terminal G (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
5	<b>VERIFY FRONT SIDE TURN LIGHT (LH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the front side turn light (LH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
6	<b>VERIFY WIRING HARNESS BETWEEN FRONT SIDE TURN LIGHT (LH) AND BODY GROUND FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front turn light (LH) and front side turn light (LH) connectors are disconnected.</li> <li>Inspect for continuity between front side turn light (LH) terminal B (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.



## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
7	<b>VERIFY REAR TURN LIGHT (LH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Disconnect the rear turn light (LH) connector.</li> <li>• Inspect the connection condition and wiring harness.</li> <li>• Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
8	<b>INSPECT WIRING HARNESS BETWEEN REAR TURN LIGHT (LH) AND BODY GROUND FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>• Front turn light (LH), front side turn light (LH), and rear turn light (LH) connectors are disconnected.</li> <li>• Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>— Rear turn light (LH) terminal F (3HB/5HB)</li> <li>— Rear turn light (LH) terminal B (4SD)</li> </ul> </li> <li>• Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
9	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Disconnect the BCM connector.</li> <li>• Inspect the connection condition and wiring harness.</li> <li>• Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
10	<b>INSPECT WIRING HARNESS BETWEEN FRONT TURN LIGHT (LH), FRONT SIDE TURN LIGHT (LH), REAR TURN LIGHT (LH) AND BCM FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>• Front turn light (LH), front side turn light (LH), rear turn light (LH), and BCM connectors are disconnected.</li> <li>• Reconnect the negative battery cable.</li> <li>• Measure the voltage at the following terminals (wiring harness-side): <ul style="list-style-type: none"> <li>— BCM terminal 1L</li> <li>— BCM terminal 3L</li> </ul> </li> <li>• Is there any voltage?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
11	<b>INSPECT WIRING HARNESS BETWEEN FRONT TURN LIGHT (LH), FRONT SIDE TURN LIGHT (LH), REAR TURN LIGHT (LH) AND BCM FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>• Front turn light (LH), front side turn light (LH), rear turn light (LH), and BCM connectors are disconnected.</li> <li>• Disconnect the negative battery cable.</li> <li>• Inspect for continuity between the following terminals (wiring harness-side): <ul style="list-style-type: none"> <li>— Between front turn light (LH) terminal C and BCM terminal 1L</li> <li>— Between front side turn light (LH) terminal A and BCM terminal 1L</li> <li>— Between rear turn light (LH) terminal A and BCM terminal 3L</li> </ul> </li> <li>• Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection		Action
12	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"><li>Reconnect all disconnected connectors.</li><li>Reconnect the negative battery cable.</li><li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li><li>Turn the turn switch on.</li><li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li><li>Is the DTC B1D06:15 displayed?</li></ul>	Yes	Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No	DTC troubleshooting completed.

### DTC B1D07:11 [BCM]

id0902f5389400

#### Malfunction Location

- Turn light (RH) circuit malfunction

#### Detection Condition

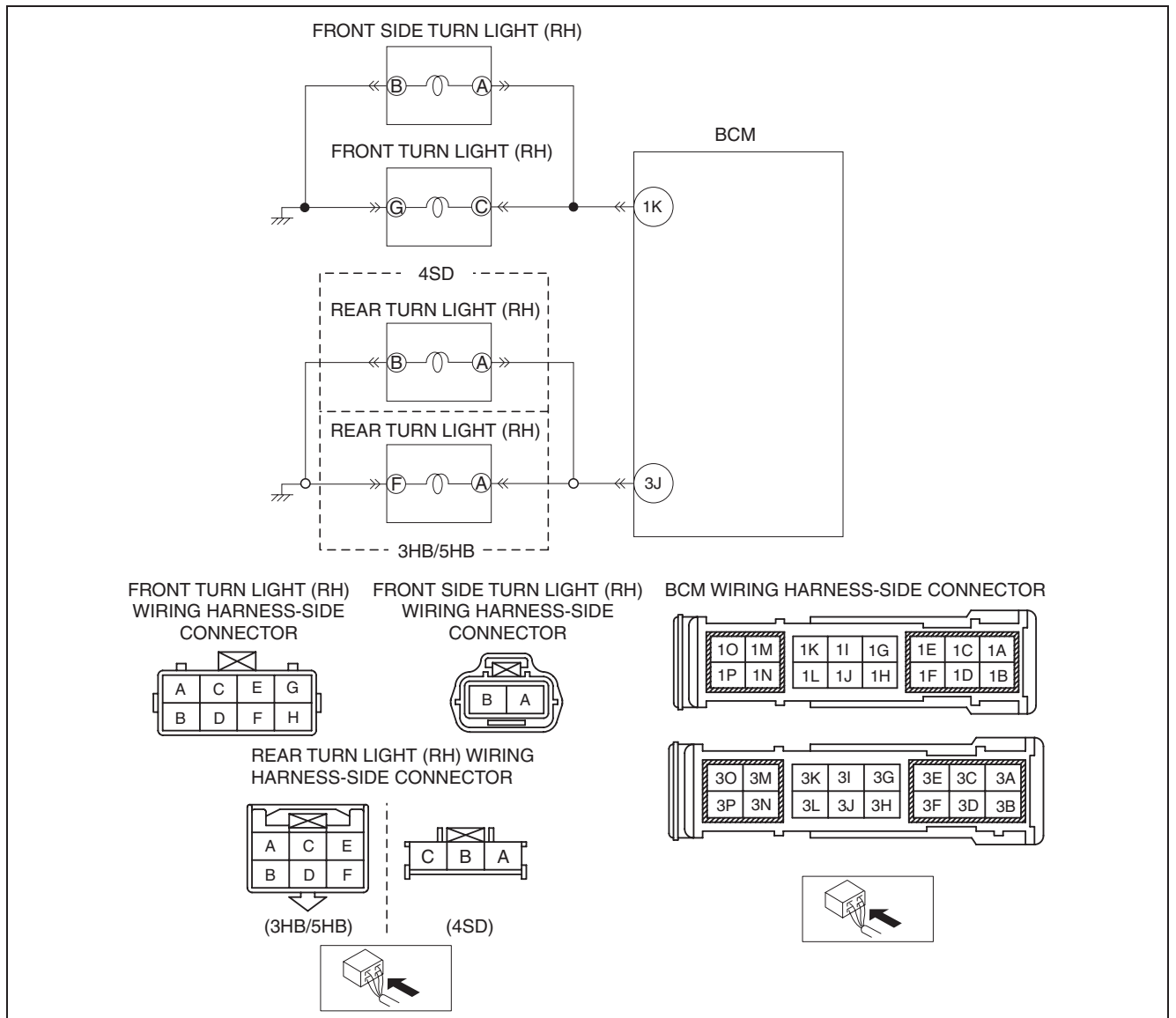
- Short to ground in wiring harness between turn light (RH) and BCM

#### Possible Causes

- Front turn light (RH) connector or terminals malfunction
- Front side turn light (RH) connector or terminals malfunction
- Rear turn light (RH) connector or terminals malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between front turn light (RH) terminal C and BCM terminal 1K
- Short to ground in wiring harness between front side turn light (RH) terminal A and BCM terminal 1K
- Short to ground in wiring harness between rear turn light (RH) terminal A and BCM terminal 3J
- BCM malfunction

# ON-BOARD DIAGNOSTIC [BCM]

## System Wiring Diagram



am2zzw0000505

## Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b>	Yes
	<ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the turn switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D07:11 displayed?</li> </ul>	Go to the next step.
2	<b>VERIFY FRONT TURN LIGHT (RH) CONNECTOR CONDITION</b>	Yes
	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the front turn light (RH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Go to the next step.
		No
		Repair or replace the connector, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action	
3	<b>VERIFY FRONT SIDE TURN LIGHT (RH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the front side turn light (RH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the connector, then go to the final step.
4	<b>VERIFY REAR TURN LIGHT (RH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the rear turn light (RH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the connector, then go to the final step.
5	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the connector, then go to the final step.
6	<b>VERIFY FOR SHORT TO GROUND IN WIRING HARNESS BETWEEN FRONT TURN LIGHT (RH), FRONT SIDE TURN LIGHT (RH), REAR TURN LIGHT (RH) AND BCM</b> <ul style="list-style-type: none"> <li>Front turn light (RH), front side turn light (RH), rear turn light (RH) and BCM connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>— BCM terminal 1K</li> <li>— BCM terminal 3J</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Repair or replace the related wiring harness, then go to the final step.
		No	Go to the next step.
7	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the turn switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D07:11 displayed?</li> </ul>	Yes	Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No	DTC troubleshooting completed.

### DTC B1D07:15 [BCM]

id0902f5389500

#### Malfunction Location

- Turn light (RH) circuit malfunction

#### Detection Condition

- Open circuit or short to power supply in wiring harness between turn light (RH) and BCM

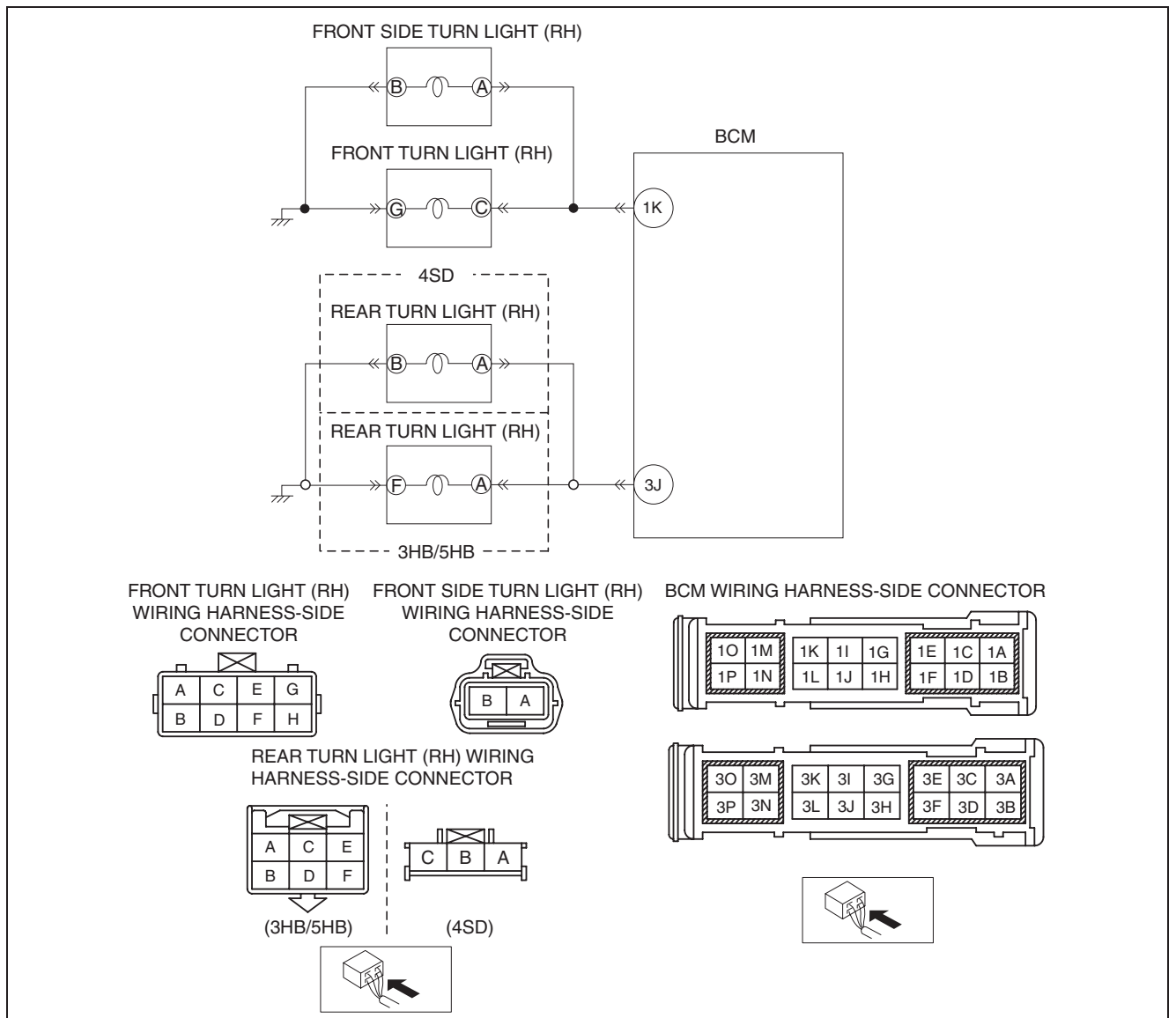
#### Possible Causes

- Turn light malfunction
- Front turn light (RH) connector or terminals malfunction
- Open circuit in wiring harness between front turn light (RH) terminal G and body ground
- Front side turn light (RH) connector or terminals malfunction

## ON-BOARD DIAGNOSTIC [BCM]

- Open circuit in wiring harness between front side turn light (RH) terminal B and body ground
- Rear turn light (RH) connector or terminals malfunction
- Open circuit in wiring harness between rear turn light (RH) terminal F and body ground (3HB/5HB)
- Open circuit in wiring harness between rear turn light (RH) terminal B and body ground (4SD)
- BCM connector or terminals malfunction
- Short to power supply in wiring harness between front turn light (RH) terminal C and BCM terminal 1K
- Short to power supply in wiring harness between front side turn light (RH) terminal A and BCM terminal 1K
- Short to power supply in wiring harness between rear turn light (RH) terminal A and BCM terminal 3J
- Open circuit in wiring harness between front turn light (RH) terminal C and BCM terminal 1K
- Open circuit in wiring harness between front side turn light (RH) terminal A and BCM terminal 1K
- Open circuit in wiring harness between rear turn light (RH) terminal A and BCM terminal 3J
- BCM malfunction

### System Wiring Diagram



am2zzw0000505

## ON-BOARD DIAGNOSTIC [BCM]

### Diagnostic Procedure

Step	Inspection	Action	
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the turn switch on.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D07:15 displayed?</li> </ul>	Yes	Go to the next step.
		No	DTC troubleshooting completed.
2	<b>PERFORM INSPECTION OF FRONT TURN LIGHT (RH), FRONT SIDE TURN LIGHT (RH), AND REAR TURN LIGHT (RH)</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect the front turn light (RH), front side turn light (RH), rear turn light (RH).</li> <li>Are the bulbs normal?</li> </ul>	Yes	Go to the next step.
		No	Replace the bulb, then go to the final step. (See 09-18-16 FRONT TURN LIGHT BULB REMOVAL/INSTALLATION.) (See 09-18-23 FRONT SIDE TURN LIGHT REMOVAL/INSTALLATION.) (See 09-18-25 REAR COMBINATION LIGHT BULB REMOVAL/INSTALLATION.)
3	<b>VERIFY FRONT TURN LIGHT (RH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the front turn light (RH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the connector, then go to the final step.
4	<b>INSPECT WIRING HARNESS BETWEEN FRONT TURN LIGHT (RH) AND BODY GROUND FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front turn light (RH) connector is disconnected.</li> <li>Inspect for continuity between front turn light (RH) terminal G (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the related wiring harness, then go to the final step.
5	<b>VERIFY FRONT SIDE TURN LIGHT (RH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the front side turn light (RH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the connector, then go to the final step.
6	<b>VERIFY WIRING HARNESS BETWEEN FRONT SIDE TURN LIGHT (RH) AND BODY GROUND FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front turn light (RH) and front side turn light (RH) connectors are disconnected.</li> <li>Inspect for continuity between front side turn light (RH) terminal B (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the related wiring harness, then go to the final step.
7	<b>VERIFY REAR TURN LIGHT (RH) CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the rear turn light (RH) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the connector, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
8	<b>INSPECT WIRING HARNESS BETWEEN REAR TURN LIGHT (RH) AND BODY GROUND FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front turn light (RH), front side turn light (RH), and rear turn light (RH) connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>— Rear turn light (RH) terminal F (3HB/5HB)</li> <li>— Rear turn light (RH) terminal B (4SD)</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
9	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
10	<b>INSPECT WIRING HARNESS BETWEEN FRONT TURN LIGHT (RH), FRONT SIDE TURN LIGHT (RH), REAR TURN LIGHT (RH) AND BCM FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Front turn light (RH), front side turn light (RH), rear turn light (RH), and BCM connectors are disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminals (wiring harness-side): <ul style="list-style-type: none"> <li>— BCM terminal 1K</li> <li>— BCM terminal 3J</li> </ul> </li> <li>Is there any voltage?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
11	<b>INSPECT WIRING HARNESS BETWEEN FRONT TURN LIGHT (RH), FRONT SIDE TURN LIGHT (RH), REAR TURN LIGHT (RH) AND BCM FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front turn light (RH), front side turn light (RH), rear turn light (RH), and BCM connectors are disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between the following terminals (wiring harness-side): <ul style="list-style-type: none"> <li>— Between front turn light (RH) terminal C and BCM terminal 1K</li> <li>— Between front side turn light (RH) terminal A and BCM terminal 1K</li> <li>— Between rear turn light (RH) terminal A and BCM terminal 3J</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
12	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the turn switch on.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D07:15 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [BCM]

### DTC B1D13:12 [BCM]

id0902f5389600

#### Malfunction Location

- Interior light circuit malfunction

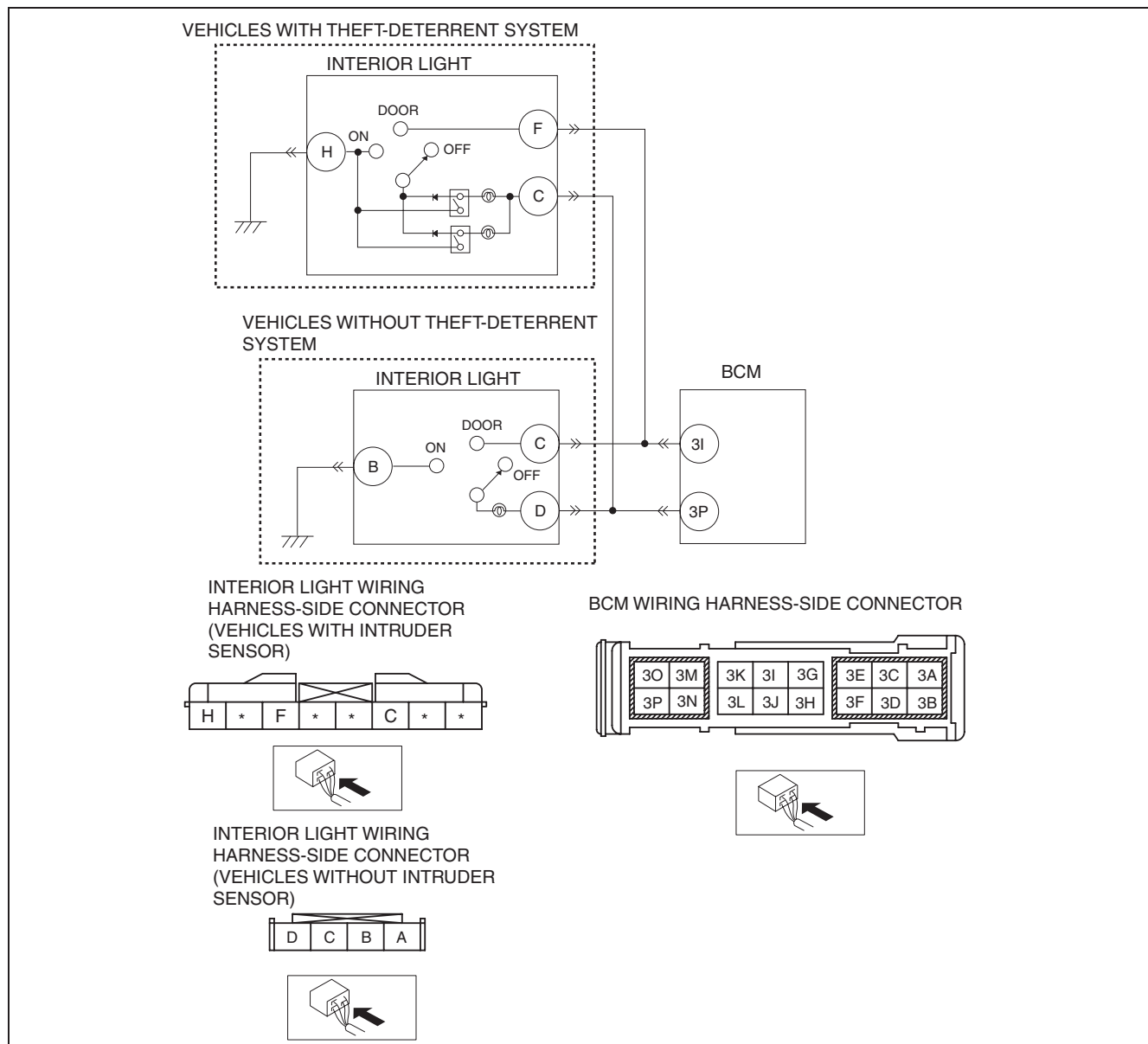
#### Detection Condition

- Short to power supply in wiring harness between interior light and BCM

#### Possible Causes

- Interior light connector or terminals malfunction
- BCM connector or terminals malfunction
- Short to power supply in wiring harness between interior light terminal F and BCM terminal 3I (vehicles with theft-deterrent system)
- Short to power supply in wiring harness between interior light terminal C and BCM terminal 3I (vehicles without theft-deterrent system)
- Interior light malfunction
- BCM malfunction

#### System Wiring Diagram



am2zzw0000227



## ON-BOARD DIAGNOSTIC [BCM]

### Diagnostic Procedure

Step	Inspection		Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the interior light switch on.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D13:12 displayed?</li> </ul>	Yes	Go to the next step.
		No	DTC troubleshooting completed.
2	<b>VERIFY INTERIOR LIGHT CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the interior light connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the connector, then go to the final step.
3	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the related wiring harness, then go to the final step.
4	<b>VERIFY WIRING HARNESS BETWEEN INTERIOR LIGHT AND BCM FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Interior light and BCM connectors are disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the BCM terminal 3I (wiring harness-side).</li> <li>Is there any voltage?</li> </ul>	Yes	Repair or replace the related wiring harness, then go to the final step.
		No	Go to the next step.
5	<b>VERIFY INTERIOR LIGHT CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the interior light. (See 09-18-44 INTERIOR LIGHT INSPECTION.)</li> <li>Is the interior light normal?</li> </ul>	Yes	Go to the next step.
		No	Replace the interior light, then go to the final step. (See 09-18-43 INTERIOR LIGHT REMOVAL/INSTALLATION.)
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the interior light switch on.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D13:12 displayed?</li> </ul>	Yes	Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No	DTC troubleshooting completed.

### DTC B1D35:11 [BCM]

id0902f5389700

#### Malfunction Location

- Hazard warning switch circuit malfunction

#### Detection Condition

- Short to ground in wiring harness between hazard warning switch and BCM

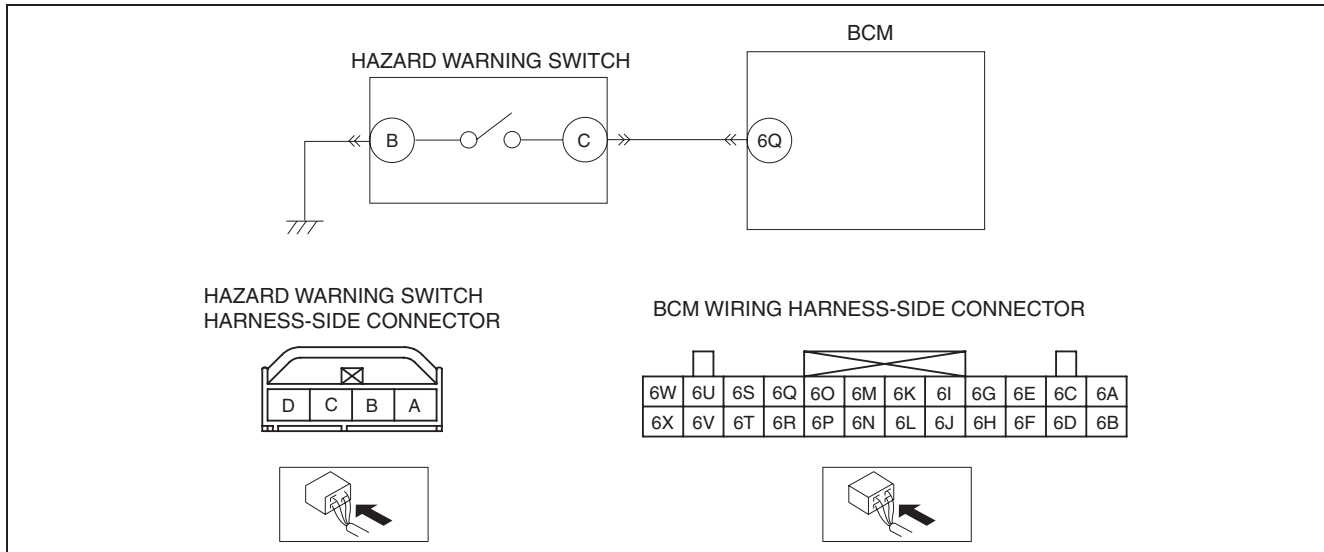
#### Possible Causes

- DTC inspection is performed with hazard warning switch on.
- Hazard warning switch connector or terminals malfunction
- Hazard warning switch malfunction
- BCM connector or terminals malfunction

## ON-BOARD DIAGNOSTIC [BCM]

- Short to ground in wiring harness between hazard warning switch terminal C and BCM terminal 6Q
- BCM malfunction

### System Wiring Diagram



am2zzw0000227

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>• Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>• Turn the hazard warning switch off.</li> <li>• Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>• Is the DTC B1D35:11 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY HAZARD WARNING SWITCH CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch to the LOCK position.</li> <li>• Disconnect the negative battery cable.</li> <li>• Disconnect the hazard warning switch connector.</li> <li>• Inspect the connection condition and wiring harness.</li> <li>• Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY HAZARD WARNING SWITCH CONDITION</b> <ul style="list-style-type: none"> <li>• Inspect the hazard warning switch. (See 09-18-41 HAZARD WARNING SWITCH INSPECTION.)</li> <li>• Is the hazard warning switch normal?</li> </ul>	Yes Go to the next step.
		No Replace the hazard warning switch, then go to the final step. (See 09-18-40 HAZARD WARNING SWITCH REMOVAL/INSTALLATION.)
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Disconnect the BCM connector.</li> <li>• Inspect the connection condition and wiring harness.</li> <li>• Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
5	<b>VERIFY WIRING HARNESS BETWEEN HAZARD WARNING SWITCH AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Hazard warning switch and BCM connectors are disconnected.</li> <li>Inspect for continuity between BCM terminal 6Q (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the hazard warning switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D35:11 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1D36:92 [BCM]

id0902f5389800

#### Malfunction Location

- Turn switch circuit malfunction

#### Detection Condition

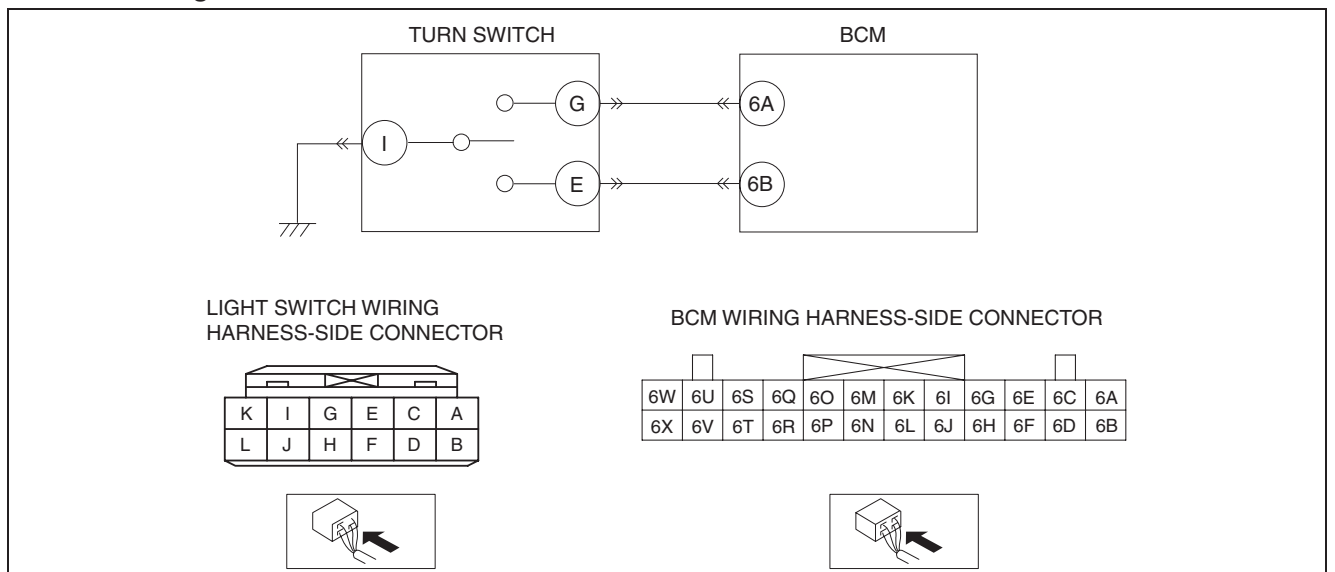
- Short to ground in wiring harness between turn switch and BCM

#### Possible Causes

- Light switch connector or terminals malfunction
- Turn switch malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between light switch terminal G and BCM terminal 6A
- Short to ground in wiring harness between light switch terminal E and BCM terminal 6B (vehicles with light switch on left side)
- Short to ground in wiring harness between light switch terminal I and BCM terminal 6B (vehicles with light switch on right side)
- BCM malfunction

#### System Wiring Diagram

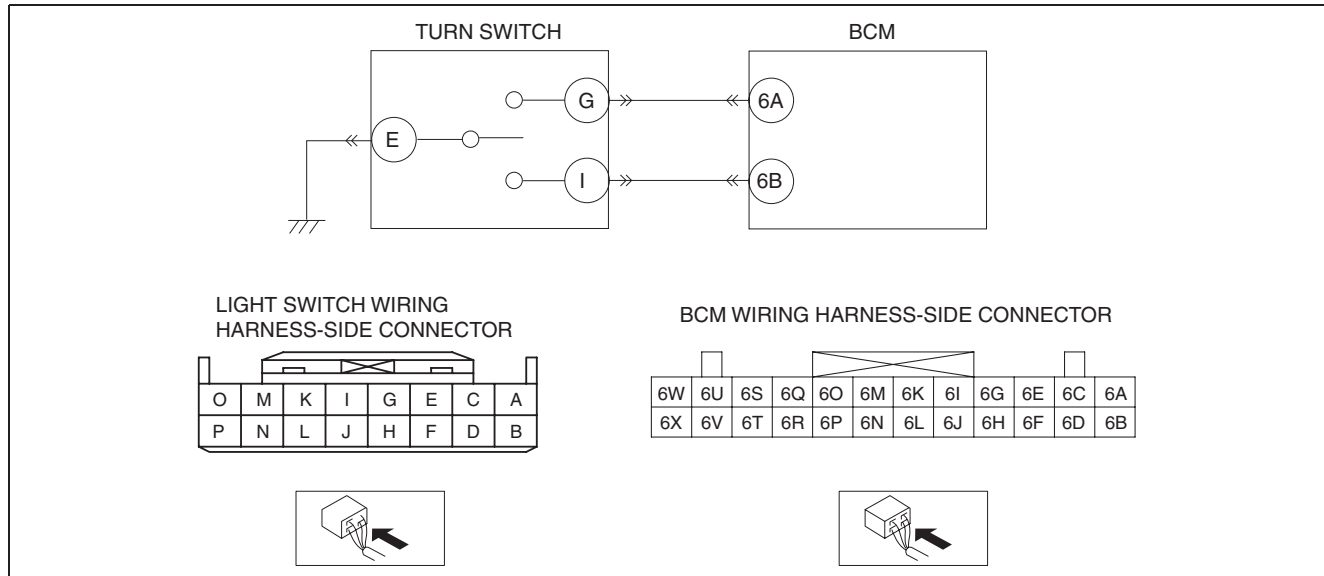
##### Vehicles with light switch on left side



am2zzw0000466

## ON-BOARD DIAGNOSTIC [BCM]

### Vehicles with light switch on right side



am2zzw0000505

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the turn switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D36:92 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY LIGHT SWITCH CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the light switch connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY TURN SWITCH CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the turn switch. (See 09-18-35 LIGHT SWITCH INSPECTION.)</li> <li>Is the turn switch normal?</li> </ul>	Yes Go to the next step.
		No Replace the light switch, then go to the final step. (See 09-18-35 LIGHT SWITCH REMOVAL/ INSTALLATION.)
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
5	<b>VERIFY WIRING HARNESS BETWEEN LIGHT SWITCH AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Light switch and BCM connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>— BCM terminal 6A</li> <li>— BCM terminal 6B</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the turn switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1D36:92 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B10A6:92 [BCM]

id0902f5389900

#### Malfunction Location

- Light switch circuit malfunction

#### Detection Condition

- Short to ground in wiring harness between light switch and BCM

#### Possible Causes

##### Vehicles with light switch on left side

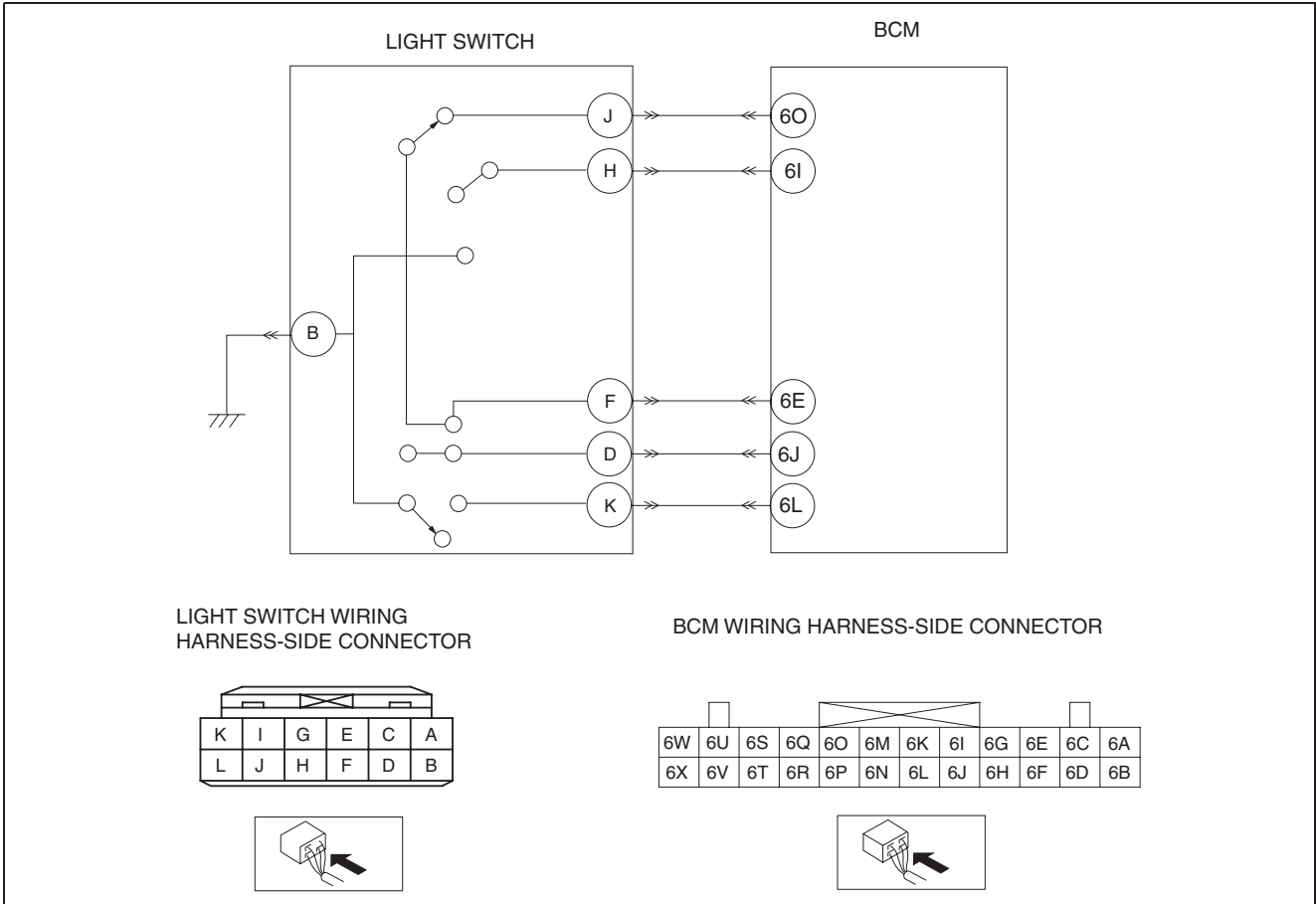
- Light switch connector or terminals malfunction
- Light switch malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between light switch terminal J and BCM terminal 6O
- Short to ground in wiring harness between light switch terminal D and BCM terminal 6J
- Short to ground in wiring harness between light switch terminal K and BCM terminal 6L
- BCM malfunction

##### Vehicles with light switch on right side

- Light switch connector or terminals malfunction
- Light switch malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between light switch terminal F and BCM terminal 6O
- Short to ground in wiring harness between light switch terminal L and BCM terminal 6J
- Short to ground in wiring harness between light switch terminal C and BCM terminal 6L
- BCM malfunction

ON-BOARD DIAGNOSTIC [BCM]

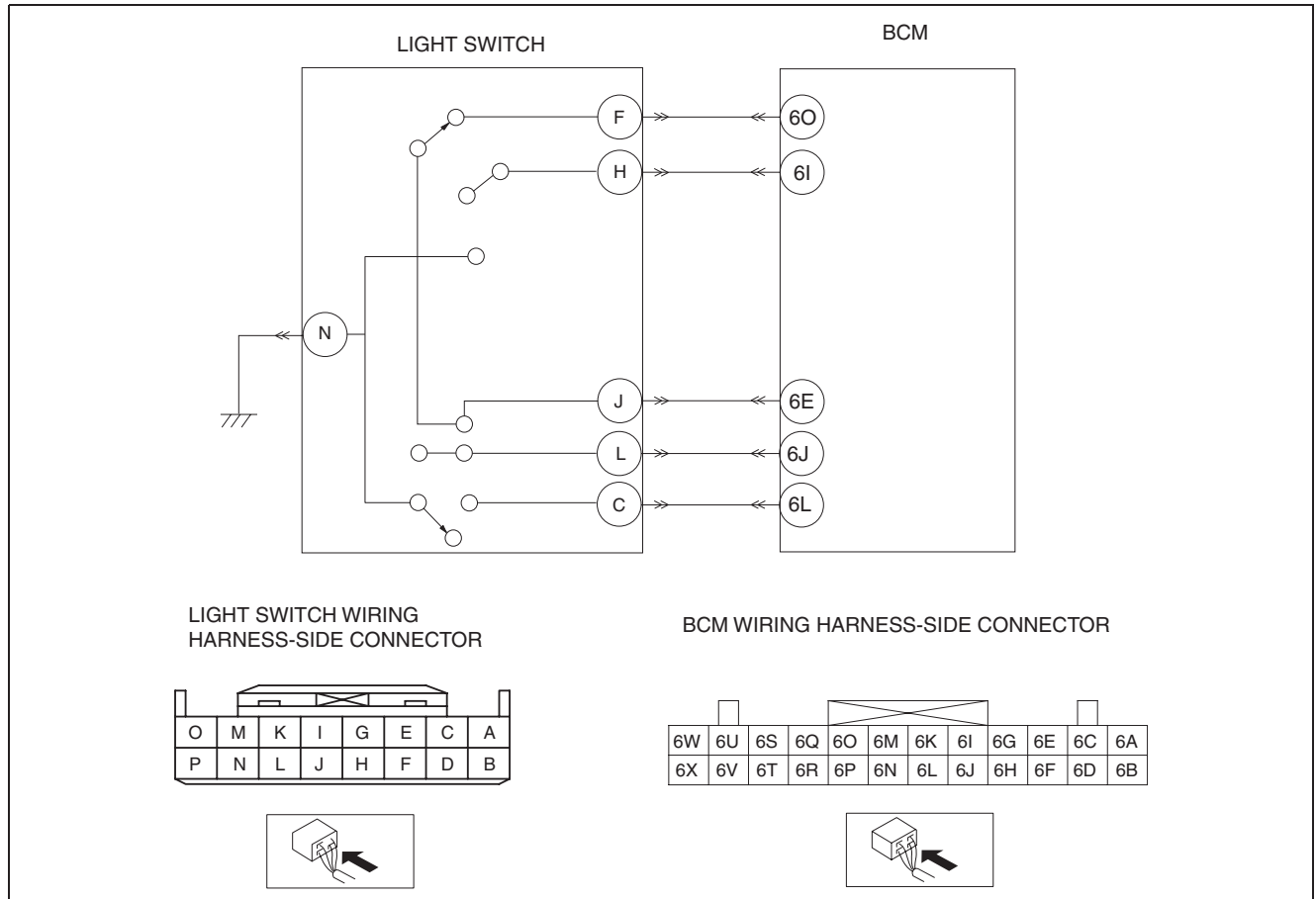
System Wiring Diagram  
Vehicles with light switch on left side



am2zzw0000466

## ON-BOARD DIAGNOSTIC [BCM]

### Vehicles with light switch on right side



am2zzw0000230

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the light switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B10A6:92 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY LIGHT SWITCH CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the light switch connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY LIGHT SWITCH CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the light switch. (See 09-18-35 LIGHT SWITCH INSPECTION.)</li> <li>Is the light switch normal?</li> </ul>	Yes Go to the next step.
		No Replace the light switch, then go to the final step. (See 09-18-35 LIGHT SWITCH REMOVAL/ INSTALLATION.)

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
5	<b>VERIFY WIRING HARNESS BETWEEN LIGHT SWITCH AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Light switch and BCM connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>— BCM terminal 6O</li> <li>— BCM terminal 6J</li> <li>— BCM terminal 6L</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the light switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B10A6:92 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1008:11 [BCM]

id0902f5340000

#### Malfunction location

- Windshield wiper switch circuit malfunction

#### Detection condition

- Short to ground in wiring harness between windshield wiper and washer switch (windshield wiper INT) and BCM

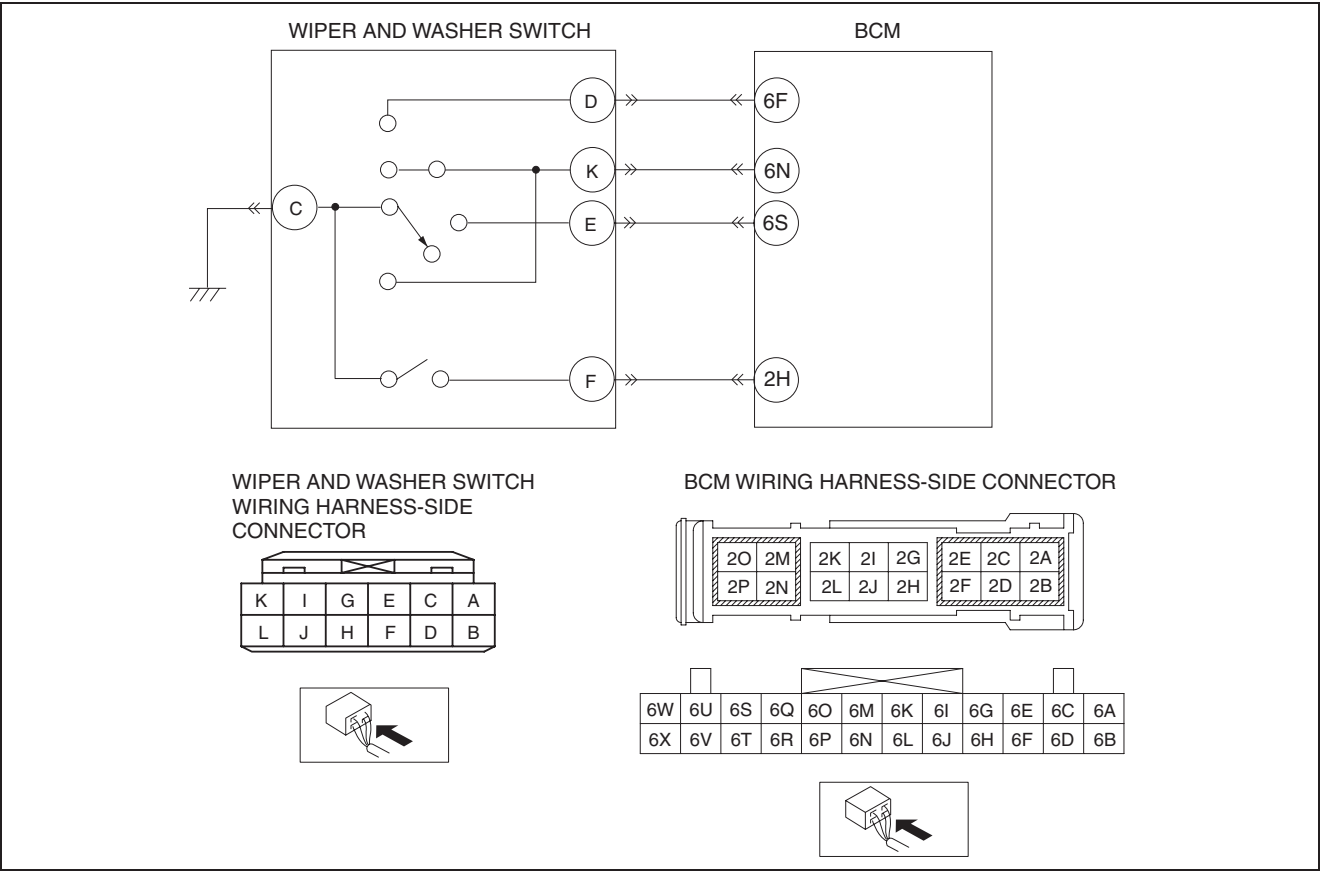
#### Possible causes

- DTC inspection is performed with windshield wiper switch on.
- Wiper and washer switch connector or terminals malfunction
- Windshield wiper switch malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between wiper and washer switch terminal E and BCM terminal 6S (vehicles with wiper and washer switch on left side)
- Short to ground in wiring harness between wiper and washer switch terminal I and BCM terminal 6S (vehicles with wiper and washer switch on right side)
- BCM malfunction



ON-BOARD DIAGNOSTIC [BCM]

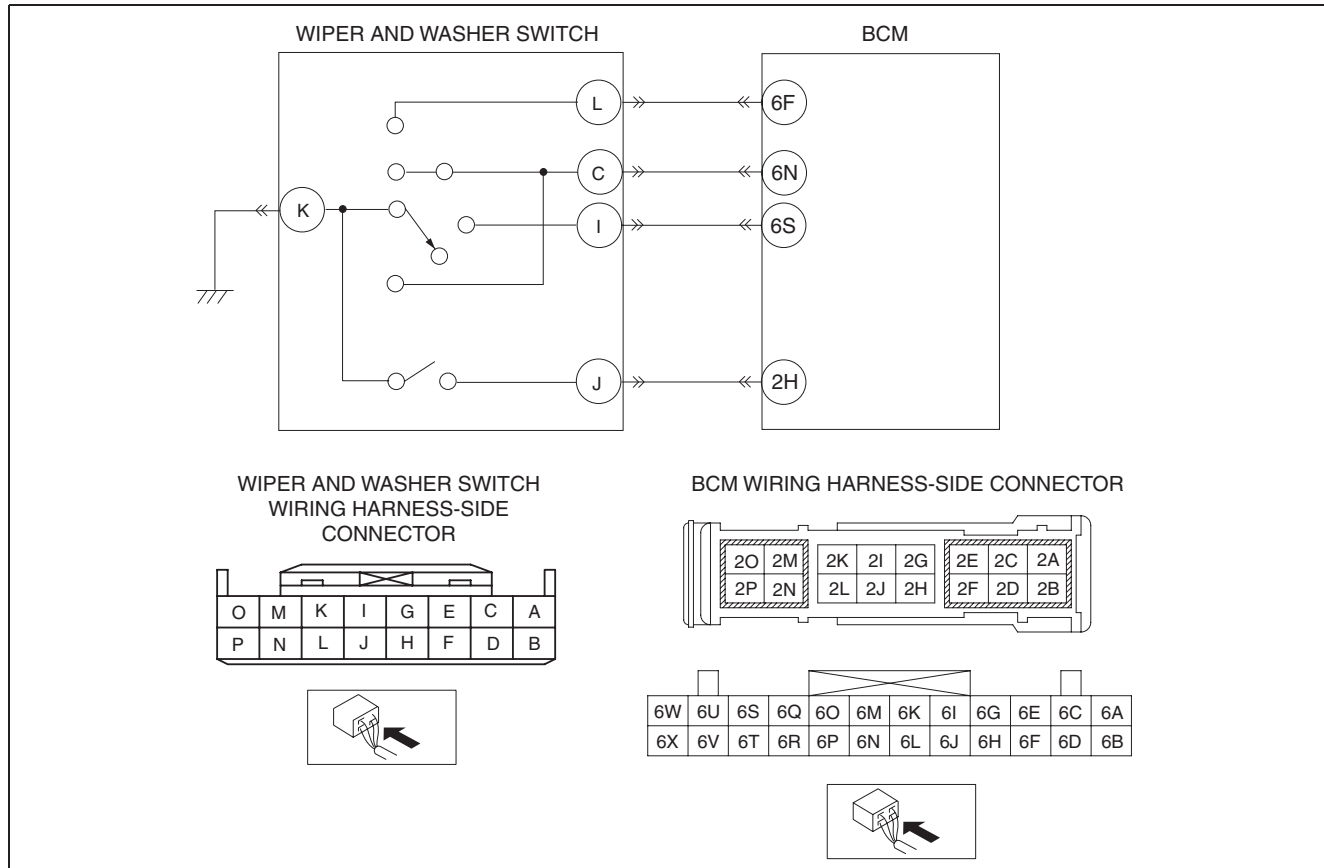
System wiring diagram  
Vehicles with wiper and washer switch on left side



am2zzw0000229

## ON-BOARD DIAGNOSTIC [BCM]

### Vehicles with wiper and washer switch on right side



am2zzw0000466

### Diagnostic procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the windshield wiper switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1008:11 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY WIPER AND WASHER SWITCH CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the wiper and washer switch connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY WINDSHIELD WIPER SWITCH CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the windshield wiper switch. (See 09-19-25 WINDSHIELD WIPER AND WASHER SWITCH INSPECTION.)</li> <li>Is the windshield wiper switch normal?</li> </ul>	Yes Go to the next step.
		No Replace the wiper and washer switch, then go to the final step. (See 09-19-24 WIPER AND WASHER SWITCH REMOVAL/INSTALLATION.)

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
5	<b>VERIFY WIRING HARNESS BETWEEN WINDSHIELD WIPER AND WASHER SWITCH AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Wiper and washer switch and BCM connectors are disconnected.</li> <li>Inspect for continuity between the BCM terminal 6S (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Turn the windshield wiper switch off.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1008:11 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1013:23 [BCM]

id0902f5340100

#### Malfunction Location

- Rear window defroster switch circuit malfunction

#### Detection Condition

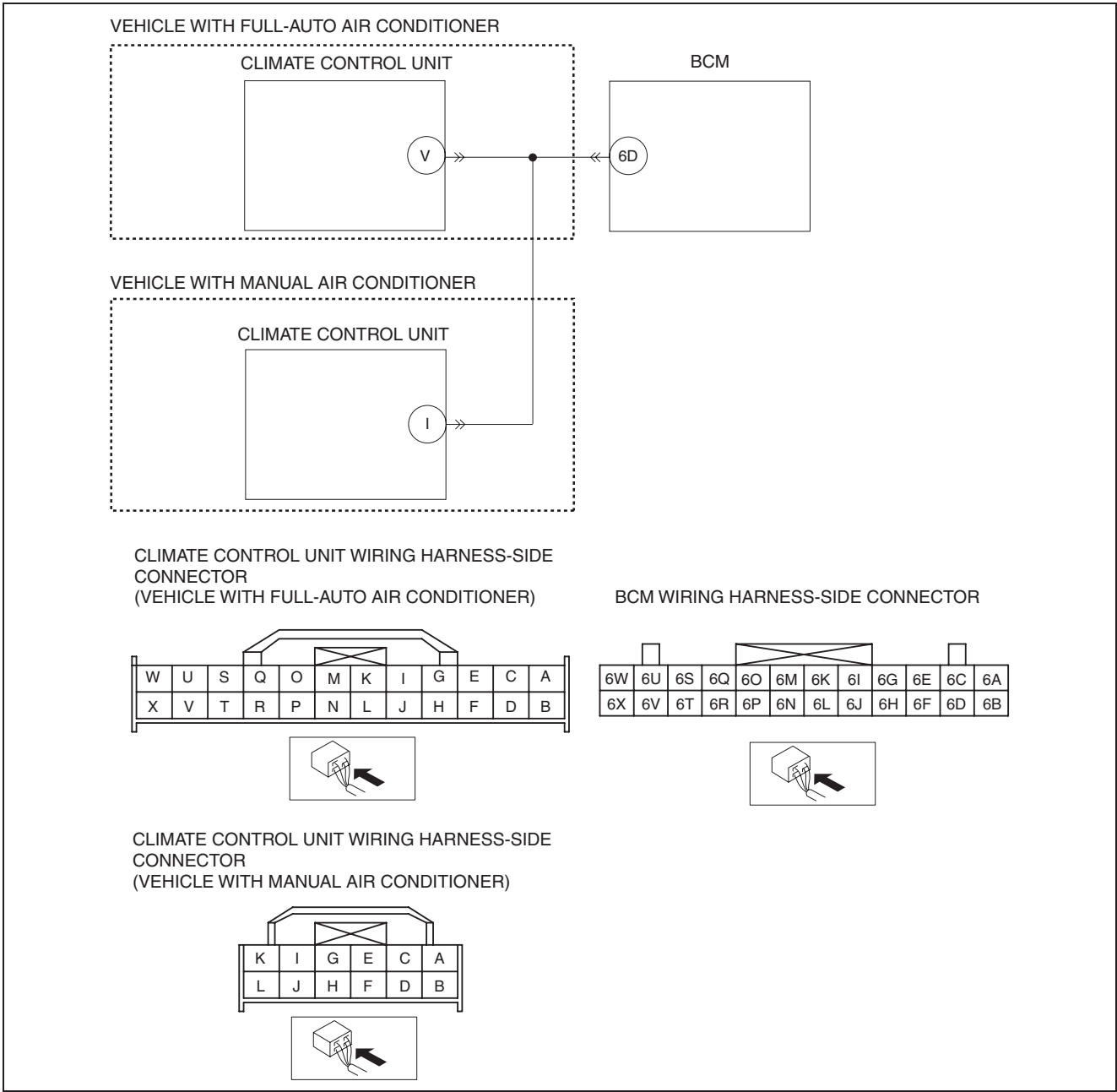
- Rear window defroster switch is in a pressed condition for **2 min or more** (rear defroster switch stuck).

#### Possible Causes

- Climate control unit connector or terminals malfunction
- BCM connector or terminals malfunction
- Short to ground in the wiring harness between climate control unit terminal V and BCM terminal 6D (vehicles with full-auto air conditioner)
- Short to ground in wiring harness between climate control unit terminal I and BCM terminal 6D (vehicles with manual air conditioner)
- Climate control unit malfunction
- BCM malfunction

# ON-BOARD DIAGNOSTIC [BCM]

## System Wiring Diagram



am2zzw0000229

## Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"><li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li><li>Turn the rear window defroster switch off.</li><li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li><li>Is the DTC B1013:23 displayed?</li></ul>	Yes Go to the next step.
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
2	<b>VERIFY CLIMATE CONTROL UNIT CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch to the LOCK position.</li> <li>• Disconnect the negative battery cable.</li> <li>• Disconnect the climate control unit connector.</li> <li>• Inspect the connection condition and wiring harness.</li> <li>• Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Disconnect the BCM connector.</li> <li>• Inspect the connection condition and wiring harness.</li> <li>• Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
4	<b>VERIFY WIRING HARNESS BETWEEN CLIMATE CONTROL UNIT AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>• Climate control unit and BCM connectors are disconnected.</li> <li>• Inspect for continuity between BCM terminal 6D (wiring harness-side) and body ground.</li> <li>• Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
5	<b>VERIFY CLIMATE CONTROL UNIT CONDITION</b> <ul style="list-style-type: none"> <li>• Inspect the climate control unit. (See 07-40A-33 CLIMATE CONTROL UNIT INSPECTION [FULL-AUTO AIR CONDITIONER].) (See 07-40B-30 CLIMATE CONTROL UNIT INSPECTION [MANUAL AIR CONDITIONER].)</li> <li>• Is the climate control unit normal?</li> </ul>	Yes Go to the next step.
		No Replace the climate control unit, then go to the final step. (See 07-40A-32 CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See 07-40B-24 CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [MANUAL AIR CONDITIONER].)
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>• Reconnect all disconnected connectors.</li> <li>• Reconnect the negative battery cable.</li> <li>• Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>• Turn the rear window defroster switch off.</li> <li>• Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>• Is the DTC B1013:23 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1087:83/B1087:86/B1087:87/B1087:88 [BCM]

id0902f5340200

#### Malfunction Location

- DTC B1087:83: Error signal from rain sensor
- DTC B1087:86: Communication error with rain sensor
- DTC B1087:87: No response from rain sensor
- DTC B1087:88: Rain sensor BUS off

#### Detection Condition

- Communication error between rain sensor and BCM

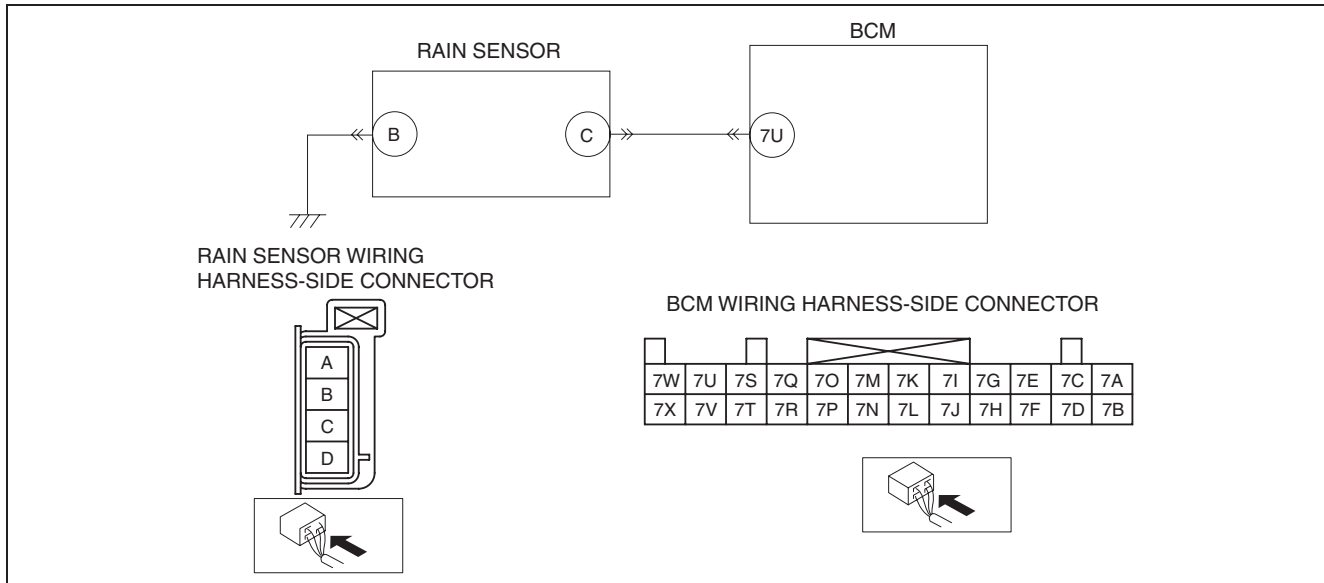
#### Possible Causes

- Rain sensor connector or terminals malfunction
- Open circuit in wiring harness between rain sensor terminal B and body ground
- BCM connector or terminals malfunction
- Short to ground in wiring harness between rain sensor terminal C and BCM terminal 7U
- Short to power supply in wiring harness between rain sensor terminal C and BCM terminal 7U

## ON-BOARD DIAGNOSTIC [BCM]

- Open circuit in wiring harness between rain sensor terminal C and BCM terminal 7U
- Rain sensor malfunction
- BCM malfunction

### System Wiring Diagram



am2zzw0000230

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>• Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>• Turn the windshield wiper switch to AUTO.</li> <li>• Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>• Is the DTC B1087:83, B1087:86, B1087:87, or B1087:88 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY RAIN SENSOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch to the LOCK position.</li> <li>• Disconnect the negative battery cable.</li> <li>• Disconnect the rain sensor connector.</li> <li>• Inspect the connection condition and wiring harness.</li> <li>• Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY RAIN SENSOR GROUND CIRCUIT CONDITION</b> <ul style="list-style-type: none"> <li>• Rain sensor connector is disconnected.</li> <li>• Inspect for continuity between rain sensor terminal B (wiring harness-side) and body ground.</li> <li>• Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Disconnect the BCM connector.</li> <li>• Inspect the connection condition and wiring harness.</li> <li>• Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
5	<b>VERIFY WIRING HARNESS BETWEEN RAIN SENSOR AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>• Rain sensor and BCM connectors are disconnected.</li> <li>• Inspect for continuity between BCM terminal 7U (wiring harness-side) and body ground.</li> <li>• Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY WIRING HARNESS BETWEEN RAIN SENSOR AND BCM FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>• Rain sensor and BCM connectors are disconnected.</li> <li>• Reconnect the negative battery cable.</li> <li>• Measure the voltage at the BCM terminal 7U (wiring harness-side).</li> <li>• Is there any voltage?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
7	<b>VERIFY BETWEEN RAIN SENSOR AND BCM FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>• Rain sensor and BCM connectors are disconnected.</li> <li>• Disconnect the negative battery cable.</li> <li>• Inspect for continuity between rain sensor terminal C (wiring harness-side) and BCM terminal 7U (wiring harness-side).</li> <li>• Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
8	<b>VERIFY RAIN SENSOR CONDITION</b> <ul style="list-style-type: none"> <li>• Reconnect all disconnected connectors.</li> <li>• Reconnect the negative battery cable.</li> <li>• Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>• Turn the windshield wiper switch to AUTO.</li> <li>• Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>• Is the DTC B1087:83, B1087:86, B1087:87, or B1087:88 displayed?</li> </ul>	Yes Replace the rain sensor, then go to the final step. (See 09-19-28 RAIN SENSOR REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.
9	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>• Reconnect all disconnected connectors.</li> <li>• Reconnect the negative battery cable.</li> <li>• Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>• Turn the windshield wiper switch to AUTO.</li> <li>• Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>• Is the DTC B1087:83, B1087:86, B1087:87, or B1087:88 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [BCM]

### DTC B1172:92 [BCM]

id0902f5340600

#### Malfunction Location

- Door lock-link switch circuit malfunction

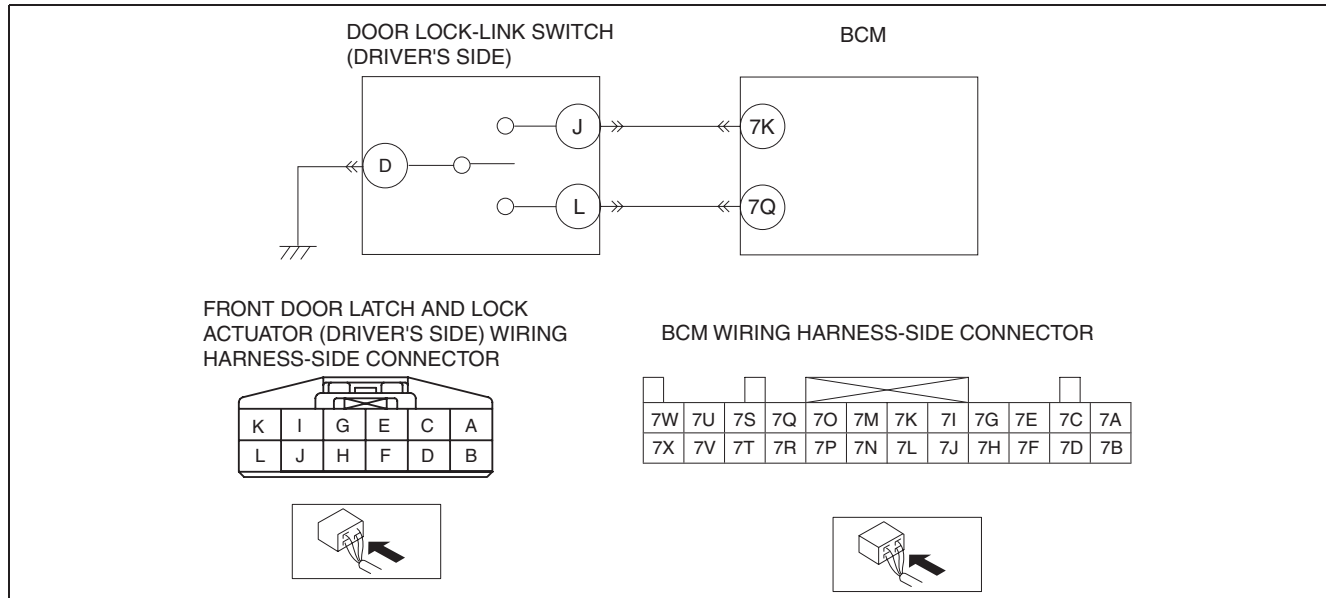
#### Detection Condition

- Lock/unlock signals are input simultaneously for **6 s or more**.

#### Possible Causes

- Front door latch and lock actuator (driver's side) connector or terminals malfunction
- Door lock-link switch (driver's side) malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between front door latch and lock actuator (driver's side) terminal J and BCM terminal 7K
- Short to ground in wiring harness between front door latch and lock actuator (driver's side) terminal L and BCM terminal 7Q
- Short circuit in lock signal and unlock signal wiring harnesses of front door latch and lock actuator
- BCM malfunction

#### System Wiring Diagram



am2zzw0000504

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"><li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li><li>Perform locking and unlocking operation.</li><li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li><li>Is the DTC B1172:92 displayed?</li></ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY FRONT DOOR LATCH AND LOCK ACTUATOR (DRIVER'S SIDE) CONNECTOR CONDITION</b> <ul style="list-style-type: none"><li>Turn the ignition switch to the LOCK position.</li><li>Disconnect the negative battery cable.</li><li>Disconnect the front door latch and lock actuator (driver's side) connector.</li><li>Inspect the connection condition and wiring harness.</li><li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li></ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.



## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
3	<b>VERIFY DOOR LOCK-LINK SWITCH (DRIVER'S SIDE) CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the door lock-link switch (driver's side). (See 09-14-75 DOOR LOCK-LINK SWITCH INSPECTION.)</li> <li>Is the door lock-link switch (driver's side) normal?</li> </ul>	Yes Go to the next step.
		No Replace the front door latch and lock actuator (driver's side), then go to the final step. (See 09-14-63 FRONT DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
5	<b>VERIFY FOR SHORT TO GROUND IN WIRING HARNESS BETWEEN FRONT DOOR LATCH AND LOCK ACTUATOR (DRIVER'S SIDE) AND BCM</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver's side) and BCM connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground: <ul style="list-style-type: none"> <li>— BCM terminal 7K</li> <li>— BCM terminal 7Q</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY FOR SHORT CIRCUIT IN LOCK AND UNLOCK SIGNAL WIRING HARNESSES</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver's side) and BCM connectors are disconnected.</li> <li>Inspect for continuity between front door latch and lock actuator (driver's side) terminals J and L (wiring harness-side).</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
7	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Perform locking and unlocking operation.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1172:92 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1175:13 [BCM]

id0902f5340700

#### Malfunction Location

- Front door latch switch (driver's side) circuit malfunction

#### Detection Condition

- Open circuit in wiring harness between front door latch switch in front door latch and lock actuator (driver's side) and BCM

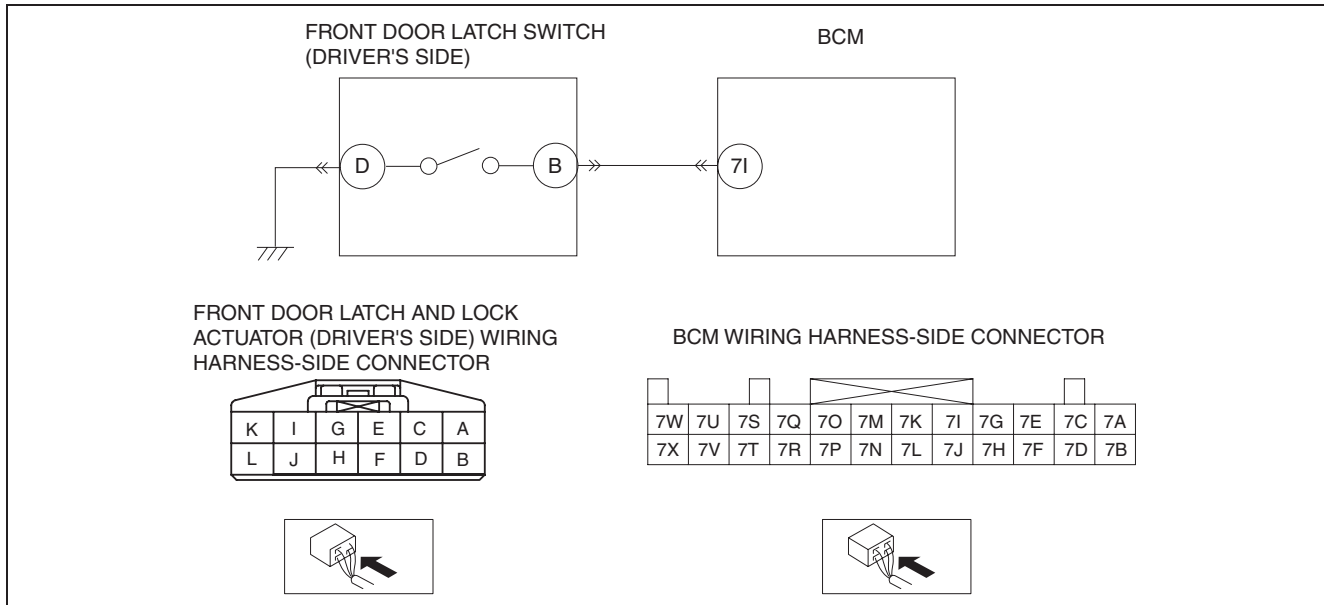
#### Possible Causes

- DTC inspection is performed with front door latch switch (driver's side) on.
- Front door latch and lock actuator (driver's side) connector or terminals malfunction
- Open circuit in wiring harness between front door latch and lock actuator (driver's side) terminal D and body ground
- Front door latch switch (driver's side) malfunction
- BCM connector or terminals malfunction

## ON-BOARD DIAGNOSTIC [BCM]

- Open circuit in wiring harness between front door latch and lock actuator (driver's side) terminal B and BCM terminal 7I
- BCM malfunction

### System Wiring Diagram



am2zzw0000504

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b>	Yes
	<ul style="list-style-type: none"> <li>• Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>• Close the front driver's door (front door latch switch on).</li> <li>• Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>• Is the DTC B1175:13 displayed?</li> </ul>	No
2	<b>VERIFY FRONT DOOR LATCH AND LOCK ACTUATOR (DRIVER'S SIDE) CONNECTOR CONDITION</b>	Yes
	<ul style="list-style-type: none"> <li>• Turn the ignition switch to the LOCK position.</li> <li>• Disconnect the negative battery cable.</li> <li>• Disconnect the front door latch and lock actuator (driver's side) connector.</li> <li>• Inspect the connection condition and wiring harness.</li> <li>• Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	No
3	<b>VERIFY FRONT DOOR LATCH SWITCH (DRIVER'S SIDE) GROUND CIRCUIT CONDITION</b>	Yes
	<ul style="list-style-type: none"> <li>• Front door latch and lock actuator (driver's side) connector is disconnected.</li> <li>• Inspect for continuity between front door latch and lock actuator (driver's side) terminal D (wiring harness-side) and body ground.</li> <li>• Is there continuity?</li> </ul>	No

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
4	<b>VERIFY FRONT DOOR LATCH SWITCH (DRIVER'S SIDE) CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the front door latch switch (driver's side). (See 09-14-74 FRONT DOOR LATCH SWITCH INSPECTION09-14-72 FRONT DOOR LOCK ACTUATOR INSPECTION.)</li> <li>Is the front door latch switch (driver's side) normal?</li> </ul>	Yes Go to the next step.
		No Replace the front door latch and lock actuator (driver's side), then go to the final step. (See 09-14-63 FRONT DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
5	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
6	<b>VERIFY WIRING HARNESS BETWEEN FRONT DOOR LATCH AND LOCK ACTUATOR (DRIVER'S SIDE) AND BCM FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (driver's side) and BCM connectors are disconnected.</li> <li>Inspect for continuity between front door latch and lock actuator (driver's side) terminal B (wiring harness-side) and BCM terminal 7I (wiring harness-side).</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
7	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Close the front driver's door (front door latch switch on).</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1175:13 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1176:13 [BCM]

id0902f5340800

#### Malfunction Location

- Front door latch switch (passenger's side) circuit malfunction

#### Detection Condition

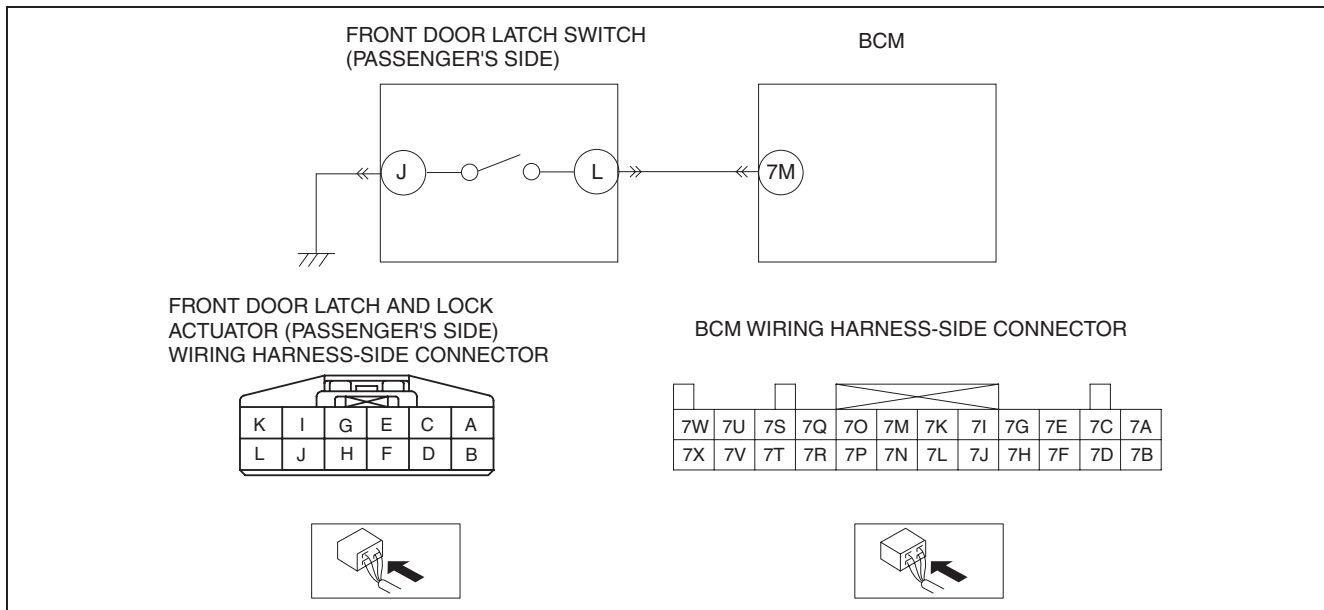
- Open circuit in wiring harness between front door latch switch in front door latch and lock actuator (passenger's side) and BCM

#### Possible Causes

- DTC inspection is performed with front door latch switch (passenger's side) on.
- Front door latch and lock actuator (passenger's side) connector or terminals malfunction
- Open circuit in wiring harness between front door latch and lock actuator (passenger's side) terminal J and body ground
- Front door latch switch (passenger's side) malfunction
- BCM connector or terminals malfunction
- Open circuit in wiring harness between front door latch and lock actuator (passenger's side) terminal L and BCM terminal 7M
- BCM malfunction

## ON-BOARD DIAGNOSTIC [BCM]

### System Wiring Diagram



am2zzw0000504

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b>	Yes
	<ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Close the front passenger's door (front door latch switch on).</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1176:13 displayed?</li> </ul>	No
2	<b>VERIFY FRONT DOOR LATCH AND LOCK ACTUATOR (PASSENGER'S SIDE) CONNECTOR CONDITION</b>	Yes
	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the front door latch and lock actuator (passenger's side) connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	No
3	<b>VERIFY FRONT DOOR LATCH SWITCH (PASSENGER'S SIDE) GROUND CIRCUIT CONDITION</b>	Yes
	<ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger's side) connector is disconnected.</li> <li>Inspect for continuity between front door latch and lock actuator (passenger's side) terminal J (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	No

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
4	<b>VERIFY FRONT DOOR LATCH SWITCH (PASSENGER'S SIDE) CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the front door latch switch (passenger's side). (See 09-14-74 FRONT DOOR LATCH SWITCH INSPECTION09-14-72 FRONT DOOR LOCK ACTUATOR INSPECTION.)</li> <li>Is the front door latch switch (passenger's side) normal?</li> </ul>	Yes Go to the next step.
		No Replace the front door latch and lock actuator (passenger's side), then go to the final step. (See 09-14-63 FRONT DOOR LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
5	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
6	<b>VERIFY WIRING HARNESS BETWEEN FRONT DOOR LATCH AND LOCK ACTUATOR (PASSENGER'S SIDE) AND BCM FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Front door latch and lock actuator (passenger's side) and BCM connectors are disconnected.</li> <li>Inspect for continuity between front door latch and lock actuator (passenger's side) terminal L (wiring harness-side) and BCM terminal 7M (wiring harness-side).</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
7	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Close the front passenger's door (front door latch switch on).</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1176:13 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC B1178:11 [BCM]

id0902f5340900

### 3HB/5HB

#### Malfunction Location

- Liftgate latch switch circuit malfunction

#### Detection Condition

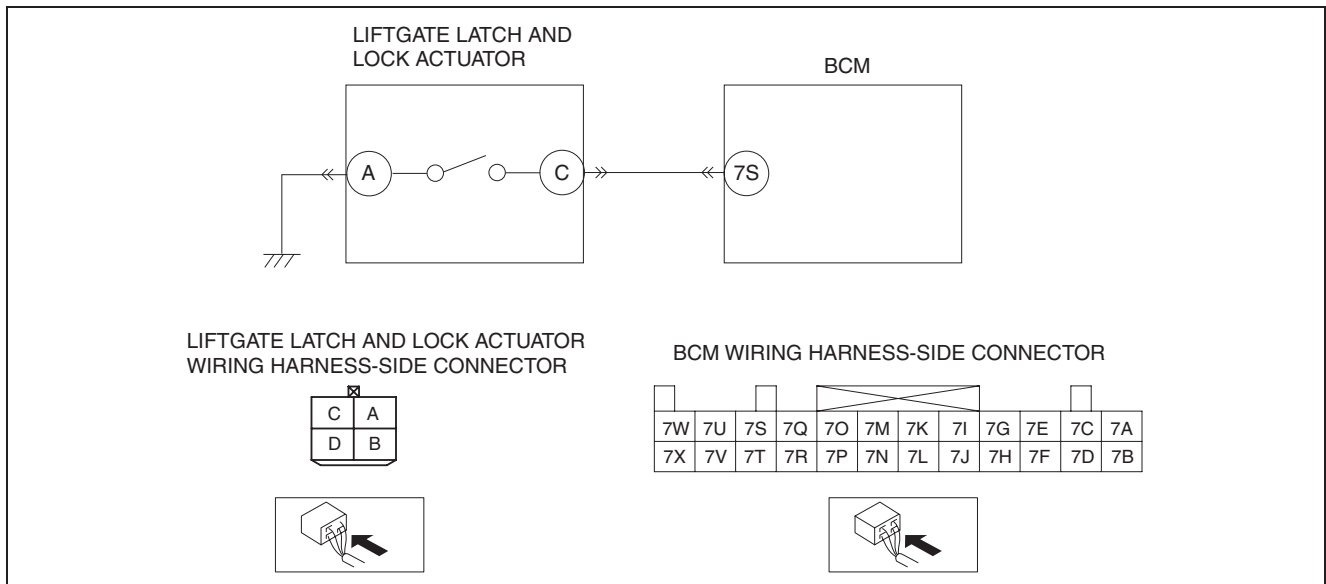
- Short to ground in wiring harness between liftgate latch switch in liftgate latch and lock actuator and BCM

#### Possible Causes

- DTC inspection is performed with liftgate latch switch on.
- Liftgate latch and lock actuator connector or terminals malfunction
- Liftgate latch switch malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between liftgate latch and lock actuator terminal C and BCM terminal 7S
- BCM malfunction

## ON-BOARD DIAGNOSTIC [BCM]

### System Wiring Diagram



am2zzw0000230

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Close the liftgate (liftgate latch switch off).</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1178:11 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY LIFTGATE LATCH AND LOCK ACTUATOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the liftgate latch and lock actuator connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY LIFTGATE LATCH SWITCH CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the liftgate latch switch. (See 09-14-90 LIFTGATE LATCH SWITCH INSPECTION.)</li> <li>Is the liftgate latch switch normal?</li> </ul>	Yes Go to the next step.
		No Replace the liftgate latch and lock actuator, then go to the final step. (See 09-14-88 LIFTGATE LATCH AND LOCK ACTUATOR REMOVAL/INSTALLATION.)
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
5	<b>VERIFY WIRING HARNESS BETWEEN LIFTGATE LATCH AND LOCK ACTUATOR AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Liftgate latch and lock actuator and BCM connectors are disconnected.</li> <li>Inspect for continuity between BCM terminal 7S (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Close the liftgate. (Liftgate latch switch off)</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1178:11 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### 4SD

#### Malfunction Location

- Trunk lid latch switch circuit malfunction

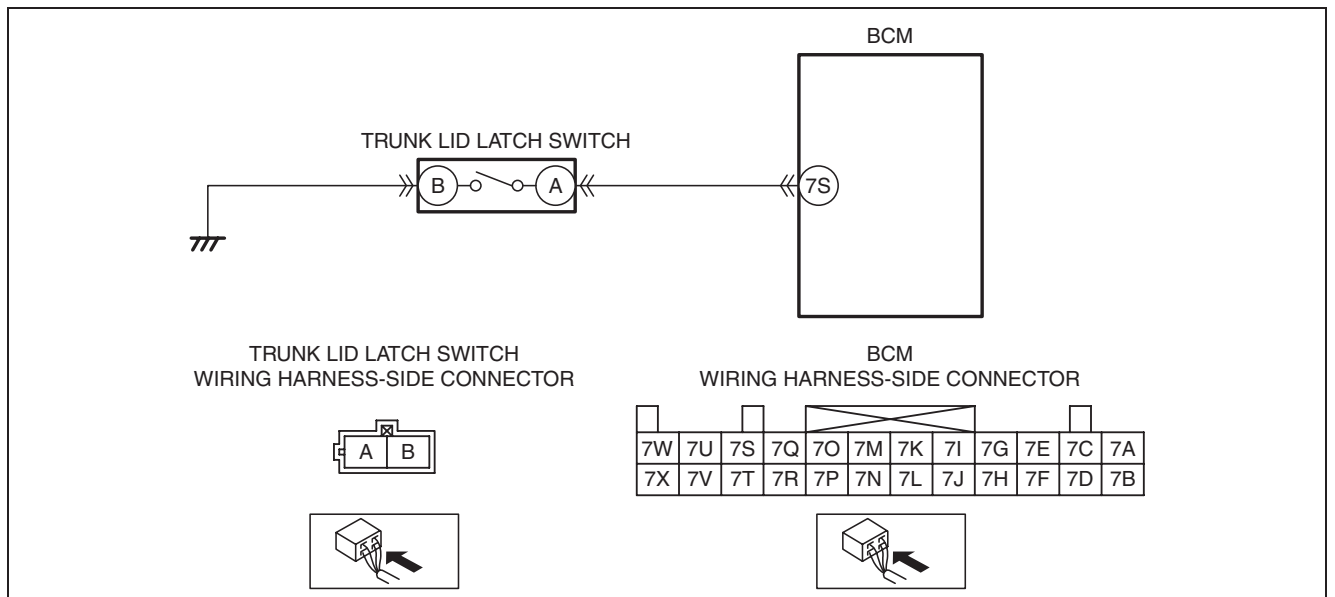
#### Detection Condition

- Short to ground in wiring harness between trunk lid latch switch and BCM

#### Possible Causes

- DTC inspection is performed with trunk lid latch switch on.
- Trunk lid latch switch connector or terminals malfunction
- Trunk lid latch switch malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between trunk lid latch switch terminal A and BCM terminal 7S
- BCM malfunction

#### System Wiring Diagram



am2zzw0000505

## ON-BOARD DIAGNOSTIC [BCM]

### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Close the trunk (trunk lid latch switch off).</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1178:11 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY TRUNK LID LATCH SWITCH CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the trunk lid latch switch connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY TRUNK LID LATCH SWITCH CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the trunk lid latch switch. (See 09-14-94 TRUNK LID LATCH AND RELEASE ACTUATOR INSPECTION.)</li> <li>Is the trunk lid latch switch normal?</li> </ul>	Yes Go to the next step.
		No Replace the trunk lid latch switch, then go to the final step. (See 09-14-94 TRUNK LID LATCH AND RELEASE ACTUATOR REMOVAL/INSTALLATION.)
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
5	<b>VERIFY WIRING HARNESS BETWEEN TRUNK LID LATCH SWITCH AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Trunk lid latch switch and BCM connectors are disconnected.</li> <li>Inspect for continuity between BCM terminal 7S (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Close the trunk (trunk lid latch switch off).</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC B1178:11 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC U0028:81/U0028:83/U0028:87 [BCM]

id0902f5341100

#### Malfunction Location

##### Vehicles with advanced keyless and start system

- DTC U0028:81: Communication error with keyless control module
- DTC U0028:83: Error signal from keyless control module
- DTC U0028:87: No response from keyless control module

##### Vehicles with keyless entry system

- DTC U0028:81: Communication error with keyless receiver
- DTC U0028:83: Error signal from keyless receiver



## ON-BOARD DIAGNOSTIC [BCM]

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- DTC U0028:87: No response from keyless receiver

### Detection Condition

#### Vehicles with advanced keyless and start system

- Communication error between keyless control module and BCM

#### Vehicles with keyless entry system

- Communication error between keyless receiver and BCM

### Possible Causes

#### Vehicles with advanced keyless and start system

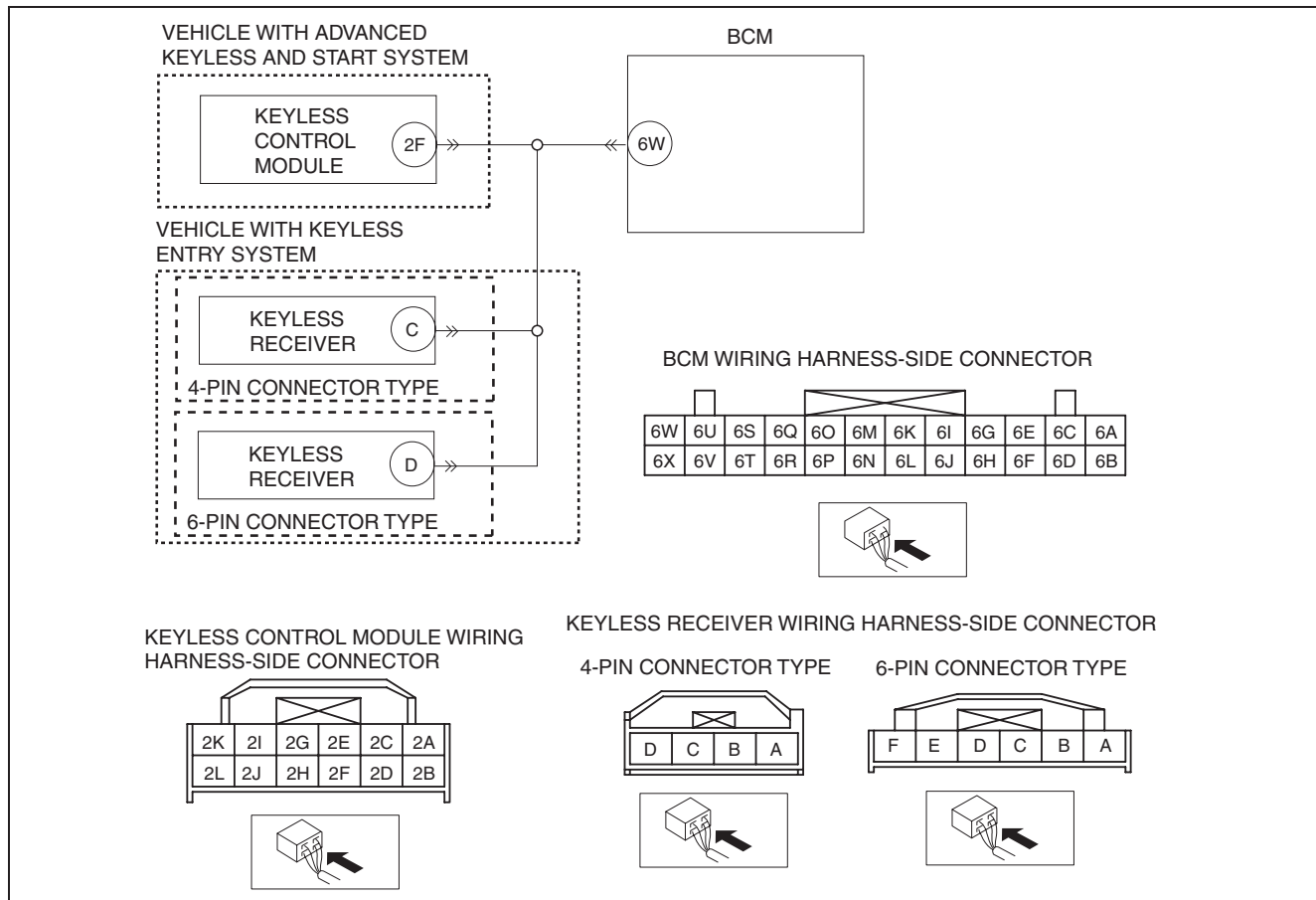
- Keyless control module connector or terminals malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between keyless control module terminal 2F and BCM terminal 6W
- Short to power supply in wiring harness between keyless control module terminal 2F and BCM terminal 6W
- Open circuit in wiring harness between keyless control module terminal 2F and BCM terminal 6W
- Keyless control module malfunction
- BCM malfunction

#### Vehicles with keyless entry system

- Keyless receiver connector or terminals malfunction
- Keyless receiver malfunction
- BCM connector or terminals malfunction
- Short to ground in wiring harness between keyless receiver (4-pin connector type) terminal C and BCM terminal 6W
- Short to ground in wiring harness between keyless receiver (6-pin connector type) terminal D and BCM terminal 6W
- Short to power supply in wiring harness between keyless receiver (4-pin connector type) terminal C and BCM terminal 6W
- Short to power supply in wiring harness between keyless receiver (6-pin connector type) terminal D and BCM terminal 6W
- Open circuit in wiring harness between keyless receiver (4-pin connector type) terminal C and BCM terminal 6W
- Open circuit in wiring harness between keyless receiver (6-pin connector type) terminal D and BCM terminal 6W
- BCM malfunction

## ON-BOARD DIAGNOSTIC [BCM]

### System Wiring Diagram



am2zzw0000505

### Diagnostic Procedure

#### Vehicles with advanced keyless and start system

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b>	Yes
	<ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Lock and unlock the doors using the transmitter.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC U0028:81, U0028:83, or U0028:87 displayed?</li> </ul>	Go to the next step.
2	<b>VERIFY KEYLESS CONTROL MODULE CONNECTOR CONDITION</b>	Yes
	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless control module connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Go to the next step.
3	<b>VERIFY BCM CONNECTOR CONDITION</b>	Yes
	<ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Go to the next step.
		No
		Repair or replace the connector, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
4	<b>VERIFY WIRING HARNESS BETWEEN KEYLESS CONTROL MODULE AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Keyless control module and BCM connectors are disconnected.</li> <li>Inspect for continuity between BCM terminal 6W (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
5	<b>VERIFY WIRING HARNESS BETWEEN KEYLESS CONTROL MODULE AND BCM FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Keyless control module and BCM connectors are disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the BCM terminal 6W (wiring harness-side).</li> <li>Is there any voltage?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY WIRING HARNESS BETWEEN KEYLESS CONTROL MODULE AND BCM FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Keyless control module and BCM connectors are disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between keyless control module terminal 2F (wiring harness-side) and BCM terminal 6W (wiring harness-side).</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.
7	<b>VERIFY KEYLESS CONTROL MODULE CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the keyless control module. (See 09-14-99 KEYLESS CONTROL MODULE INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the keyless control module normal?</li> </ul>	Yes Go to the next step.
		No Replace the keyless control module, then go to the final step. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)
8	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Lock and unlock the doors using the transmitter.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC U0028:81, U0028:83, or U0028:87 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### Vehicles with keyless entry system

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Lock and unlock the doors using the transmitter.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC U0028:81, U0028:83, or U0028:87 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
2	<b>VERIFY KEYLESS RECEIVER CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless receiver connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
3	<b>VERIFY KEYLESS RECEIVER CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the keyless receiver. (See 09-14-110 KEYLESS RECEIVER INSPECTION [KEYLESS ENTRY SYSTEM].)</li> <li>Is the keyless receiver normal?</li> </ul>	Yes Go to the next step.
		No Replace the keyless receiver, then go to the final step. (See 09-14-109 KEYLESS RECEIVER REMOVAL/ INSTALLATION [KEYLESS ENTRY SYSTEM].)
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
5	<b>VERIFY WIRING HARNESS BETWEEN KEYLESS RECEIVER AND BCM FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Keyless receiver and BCM connectors are disconnected.</li> <li>Inspect for continuity between BCM terminal 6W (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
6	<b>VERIFY WIRING HARNESS BETWEEN KEYLESS RECEIVER AND BCM FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Keyless receiver and BCM connectors are disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the BCM terminal 6W (wiring harness-side).</li> <li>Is there any voltage?</li> </ul>	Yes Repair or replace the related wiring harness, then go to the final step.
		No Go to the next step.
7	<b>VERIFY BETWEEN KEYLESS RECEIVER AND BCM FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Keyless receiver and BCM connectors are disconnected.</li> <li>Disconnect the negative battery cable.</li> <li>Inspect for continuity between keyless receiver (4-pin connector type) terminal C (wiring harness-side)/keyless receiver (6-pin connector type) terminal D (wiring harness-side) and BCM terminal 6W (wiring harness-side).</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harness, then go to the final step.

## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
8	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Lock and unlock the doors using the transmitter.</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC U0028:81, U0028:83, or U0028:87 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### DTC U0415:68 [BCM]

id0902f5331100

#### Malfunction Location

- Error signal from ABS HU/CM (with ABS)
- Error signal from DSC HU/CM (with DSC)

#### Detection Condition

- Correct data cannot be received from ABS HU/CM (with ABS).
- Correct data cannot be received from DSC HU/CM (with DSC).

#### Possible Causes

- ABS HU/CM malfunction (with ABS)
- DSC HU/CM malfunction (with DSC)
- BCM malfunction

#### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC U0415:68 displayed?</li> </ul>	Yes Go to the next step.
		No DTC troubleshooting completed.
2	<b>VERIFY ABS HU/CM OR DSC HU/CM DTCs</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Inspect the ABS HU/CM or DSC HU/CM DTCs using the M-MDS. (See 04-02A-2 ON-BOARD DIAGNOSIS [ABS].) (See 04-02B-2 ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Go to the applicable DTC inspection. (See 04-02A-2 ON-BOARD DIAGNOSIS [ABS].) (See 04-02B-2 ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) After completing the DTC troubleshooting, go to the final step.
		No Go to the next step.
3	<b>VERIFY ABS HU/CM OR DSC HU/CM</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC U0415:68 displayed?</li> </ul>	Yes Replace the ABS HU/CM or DSC HU/CM, then go to the final step. (See 04-13-3 ABS HU/CM REMOVAL/INSTALLATION [L.H.D.].) (See 04-13-6 ABS HU/CM REMOVAL/INSTALLATION [R.H.D.].) (See 04-15-5 DSC HU/CM REMOVAL/INSTALLATION [L.H.D.].) (See 04-15-9 DSC HU/CM REMOVAL/INSTALLATION [R.H.D.].)
		No DTC troubleshooting completed.
4	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC U0415:68 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

## ON-BOARD DIAGNOSTIC [BCM]

### DTC U2100:00/U3000:44 [BCM]

id0902f5342200

#### Malfunction Location

- DTC U2100:00: BCM configuration not set
- DTC U3000:44: BCM configuration setting invalid

#### Detection Condition

##### Warning

- **Detection conditions are for understanding the DTC outline before performing an inspection. Performing an inspection according to only the detection conditions may cause injury due to an operating error, or damage the system. When performing an inspection, always follow the inspection procedure.**

- BCM configuration setting not done correctly.

#### Possible Causes

- BCM configuration not implemented.
- BCM configuration setting invalid
- BCM malfunction

#### Diagnostic Procedure

Step	Inspection		Action
1	<b>PERFORM DTC INSPECTION</b> <ul style="list-style-type: none"><li>• Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li><li>• Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li><li>• Is the DTC U2100:00 or U3000:44 displayed?</li></ul>	Yes	Go to the next step.
		No	DTC troubleshooting completed.
2	<b>PERFORM BCM CONFIGURATION</b> <ul style="list-style-type: none"><li>• Perform the BCM configuration using the M-MDS. (See 09-40-16 BODY CONTROL MODULE (BCM) CONFIGURATION.)</li><li>• Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li><li>• Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li><li>• Is the DTC U2100:00 or U3000:44 displayed?</li></ul>	Yes	Perform the BCM configuration again, then go to the final step. (See 09-40-16 BODY CONTROL MODULE (BCM) CONFIGURATION.)
		No	DTC troubleshooting completed.
3	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"><li>• Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li><li>• Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li><li>• Is the DTC U2100:00 or U3000:44 displayed?</li></ul>	Yes	Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No	DTC troubleshooting completed.

### DTC U3003:16/U3003:17 [BCM]

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#### Malfunction Location

- DTC U3003:16: BCM power supply voltage low (**less than 10 V**)
- DTC U3003:17: BCM power supply voltage high (**16 V or more**)

#### Detection Condition

- DTC U3003:16: BCM power supply voltage **less than 10 V**
- DTC U3003:17: BCM power supply voltage **16 V or more**

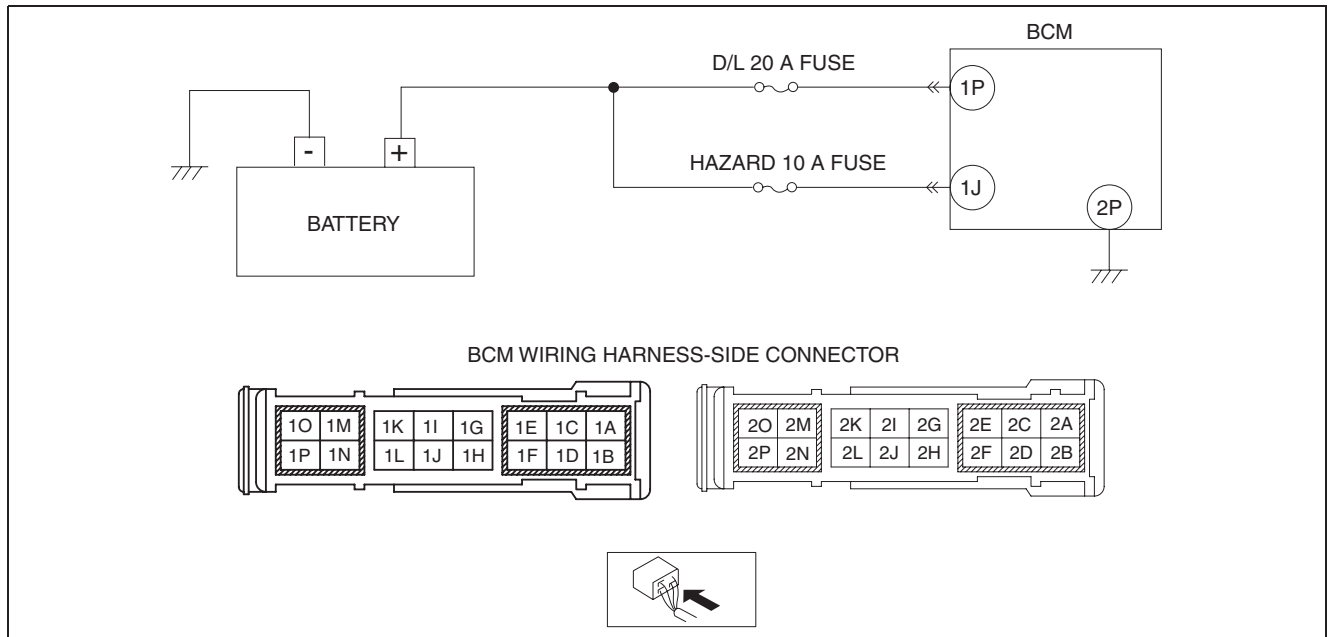
#### Possible Causes

- Battery malfunction

## ON-BOARD DIAGNOSTIC [BCM]

- Generator system malfunction
- BCM connector or terminals malfunction
- Short to ground or open circuit in wiring harness between battery and BCM
  - Short to ground in wiring harness between positive battery terminal and BCM terminal 1P
  - Short to ground in wiring harness between positive battery terminal and BCM terminal 1J
  - D/L 20 A fuse malfunction
  - HAZARD 10 A fuse malfunction
  - Open circuit in wiring harness between positive battery terminal and BCM terminal 1P
  - Open circuit in wiring harness between positive battery terminal and BCM terminal 1J
- BCM malfunction

### System Wiring Diagram



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### Diagnostic Procedure

Step	Inspection	Action
1	<b>PERFORM DTC INSPECTION</b>	Yes
	<ul style="list-style-type: none"> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC U3003:16 or U3003:17 displayed?</li> </ul>	No
2	<b>BATTERY INSPECTION</b>	Yes
	<ul style="list-style-type: none"> <li>Refer to the battery inspection and inspect the battery. (See 01-17A-4 BATTERY INSPECTION [ZJ, ZY].) (See 01-17B-2 BATTERY INSPECTION [MZ-CD 1.4 DI Turbo].) (See 01-17C-2 BATTERY INSPECTION [MZ-CD 1.6 (Y6)].)</li> <li>Is the battery normal?</li> </ul>	No

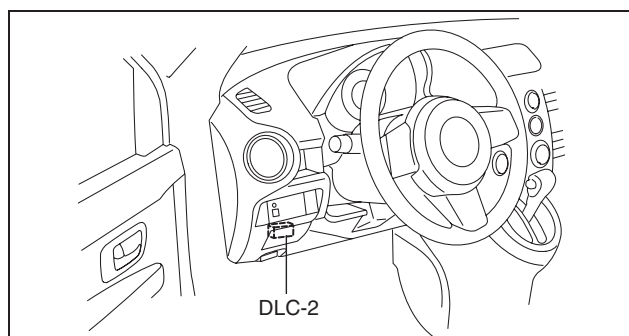


## ON-BOARD DIAGNOSTIC [BCM]

Step	Inspection	Action
3	<b>GENERATOR INSPECTION</b> <ul style="list-style-type: none"> <li>Inspect the generator. (See 01-17A-7 GENERATOR INSPECTION [ZJ, ZY].) (See 01-17B-4 GENERATOR INSPECTION [MZ-CD 1.4 DI Turbo].) (See 01-17C-5 GENERATOR INSPECTION [MZ-CD 1.6 (Y6)].)</li> <li>Is the generator normal?</li> </ul>	Yes Go to the next step.
		No Replace the generator, then go to the final step. (See 01-17A-6 GENERATOR REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-17B-4 GENERATOR REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 01-17C-4 GENERATOR REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].)
4	<b>VERIFY BCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the BCM connector.</li> <li>Inspect the connection condition and wiring harness.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair or replace the connector, then go to the final step.
5	<b>VERIFY WIRING HARNESS BETWEEN POSITIVE BATTERY TERMINAL AND BCM FOR SHORT TO GROUND OR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>BCM connector is disconnected.</li> <li>Reconnect the negative battery cable.</li> <li>Measure the voltage at the following terminals (wiring harness-side): — BCM terminal 1P — BCM terminal 1J</li> <li>Is the voltage <b>B+</b>?</li> </ul>	Yes Go to the next step.
		No Inspect the D/L 20 A fuse and HAZARD 10 A fuse. <ul style="list-style-type: none"> <li>If the fuse is melt: — Repair or replace the wiring harness for a possible short to ground. — Replace the malfunctioning fuse.</li> <li>If the fuse is deterioration: — Replace the malfunctioning fuse.</li> <li>If the fuse is normal: — Repair or replace the wiring harness for a possible open circuit.</li> </ul> Go to the final step.
6	<b>VERIFY TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Reconnect all disconnected connectors.</li> <li>Reconnect the negative battery cable.</li> <li>Clear the DTCs using the M-MDS. (See 09-02G-2 CLEARING DTC [BCM].)</li> <li>Perform the BCM DTC inspection using the M-MDS. (See 09-02G-2 DTC INSPECTION [BCM].)</li> <li>Is the DTC U3003:16 or U3003:17 displayed?</li> </ul>	Yes Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No DTC troubleshooting completed.

### PID/DATA MONITOR INSPECTION [BCM]

- Connect the M-MDS to the DLC-2.
- After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    - Select "DataLogger".
    - Select "Modules".
    - Select "BCM/GEM".
  - When using the PDS (Pocket PC)
    - Select "Module Tests".
    - Select "BCM/GEM".
    - Select "DataLogger".
- Select the applicable PID from the PID table.
- Verify the PID data according to the directions on the screen.



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#### Note

- The PID data screen function is used for monitoring the calculated value of input/output signals in the module. Therefore, if the monitored value of the output device is not within the specification, it is necessary to inspect the monitored value of input device corresponding to the applicable output part control. In addition, because the system does not display an output part malfunction as an abnormality in the monitored value, it is necessary to inspect the output device individually.



## ON-BOARD DIAGNOSTIC [BCM]

**PID/DATA MONITOR TABLE [BCM]**

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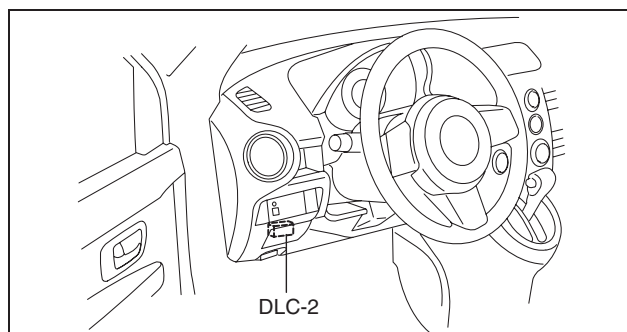
PID/DATA monitor item	Unit/Condition	Operation condition	Inspection item (s)	BCM terminal
AUTO_L_SW	Off/On	<ul style="list-style-type: none"> <li>Light switch at AUTO position: On</li> <li>Light switch at position except AUTO: Off</li> </ul>	Light switch	6E
BRK_FLUID	Normal/Low	<ul style="list-style-type: none"> <li>Brake fluid level above MIN: Normal</li> <li>Brake fluid level less than MIN: Low</li> </ul>	Brake fluid level sensor switch	4A
DRSW_D	Close/Open	<ul style="list-style-type: none"> <li>Driver's door opened: Open</li> <li>Driver's door closed: Close</li> </ul>	Door latch switch (driver's side)	7I
DRSW_P	Close/Open	<ul style="list-style-type: none"> <li>Passenger's door opened: Open</li> <li>Passenger's door closed: Close</li> </ul>	Door latch switch (passenger's side)	7M
DRSW_RR	Close/Open	<ul style="list-style-type: none"> <li>Rear door (RH) opened: Open</li> <li>Rear door (RH) closed: Close</li> </ul>	Door latch switch (rear door (RH))	7O
DRSW_LR	Close/Open	<ul style="list-style-type: none"> <li>Rear door (LH) opened: Open</li> <li>Rear door (LH) closed: Close</li> </ul>	Door latch switch (rear door (LH))	7G
D_LLSW_LOCK	Off/Lock	<ul style="list-style-type: none"> <li>Driver's door lock knob locked: Lock</li> <li>Driver's door lock knob unlocked: Off</li> </ul>	Door lock-link switch	7Q
D_LLSW_UNLOCK	Off/Unlock	<ul style="list-style-type: none"> <li>Driver's door lock knob unlocked: Unlock</li> <li>Driver's door lock knob locked: Off</li> </ul>	Door lock-link switch	7K
DR_LOCK_ACT	Off/Lock	<ul style="list-style-type: none"> <li>Driver's door lock knob locked: Lock</li> <li>Driver's door lock knob unlocked: Off</li> </ul>	Door lock actuator	3M
DR_UNLK_ACT	Off/Unlock	<ul style="list-style-type: none"> <li>Driver's door lock knob unlocked: Unlock</li> <li>Driver's door lock knob locked: Off</li> </ul>	Door lock actuator	3O
FOG_F_RLY	Off/On	<ul style="list-style-type: none"> <li>Light switch at FRONT FOG position, lights on condition: On</li> <li>Light switch not at FRONT FOG position: Off</li> </ul>	Front fog light relay	4I
FOG_R_RLY	Off/On	<ul style="list-style-type: none"> <li>Light switch at REAR FOG position, lights on condition: On</li> <li>Light switch not at REAR FOG position: Off</li> </ul>	Rear fog light relay	4E
FOG_F_SW	Off/On	<ul style="list-style-type: none"> <li>Front fog light switch in on position: On</li> <li>Front fog light switch in off position: Off</li> </ul>	Light switch	6K
FOG_R_SW	Off/On	<ul style="list-style-type: none"> <li>Rear fog light switch in on position: On</li> <li>Rear fog light switch in off position: Off</li> </ul>	Light switch	6M
HAZARD	Off/On	<ul style="list-style-type: none"> <li>Hazard warning switch in on position: On</li> <li>Hazard warning switch in off position: Off</li> </ul>	Hazard warning switch	6Q
H/L_HI_SW	Off/On	<ul style="list-style-type: none"> <li>Light switch at HI: On</li> <li>Light switch not at HI: Off</li> </ul>	Light switch	6I
H/L_LO_SW	Off/On	<ul style="list-style-type: none"> <li>Light switch at LO: On</li> <li>Light switch not at LO: Off</li> </ul>	Light switch	6O
H/L_LO_RLY	Off/On	<ul style="list-style-type: none"> <li>Headlights on: On</li> <li>Headlights off: Off</li> </ul>	Headlight low relay	4M
IG_KEY_IN	Key-Out/Key-In	<ul style="list-style-type: none"> <li>Key inserted into key cylinder: Key-In</li> <li>Except above: Key-Out</li> </ul>	Key reminder switch	6R
KEY_LOCK_SW	Off/On	<ul style="list-style-type: none"> <li>Door key cylinder at LOCK: On</li> <li>Door key cylinder not at LOCK: Off</li> </ul>	Door key cylinder switch	7C
OIL_PRS_SW	Off/On	<ul style="list-style-type: none"> <li>Engine running: On</li> <li>Engine stopped: Off</li> </ul>	Oil pressure switch	4B
PWR_IG1	Off/On	<ul style="list-style-type: none"> <li>Ignition switch at ON: On</li> <li>Ignition switch is off: Off</li> </ul>	Ignition switch	2G
RAIN_SSR	Off/On	<ul style="list-style-type: none"> <li>Intermittent operation control signal from rain sensor sent: On</li> <li>Any control signal such as stop, low or high operation from rain sensor sent: Off</li> </ul>	Rain sensor	7U
ROOM_LMP	%	<ul style="list-style-type: none"> <li>Door opened: 100 %</li> <li>Door closed: 0 %</li> </ul>	Interior light	2O
R_DEF	Off/On	<ul style="list-style-type: none"> <li>Rear window defroster operating: On</li> <li>Rear window defroster not operating: Off</li> </ul>	Filament	3B
R_DEF_SW	Off/On	<ul style="list-style-type: none"> <li>Rear window defroster switch pressed: On</li> <li>Rear window defroster switch not pressed: Off</li> </ul>	Climate control unit (rear window defroster switch)	6D

## ON-BOARD DIAGNOSTIC [BCM]

PID/DATA monitor item	Unit/Condition	Operation condition	Inspection item (s)	BCM terminal
R_DEF_IND	Off/On	<ul style="list-style-type: none"> <li>Rear window defroster indicator illuminated: On</li> <li>Rear window defroster indicator not illuminated: Off</li> </ul>	Climate control unit (rear window defroster indicator)	6G
TNS_SW	Off/On	<ul style="list-style-type: none"> <li>Light switch at TNS position: On</li> <li>Light switch not at TNS position: Off</li> </ul>	Light switch	6J
TURN_L_L	Off/On	<ul style="list-style-type: none"> <li>Turn light (LH) flashing: On</li> <li>Turn light (LH) off: Off</li> </ul>	Turn light	1L, 3L
TURN_L_R	Off/On	<ul style="list-style-type: none"> <li>Turn light (RH) flashing: On</li> <li>Turn light (RH) off: Off</li> </ul>	Turn light	1K, 3J
TURN_SW_L	Off/On	<ul style="list-style-type: none"> <li>Turn switch at left position: On</li> <li>Turn switch in off position: Off</li> </ul>	Turn switch (light switch)	6B
TURN_SW_R	Off/On	<ul style="list-style-type: none"> <li>Turn switch at right position: On</li> <li>Turn switch in off position: Off</li> </ul>	Turn switch (light switch)	6A
TR/LG_SW	Close/Open	<ul style="list-style-type: none"> <li>Liftgate opened: Open</li> <li>Liftgate closed: Close</li> </ul>	Liftgate latch and lock actuator	6U
VSPD	KPH	<ul style="list-style-type: none"> <li>Vehicle driven: Displays vehicle speed</li> <li>Vehicle stopped: 0 km/h (mph)</li> </ul>	-	-
WASHER_F	Off/On	<ul style="list-style-type: none"> <li>Windshield washer switch on: On</li> <li>Windshield washer switch off: Off</li> </ul>	Washer switch	2H
WASHER_R	Off/On	<ul style="list-style-type: none"> <li>Rear washer switch on: On</li> <li>Rear washer switch off: Off</li> </ul>	Washer switch	2L
WIP_F_INT	Off/On	<ul style="list-style-type: none"> <li>Windshield wiper switch at INT position: On</li> <li>Windshield wiper switch not at INT position: Off</li> </ul>	Windshield wiper switch	6S
WIP_F_HI	Off/On	<ul style="list-style-type: none"> <li>Windshield wiper switch at HI position: On</li> <li>Windshield wiper switch not at HI position: Off</li> </ul>	Windshield wiper switch	6F
WIP_F_LO	Off/On	<ul style="list-style-type: none"> <li>Windshield wiper switch at LO position: On</li> <li>Windshield wiper switch not at LO position: Off</li> </ul>	Windshield wiper switch	6N
WIP_R_ON	Off/On	<ul style="list-style-type: none"> <li>Rear wiper switch at ON: On</li> <li>Rear wiper switch at OFF: Off</li> </ul>	Windshield wiper switch	6C
WPRLY_F_HI	Off/On	<ul style="list-style-type: none"> <li>Windshield wiper operating at HI: On</li> <li>Windshield wiper operating in position except HI: Off</li> </ul>	Front wiper motor	1A
WPRLY_F_LO	Off/On	<ul style="list-style-type: none"> <li>Windshield wiper operating at LO: On</li> <li>Windshield wiper operating in position except LO: Off</li> </ul>	Front wiper motor	1B
WPRLY_R	Off/On	<ul style="list-style-type: none"> <li>Rear wiper operating: On</li> <li>Rear wiper not operating: Off</li> </ul>	Rear wiper motor	3D

### ACTIVE COMMAND MODES INSPECTION [BCM]

1. Connect the M-MDS to the DLC-2.
2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
  - When using the IDS (laptop PC)
    1. Select "DataLogger".
    2. Select "Modules".
    3. Select "BCM/GEM".
  - When using the PDS (Pocket PC)
    1. Select "Module Tests".
    2. Select "BCM/GEM".
    3. Select "DataLogger".
3. Select the active command modes from the PID table.
4. Perform the active command modes, inspect the operations for each parts.



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- If the operation of output device cannot be verified after the active command mode inspection is performed, this could indicate the possibility of an open or short circuit, sticking, or operation malfunction in the output device.

## ON-BOARD DIAGNOSTIC [BCM]

ACTIVE COMMAND MODES TABLE [BCM]

id0902f5960900

Command name	Operation condition	Unit/Operation	Output part name	Terminal
WPRLY_F_HI* 1	On : Windshield wiper (HI) operation	Off/On	Windshield wiper motor	1E
WPRLY_F_LO	On : Windshield wiper (LO) operation	Off/On	Windshield wiper motor	1D
WPRLY_R	On : Rear wiper operation	Off/On	Rear wiper motor	3E
TURN_L_R	On : Turn light (RH) flashes	Off/On	Turn light (RH)	1H,3G
TURN_L_L	On : Turn light (LH) flashes	Off/On	Turn light (LH)	1I,3H
H/L_LO_RLY	On : Headlights (LO) on	Off/On	Headlight low-beam relay	4B
FOG_F_RLY	On : Front fog lights on	Off/On	Front fog light relay	4D
FOG_R_RLY	On : Rear fog lights on	Off/On	Rear fog light relay	4D

\*1 : With "WPRLY\_F\_LO" On

## 09-02I ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

<b>FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]</b> .....	09-02I-1
Troubleshooting Procedure .....	09-02I-2
<b>DTC TABLE [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]</b> .....	09-02I-3
<b>DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]</b> .....	09-02I-7
Diagnostic Table for Determining Malfunctioning Part .....	09-02I-7
A.....	09-02I-9
B.....	09-02I-9
C .....	09-02I-10
D .....	09-02I-11
E.....	09-02I-12
F.....	09-02I-13
G .....	09-02I-14
H .....	09-02I-15
I.....	09-02I-16
J .....	09-02I-17
K .....	09-02I-18
L .....	09-02I-19
<b>M-MDS AND VEHICLE NOT COMMUNICATING [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]</b> .....	09-02I-20
Detection Condition.....	09-02I-20
Possible Causes .....	09-02I-20
Wiring Diagram .....	09-02I-21
Diagnostic Procedure .....	09-02I-21
<b>DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]</b> .....	09-02I-24
Diagnostic procedure .....	09-02I-25

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## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

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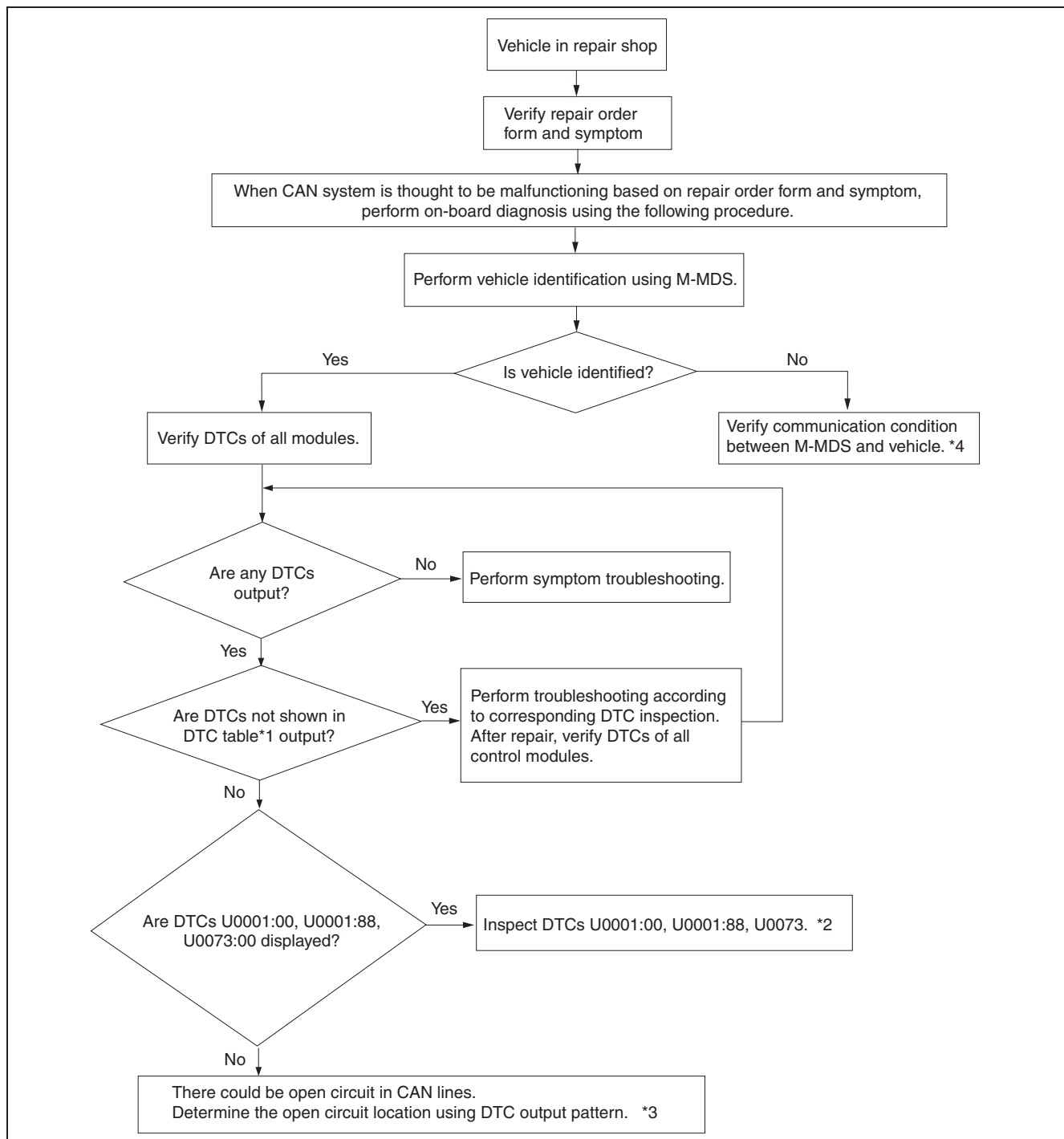
### FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

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- If the CAN system is considered to be the cause of the malfunction based on the repair order form and the malfunctioning symptom, follow the **09-02I-2** Troubleshooting Procedure.
- DTCs are also output due to a control module or sensor malfunction, or incorrect power supply. Verify the output DTCs and first inspect the DTCs not shown in **09-02I-3** DTC TABLE [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].
- If there is an open circuit in the communication lines, it is possible that signal error DTCs may be output in addition to communication error DTCs. Perform **09-02I-7** DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)], **09-02I-7** DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)] if the communication error and signal error DTCs are output simultaneously.

# ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

## Troubleshooting Procedure



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\*1 : 09-02I-3 DTC TABLE [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

\*2 : 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

\*3 : 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

\*4 : 09-02I-20 M-MDS AND VEHICLE NOT COMMUNICATING [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

# ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

DTC TABLE [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

id0902j4845800

## HS-CAN

DTC output module	DTC	Malfunction location	Reference for inspection procedure
PCM (ZJ, ZY)	U0073:00 <sup>*1</sup>	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0101:00	Communication error to TCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0121:00	<ul style="list-style-type: none"><li>Communication error to ABS HU/CM (with ABS)</li><li>Communication error to DSC HU/CM (with DSC)</li></ul>	
	U0140:00	Communication error to BCM	
	U0151:00	Communication error to SAS control module	
	U0155:00	Communication error to instrument cluster	
PCM (MZ-CD 1.4 DI Turbo)	U0073:00 <sup>*1</sup>	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0121:00	<ul style="list-style-type: none"><li>Communication error to ABS HU/CM (with ABS)</li><li>Communication error to DSC HU/CM (with DSC)</li></ul>	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0140:00	Communication error to BCM	
	U0155	Communication error to instrument cluster	
	U0416	Communication error to EPS control module	
	U0423	Abnormal message from instrument cluster	
PCM (MZ-CD 1.6 (Y6))	U0001:00 <sup>*1</sup>	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0073:00 <sup>*1</sup>	CAN system communication error	
	U0121:00	<ul style="list-style-type: none"><li>Communication error to ABS HU/CM (with ABS)</li><li>Communication error to DSC HU/CM (with DSC)</li></ul>	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0122:86		
	U0122:87		
	U0155:00		
	U0167:00	Communication error to instrument cluster	
	U0300:87	<ul style="list-style-type: none"><li>Communication error to keyless control module (vehicles with advanced keyless and start system)</li><li>Communication error to instrument cluster (vehicles with keyless entry system)</li></ul>	
ABS HU/CM <sup>*2</sup>	U0001:88 <sup>*1</sup>	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0100:00	Communication error to PCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0155:00	Communication error to instrument cluster	
	U2101:00	Abnormal message from instrument cluster	

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

DTC output module	DTC	Malfunction location	Reference for inspection procedure
DSC HU/CM <sup>*3</sup>	U0001:88 <sup>*1</sup>	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0100:00	Communication error to PCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0126:00	Communication error to EPS control module	
	U0155:00	Communication error to instrument cluster	
	U0401:68 <sup>*1</sup>	Signal error from PCM	(See 04-02B-28 DTC U0401:68 [DYNAMIC STABILITY CONTROL (DSC)].)
	U2101:00	Abnormal message from instrument cluster	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
BCM	U0001:88 <sup>*1</sup>	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0100:00	Communication error to PCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0101:00	Communication error to TCM	
	U0121:00	<ul style="list-style-type: none"> <li>Communication error to ABS HU/CM (with ABS)</li> <li>Communication error to DSC HU/CM (with DSC)</li> </ul>	
	U0415:68 <sup>*1</sup>	<ul style="list-style-type: none"> <li>Signal error from ABS HU/CM (with ABS)</li> <li>Signal error from DSC HU/CM (with DSC)</li> </ul>	(See 09-02G-49 DTC U0415:68 [BCM].)
TCM <sup>*4</sup>	U0073:00 <sup>*1</sup>	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0100:00	Communication error to PCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0121:00	<ul style="list-style-type: none"> <li>Communication error to ABS HU/CM (with ABS)</li> <li>Communication error to DSC HU/CM (with DSC)</li> </ul>	
Keyless control module <sup>*5</sup>	U0001:88 <sup>*1</sup>	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0028:87	Communication error to BCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0100:00	Communication error to PCM	
	U0401:68 <sup>*1</sup>	Signal error from PCM	(See 09-02A-34 DTC U0401:68 [ADVANCED KEYLESS AND START SYSTEM].)



## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

DTC output module	DTC	Malfunction location	Reference for inspection procedure
SAS control module	U0001:88*1	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0155:00	Communication error to instrument cluster	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
EPS control module	U0001:88*1	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0100:00	Communication error to PCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0401:00*1	Signal error from PCM	(See 06-02-9 DTC U0401:00.)
Theft-deterrent control module*6	U0001:88*1	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0100:00	Communication error to PCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0140:00	Communication error to BCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

DTC output module	DTC	Malfunction location	Reference for inspection procedure
Instrument cluster	U0001:88 <sup>*1</sup>	CAN system communication error	(See 09-02I-24 DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0100:00	Communication error to PCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0100:87 <sup>*1</sup>	Communication error to PCM (no response)	(See 09-02B-16 SECURITY LIGHT: 16, DTC: U0100:87/P1260:00 [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].) (See 09-02C-13 SECURITY LIGHT: 16, DTC: U0100:87/P1260:00 [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)
	U0101:00	Communication error to TCM	(See 09-02I-7 DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
	U0121:00	<ul style="list-style-type: none"> <li>Communication error to ABS HU/CM (with ABS)</li> <li>Communication error to DSC HU/CM (with DSC)</li> </ul>	
	U0131:00	Communication error to EPS control module	
	U0140:00	Communication error to BCM	
	U0151:00	Communication error to SAS control module	
	U0214:00	Communication error to keyless control module	
	U0401:68 <sup>*1</sup>	Signal error from PCM	(See 09-02F-11 DTC U0401:68 [INSTRUMENT CLUSTER].)
	U0401:92 <sup>*1</sup>	Signal error from PCM	(See 09-02F-11 DTC U0401:92 [INSTRUMENT CLUSTER].)
	U0402:92 <sup>*1</sup>	Signal error from TCM	(See 09-02F-12 DTC U0402:92 [INSTRUMENT CLUSTER].)
	U0415:92 <sup>*1</sup>	<ul style="list-style-type: none"> <li>Signal error from ABS HU/CM (with ABS)</li> <li>Signal error from DSC HU/CM (with DSC)</li> </ul>	(See 09-02F-12 DTC U0415:92 [INSTRUMENT CLUSTER].)
	U0420:92 <sup>*1</sup>	Signal error from EPS control module	(See 09-02F-13 DTC U0420:92 [INSTRUMENT CLUSTER].)
	U0452:68 <sup>*1</sup>	Signal error from SAS control module	(See 09-02F-13 DTC U0452:68 [INSTRUMENT CLUSTER].)
	U0452:92 <sup>*1</sup>	Signal error from SAS control module	(See 09-02F-13 DTC U0452:92 [INSTRUMENT CLUSTER].)
	U0515:68 <sup>*1</sup>	Signal error from keyless control module	(See 09-02F-14 DTC U0515:68 [INSTRUMENT CLUSTER].)

\*1 : If only the target DTCs are displayed, perform the corresponding DTC inspection without determining the open circuit location.

\*2 : With ABS

\*3 : With DSC

\*4 : CVT

\*5 : With advanced keyless entry and start system

\*6 : With theft-deterrent system

# ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

## DETERMINING MALFUNCTIONING PART (HS-CAN) [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

id0902j4846700

### Caution

- If the malfunctioning part is detected in the communication line, before disconnecting the related connector for inspection, press the connector in the connection direction to verify that there is no looseness or disconnection.
- When disconnecting the connector, verify that there is no damage, deformation, or corrosion of the connector terminals.

1. Verify the CAN system-related module DTCs and the failed module using the (M-MDS).
2. Look for a DTC display pattern and failed module display pattern in tandem which match.

### Note

- A hyphen “-” in the DTC output pattern table indicates that the DTC may be displayed depending on the malfunction detection conditions. If only an “×” is indicated, it means the DTC will not be displayed.
  - If any of the following DTCs is displayed alone, perform the applicable DTC inspection. (See 09-02I-3 DTC TABLE [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].)
    - DSC HU/CM: U0401:68
    - BCM: U0415:68
    - Keyless control module: U0401:68
    - EPS control module: U0401:00
    - Instrument cluster: U0100:87, U0401:68, U0401:92, U0402:92, U0415:92, U0420:92, U0452:68, U0452:92, U0515:68
3. Refer to the matching tandem diagnostic results (A to L) and inspect the possible cause and inspection item.
  4. Perform the DTC inspection after the repair procedure.
    - If any DTC is displayed, return to 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)].

### Diagnostic Table for Determining Malfunctioning Part

Cross (×): Displayed  
Hyphen (-): May or may not be displayed

M-MDS display		DTC display pattern											
DTC output module	DTC												
PCM (PCM)* <sup>1</sup>	U0101:00				×								
	U0121:00		×										
	U0140:00						×						
	U0151:00								×				
	U0155:00												×
PCM (PCM)* <sup>2</sup>	U0121:00		×										
	U0140:00						×						
	U0155												×
	U0416									×			
	U0423												-
PCM (PCM)* <sup>3</sup>	U0121:00		×										
	U0122:86		×										
	U0122:87		×										
	U0155:00		×										
	U0167:00												×
	U0300:87						× <sup>*7</sup>						× <sup>*8</sup>
ABS (ABS HU/CM)* <sup>4</sup>	U0100:00	×											
	U0155:00												×
	U2101:00												-
ABS (DSC HU/CM)* <sup>5</sup>	U0100:00	×											
	U0126:00									×			
	U0155:00												×
	U0401:68	-											
	U2101:00												-

# ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

M-MDS display		DTC display pattern											
DTC output module	DTC												
BCM/GEM (BCM)	U0100:00	×		×									
	U0101:00				×								
	U0121:00		×	×									
	U0415:68		-	-									
TCM (TCM)* <sup>6</sup>	U0100:00	×		×									
	U0121:00		×	×									
RKE (Keyless control module)* <sup>7</sup>	U0028:87						×						
	U0100:00	×		×									
	U0401:68	-		-									
RCM (SAS control module)	U0155:00												×
EPS (EPS control module)	U0100:00	×		×				×		×			
	U0401:00	-		-				-		-			
VSM* <sup>9</sup> (Theft-deterrent control module)	U0100:00	×		×				×		×			
	U0140:00						×	×		×			
IC (Instrument cluster)	U0100:00	×		×				×		×			
	U0100:87	-		-				-		-			
	U0101:00				×			×		×			
	U0121:00		×	×				×		×			
	U0131:00										×		
	U0140:00						×	×		×			
	U0151:00								×	×			
	U0214:00					×		×		×			
	U0401:68	-		-									
	U0401:92	-		-				-		-			
	U0402:92				-			-		-			
	U0415:92		-	-				-		-			
	U0420:92										-		
	U0452:68								-	-			
	U0452:92								-	-			
	U0515:68					-		-		-			
M-MDS display module		“Fail” display pattern											
PCM		×		×				×		×			
ABS			×	×				×		×			
BCM/GEM							×	×		×			
TCM* <sup>6</sup>					×			×		×			
RKE* <sup>7</sup>						×		×		×			
RCM									×	×			
EPS											×		
VSM* <sup>9</sup>												×	
IC													×
Item		Diagnostic result											
Possible cause and inspection item		A	B	C	D	E	F	G	H	I	J	K	L
Reference page		09-02I-9 A	09-02I-9 B	09-02I-10 C	09-02I-11 D	09-02I-12 E	09-02I-13 F	09-02I-14 G	09-02I-15 H	09-02I-16 I	09-02I-17 J	09-02I-18 K	09-02I-19 L

\*1 : ZJ, ZY

\*2 : MZ-CD 1.4 DI Turbo

\*3 : MZ-CD 1.6 (Y6)

\*4 : With ABS

\*5 : With DSC

\*6 : CVT

\*7 : With advanced keyless entry and start system

\*8 : With keyless entry system

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

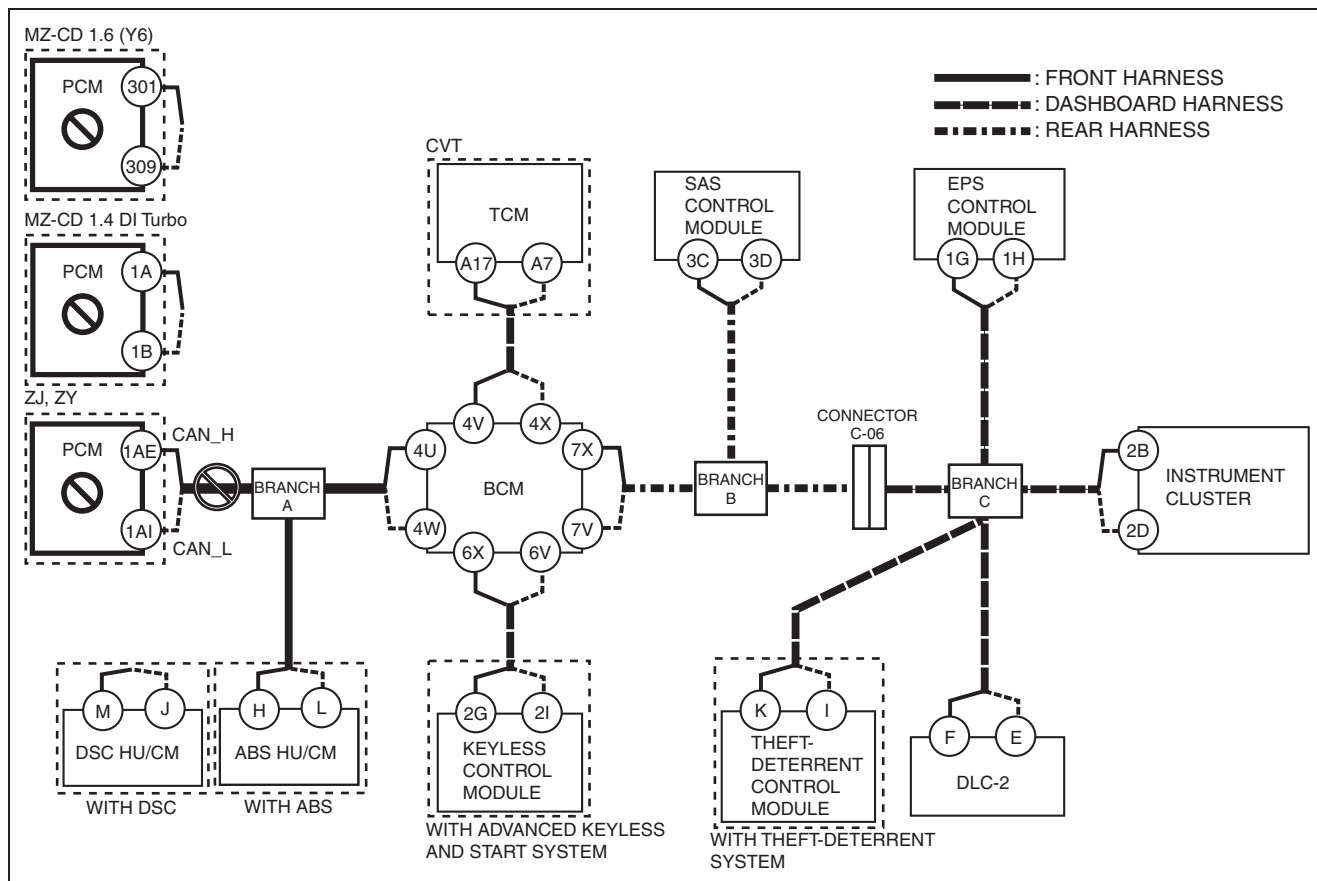
\*9 : Theft-deterrent system

### A

#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between PCM and branch A
- PCM malfunction

#### System wiring diagram



am2zzw0000467

#### Inspection item

##### ZJ, ZY

- PCM connector
- Wiring harness between PCM terminal 1AE and branch A
- Wiring harness between PCM terminal 1AI and branch A
- PCM

##### MZ-CD 1.4 DI Turbo

- PCM connector
- Wiring harness between PCM terminal 1A and branch A
- Wiring harness between PCM terminal 1B and branch A
- PCM

##### MZ-CD 1.6 (Y6)

- PCM connector
- Wiring harness between PCM terminal 301 and branch A
- Wiring harness between PCM terminal 309 and branch A
- PCM

### B

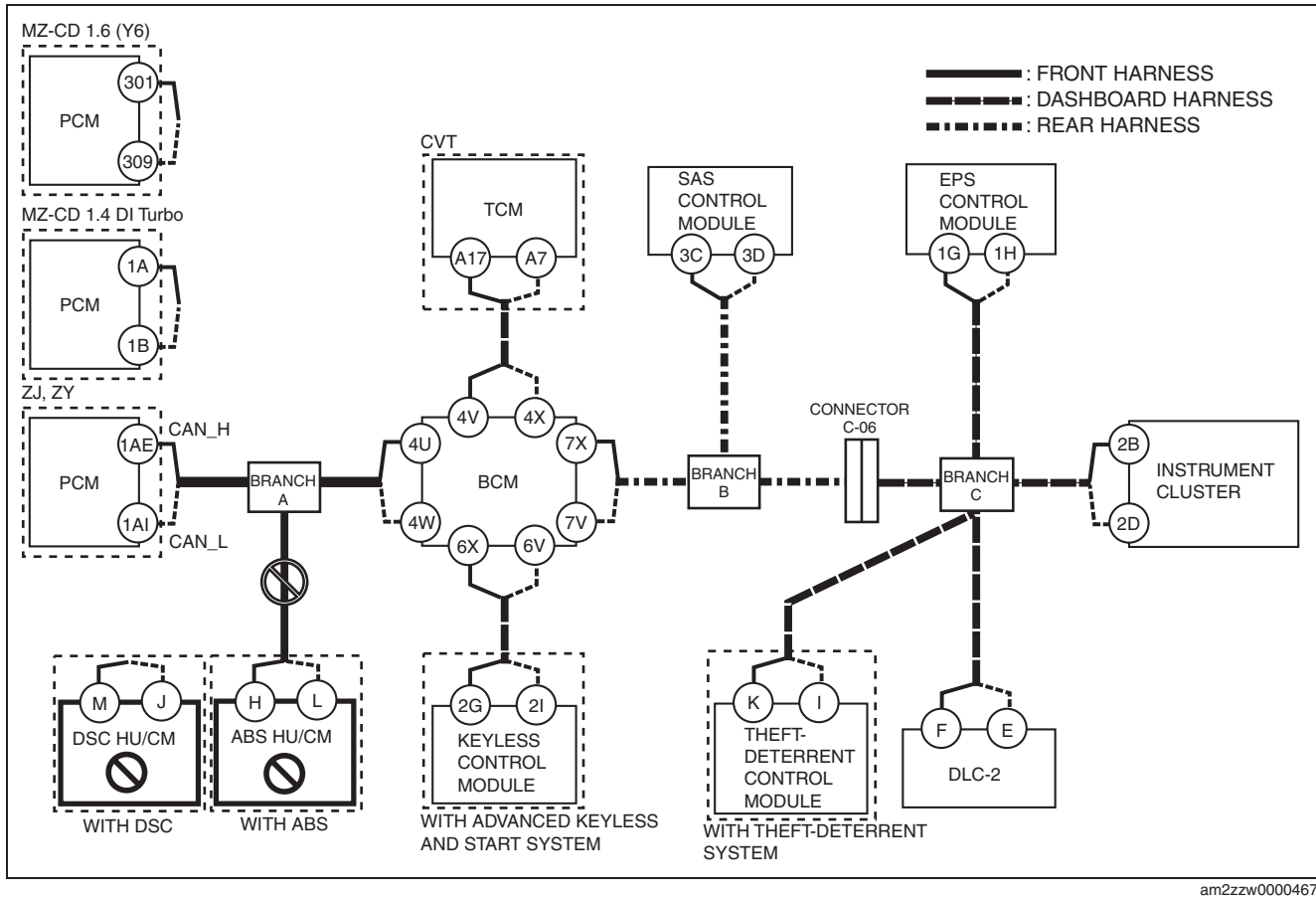
#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between ABS HU/CM and branch A
- Open circuit in wiring harness between DSC HU/CM and branch A
- ABS HU/CM malfunction

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

- DSC HU/CM malfunction

### System wiring diagram



am2zzw0000467

### Inspection item

- ABS HU/CM connector
- DSC HU/CM connector
- Wiring harness between ABS HU/CM terminal H and branch A
- Wiring harness between ABS HU/CM terminal L and branch A
- Wiring harness between DSC HU/CM terminal M and branch A
- Wiring harness between DSC HU/CM terminal J and branch A
- ABS HU/CM
- DSC HU/CM

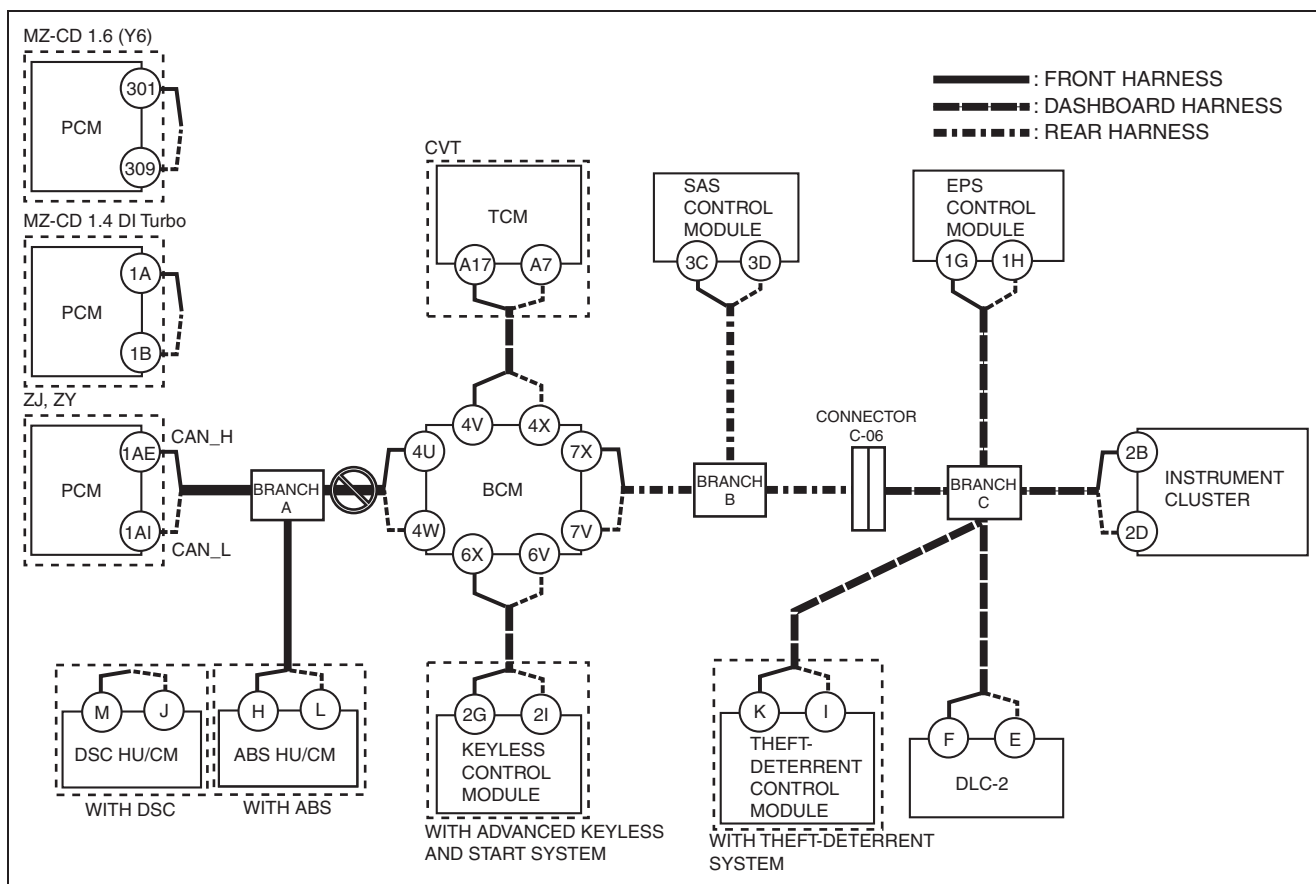
### C

#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between BCM and branch A

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



### Inspection item

- BCM connector
- Wiring harness between BCM terminal 4U and branch A
- Wiring harness between BCM terminal 4W and branch A

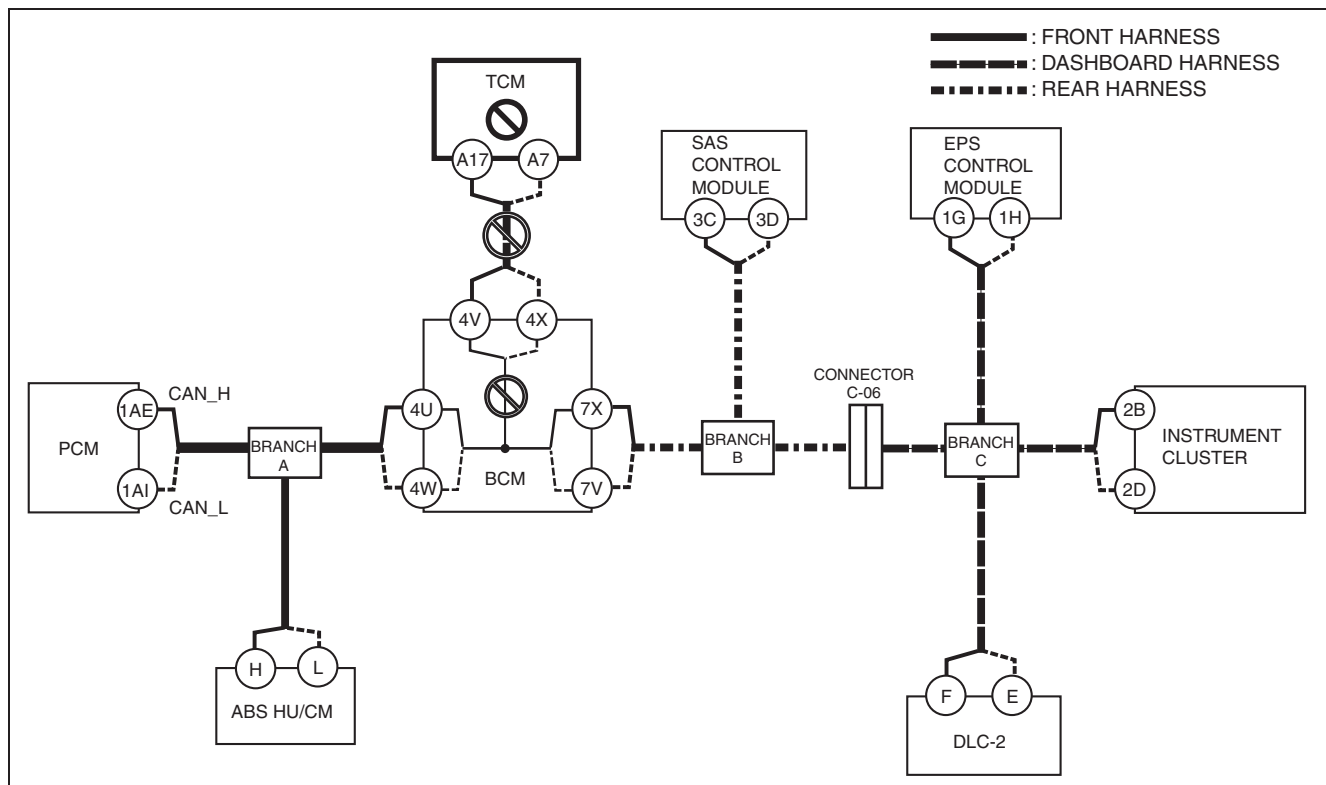
### D

#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness BCM and TCM
- TCM malfunction
- BCM malfunction

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



am2zzw0000467

### Inspection item

- TCM connector
- BCM connector
- Wiring harness between TCM terminal A17 and BCM terminal 4V
- Wiring harness between TCM terminal A7 and BCM terminal 4X
- TCM
- BCM

### E

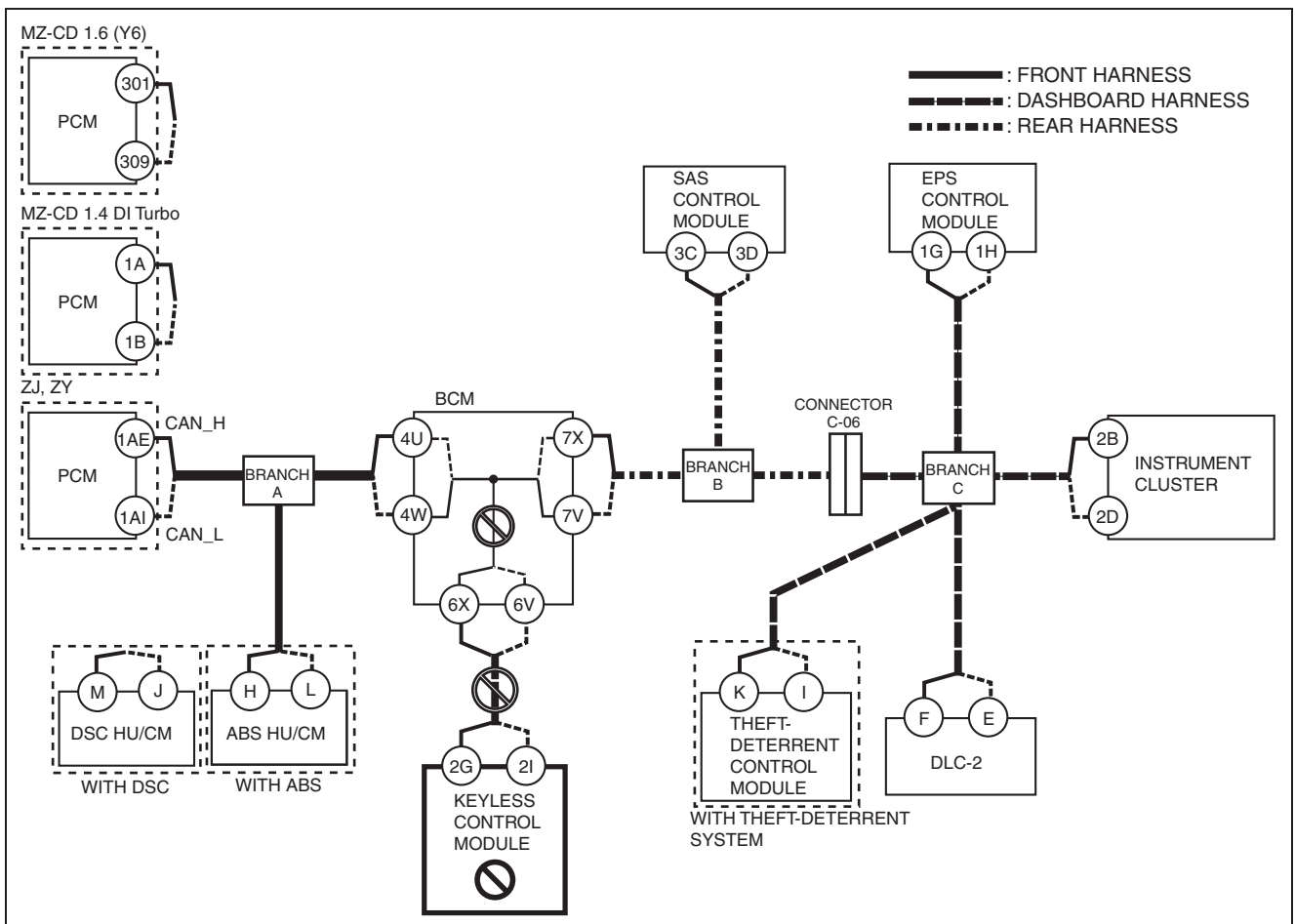
#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness keyless control module and BCM
- Keyless control module malfunction.
- BCM malfunction



## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



am2zzw0000467

### Inspection item

- Keyless control module connector
- BCM connector
- Wiring harness between keyless control module terminal 2G and BCM terminal 6X
- Wiring harness between keyless control module terminal 2I and BCM terminal 6V
- Keyless control module
- BCM

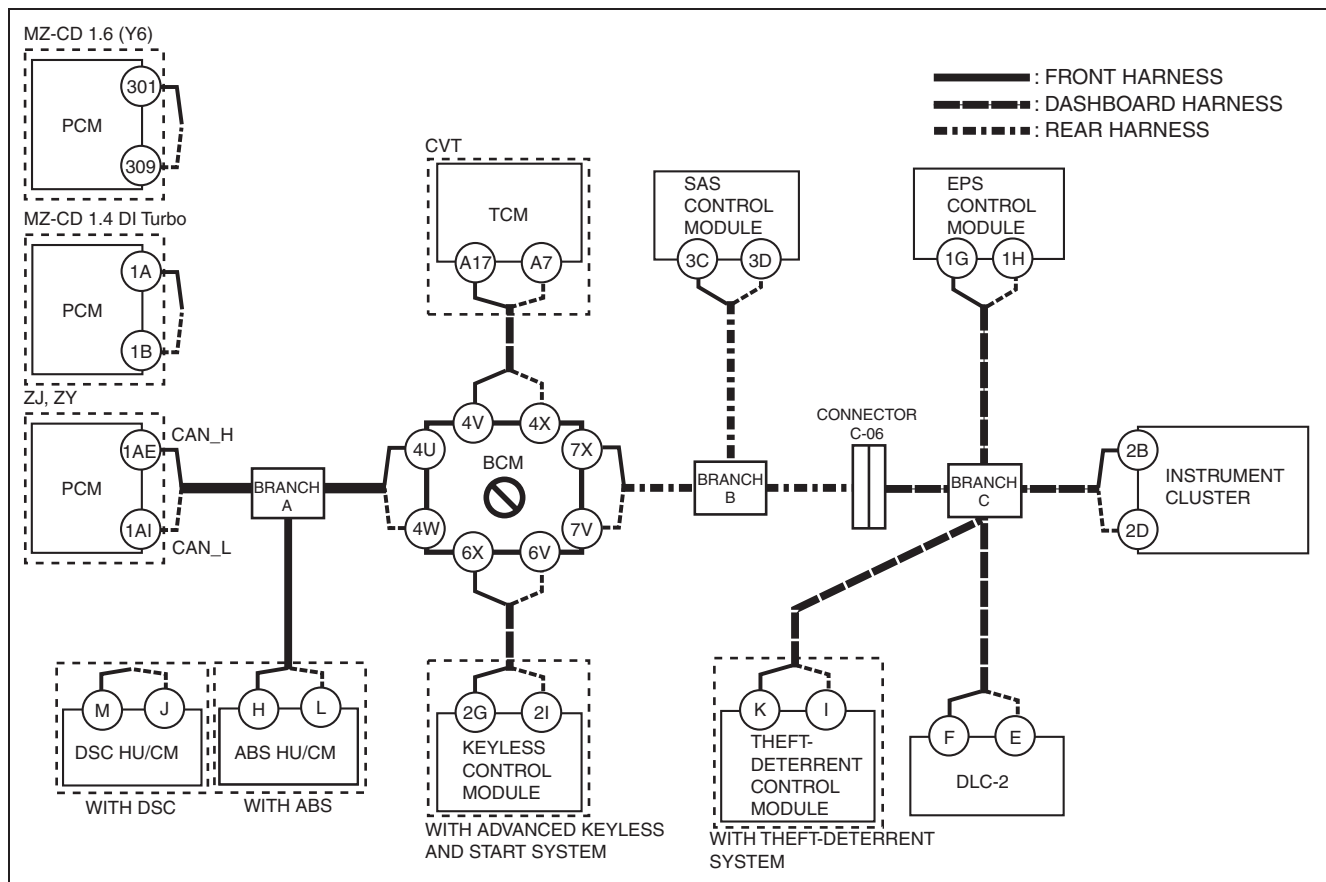
### F

#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- BCM malfunction

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



am2zzw0000467

### Inspection item

- BCM

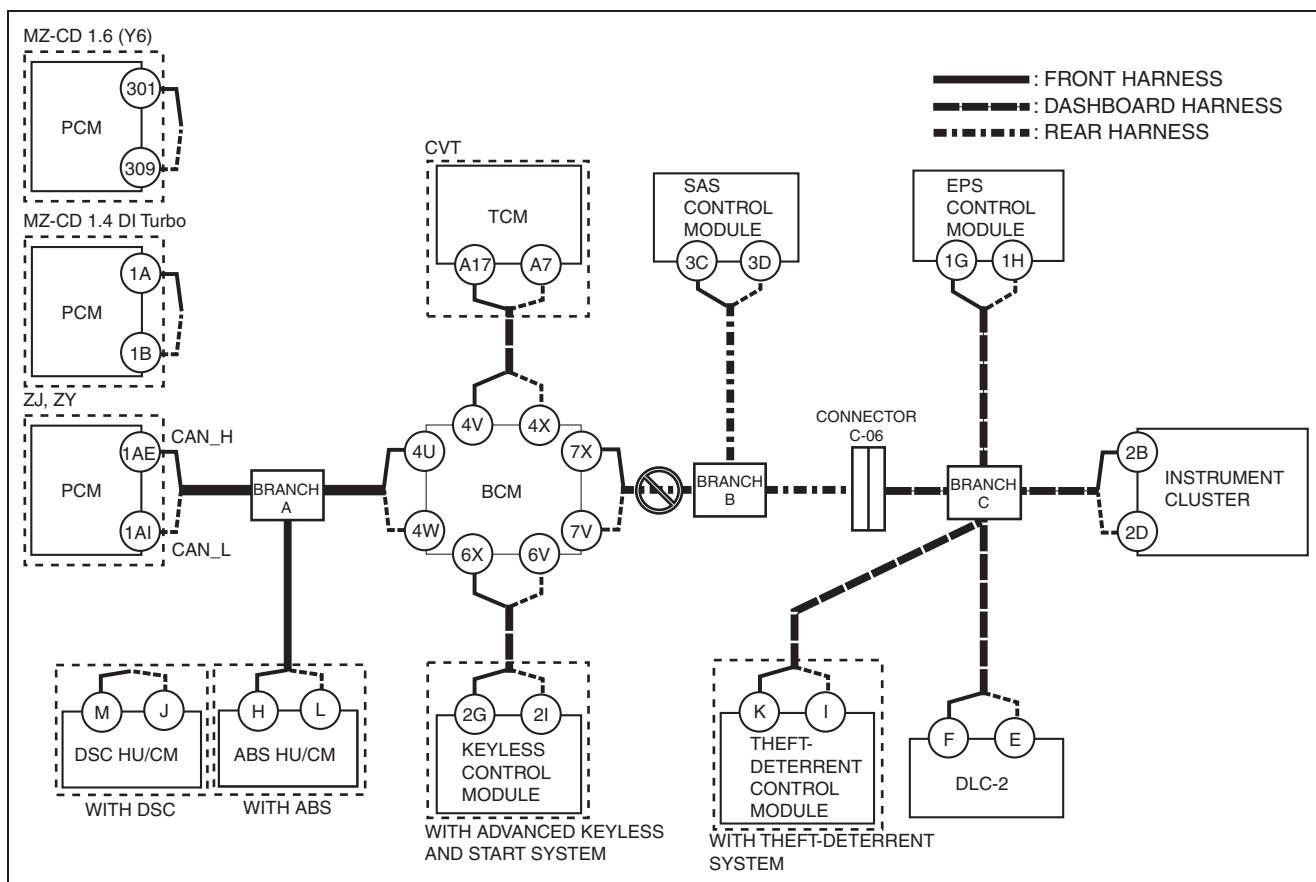
### G

### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness BCM and branch B

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



am2zzw0000467

### Inspection item

- BCM connector
- Wiring harness between BCM terminal 7X and branch B
- Wiring harness between BCM terminal 7V and branch B

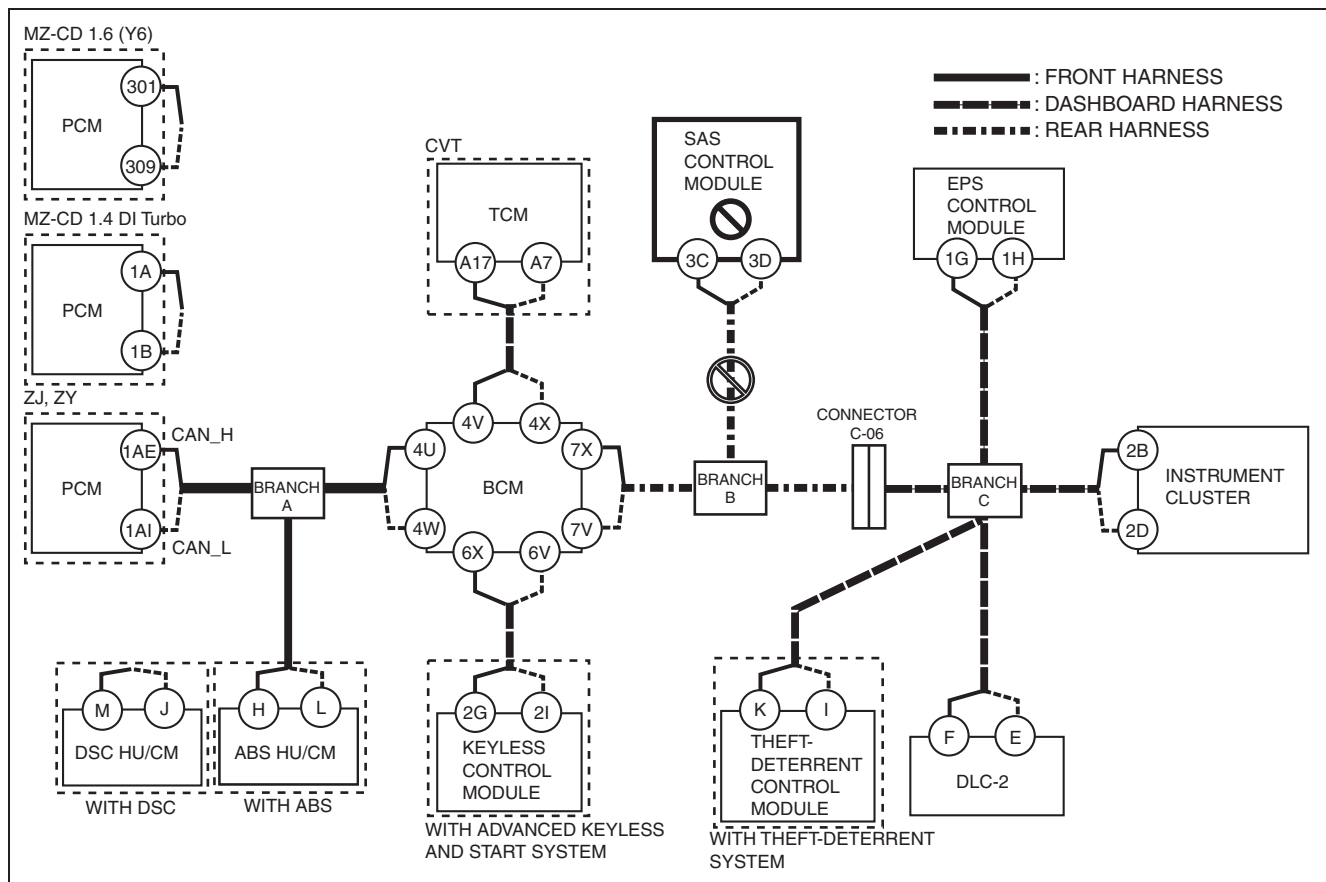
### H

#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness SAS control module and branch B
- SAS control module malfunction

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



am2zzw0000467

### Inspection item

- SAS control module connector
- Wiring harness between SAS control module terminal 3C and branch B
- Wiring harness between SAS control module terminal 3D and branch B
- SAS control module

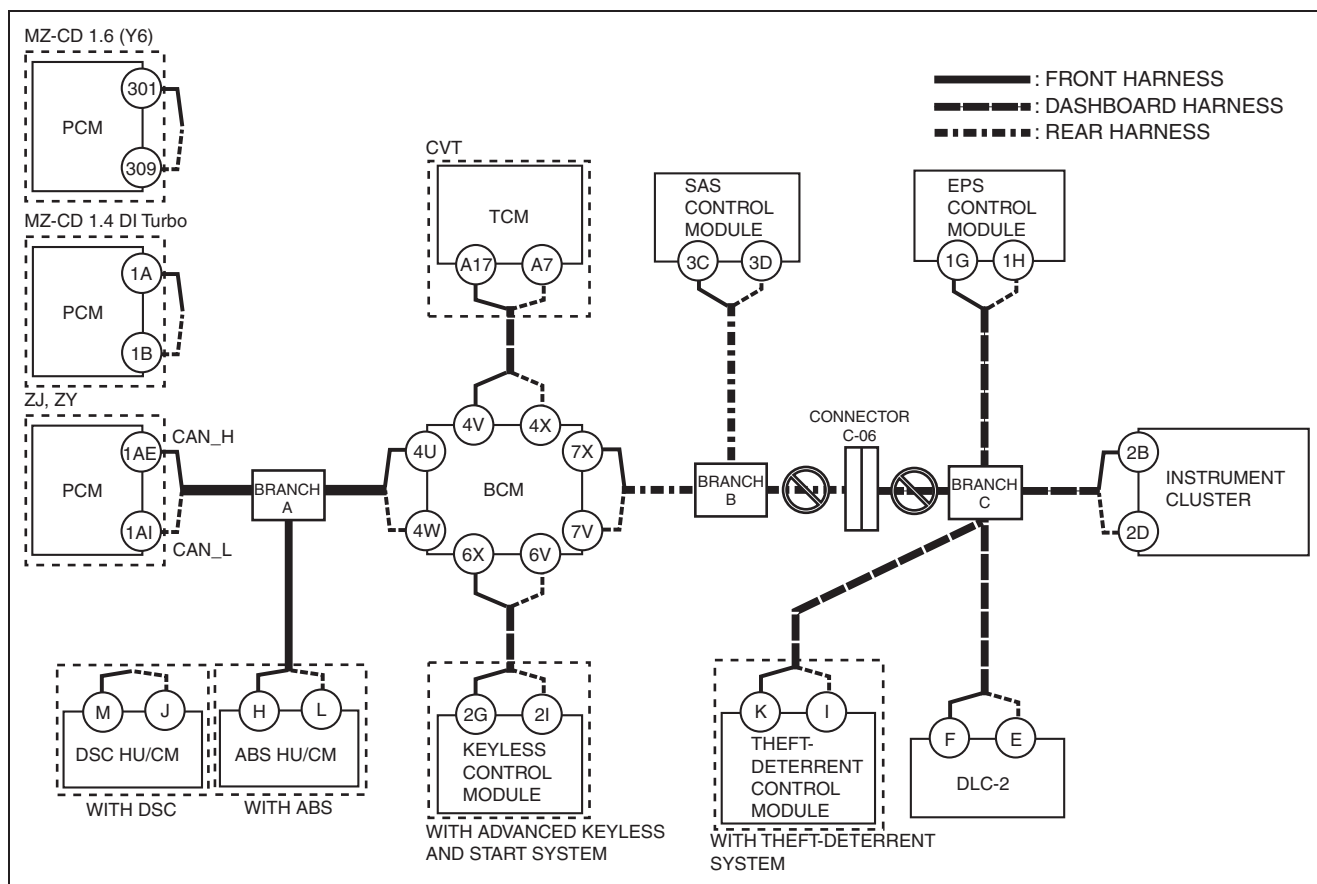
I

### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness branch B and connector C-06
- Open circuit in wiring harness connector C-06 and branch C
- Connector C-06 malfunction

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



am2zzw0000467

### Inspection item

- Connector C-06
- Wiring harness between branch B and connector C-06
- Wiring harness between connector C-06 and branch C

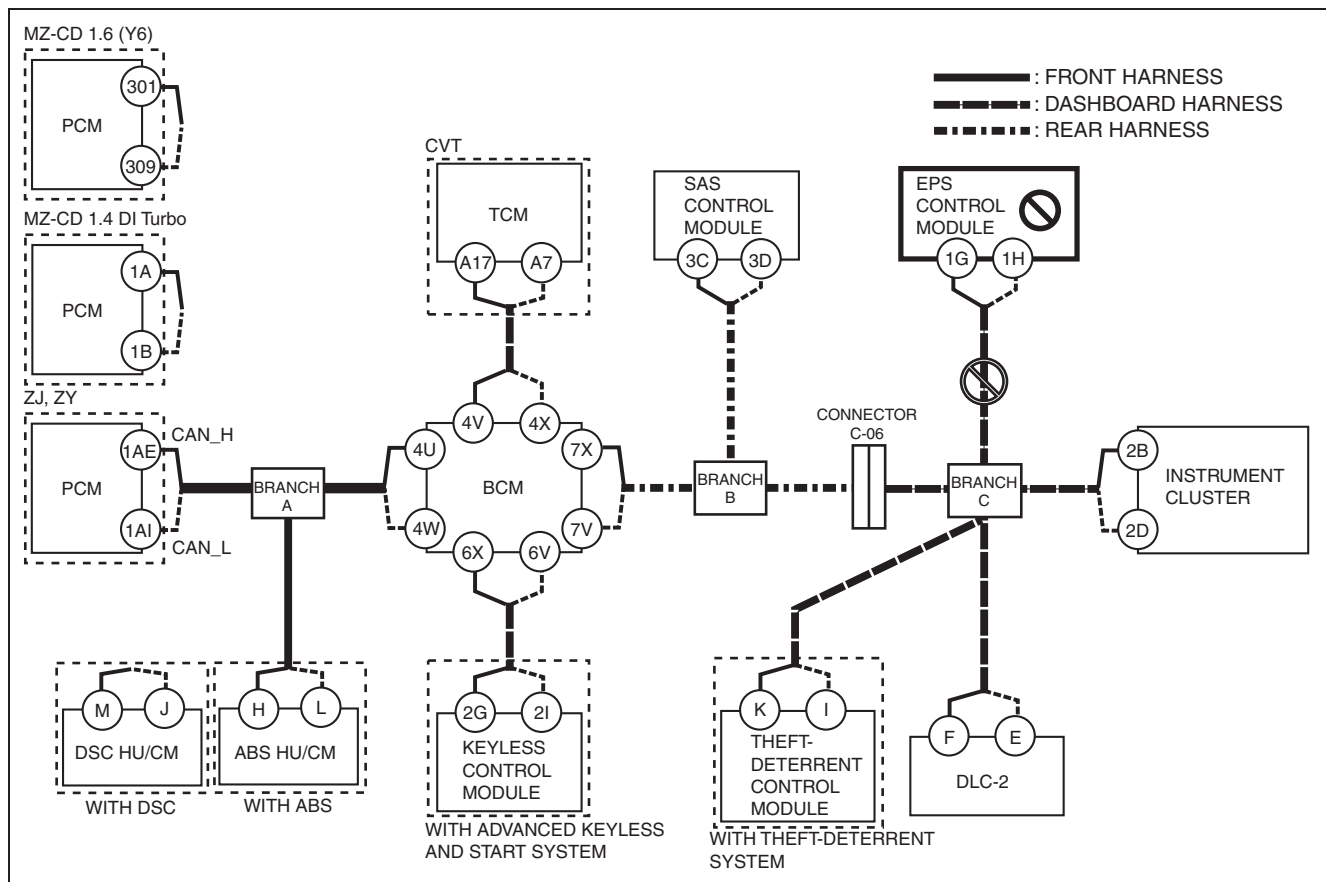
### J

#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between EPS control module and branch C
- EPS control module malfunction

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



am2zzw0000467

### Inspection item

- EPS control module connector
- Wiring harness between EPS control module terminal 1G and branch C
- Wiring harness between EPS control module terminal 1H and branch C
- EPS control module

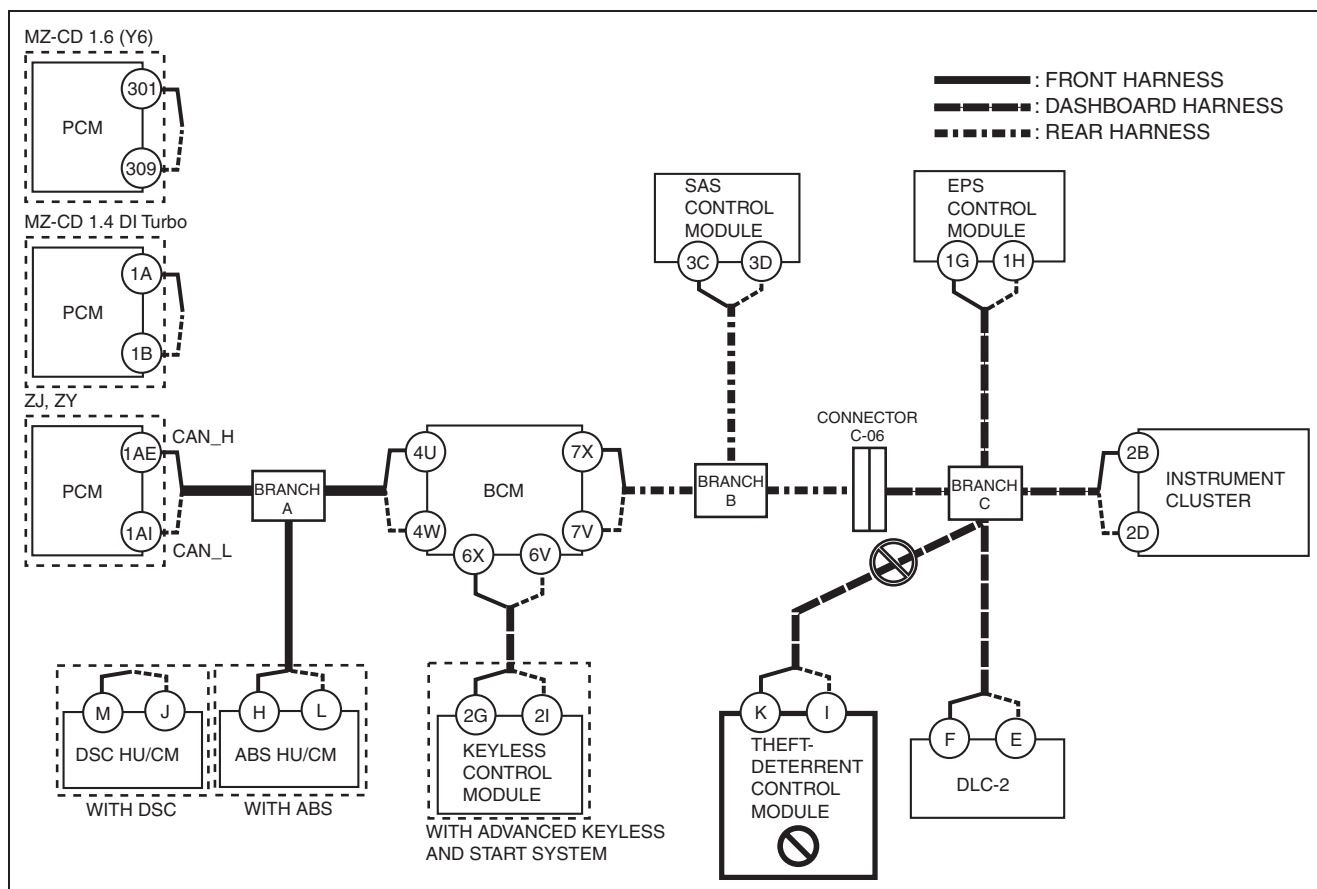
### K

#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between Theft-deterrent control module and branch C
- Theft-deterrent control module malfunction

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



am2zzw0000468

### Inspection item

- Theft-deterrent control module connector
- Wiring harness between theft-deterrent control module terminal K and branch C
- Wiring harness between theft-deterrent control module terminal I and branch C
- Theft-deterrent control module

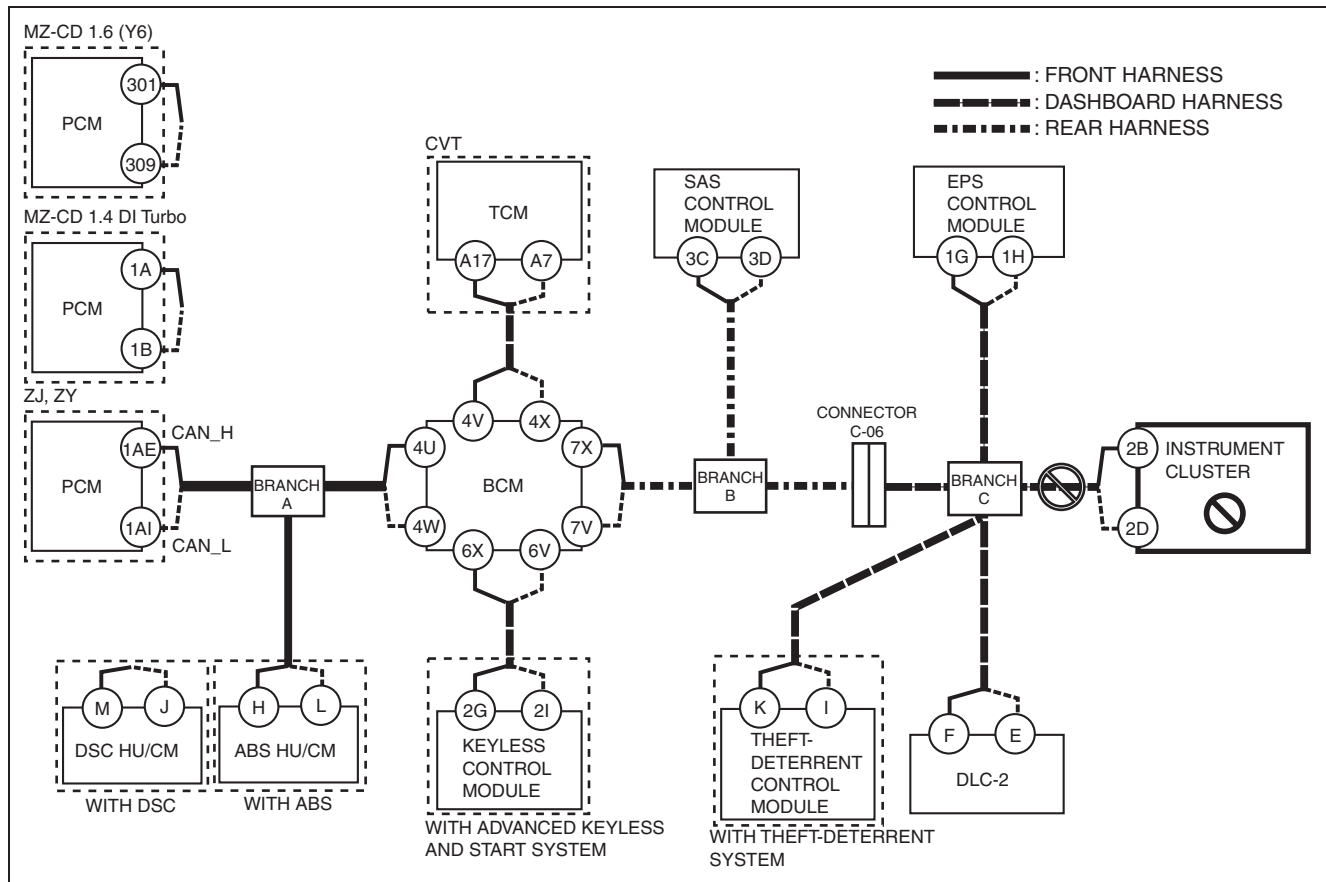
### L

#### Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness instrument cluster and branch C
- Instrument cluster malfunction

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

### System wiring diagram



am2zzw0000468

### Inspection item

- Instrument cluster connector
- Wiring harness between instrument cluster terminal 2B and branch C
- Wiring harness between instrument cluster terminal 2D and branch C
- Instrument cluster

### M-MDS AND VEHICLE NOT COMMUNICATING [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

id0902j4037400

#### Caution

- Perform the following on-board diagnosis according to 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)] troubleshooting procedure.

### Detection Condition

- Possible causes of communication errors between the M-MDS and vehicle include communication circuit interruption due to an open circuit in the CAN communication wiring harness, or poor contact of connector terminals, or a BUS OFF condition due to a short circuit in the CAN communication wiring harness.

### Possible Causes

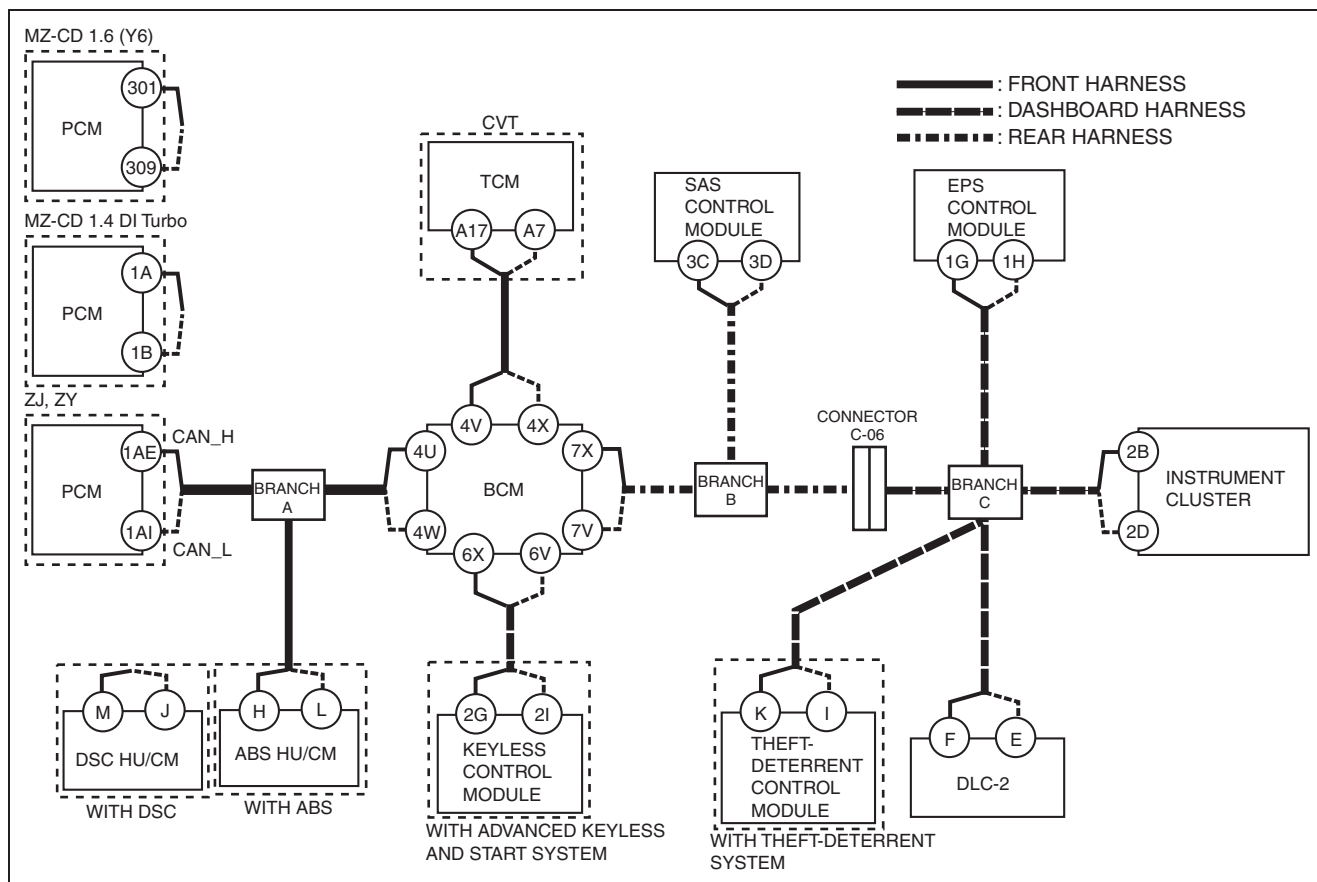
- Open circuit in wiring harness between PCM and DLC-2
- Open circuit in BCM CAN line
- Improper insertion, connector terminal damage, deformation, corrosion, or disconnection of PCM, BCM, or connector C-06
- Short circuit in wiring harness between CAN system-related module CAN\_L and CAN\_H lines
- Short circuit to power supply in wiring harness between CAN system-related module
- Short circuit to ground in wiring harness between CAN system-related module
- Short circuit to power supply in CAN system-related module internal CAN lines
- Short circuit to ground in CAN system-related module internal CAN lines
- Damage, deformation, corrosion, or disconnection of DLC-2
- PCM power supply is not normal
- PCM ground is not normal
- PCM internal resistance is not normal



# ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

- CAN system-related module malfunction

## Wiring Diagram



am2zzw0000466

## Diagnostic Procedure

### Caution

- When disconnecting the connector, verify that there is no looseness, damage, deformation, corrosion, or poor connection of the connector terminals.

Step	Inspection	Action
1	<b>VERIFICATION BEFORE SERVICING</b> <ul style="list-style-type: none"> <li>Is there communication between the M-MDS and vehicle?</li> </ul>	Yes Go to the next step.
		No Go back to FOREWORD [MULTIPLEX COMMUNICATION SYSTEM. (See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].)]
2	<b>VERIFY THAT M-MDS AND DLC-2 ARE CONNECTED</b> <ul style="list-style-type: none"> <li>Verify the connection condition between the M-MDS and DLC-2.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Correct the connection condition, then <b>go to Step 13.</b>
3	<b>VERIFY PCM POWER SUPPLY CONDITION</b> <ul style="list-style-type: none"> <li>Refer to the PCM terminal voltage table and inspect the terminal voltage and fuse condition. (See 01-40C-9 PCM INSPECTION [MZ-CD 1.6 (Y6)].) (See 01-40B-9 PCM INSPECTION [MZ-CD 1.4 DI Turbo].) (See 01-40A-9 PCM INSPECTION [ZJ, ZY].)</li> <li>Is the power supply condition normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the fuse or wiring harness, then <b>go to Step 13.</b>

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

Step	Inspection	Action
4	<b>VERIFY PCM BODY GROUND CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the PCM body ground wiring harness and ground point.</li> <li>Are the ground and ground point normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness, then <b>go to Step 13</b> .
5	<b>INSPECT PCM CONNECTOR TERMINAL</b> <ul style="list-style-type: none"> <li>Disconnect the negative battery cable.</li> <li>Disconnect the PCM connector.</li> <li>Are the PCM connector terminal normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes Go to the next step.
		No Repair the connector terminal if necessary, then <b>go to Step 13</b> .
6	<b>INSPECT PCM</b> <ul style="list-style-type: none"> <li>Measure the resistance between the following PCM connector terminals:  <b>ZJ, ZY</b>  — Between terminal 1AE and terminal 1AI (part side)  <b>MZ-CD 1.4 DI Turbo</b>  — Between terminal 1A and terminal 1B (part side)  <b>MZ-CD 1.6 (Y6)</b>  — Between terminal 301 and terminal 309 (part side) </li> <li>Is the resistance 118—130 ohms?</li> </ul>	Yes Go to the next step.
		No Replace the PCM, then go to the next step. (See 01-40A-8 PCM REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-40B-6 PCM REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 01-40C-5 PCM REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].)
7	<b>VERIFY THAT THERE IS NO OPEN CIRCUIT IN CAN COMMUNICATION WIRING HARNESS</b> <b>Caution</b> <ul style="list-style-type: none"> <li><b>When inspecting the DLC-2, touch it with a paper clip or similar thin pin without directly inserting a tester into the terminals.</b></li> </ul>	Yes Go to the next step.
	<ul style="list-style-type: none"> <li>Verify the continuity between the following terminals:  <b>ZJ, ZY</b>  — Between PCM terminal 1AE and BCM terminal 4U  — Between PCM terminal 1AI and BCM terminal 4W  — Between DLC-2 terminal F and BCM terminal 7X  — Between DLC-2 terminal E and BCM terminal 7V  <b>MZ-CD 1.4 DI Turbo</b>  — Between PCM terminal 1A and BCM terminal 4U  — Between PCM terminal 1B and BCM terminal 4W  — Between DLC-2 terminal F and BCM terminal 7X  — Between DLC-2 terminal E and BCM terminal 7V  <b>MZ-CD 1.6 (Y6)</b>  — Between PCM terminal 301 and BCM terminal 4U  — Between PCM terminal 309 and BCM terminal 4W  — Between DLC-2 terminal F and BCM terminal 7X  — Between DLC-2 terminal E and BCM terminal 7V </li> <li>Is there continuity?</li> </ul>	No There is an open circuit in the CAN communication wiring harness. Repair or replace it, then <b>go to Step 13</b> .

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

Step	Inspection	Action
8	<b>INSPECT CAN COMMUNICATION WIRING HARNESS IN BCM FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Verify the continuity between the following terminals: <ul style="list-style-type: none"> <li>Between BCM terminal 7X and BCM terminal 4U</li> <li>Between BCM terminal 7V and BCM terminal 4W</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Replace the BCM which has an open circuit in the CAN communication wiring harness in the BCM, then <b>go to Step 13</b> . (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
9	<b>VERIFY THAT THERE IS NO SHORT CIRCUIT IN CAN COMMUNICATION WIRING HARNESS</b> <p><b>Caution</b></p> <ul style="list-style-type: none"> <li>When inspecting the DLC-2, touch it with a paper clip or similar thin pin without directly inserting a tester into the terminals.</li> <li>Measure the resistance between the terminals. <ul style="list-style-type: none"> <li>Between DLC-2 terminal F and DLC-2 terminal E</li> </ul> </li> <li>Is the resistance 60 ohms or less?</li> </ul>	Yes There is an open circuit in the CAN communication wiring harness. Repair or replace it, then <b>go to Step 13</b> .
		No Go to the next step.
10	<b>VERIFY NO SHORT CIRCUIT TO GROUND IN CAN COMMUNICATION WIRING HARNESS</b> <p><b>Caution</b></p> <ul style="list-style-type: none"> <li>When inspecting the DLC-2, touch it with a paper clip or similar thin pin without directly inserting a tester into the terminals.</li> <li>Verify the continuity between the following terminals: <ul style="list-style-type: none"> <li>Between DLC-2 terminal F and ground</li> <li>Between DLC-2 terminal E and ground</li> </ul> </li> </ul> <b>ZJ, ZY</b> <ul style="list-style-type: none"> <li>Between PCM terminal 1AE and ground</li> <li>Between PCM terminal 1AI and ground</li> </ul> <b>MZ-CD 1.4 DI Turbo</b> <ul style="list-style-type: none"> <li>Between PCM terminal 1A and ground</li> <li>Between PCM terminal 1B and ground</li> </ul> <b>MZ-CD 1.6 (Y6)</b> <ul style="list-style-type: none"> <li>Between PCM terminal 301 and ground</li> <li>Between PCM terminal 309 and ground</li> </ul> <li>Is there continuity?</li>	Yes There is a short circuit to ground in the CAN communication wiring harness. Repair or replace it, then <b>go to Step 13</b> .
		No Go to the next step.

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

Step	Inspection	Action
11	<b>VERIFY NO SHORT CIRCUIT TO POWER SUPPLY SYSTEM IN CAN COMMUNICATION WIRING HARNESS</b> <b>Caution</b> <ul style="list-style-type: none"> <li>When inspecting the DLC-2, touch it with a paper clip or similar thin pin without directly inserting a tester into the terminals.</li> </ul> <ul style="list-style-type: none"> <li>Verify the continuity between the following terminals: <ul style="list-style-type: none"> <li>Between DLC-2 terminal F and DLC-2 terminal A</li> <li>Between DLC-2 terminal E and DLC-2 terminal A</li> </ul> </li> </ul> <b>ZJ, ZY</b> <ul style="list-style-type: none"> <li>Between PCM terminal 1AE and PCM terminal 1BC</li> <li>Between PCM terminal 1AI and PCM terminal 1BC</li> </ul> <b>MZ-CD 1.4 DI Turbo</b> <ul style="list-style-type: none"> <li>Between PCM terminal 1A and PCM terminal 2Y</li> <li>Between PCM terminal 1B and PCM terminal 2Y</li> </ul> <b>MZ-CD 1.6 (Y6)</b> <ul style="list-style-type: none"> <li>Between PCM terminal 301 and PCM terminal 331</li> <li>Between PCM terminal 309 and PCM terminal 331</li> </ul> <ul style="list-style-type: none"> <li>Is there continuity?</li> </ul>	Yes There is a short circuit to the power supply system in the CAN communication wiring harness. Repair or replace it, then go to Step 13.
		No Go to the next step.
12	<b>INSPECT CAN-RELATED MODULES OTHER THAN PCM and BCM</b> <ul style="list-style-type: none"> <li>Remove only one of the CAN-related modules other than those related to the PCM and BCM.</li> <li>Connect the negative battery cable.</li> <li>Connect the M-MDS to the DLC-2.</li> <li>Does the M-MDS recognize the vehicle?</li> </ul>	Yes Replace the removed module.
		No Inspect all of the CAN-related modules other than those related to the PCM and BCM using the same procedure. After inspecting all of the modules, go to the next step.
13	<b>PERFORM VEHICLE IDENTIFICATION</b> <ul style="list-style-type: none"> <li>Connect the M-MDS to the DLC-2.</li> <li>Does the M-MDS recognize the vehicle?</li> </ul>	Yes DTC troubleshooting completed.
		No Replace the PCM, then go to the next step. (See 01-40A-8 PCM REMOVAL/INSTALLATION [ZJ, ZY].) (See 01-40B-6 PCM REMOVAL/INSTALLATION [MZ-CD 1.4 DI Turbo].) (See 01-40C-5 PCM REMOVAL/INSTALLATION [MZ-CD 1.6 (Y6)].)
14	<b>PERFORM VEHICLE IDENTIFICATION</b> <ul style="list-style-type: none"> <li>Connect the M-MDS to the DLC-2.</li> <li>Does the M-MDS recognize the vehicle?</li> </ul>	Yes DTC troubleshooting completed.
		No Replace the BCM. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)

### DTC U0001:00, U0001:88, U0073:00 [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

id0902j4001200

DTC	U0001:00	CAN system communication error
	U0001:88	CAN system communication error
	U0073:00	CAN system communication error
DETECTION CONDITION		<b>Warning</b> <ul style="list-style-type: none"> <li>Perform the following on-board diagnosis according to 09-02I-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)] troubleshooting procedure.</li> </ul> <ul style="list-style-type: none"> <li>CAN system-related harness malfunction</li> <li>CAN system-related module malfunction</li> </ul>

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

	U0001:00	CAN system communication error
DTC	U0001:88	CAN system communication error
	U0073:00	CAN system communication error
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>• Open or short circuit in wiring harness</li><li>• Malfunction of connectors between PCM, DSC HU/CM (with DSC), ABS HU/CM (with ABS), BCM, keyless control module, TCM, SAS control module, EPS control module, theft-deterrent control module and instrument cluster</li><li>• PCM malfunction</li><li>• DSC HU/CM malfunction (with DSC)</li><li>• ABS HU/CM malfunction (with ABS)</li><li>• BCM malfunction</li><li>• Keyless control module malfunction</li><li>• TCM malfunction</li><li>• SAS control module malfunction</li><li>• Theft-deterrent control module malfunction</li><li>• EPS control module malfunction</li><li>• Instrument cluster malfunction</li></ul>	
	<p>Legend: — : CAN_H = : CAN_L</p>	

### Diagnostic procedure

#### Caution

- When disconnecting the connector, verify that there is no looseness, damage, deformation, corrosion, or poor connection of the connector terminals.

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

Step	Inspection	Action
1	<b>VERIFICATION BEFORE SERVICING</b> <ul style="list-style-type: none"> <li>Are any DTCs, except the following, displayed? <ul style="list-style-type: none"> <li>— U0001:00</li> <li>— U0001:88</li> <li>— U0073:00</li> </ul> </li> </ul>	Yes
		No
2	<b>INSPECTION OF CONTROL MODULE CONNECTOR OUTPUTTING DTCs</b> <ul style="list-style-type: none"> <li>Inspect the terminal condition of the control module connector outputting DTCs and the mid-connector.</li> <li>Are the connector terminals normal without damage, deformation, corrosion, or disconnection?</li> </ul>	Yes
		No
3	<b>INSPECTION OF POWER SUPPLY OF CONTROL MODULE OUTPUTTING DTCs</b> <ul style="list-style-type: none"> <li>Refer to the terminal voltage table of the control module outputting DTCs or use the PID/data monitoring function to inspect the terminal voltage and fuse condition.</li> <li>Is the power supply voltage normal?</li> </ul>	Yes
		No
4	<b>INSPECTION OF BODY GROUND CONDITION OF CONTROL MODULE OUTPUTTING DTCs</b> <ul style="list-style-type: none"> <li>Inspect the body ground wires and ground point of the control module outputting DTCs.</li> <li>Are the ground and ground point normal?</li> </ul>	Yes
		No
5	<b>CAN SYSTEM RELATED WIRING HARNESS INSPECTION</b> <ul style="list-style-type: none"> <li>CAN system related wiring harness inspection: <ul style="list-style-type: none"> <li>— Short to ground</li> <li>— Short to power supply</li> <li>— Short between twisted pair wiring harness</li> <li>— Open circuit</li> </ul> </li> <li>Is the wiring harness normal?</li> </ul>	Yes
		No
6	<b>INSPECT PCM</b> <ul style="list-style-type: none"> <li>Disconnect the PCM connector.</li> <li>Measure the resistance between the following PCM connector terminals: <ul style="list-style-type: none"> <li><b>ZJ, ZY</b> <ul style="list-style-type: none"> <li>— Between terminal 1AE and terminal 1AI (part side)</li> </ul> </li> <li><b>MZ-CD 1.4 DI Turbo</b> <ul style="list-style-type: none"> <li>— Between terminal 1A and terminal 1B (part side)</li> </ul> </li> <li><b>MZ-CD 1.6 (Y6)</b> <ul style="list-style-type: none"> <li>— Between terminal 301 and terminal 309 (part side)</li> </ul> </li> </ul> </li> <li>Is the resistance 118—130 ohms?</li> </ul>	Yes
		No
7	<b>INSPECT INSTRUMENT CLUSTER</b> <ul style="list-style-type: none"> <li>Disconnect the instrument cluster connector.</li> <li>Measure the resistance between the following instrument cluster connector terminals: <ul style="list-style-type: none"> <li>— Between terminal 2B and terminal 2D (part side)</li> </ul> </li> <li>Is the resistance 118—130 ohms?</li> </ul>	Yes
		No
8	<b>CAN RELATED MODULE VERIFICATION</b> <ul style="list-style-type: none"> <li>Remove only one of the CAN-related modules.</li> <li>Clear DTCs using the M-MDS.</li> <li>Inspect the DTCs of all modules using the M-MDS.</li> <li>Are DTCs U0001:00, U0001:88, U0073:00 displayed?</li> </ul>	Yes
		No

## ON-BOARD DIAGNOSTIC [MULTIPLEX COMMUNICATION SYSTEM (R.H.D.)]

Step	Inspection		Action
9	AFTER REPAIR VERIFICATION • Connect all of the modules. • Clear DTCs using the M-MDS. • Inspect the DTCs using the M-MDS. • Are DTCs displayed?	Yes	Perform the CAN system on-board diagnosis again according to the troubleshooting procedure (See 09-02H-1 FOREWORD [MULTIPLEX COMMUNICATION SYSTEM (L.H.D.)].)
		No	DTC troubleshooting completed.

## 09-03A SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

### POWER WINDOW SYSTEM

#### WIRING DIAGRAM

[POWER WINDOW SYSTEM]..... 09-03A-2

### FOREWORD

[POWER WINDOW SYSTEM]..... 09-03A-3

Troubleshooting Procedure ..... 09-03A-3

#### POWER WINDOW SYSTEM

INITIAL SETTING ..... 09-03A-3

### SYMPTOM TROUBLESHOOTING CHART

[POWER WINDOW SYSTEM]..... 09-03A-4

### POWER WINDOW SYSTEM

#### TROUBLESHOOTING QUESTIONNAIRE

[POWER WINDOW SYSTEM]..... 09-03A-5

### POWER WINDOW SYSTEM PRELIMINARY

#### INSPECTION

[POWER WINDOW SYSTEM]..... 09-03A-6

Manual Open/close Function

Inspection..... 09-03A-6

Auto Open/close Function

(Driver's Side) Inspection..... 09-03A-6

IG-OFF Timer Function Inspection ... 09-03A-6

Auto Reverse Pinch Protection

Function Inspection ..... 09-03A-7

Two-step Down Function

Inspection..... 09-03A-7

### No.1 THE AUTO OPEN/CLOSE

#### FUNCTION ON THE DRIVER'S SIDE

#### POWER WINDOW IS INOPERATIVE

[POWER WINDOW SYSTEM]..... 09-03A-8

### No.2 THE DRIVER'S SIDE POWER

#### WINDOW IS INOPERATIVE

[POWER WINDOW SYSTEM] ..... 09-03A-9

### No.3 ALL POWER WINDOWS

#### OTHER THAN DRIVER'S SIDE

#### DO NOT OPERATE USING

#### THE POWER WINDOW SUBSWITCH

[POWER WINDOW SYSTEM] ..... 09-03A-11

### No.4 ALL POWER WINDOWS

#### OTHER THAN DRIVER'S SIDE

#### DO NOT OPERATE USING

#### THE POWER WINDOW MAIN SWITCH

[POWER WINDOW SYSTEM] ..... 09-03A-11

### No.5 ALL POWER WINDOWS ARE

#### INOPERATIVE

[POWER WINDOW SYSTEM] ..... 09-03A-11

### No.6 DOOR GLASS REVERSES

#### EVEN THOUGH THE GLASS

#### DOES NOT ENCOUNTER

#### A FOREIGN OBJECT WHILE IT IS

#### MOVING UP IN AUTOMATIC MODE

[POWER WINDOW SYSTEM] ..... 09-03A-13

### No.7 ABNORMAL NOISE WHILE

#### THE DOOR GLASS IS OPENING

#### OR CLOSING

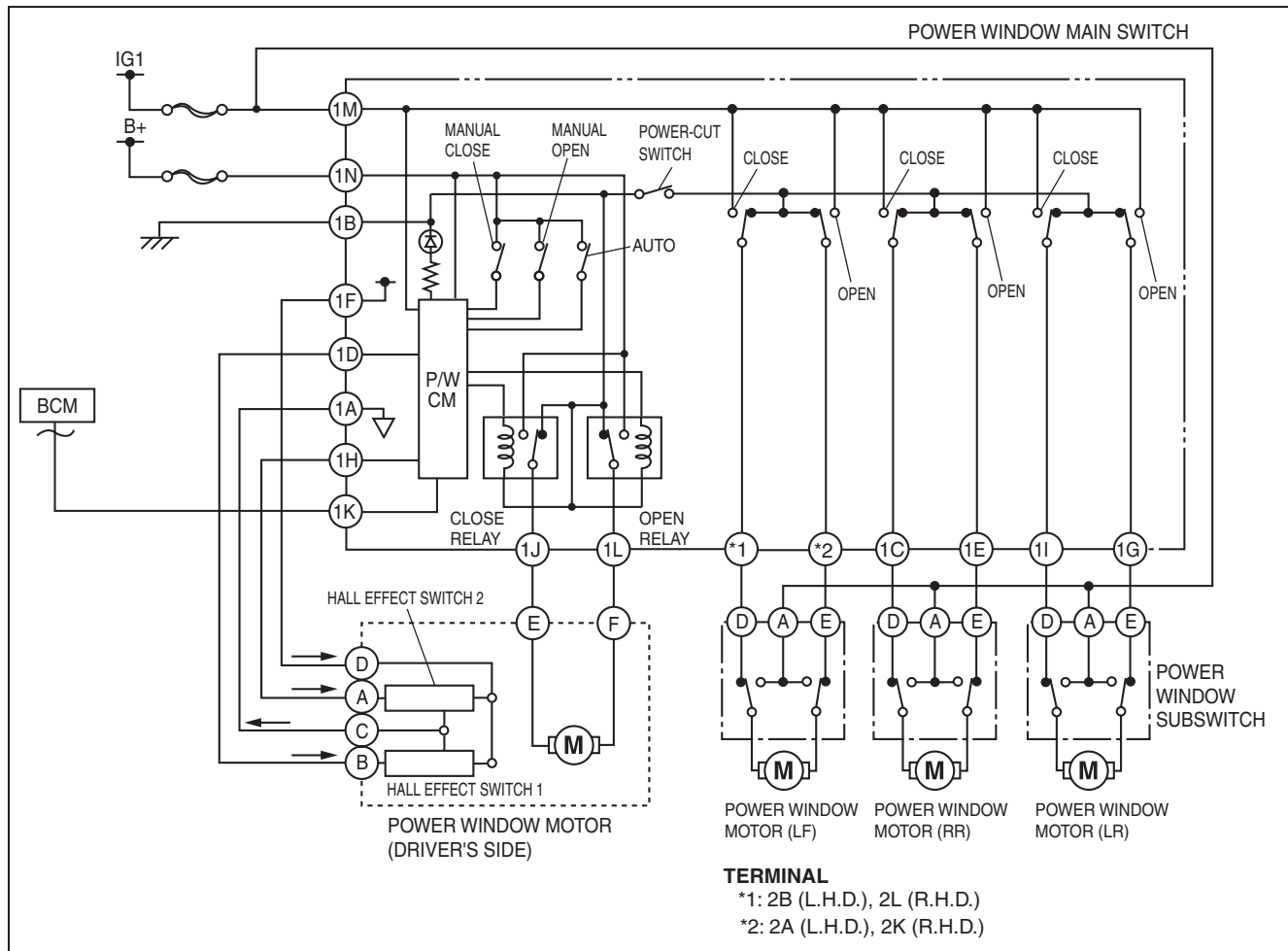
[POWER WINDOW SYSTEM] ..... 09-03A-15



# SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

## POWER WINDOW SYSTEM WIRING DIAGRAM [POWER WINDOW SYSTEM]

id0903a0805200



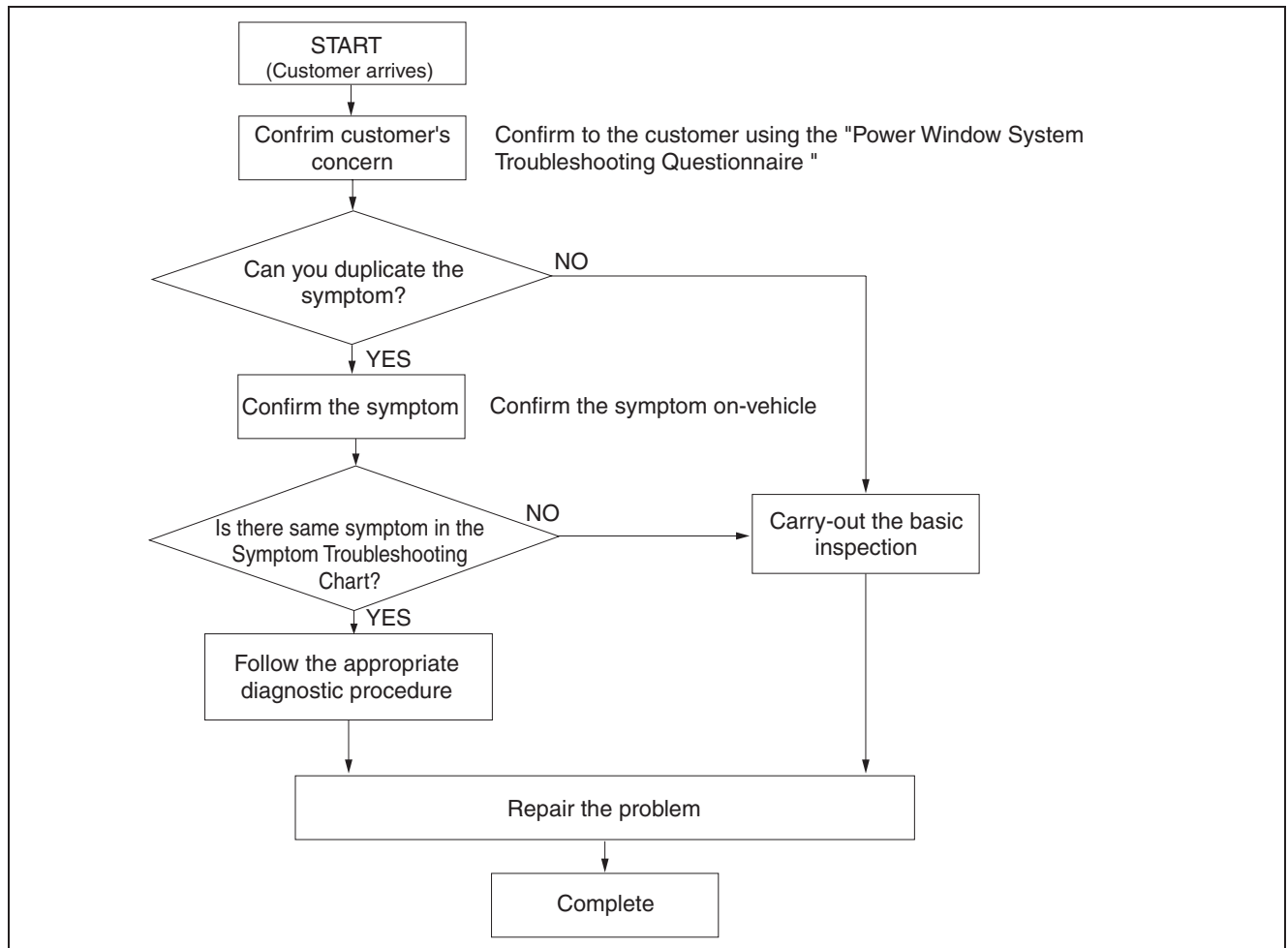
am2zzw0000383

# SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

## FOREWORD [POWER WINDOW SYSTEM]

id0903a0805400

### Troubleshooting Procedure



am2zzw0000021

- Slightly shake the wiring harness and connectors while performing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions.

#### Caution

- If any of the following conditions continues indefinitely, the power window motor will heat up causing the protection circuit (integrated in power window motor) to operate. If this occurs, the operation of the power window motor protection circuit temporarily disables the power windows.
  - Continuous up and down operation of the power window.
  - Continuously pulling up the power window switch while the window glass is fully closed.
  - Continuously pressing the power window switch while the window glass fully opened.
- A malfunction in the power window system will be determined and the system will shift to malfunction mode if the power windows are operated up or down using the power window switch while the power window protection circuit is operating.
- While the power window system is in malfunction mode, but they do not operate using the auto open/close function.
- The power window system reverts to normal operation after performing the Power Window system initialization procedure.

#### Note

- If the following operations have been performed, initial setting is reset, and auto up/down and two-step down operation are disabled. Therefore, performing initial setting is necessary.
  - Negative battery cable disconnected
  - Power window main switch connector disconnected
  - Power window system power supply fuse removed

## POWER WINDOW SYSTEM INITIAL SETTING

- Refer to 09-12-27 POWER WINDOW SYSTEM INITIALIZATION PROCEDURE.

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

### SYMPTOM TROUBLESHOOTING CHART [POWER WINDOW SYSTEM]

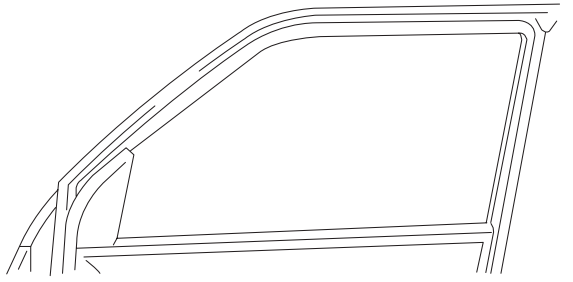
id0903a0805600

No.	Malfunction symptom
1	<b>09-03A-8</b> No.1 THE AUTO OPEN/CLOSE FUNCTION ON THE DRIVER'S SIDE POWER WINDOW IS INOPERATIVE [POWER WINDOW SYSTEM]
2	<b>09-03A-9</b> No.2 THE DRIVER'S SIDE POWER WINDOW IS INOPERATIVE [POWER WINDOW SYSTEM]
3	<b>09-03A-11</b> No.3 ALL POWER WINDOWS OTHER THAN DRIVER'S SIDE DO NOT OPERATE USING THE POWER WINDOW SUBSWITCH [POWER WINDOW SYSTEM]
4	<b>09-03A-11</b> No.4 ALL POWER WINDOWS OTHER THAN DRIVER'S SIDE DO NOT OPERATE USING THE POWER WINDOW MAIN SWITCH [POWER WINDOW SYSTEM]
5	<b>09-03A-11</b> No.5 ALL POWER WINDOWS ARE INOPERATIVE [POWER WINDOW SYSTEM]
6	<b>09-03A-13</b> No.6 DOOR GLASS REVERSES EVEN THOUGH THE GLASS DOES NOT ENCOUNTER A FOREIGN OBJECT WHILE IT IS MOVING UP IN AUTOMATIC MODE [POWER WINDOW SYSTEM]
7	<b>09-03A-15</b> No.7 ABNORMAL NOISE WHILE THE DOOR GLASS IS OPENING OR CLOSING [POWER WINDOW SYSTEM]

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

### POWER WINDOW SYSTEM TROUBLESHOOTING QUESTIONNAIRE [POWER WINDOW SYSTEM]

id0903a0835500

Date :			
When did the malfunction first occur ?			
Weather conditions	<input type="checkbox"/> Fair weather <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> Other (       )	Outside temperature	Approx.    °F
Driving conditons	<input type="checkbox"/> Driving <input type="checkbox"/> Stopped (Engine is : <input type="checkbox"/> Running <input type="checkbox"/> Stopped)		
Duplicate symtom?	<input type="checkbox"/> YES <input type="checkbox"/> NO	Frequency	<input type="checkbox"/> Always <input type="checkbox"/> Sometimes (       times/month)
Road conditions	<input type="checkbox"/> City <input type="checkbox"/> Outer city <input type="checkbox"/> Freeway <input type="checkbox"/> Other (       ) / <input type="checkbox"/> Paved <input type="checkbox"/> Dirt road		
*Follow the appropriate diagnostic procedures shown below or perform the basic troubleshooting flow.			
<input type="checkbox"/> (No.1) The auto open/close function on the driver's side power window inoperative.			
<input type="checkbox"/> (No.2) The driver's side power window is inoperative.			
<input type="checkbox"/> (No.3) All power windows other than driver's side do not operate using the power window subswitch.			
<input type="checkbox"/> (No.4) All power windows other than driver's side do not operate using the power window main switch.			
<input type="checkbox"/> (No.5) All power windows are inoperative.			
<input type="checkbox"/> (No.6) Door glass reverses even though the glass does not encounter a foreign object while it is moving up in automatic mode.			
Please clarify the position where the driver side front door glass opens automatically. <input type="checkbox"/> Completely closed position <input type="checkbox"/> Approx. (    )mm lower than completely closed position <input type="checkbox"/> Approx. (    )mm upper than the completely open position.			
<input type="checkbox"/> (No.7) Abnormal noise while the door glass is opening or closing.			
<input type="checkbox"/> Other (Describe the symptom below if the symptom does not appear in the above list.)			
			
Please describe the conditions when the malfunction occurs. (Example) : When the outer mirrors are operated			
Please describe the conditions under which the system returns to normal operation after malfunctioning. (Example) : The ignition switch is turned to the ON position after inserting the ignition key into the key cylinder			

am2zzw0000463

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

### POWER WINDOW SYSTEM PRELIMINARY INSPECTION [POWER WINDOW SYSTEM]

id0903a0831700

#### Manual Open/close Function Inspection

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position.</li> <li>Operate the power window using the manual open/close function on the power window main switch.</li> <li>Does the power window operate properly?</li> </ul>	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Inspect the power window main switch and the wiring harness.</li> <li>Repair or replace malfunctioning parts.</li> </ul>
2	<ul style="list-style-type: none"> <li>Set the power cut switch to the UNLOCK position.</li> <li>Operate the power window using the power window subswitch.</li> <li>Does the power window operate properly?</li> </ul>	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Inspect the power window subswitch and the wiring harness.</li> <li>Repair or replace malfunctioning parts.</li> </ul>
3	<ul style="list-style-type: none"> <li>Set the power cut switch to the LOCK position.</li> <li>Operate all power windows other than the driver side.</li> <li>Does the power window operate properly?</li> </ul>	Yes <ul style="list-style-type: none"> <li>Inspect the power cut switch and the wiring harness.</li> <li>Replace the power window main switch.</li> </ul>
		No <ul style="list-style-type: none"> <li>Manual open/close function is normal.</li> <li>Perform the auto open/close function inspection.</li> </ul>

#### Auto Open/close Function (Driver's Side) Inspection

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position.</li> <li>Operate the power window using the auto open / close function on the power window main switch.</li> <li>Does the power window operate properly?</li> </ul>	Yes Go to the next step.
		No <p><b>If the power window automatically opens during the closing operation:</b></p> <ul style="list-style-type: none"> <li><b>Go to 09-03A-13</b> No.6 DOOR GLASS REVERSES EVEN THOUGH THE GLASS DOES NOT ENCOUNTER A FOREIGN OBJECT WHILE IT IS MOVING UP IN AUTOMATIC MODE [POWER WINDOW SYSTEM].</li> </ul> <p><b>Others:</b></p> <ul style="list-style-type: none"> <li><b>Go to 09-03A-8</b> No.1 THE AUTO OPEN/CLOSE FUNCTION ON THE DRIVER'S SIDE POWER WINDOW IS INOPERATIVE [POWER WINDOW SYSTEM].</li> </ul>
2	<ul style="list-style-type: none"> <li>Operate the power window main switch to the close position while the power window is opening.</li> <li>Does the power window operation stop?</li> </ul>	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Replace the power window main switch (power window control unit is malfunctioning.)</li> </ul>
3	<ul style="list-style-type: none"> <li>Operate the power window main switch to the open position while the power window is closing.</li> <li>Does the power window operation stop?</li> </ul>	Yes <ul style="list-style-type: none"> <li>Auto open/close function is normal.</li> <li>Perform the IG-OFF timer function inspection.</li> </ul>
		No <ul style="list-style-type: none"> <li>Replace the power window main switch (power window control unit is malfunctioning.)</li> </ul>

#### IG-OFF Timer Function Inspection

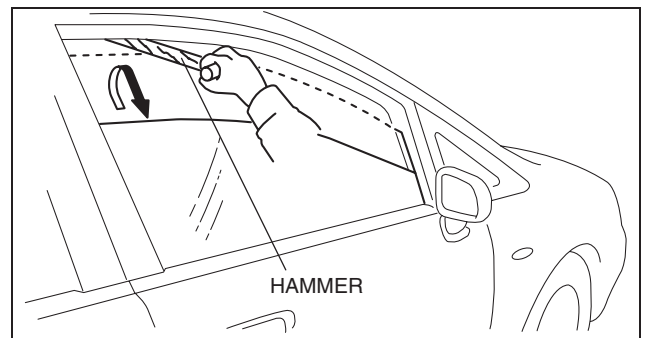
STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Close all doors.</li> <li>Turn the ignition switch from the ON to the LOCK position.</li> <li>Operate the power window main switch within 43 s after turning the ignition switch to the LOCK position.</li> <li>Does the power window operate?</li> </ul>	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Inspect the door switches and related wiring harness.</li> <li>If above parts are okay, replace the power window main switch, then go to the next step.</li> <li>If above parts are incorrect repair or replace malfunction part (s), then go to the next step.</li> </ul>
2	<ul style="list-style-type: none"> <li>Open any door.</li> <li>Turn the ignition switch from the ON to the LOCK position.</li> <li>Operate the power window main switch within 43 s after turning the ignition switch to the LOCK position.</li> <li>Does the power window operate?</li> </ul>	Yes <ul style="list-style-type: none"> <li>Inspect the door switches and related wiring harness.</li> <li>If above parts are okay, replace the power window main switch, then go to the next step.</li> <li>If above parts are incorrect repair or replace malfunction part (s), then go to the next step.</li> </ul>
		No <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul>

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

STEP	INSPECTION	ACTION
3	<ul style="list-style-type: none"> <li>Close all doors.</li> <li>Turn the ignition switch from the ON to the LOCK position.</li> <li>Operate the power window main switch within 60 s after turning the ignition switch to the LOCK position.</li> <li>Does the power window operate?</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the power window main switch (power window control unit is malfunctioning.)</li> </ul>
		No <ul style="list-style-type: none"> <li>IG-OFF timer function operation is normal.</li> <li>Perform the auto reverse pinch protection function inspection.</li> </ul>

### Auto Reverse Pinch Protection Function Inspection

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position.</li> <li>Fully open the driver's side power window.</li> <li>Set the hammer (thickness: 10 mm or more) as shown below. Then, close the power window.</li> <li>Verify that the power window opens 200 mm after contacting the hammer and the operation stops.</li> <li>Does auto reverse pinch protection function operate properly?</li> </ul>	Yes <ul style="list-style-type: none"> <li>Auto reverse pinch protection function is normal.</li> <li>Perform the two-step down function inspection.</li> </ul>
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Does power window open before contacting the hammer?</li> </ul>	Yes <ul style="list-style-type: none"> <li><b>Go to 09-03A-13 No.6 DOOR GLASS REVERSES EVEN THOUGH THE GLASS DOES NOT ENCOUNTER A FOREIGN OBJECT WHILE IT IS MOVING UP IN AUTOMATIC MODE [POWER WINDOW SYSTEM].</b></li> </ul>
		No <ul style="list-style-type: none"> <li>Initialize the power window main switch.</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Before initializing the power window main switch, cut off the power supply to the power window main switch for 60 s. Then, reconnect it again after 60 s: <ul style="list-style-type: none"> <li>Disconnect the negative battery cable.</li> <li>Disconnect the power window main switch connector.</li> <li>Remove the fuse for the power window system.</li> </ul> </li> </ul>



am2zzw0000022

### Two-step Down Function Inspection

#### Note

- Before inspecting the two-step down function, make sure that the two-step down function is turned on.(if the two-step down function is turned off, the power window does not stop once.)
- The two-step down position is adjustable within **20—100 mm {0.79—3.9 in}**.
- The two-step down function does not operate while the IG-OFF timer function is activated.

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position.</li> <li>Turn on the two-step down function, if it is turned off.</li> <li>Fully close the driver's side power window.</li> <li>Open the power window using the manual open/close function on the power window main switch.</li> <li>Verify that the power window stops <b>30 mm</b> lower than the fully closed position for 1 s.</li> <li>Does power window operate properly?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>While the auto open/close function is activated, the two-step down function does not operate.</li> </ul>	Yes Two-step down function is normal.
		No <ul style="list-style-type: none"> <li>Verify that the auto open/close function operates properly.</li> </ul> <p><b>If the auto open/close function operates properly:</b></p> <ul style="list-style-type: none"> <li>Verify that the two-step down function is turned on.</li> </ul> <p><b>If the auto open/close function does not operate properly:</b></p> <ul style="list-style-type: none"> <li>Replace the power window main switch (power window control unit is malfunctioning.) (See 09-12-21 POWER WINDOW MAIN SWITCH REMOVAL/INSTALLATION.)</li> </ul>

### No.1 THE AUTO OPEN/CLOSE FUNCTION ON THE DRIVER'S SIDE POWER WINDOW IS INOPERATIVE [POWER WINDOW SYSTEM]

id0903a0831000

1	<b>The auto open/close function on the driver's side power window is inoperative</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>Power window system in fail-safe function (Power window motor heat protection circuit is operating)</li> <li>No power supply to power window main switch</li> <li>Power window main switch malfunction (power window control unit malfunction, auto switch malfunction)</li> <li>Power window motor malfunction (Sensor inside motor malfunction)</li> <li>Malfunction in wiring harness between power window motor (sensor) and power window main switch</li> </ul>

#### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position for 3 min.</li> <li>Turn the ignition switch to ON position.</li> <li>Initialize the power window system.</li> <li>Operate the auto open/close function.</li> <li>Does the power window operate properly?</li> </ul>	Yes System is normal. The power window system auto open/close function does not operate temporarily for any of the following reasons: <ul style="list-style-type: none"> <li>The power window switch is operated while the power window motor protection circuit (integrated in power window motor) is operating.</li> <li>The power window main switch power supply is cut off by disconnection of the negative battery cable or removing the fuse.</li> </ul>
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Turn the ignition switch to ON position.</li> <li>Inspect the two-step down operation. (See 09-03A-6 POWER WINDOW SYSTEM PRELIMINARY INSPECTION [POWER WINDOW SYSTEM].)</li> <li>Does the two-step down function operate properly?</li> </ul>	Yes Replace the power window main switch. (See 09-12-21 POWER WINDOW MAIN SWITCH REMOVAL/INSTALLATION.)
		No Go to the next step.
3	<ul style="list-style-type: none"> <li>Does the sensor built into the power window motor send pulse signals while the power window motor is operating?</li> <li>Inspect the voltage at the following power window motor terminals:               <ul style="list-style-type: none"> <li>B (sensor 1 signal)</li> <li>A (sensor 2 signal)</li> </ul> </li> <li>Is the voltage <b>approx. 6 V</b>?</li> </ul>	Yes Go to the next step.
		No Replace the power window motor. (See 09-12-17 POWER WINDOW MOTOR REMOVAL/INSTALLATION.)
4	<ul style="list-style-type: none"> <li>Does the sensor built into the power window motor send pulse signals while the power window motor is operating?</li> <li>Inspect the voltage at the following power window main switch (14-pin connector) terminals:               <ul style="list-style-type: none"> <li>1D (sensor 1 signal)</li> <li>1H (sensor 2 signal)</li> </ul> </li> <li>Is the voltage <b>approx. 6 V</b>?</li> </ul>	Yes Replace the power main switch. (See 09-12-21 POWER WINDOW MAIN SWITCH REMOVAL/INSTALLATION.)
		No Inspect for an open or short circuit in wiring between the power window motor (sensor) and the power window main switch. Inspect the connection of the power window motor and power window main switch connectors. (damaged/pulled-out pins, corrosion) Repair or replace necessary.

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

### No.2 THE DRIVER'S SIDE POWER WINDOW IS INOPERATIVE [POWER WINDOW SYSTEM]

id0903a0831100

<b>2</b>	<b>The driver's side power window is inoperative.</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"><li>• Power supply circuit or ground circuit malfunction<ul style="list-style-type: none"><li>— Burnt fuse (B+)</li><li>— Open or short circuit in wiring harness between fuse (B+) and power window main switch</li><li>— Open or short circuit in wiring harness between power window main switch and power window motor</li><li>— Open or short circuit in wiring harness between power window main switch and ground</li></ul></li><li>• Power window main switch malfunction</li><li>• Power window motor malfunction</li><li>• Power window regulator malfunction</li></ul>



## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

### Diagnostic procedure

STEP	INSPECTION		ACTION
1	<ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position.</li> <li>Does the LED on the power window main switch illuminate?</li> </ul>	Yes	Go to Step 6.
		No	Go to the next step.
2	<ul style="list-style-type: none"> <li>Operate all power windows other than the driver's side window using the power window main switch.</li> <li>Does the power window operate properly?</li> </ul>	Yes	Go to the next step.
		No	Inspect for an open or short circuit in the following wiring harnesses. Inspect the connector connections (damage/pulled-out pins, corrosion): <ul style="list-style-type: none"> <li>P/W 30 A fuse—Power window main switch terminal 1M</li> <li>Power window main switch terminal 1B—ground.</li> </ul> Repair or replace if necessary.
3	<ul style="list-style-type: none"> <li>Is the P/W 20 A fuse normal?</li> </ul>	Yes	Go to Step 5.
		No	Inspect the following: <ul style="list-style-type: none"> <li>Short circuit in B+ power supply wiring harness</li> <li>Short circuit in power window motor</li> </ul> Repair or replace if necessary. Replace with the appropriate standard fuse. Then, go to the next step.
4	<ul style="list-style-type: none"> <li>Initialize the power window system.</li> <li>Operate the power window system.</li> <li>Do the power windows operate properly?</li> </ul>	Yes	Troubleshooting is completed.
		No	Re-confirm the symptom and go to Step 1.
5	<ul style="list-style-type: none"> <li>Measure the voltage at the power window main switch terminal 1N.</li> <li>Is the voltage B+?</li> </ul>	Yes	Replace the power window main switch. (See 09-12-21 POWER WINDOW MAIN SWITCH REMOVAL/INSTALLATION.)
		No	Inspect for an open or short circuit in the power window main switch wiring harness (battery power supply). Inspect the power window main switch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary.
6	<ul style="list-style-type: none"> <li>Measure the voltage at the power window main switch. (power window motor output terminal) while operating the power window using the power window main switch.</li> <li>Is the voltage B+? (Open: terminal 1L/ close: terminal 1J)</li> </ul>	Yes	Go to the next step.
		No	Replace the power window main switch. (See 09-12-21 POWER WINDOW MAIN SWITCH REMOVAL/INSTALLATION.)
7	<ul style="list-style-type: none"> <li>Measure the voltage at the power window motor. (battery power supply terminal) while operating the power window using the power window motor.</li> <li>Is the voltage B+? (Open: terminal F/ close: terminal E)</li> </ul>	Yes	Go to the next step.
		No	Inspect for an open or short circuit in the wiring harness between the power window main switch and the power window motor. Inspect the power window main switch and power window motor connector connections. (damage/pulled-out pins, corrosion) Repair or replace if necessary.
8	<ul style="list-style-type: none"> <li>Operate the driver's side power window using the power window main switch.</li> <li>Does the power window motor operate (rotate)?  <b>Caution</b> <ul style="list-style-type: none"> <li>If the power window motor temperature is high, the motor may not rotate due to the motor internal bimetal function. Leave it untouched for about 3 min to cool it down, then reinspect.</li> </ul> </li> </ul>	Yes	Go to the next step.
		No	Replace the power window motor. (See 09-12-17 POWER WINDOW MOTOR REMOVAL/INSTALLATION.)
9	<ul style="list-style-type: none"> <li>Remove the door glass from the carrier plate.</li> <li>Make sure that the door glass moves smoothly using your hand.</li> <li>Does the door glass move smoothly?</li> </ul>	Yes	Replace the power window regulator. (See 09-12-12 FRONT POWER WINDOW REGULATOR REMOVAL/INSTALLATION.) (See 09-12-15 REAR POWER WINDOW REGULATOR REMOVAL/INSTALLATION.)
		No	Inspect for a bent regulator guide or other possible malfunction. If normal, replace the door glass run-channel.

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

### No.3 ALL POWER WINDOWS OTHER THAN DRIVER'S SIDE DO NOT OPERATE USING THE POWER WINDOW SUBSWITCH [POWER WINDOW SYSTEM]

id0903a0831200

<b>3</b>	<b>All power windows other than driver's side do not operate using the power window subswitch.</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>• Open or short circuit in power window subswitch wiring harness (battery power supply circuit).</li> <li>• Power window subswitch malfunction</li> </ul>

#### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>• Turn the ignition switch to the ON position.</li> <li>• Set the power cut-switch to the UNLOCK position.</li> <li>• Measure the voltage at the power window subswitch terminal A.</li> <li>• Is the voltage B+?</li> </ul>	Yes
		Replace the power window subswitch. (See 09-12-24 POWER WINDOW SUBSWITCH REMOVAL/INSTALLATION.)
		No
		Inspect for an open or short circuit in the wiring harness between the power window main switch and the power window subswitch. Inspect the power window subswitch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary.

### No.4 ALL POWER WINDOWS OTHER THAN DRIVER'S SIDE DO NOT OPERATE USING THE POWER WINDOW MAIN SWITCH [POWER WINDOW SYSTEM]

id0903a0831300

<b>4</b>	<b>All power windows other than driver's side do not operate using the power window main switch</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>• Open or short circuit in wiring harness between ignition switch (IG1) and power window main switch (IG1).</li> <li>• Power window main switch malfunction</li> </ul>

#### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>• Turn the ignition switch to the ON position.</li> <li>• Set the power cut-switch to the UNLOCK position.</li> <li>• Operate all power windows other than the driver's side using the power window main switch.</li> <li>• Do any power windows operate?</li> </ul>	Yes
		Replace the power window main switch. (See 09-12-21 POWER WINDOW MAIN SWITCH REMOVAL/INSTALLATION.)
		No
		Inspect for an open or short circuit in the power window main switch wiring harness (battery power supply). Inspect the power window main switch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary.

### No.5 ALL POWER WINDOWS ARE INOPERATIVE [POWER WINDOW SYSTEM]

id0903a0831400

<b>5</b>	<b>All power windows are inoperative.</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>• Power supply circuit or ground circuit malfunction                             <ul style="list-style-type: none"> <li>— Burnt fuse (B+)</li> <li>— Open or short circuit in wiring harness between ignition switch (IG1) and power window main switch</li> <li>— Open or short circuit in wiring harness between power window main switch and power window subswitch</li> <li>— Open or short circuit in wiring harness between power window main switch and power window motor</li> <li>— Open or short circuit in wiring harness between power window main switch and ground</li> </ul> </li> <li>• Power window main switch malfunction (power cut-off switch malfunction, switch malfunction)</li> <li>• Power window subswitch malfunction</li> <li>• Power window motor malfunction</li> <li>• Power window regulator malfunction</li> </ul>

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

### Diagnostic procedure

STEP	INSPECTION		ACTION
1	<ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position.</li> <li>Set the power cut-off switch to the UNLOCK position.</li> <li>Inspect the power window system operation again.</li> <li>Does the system operate properly?</li> </ul>	Yes	System is now normal. (power cut-off switch is not set properly.)
		No	Go to the next step.
2	<ul style="list-style-type: none"> <li>Operate all power windows other than driver's side window using the power window main switch.</li> <li>Does any power window operate?</li> </ul>	Yes	Go to Step 6.
		No	Go to the next step.
3	<ul style="list-style-type: none"> <li>Operate the driver's side power window using the power window main switch.</li> <li>Does the power window operate?</li> </ul>	Yes	Go to the next step.
		No	Inspect for an open circuit in the wiring harness between the power window main switch and the body ground. Inspect the power window main switch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary.
4	<ul style="list-style-type: none"> <li>Is the P/W 30 A fuse normal?</li> </ul>	Yes	Replace with the appropriate standard fuse. If the fuse is melted, inspect the wiring harness for a short to ground. Repair or replace the wiring harness, then replace the fuse.
		No	Go to the next step.
5	<ul style="list-style-type: none"> <li>Measure the voltage at the power window main switch terminal 1M.</li> <li>Is the voltage B+?</li> </ul>	Yes	Replace the power window main switch. (See 09-12-21 POWER WINDOW MAIN SWITCH REMOVAL/INSTALLATION.)
		No	Inspect for an open or short circuit in the power window main switch wiring harness (battery power supply). Inspect the power window main switch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary.
6	<ul style="list-style-type: none"> <li>Identify the inoperative power window.</li> <li>Measure the voltage at the suspect power window motor (battery power supply) while operating the power window motor using the suspect power window subswitch.</li> <li>Is the voltage B+? (Open: terminal F/ close: terminal E)</li> </ul>	Yes	Go to the next step.
		No	Go to Step 9.
7	<ul style="list-style-type: none"> <li>Operate the power window using the power window subswitch.</li> <li>Does the power window motor operate (rotate)? <b>Caution</b> <ul style="list-style-type: none"> <li>If the power window motor temperature is high, the motor may not rotate due to the motor internal bimetal function. Leave it untouched for about 3 min. to cool it down, then reinspect.</li> </ul> </li> </ul>	Yes	Go to the next step.
		No	Replace the power window motor. (See 09-12-17 POWER WINDOW MOTOR REMOVAL/INSTALLATION.)
8	<ul style="list-style-type: none"> <li>Remove the door glass from the carrier plate.</li> <li>Make sure that the door glass moves smoothly using your hand.</li> <li>Does the door glass move smoothly?</li> </ul>	Yes	Replace the power window regulator guide.
		No	Inspect for a bent regulator guide or other possible malfunction. If normal, replace the glass run channel.
9	<ul style="list-style-type: none"> <li>Measure the voltage at the power window subswitch (power window motor output) while operating the power window subswitch.</li> <li>Is the voltage B+? (Open: terminal E/ close: terminal D)</li> </ul>	Yes	Inspect for an open or short circuit in the wiring harness between the power window subswitch and power window motor. Inspect the power window subswitch and power window motor connector connections. (damage/pulled-out pins, corrosion) Repair or replace if necessary.
		No	Go to the next step.

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

STEP	INSPECTION	ACTION
10	<b>Note</b> <ul style="list-style-type: none"> <li>Do not operate the power window subswitch during the following inspection.</li> <li>Inspect the continuity between power window subswitch terminal D (vehicle harness-side) and ground.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Inspect for an open or short circuit in the power window subswitch wiring harness. Inspect the power window subswitch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary. Then go to Step 12.
11	<b>Note</b> <ul style="list-style-type: none"> <li>Do not operate the power window subswitch during the following inspection.</li> <li>Inspect the continuity between power window subswitch terminal E and ground.</li> <li>Is there continuity?</li> </ul>	Yes Replace the power window subswitch. (See 09-12-24 POWER WINDOW SUBSWITCH REMOVAL/INSTALLATION.)
		No Inspect for an open or short circuit in the power window subswitch wiring harness. Inspect the power window subswitch connector connection. (damage/pulled-out pins, corrosion) Repair or replace if necessary. Then go to Step 12.
12	<b>Note</b> <ul style="list-style-type: none"> <li>Do not operate the power window main switch during the following inspection.</li> <li>Inspect the continuity between power window main switch terminal (up-side 2B (L.H.D.), 2L (R.H.D.), 1C, 1I) and ground.</li> <li>Is there continuity?</li> </ul>	Yes Go to the next step.
		No Replace the power window main switch. (See 09-12-21 POWER WINDOW MAIN SWITCH REMOVAL/INSTALLATION.)
13	<b>Note</b> <ul style="list-style-type: none"> <li>Do not operate the power window main switch during the following inspection.</li> <li>Inspect the continuity between power window main switch terminal (down-side 2A (L.H.D.), 2K (R.H.D.), 1E, 1G) and ground.</li> <li>Is there continuity?</li> </ul>	Yes Inspect for an open or short circuit in the wiring harness between the power window main switch and power window subswitch. Inspect the power window main switch and subswitch connector connections. (damage/pulled-out pins, corrosion) Repair or replace if necessary.
		No Replace the power window main switch. (See 09-12-21 POWER WINDOW MAIN SWITCH REMOVAL/INSTALLATION.)

### No.6 DOOR GLASS REVERSES EVEN THOUGH THE GLASS DOES NOT ENCOUNTER A FOREIGN OBJECT WHILE IT IS MOVING UP IN AUTOMATIC MODE [POWER WINDOW SYSTEM]

id0903a0831500

#### Note

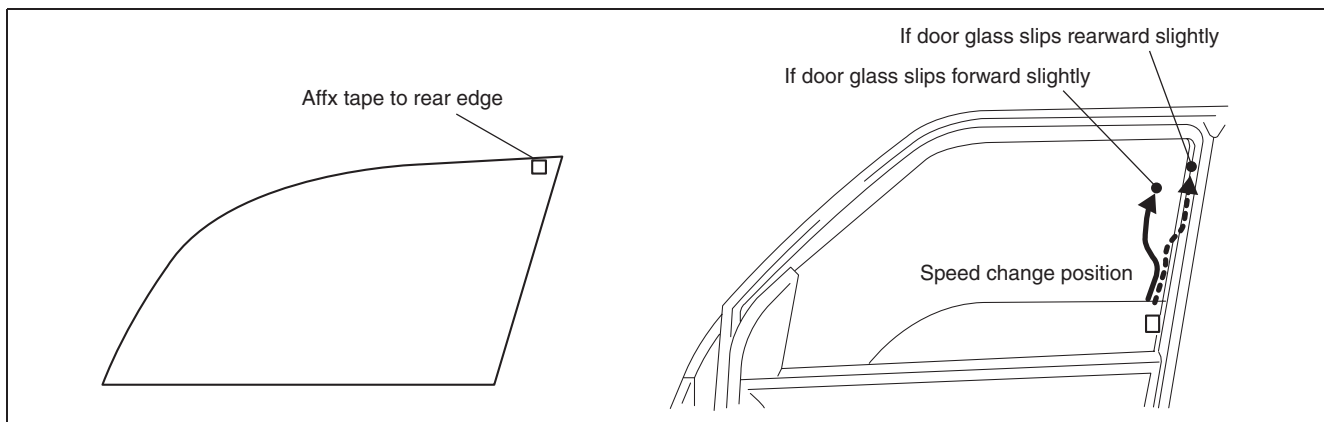
- Perform the following inspection for the power window system component parts of windows where the door glass reverses even though the glass does not encounter a foreign object while it is moving up in automatic mode.

6	<b>Door glass reverses even though the glass does not encounter a foreign object while it is moving up in automatic mode.</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>Extreme change in the sliding resistance of the glass while the door glass is closing. <ul style="list-style-type: none"> <li>Improper installation of the acrylic door visor.</li> <li>Power window motor malfunction.</li> <li>Object caught between the glass run channel and the door glass.</li> <li>Insufficient tightening of the door glass to the carrier plate.</li> <li>Glass run channel malfunction.</li> <li>Glass guide related malfunction.</li> </ul> </li> </ul> <b>Note</b> <ul style="list-style-type: none"> <li>The auto-reverse pinch protection function is a mechanism that automatically reverses (opens) the door glass while it is closing when the power window main switch detects the signal from the power window motor indicating that an object is obstructing the door glass movement.</li> <li>The auto-reverse pinch protection function may operate if the sliding resistance of the door glass increases causing the closing speed to decrease.</li> <li>If the door glass closing speed has changed, concentrate the inspection on the following locations: (Slip occurrence) <ul style="list-style-type: none"> <li>If the door glass is slipping forward, inspect the front side of the glass guide or glass run channel.</li> <li>If the door glass is slipping rearward, inspect the rear side of the glass guide or glass run channel.</li> </ul> </li> </ul>

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Inspect malfunction symptom.</li> <li>Does the malfunction symptom occur only under the following special conditions?:                             <ul style="list-style-type: none"> <li>— Driving over railroad tracks.</li> <li>— Driving on bumpy roads.</li> <li>— Opening/closing the door.</li> </ul> </li> </ul>	Yes The system is normal. (Explain to the customer that this does not indicate a malfunction because the system is designed to reverse the door glass while it is closing if it receives vibration when the vehicle is crossing railroad tracks, driving on a bumpy road, or when the door is opened/closed.)
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Inspect acrylic door visor installation condition.</li> <li>Is the acrylic door visor normal?</li> </ul>	Yes Go to the next step.
		No Install the side visor properly, then go to the next step.
3	<ul style="list-style-type: none"> <li>Inspect door glass closing speed.</li> <li>Affix tape to the rear edge of the door glass as shown in the figure for placing marks. (to facilitate seeing the door glass movement)</li> <li>Start the engine and idle it (to ensure a stabilized operational voltage).</li> <li>Does the door glass hesitate only once while its closing?</li> </ul>	Yes Mark the point where the door glass closing speed changed, then go to Step 5.
		No Go to the next step.
4	<ul style="list-style-type: none"> <li>Reinspect door glass closing speed.</li> <li>Does the door glass hesitate periodically while it is closing?</li> </ul>	Yes Replace the power window motor, then go to Step 8. (See 09-12-17 POWER WINDOW MOTOR REMOVAL/INSTALLATION.)
		No Go to Step 8.
5	<ul style="list-style-type: none"> <li>Inspect glass run channel and door glass sliding surface.</li> <li>Is there an object caught between the glass run channel and the door glass, or is there roughness on the sliding surface (rubber surface)?</li> </ul>	Yes <b>Object is caught between glass run channel and door glass:</b> <ul style="list-style-type: none"> <li>Remove the object.</li> </ul> <b>Roughness on the sliding surface (rubber surface):</b> <ul style="list-style-type: none"> <li>Replace the glass run channel.</li> </ul> After performing one of the above actions, reinspect. If the malfunction is not corrected, go to Step 3.
		No Go to the next step.
6	<ul style="list-style-type: none"> <li>Inspect tightening of door glass to carrier plate.</li> <li>Is it normal?</li> </ul>	Yes Go to the next step.
		No After tightening correctly, reinspect. If the malfunction is not corrected, go to Step 3.
7	<ul style="list-style-type: none"> <li>Inspect condition of glass run channel and door glass.</li> <li>Is it normal?</li> </ul>	Yes Go to the next step.
		No Assemble the glass run channel and door glass securely, and reinspect. If the malfunction is not corrected, go to Step 3.
8	<ul style="list-style-type: none"> <li>Inspect door glass closing speed.</li> <li>Does the door glass hesitate at any location?</li> </ul>	Yes Repeat the inspection from Step 3.
		No Troubleshooting completed.



am2zzw0000022

## SYMPTOM TROUBLESHOOTING [POWER WINDOW SYSTEM]

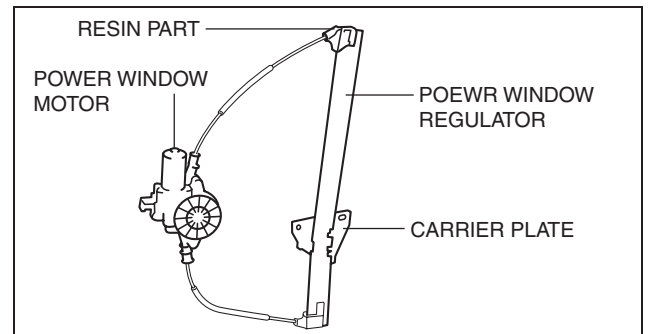
### No.7 ABNORMAL NOISE WHILE THE DOOR GLASS IS OPENING OR CLOSING [POWER WINDOW SYSTEM]

id0903a0831600

7	Abnormal noise while the door glass is opening or closing
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>Installation screw is loose between the door glass and carrier plate.</li> <li>Deformity in the power window regulator plastic part due to use. <ul style="list-style-type: none"> <li>Scratching, wear marks to the power window regulator resin part due to twisting of the cable.</li> <li>Gear deformity in the power window motor.</li> </ul> </li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Identify the location of the noise using a stethoscope or similar device.</li> </ul>

#### Diagnostic procedure

Noise type	Time of occurrence	Possible cause	Location of noise	Action
Clanking noise	Door glass begins to move	Insufficiently tightened installation screw between the door glass and carrier plate.	Between door glass lower edge and carrier plate.	Securely tighten the installation screw.
Groaning noise (Sound increases due to use)	While door glass is operating	Vibration caused by wear on the resin part from cable twisting due to use of the power window regulator.  <b>Note</b> <ul style="list-style-type: none"> <li>Noise does not occur if a roller is equipped to power window regulator resin part.</li> </ul>	Power window regulator	Replace the power window regulator (See 09-12-12 FRONT POWER WINDOW REGULATOR REMOVAL/ INSTALLATION.) (See 09-12-15 REAR POWER WINDOW REGULATOR REMOVAL/ INSTALLATION.)
Whining noise		Gear inside power window motor is deformed due to use.	Gear in power window motor	Replace the power window motor (See 09-12-17 POWER WINDOW MOTOR REMOVAL/ INSTALLATION.)
Clicking noise (Periodic noise)				



am2zzw0000087

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## **SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]**

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### **09-03B SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]**

<b>SYMPTOM TROUBLESHOOTING CHART</b> <b>[ADVANCED KEYLESS AND</b> <b>START SYSTEM] . . . . .</b>	<b>09-03B-1</b>
<b>KEYLESS ENTRY SYSTEM</b> <b>WIRING DIAGRAM [ADVANCED</b> <b>KEYLESS AND START SYSTEM] . . . .</b>	<b>09-03B-2</b>
<b>TROUBLESHOOTING INDEX</b> <b>[ADVANCED KEYLESS AND</b> <b>START SYSTEM] . . . . .</b>	<b>09-03B-3</b>
<b>KEYLESS ENTRY SYSTEM ON-BOARD</b> <b>DIAGNOSIS [ADVANCED KEYLESS</b> <b>AND START SYSTEM] . . . . .</b>	<b>09-03B-3</b>
<b>NO.1 DOOR CANNOT BE</b> <b>LOCKED/UNLOCKED BY</b> <b>TRANSMITTER [ADVANCED KEYLESS</b> <b>AND START SYSTEM] . . . . .</b>	<b>09-03B-3</b>

<b>Diagnostic Procedure . . . . .</b>	<b>09-03B-4</b>
<b>NO.2 FLASHING KEYLESS INDICATOR</b> <b>LIGHT [ADVANCED KEYLESS AND</b> <b>START SYSTEM] . . . . .</b>	<b>09-03B-6</b>
<b>Diagnostic Procedure . . . . .</b>	<b>09-03B-6</b>
<b>NO.3 ADVANCED KEYLESS ENTRY</b> <b>FUNCTION INOPERATIVE [ADVANCED</b> <b>KEYLESS AND START SYSTEM] . . . . .</b>	<b>09-03B-6</b>
<b>Diagnostic Procedure . . . . .</b>	<b>09-03B-6</b>
<b>NO.4 ADVANCED KEYLESS START</b> <b>FUNCTION INOPERATIVE [ADVANCED</b> <b>KEYLESS AND START SYSTEM] . . . . .</b>	<b>09-03B-9</b>
<b>Diagnostic Procedure . . . . .</b>	<b>09-03B-9</b>

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## SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

### SYMPTOM TROUBLESHOOTING CHART [ADVANCED KEYLESS AND START SYSTEM]

id0903d1814300

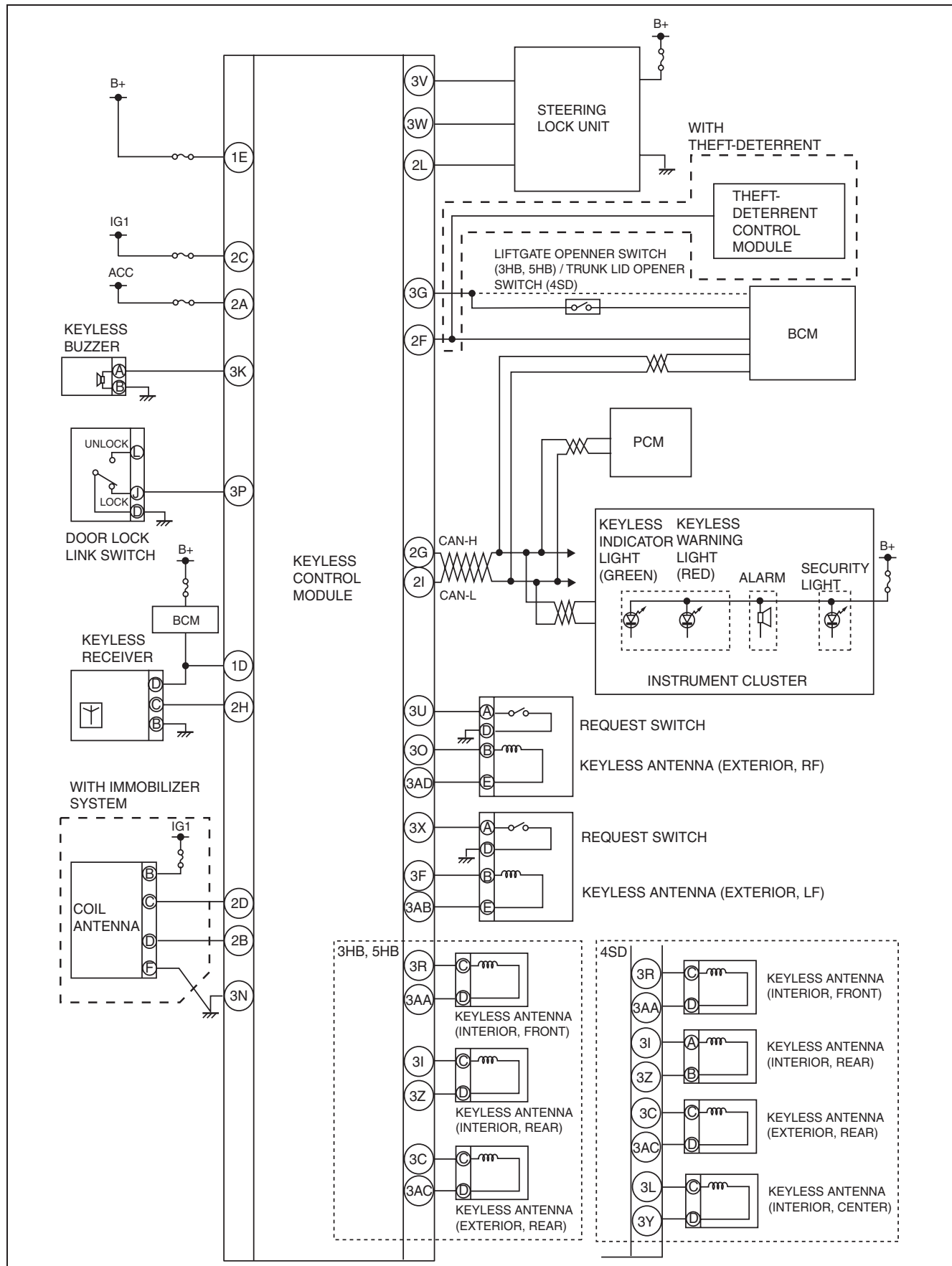
No.	Troubleshooting item	Page
1	Door cannot be locked/unlocked by transmitter	See 09-03B-3 NO.1 DOOR CANNOT BE LOCKED/UNLOCKED BY TRANSMITTER [ADVANCED KEYLESS AND START SYSTEM]
2	Flashing keyless indicator light	See 09-03B-6 NO.2 FLASHING KEYLESS INDICATOR LIGHT [ADVANCED KEYLESS AND START SYSTEM]
3	Advanced keyless entry function inoperative	See 09-03B-6 NO.3 ADVANCED KEYLESS ENTRY FUNCTION INOPERATIVE [ADVANCED KEYLESS AND START SYSTEM]
4	Advanced keyless start function inoperative	See 09-03B-9 NO.4 ADVANCED KEYLESS START FUNCTION INOPERATIVE [ADVANCED KEYLESS AND START SYSTEM]



# SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

## KEYLESS ENTRY SYSTEM WIRING DIAGRAM [ADVANCED KEYLESS AND START SYSTEM]

id0903d1800900



am2zzw0000510

# SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

## TROUBLESHOOTING INDEX [ADVANCED KEYLESS AND START SYSTEM]

id0903d1801000

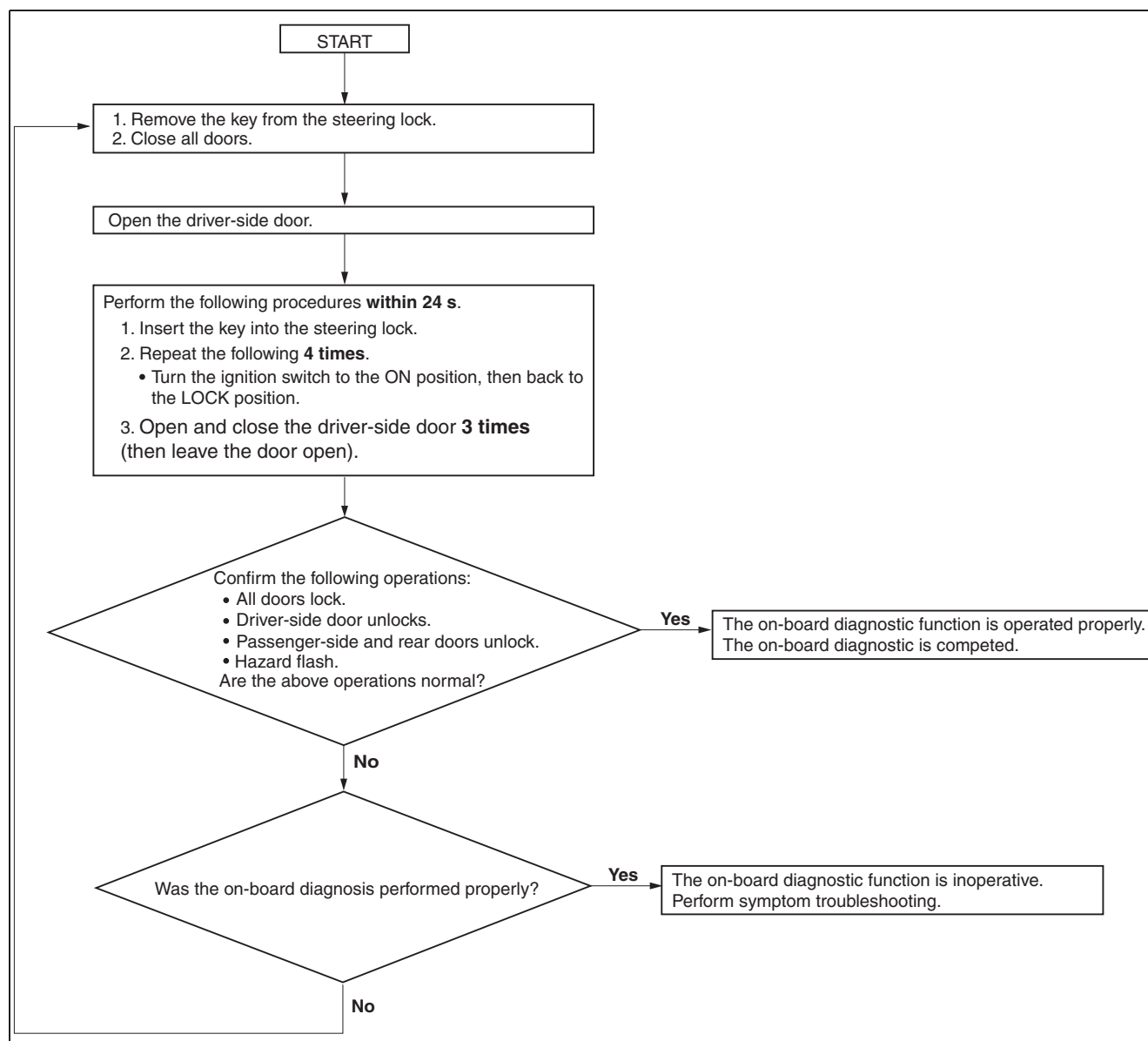
- Refer to the general information and check the basic troubleshooting procedure.
- The advanced keyless and start system is controlled by the Keyless control module.
- The phrase "All doors" includes the liftgate (3HB, 5HB)/trunk lid (4SD).

## KEYLESS ENTRY SYSTEM ON-BOARD DIAGNOSIS [ADVANCED KEYLESS AND START SYSTEM]

id0903d1800400

### Note

- "All doors" includes the liftgate (3HB, 5HB)/trunk lid (4SD).



am2zzw0000215

## NO.1 DOOR CANNOT BE LOCKED/UNLOCKED BY TRANSMITTER [ADVANCED KEYLESS AND START SYSTEM]

id0903d1900300

1	Door cannot be locked/unlocked by transmitter
Possible Cause	<ul style="list-style-type: none"> <li>• Transmitter (advanced key) malfunction (battery or other parts)</li> <li>• Keyless control module malfunction</li> <li>• Keyless receiver malfunction</li> <li>• Customer's mis-operation or misunderstanding</li> <li>• Effect of non-standard equipment (any control unit with built-in micro computer such as radio set, mobile telephone, and TV)</li> </ul>

## SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

### Diagnostic Procedure

Step	Inspection	Action
1	<ul style="list-style-type: none"> <li>Does the operation indicator light illuminate when the transmitter (advanced key) is operated?</li> </ul>	Yes
		No
2	<ul style="list-style-type: none"> <li>Did the customer operate the transmitter (advanced key) within the operation range (2.5 m {8.2 ft} from the vehicle)?</li> </ul>	Yes
		No
3	<ul style="list-style-type: none"> <li>Did the customer operate at a place where extrinsic noise is received such as a TV tower, electric power station, or a broadcast station.</li> </ul>	Yes
		No
4	<ul style="list-style-type: none"> <li>Did the customer operate the transmitter (advanced key) with all the following conditions met? <ul style="list-style-type: none"> <li>— All doors are closed.</li> <li>— The auxiliary key is not inserted in the ignition key cylinder.</li> <li>— The start knob is in the LOCK position.</li> <li>— The start knob is being pressed.</li> </ul> </li> </ul>	Yes
		No
5	<ul style="list-style-type: none"> <li>Did the malfunction occur after any non-standard equipment (any control unit with built-in micro computer such as radio set, mobile telephone, and TV) was installed?</li> </ul>	Yes
		No
6	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Was the malfunction corrected when the connector of the equipment was disconnected?</li> </ul>	Yes
		No
7	<ul style="list-style-type: none"> <li>Connect the negative battery cable.</li> <li>Is lock/unlock possible only near the keyless receivers when the transmitter (advanced key) is operated?</li> </ul>	Yes
		No
8	<ul style="list-style-type: none"> <li>Verify the advanced keyless and start system operation using another normal battery.</li> <li>Does the advanced keyless and start system operate normally?</li> </ul>	Yes
		No
9	<ul style="list-style-type: none"> <li>Visually inspect the transmitter (advanced key) battery.</li> <li>Are the following correct? <ul style="list-style-type: none"> <li>— Battery direction (polarity)</li> <li>— Battery type (CR2025)</li> </ul> </li> </ul>	Yes
		No
10	<ul style="list-style-type: none"> <li>Visually inspect the transmitter (advanced key) battery. (See 09-14-122 ADVANCED KEY BATTERY REPLACEMENT [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>— Is there any rust on the battery terminals (+), (-)?</li> <li>— Is there any poor contact between the battery terminals and the battery when the battery is inserted?</li> </ul>	Yes
		No
11	<ul style="list-style-type: none"> <li>Inspect the battery.</li> <li>Is it normal?</li> </ul>	Yes
		No
12	<ul style="list-style-type: none"> <li>Verify the advanced keyless and start system operation using another normal battery.</li> <li>Does the advanced keyless and start system operate normally?</li> </ul>	Yes
		No
13	<ul style="list-style-type: none"> <li>Inspect the keyless receiver installation condition.</li> <li>Is the bracket installed securely?</li> </ul>	Yes
		No

## SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection		Action
14	<ul style="list-style-type: none"> <li>Inspect the keyless receiver. (See 09-14-109 KEYLESS RECEIVER INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the keyless receiver power supply voltage normal? — Power supply (+B) (terminal D)</li> </ul>	Yes	Go to the next step.
		No	Inspect for a burnt fuse (ROOM 15 A) Inspect the power supply system wiring harness for an open or short circuit.
15	<ul style="list-style-type: none"> <li>Inspect the keyless receiver.</li> <li>Is the keyless receiver grounded normally? — Power supply (0 V) (terminal B)</li> </ul>	Yes	Go to the next step.
		No	Inspect the ground system wiring harness for an open circuit. Inspect the ground tightening screw and nut for looseness.
16	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless receiver connector (4-pin) and the keyless control module connector (12-pin).</li> <li>Inspect the wiring harness between the following terminals for an open or short circuit. — Terminal C (4-pin) to terminal 2H (12-pin)</li> <li>Is the wiring harness normal?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness between the keyless receiver connector and keyless control module connector, then go to the next step.
17	<ul style="list-style-type: none"> <li>Are the following keyless control module power supply voltages normal? — Power supply (IG1) (Terminal 2C) — Power supply (+B) (Terminals 1D and 1E) — Power supply (ACC) (Terminal 2A)</li> </ul>	Yes	Go to the next step.
		No	Inspect for a burnt fuse (ENG10 A, ROOM15 A, P/W 20 A, MIRROR 7.5 A). Inspect the power supply system wiring harness for an open or short circuit, repair or replace if necessary, then go to the next step.
18	<ul style="list-style-type: none"> <li>Is the following keyless control module ground voltage normal? — 0 V (Terminal 3N)</li> </ul>	Yes	Go to the next step.
		No	Inspect the ground system wiring harness for an open circuit, then go to the next step.
19	<ul style="list-style-type: none"> <li>Inspect the following keyless control module (12-pin, 30-pin) signal voltages with the auxiliary key not in the ignition key cylinder, and the start knob in the LOCK position and not being pressed. — Keyless switch: <b>10 V or less</b> (Terminal 3W) — Start knob (push switch): <b>1.0 V or less</b> (Terminal 3V) — Power supply (ACC): <b>1.0 V or less</b> (Terminal 2A) — Power supply (IG1): <b>1.0 V or less</b> (Terminal 2C)</li> <li>Are the signal voltages normal?</li> </ul>	Yes	Go to the next step.
		No	Inspect the keyless switch. Inspect the keyless switch system wiring harness for an open or short circuit, then go to the next step.
20	<ul style="list-style-type: none"> <li>Are the following BCM terminal voltages normal? (See 09-40-4 BODY CONTROL MODULE (BCM) INSPECTION.) — When the front door (RH) is open: Wave pattern (Terminal 7I) — When the front door (RH) is closed: <b>1.0 V or less</b> (Terminal 7I) — When the front door (LH) is open: Wave pattern (Terminal 7M) — When the front door (LH) is closed: <b>1.0 V or less</b> (Terminal 7M) — When the rear door (RH) is open: Wave pattern (Terminal 7O) — When the rear door (RH) is closed: <b>1.0 V or less</b> (Terminal 7O) — When the rear door (LH) is open: Wave pattern (Terminal 7G) — When the rear door (LH) is closed: <b>1.0 V or less</b> (Terminal 7G) — When the liftgate is open: <b>1.0 V or less</b> (Terminal 7S) — When the liftgate is closed: B+ (Terminal 7S)</li> </ul>	Yes	Inspect the wiring harness between BCM terminal 6W and keyless control module terminal 2F. If there is any open or short circuit, repair or replace the malfunctioning part. If there is no malfunction, go to the next step.
		No	Inspect the door latch switch. (See 09-14-74 FRONT DOOR LATCH SWITCH INSPECTION.) (See 09-14-83 REAR DOOR LATCH SWITCH INSPECTION.) Inspect the door latch switch system wiring harness for an open or short circuit, then go to the next step.

## SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
21	<ul style="list-style-type: none"> <li>Is the signal voltage transmitted from the BCM to the door lock actuator normal?</li> <li>Does BCM terminal voltage change as follows when locking/unlocking using the transmitter (advanced key)?               <ul style="list-style-type: none"> <li>Unlocking: <b>B+</b> (Terminal 3O)</li> <li>Locking (Vehicles with double locking system): <b>1.0 V or less</b>→<b>B+</b>→<b>1.0 V or less</b> (Terminal 3E)</li> <li>Locking (Vehicles without double locking system): <b>B+</b> (Terminal 3M)</li> </ul> </li> </ul>	Yes Go to the next step.
		No Inspect the wiring harness between the BCM and the door lock actuator for an open or short circuit. Inspect the door lock actuator, then go to Step 23. (See 09-14-72 FRONT DOOR LOCK ACTUATOR INSPECTION.)
22	<ul style="list-style-type: none"> <li>Replace the keyless receiver.</li> <li>Does the advanced keyless and start system operate normally?</li> </ul>	Yes Troubleshooting completed.
		No Replace the BCM, then go to the next step. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
23	<ul style="list-style-type: none"> <li>Does the advanced keyless and start system operate normally?</li> </ul>	Yes Troubleshooting completed.
		No Verify the malfunction, then go to Step 1 if it recurs.

### NO.2 FLASHING KEYLESS INDICATOR LIGHT [ADVANCED KEYLESS AND START SYSTEM]

id0903d1892600

<b>2</b>	<b>Flashing keyless indicator light</b>
Possible Cause	<ul style="list-style-type: none"> <li>Transmitter (advanced key) battery voltage low</li> </ul>

#### Diagnostic Procedure

Step	Action
1	Replace the transmitter (advanced key) battery. (See 09-14-122 ADVANCED KEY BATTERY REPLACEMENT [ADVANCED KEYLESS AND START SYSTEM].)

### NO.3 ADVANCED KEYLESS ENTRY FUNCTION INOPERATIVE [ADVANCED KEYLESS AND START SYSTEM]

id0903d1801400

<b>3</b>	<b>Advanced keyless entry function inoperative</b>
Possible Cause	<ul style="list-style-type: none"> <li>Transmitter (advanced key) malfunction</li> <li>Keyless control module malfunction</li> <li>Keyless receiver malfunction</li> <li>Keyless antenna malfunction</li> <li>Customer's mis-operation</li> </ul>

#### Diagnostic Procedure

Step	Inspection	Action
1	<ul style="list-style-type: none"> <li>Inspect for any advanced keyless system-related DTCs. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Perform the corresponding DTC troubleshooting.
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Verify the operation method for the request switch and the liftgate (3HB,5HB)/ trunk lid (4SD) opener switch.</li> <li>Was the operation performed using any front door switch (driver's side/passenger's side) or the liftgate (3HB, 5HB)/trunk lid (4SD) opener switch?</li> </ul>	Yes Go to the next step.
		No Verify the advanced keyless system operation by pressing each switch. If the system does not operate, go to the next step.

## SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
3	<ul style="list-style-type: none"> <li>Verify the advanced keyless system operation by operating each request switch and the liftgate (3HB, 5HB)/trunk lid (4SD) opener switch with all the following conditions met. <ul style="list-style-type: none"> <li>— The advanced key is outside of the cabin.</li> <li>— All doors and trunk lid (4SD) are closed.</li> <li>— The auxiliary key is not inserted in the ignition key cylinder.</li> <li>— The start knob is in the LOCK position, and not pressed.</li> <li>— The advanced key is within the reception area (<b>80 cm {31 in} radius</b>) from near the driver's door, front passenger's door, and the liftgate (3HB,5HB)/trunk lid (4SD).</li> </ul> </li> <li>Does the advanced keyless entry operate normally?</li> </ul>	Yes System is normal. (Explain the customer about the keyless entry system.)
		No Go to the next step.
4	<ul style="list-style-type: none"> <li>Inspect the signal voltages at the following keyless control module connector (30-pin) when the request switches and the liftgate (3HB, 5HB)/trunk lid (4SD) opener switch are pressed. <ul style="list-style-type: none"> <li><b>12 V→1.0 V or less</b> <ul style="list-style-type: none"> <li>— Request switch (RF) (Terminal 3U)</li> <li>— Request switch (LF) (Terminal 3X)</li> </ul> </li> <li><b>5 V→3.0 V or less</b> <ul style="list-style-type: none"> <li>— Liftgate (3HB, 5HB)/trunk lid (4SD) opener switch (Terminal 3G)</li> </ul> </li> </ul> </li> <li>Are the signal voltages normal?</li> </ul>	Yes Go to the next step.
		No Inspect the applicable wiring harness between the request switch and the keyless control module for an open or short circuit, then go to the next step.
5	<ul style="list-style-type: none"> <li>Inspect the following keyless control connector signal voltages with the auxiliary key not in the ignition switch key cylinder, and the start knob in the LOCK position and not being pressed. <ul style="list-style-type: none"> <li>— Keyless switch: <b>1.0 V or less</b> (Terminal 3W)</li> <li>— Start knob (push switch): <b>1.0 V or less</b> (Terminal 3V)</li> <li>— Power supply (ACC): <b>1.0 V or less</b> (Terminal 2A)</li> <li>— Power supply (IG1): <b>1.0 V or less</b> (Terminal 2C)</li> </ul> </li> <li>Are the signal voltages normal?</li> </ul>	Yes Go to the next step.
		No Inspect the applicable wiring harness between the switch and the keyless control module, repair if necessary, then go to the next step.
6	<ul style="list-style-type: none"> <li>Perform the advanced keyless and start system DTC inspection with all the following condition met. <ul style="list-style-type: none"> <li>— The start knob is not in the LOCK position.</li> <li>— The start knob is not pressed.</li> <li>— All doors and trunk lid (4SD) are closed.</li> <li>— The auxiliary key is not inserted in the ignition key cylinder.</li> </ul> </li> <li>Perform DTC inspection. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Perform the corresponding DTC troubleshooting.
		No Go to the next step.
7	<ul style="list-style-type: none"> <li>Measure the signal voltage at keyless control module terminal 2H when each request switch and the liftgate (3HB, 5HB)/trunk lid (4SD) opener switch are operated.</li> <li>Is the signal voltage <b>B+→1.0 V or less</b> when the transmitter (advanced key) is pressed?</li> </ul>	Yes Go to the next step.
		No Inspect the wiring harness between the keyless receiver and the keyless control module. <b>If the wiring harness is normal:</b> <ul style="list-style-type: none"> <li>Replace the advanced key, then go to the next step.</li> </ul> <b>If the wiring harness is malfunctioning:</b> <ul style="list-style-type: none"> <li>Repair or replace the wiring harness, then go to the next step.</li> </ul>

## SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action	
3	<ul style="list-style-type: none"><li>Verify the advanced keyless system operation by operating each request switch and the liftgate (3HB, 5HB)/trunk lid (4SD) opener switch with all the following conditions met.<ul style="list-style-type: none"><li>— The advanced key is outside of the cabin.</li><li>— All doors and trunk lid (4SD) are closed.</li><li>— The auxiliary key is not inserted in the ignition key cylinder.</li><li>— The start knob is in the LOCK position, and not pressed.</li><li>— The advanced key is within the reception area <b>(80 cm {31 in} radius)</b> from near the driver's door, front passenger's door, and the liftgate (3HB,5HB)/trunk lid (4SD).</li></ul></li><li>Does the advanced keyless entry operate normally?</li></ul>	Yes	System is normal. (Explain the customer about the keyless entry system.)
		No	Go to the next step.
4	<ul style="list-style-type: none"><li>Inspect the signal voltages at the following keyless control module connector (30-pin) when the request switches and the liftgate (3HB, 5HB)/trunk lid (4SD) opener switch are pressed. <b>12 V→1.0 V or less</b><ul style="list-style-type: none"><li>— Request switch (RF) (Terminal 3U)</li><li>— Request switch (LF) (Terminal 3X)</li></ul> <b>5 V→3.0 V or less</b><ul style="list-style-type: none"><li>— Liftgate (3HB, 5HB)/trunk lid (4SD) opener switch (Terminal 3G)</li></ul></li><li>Are the signal voltages normal?</li></ul>	Yes	Go to the next step.
		No	Inspect the applicable wiring harness between the request switch and the keyless control module for an open or short circuit, then go to the next step.
5	<ul style="list-style-type: none"><li>Inspect the following keyless control connector signal voltages with the auxiliary key not in the ignition switch key cylinder, and the start knob in the LOCK position and not being pressed.<ul style="list-style-type: none"><li>— Keyless switch: <b>1.0 V or less</b> (Terminal 3W)</li><li>— Start knob (push switch): <b>1.0 V or less</b> (Terminal 3V)</li><li>— Power supply (ACC): <b>1.0 V or less</b> (Terminal 2A)</li><li>— Power supply (IG1): <b>1.0 V or less</b> (Terminal 2C)</li></ul></li><li>Are the signal voltages normal?</li></ul>	Yes	Go to the next step.
		No	Inspect the applicable wiring harness between the switch and the keyless control module, repair if necessary, then go to the next step.
6	<ul style="list-style-type: none"><li>Perform the advanced keyless and start system DTC inspection with all the following condition met.<ul style="list-style-type: none"><li>— The start knob is not in the LOCK position.</li><li>— The start knob is not pressed.</li><li>— All doors and trunk lid (4SD) are closed.</li><li>— The auxiliary key is not inserted in the ignition key cylinder.</li></ul></li><li>Perform DTC inspection. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li><li>Are any DTCs displayed?</li></ul>	Yes	Perform the corresponding DTC troubleshooting.
		No	Go to the next step.
7	<ul style="list-style-type: none"><li>Measure the signal voltage at keyless control module terminal 2H when each request switch and the liftgate (3HB, 5HB)/trunk lid (4SD) opener switch are operated.</li><li>Is the signal voltage <b>B+→1.0 V or less</b> when the transmitter (advanced key) is pressed?</li></ul>	Yes	Go to the next step.
		No	Inspect the wiring harness between the keyless receiver and the keyless control module. <b>If the wiring harness is normal:</b> <ul style="list-style-type: none"><li>Replace the advanced key, then go to the next step.</li></ul> <b>If the wiring harness is malfunctioning:</b> <ul style="list-style-type: none"><li>Repair or replace the wiring harness, then go to the next step.</li></ul>



## SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
8	<ul style="list-style-type: none"> <li>Inspect the wiring harness between BCM terminal 6W and keyless control module terminal 2F.</li> <li>Is there any open or short circuit?</li> </ul>	Yes Repair or replace the malfunctioning part.
		No Connect the connector, then go to the next step.
9	<ul style="list-style-type: none"> <li>Measure the signal voltages at the following BCM connector (16-pin) when each request switch and the liftgate (3HB, 5HB)/trunk lid (4SD) opener switch are operated. (See 09-40-4 BODY CONTROL MODULE (BCM) INSPECTION.)               <ul style="list-style-type: none"> <li>Door lock actuator (Vehicles with double locking system)                   <ul style="list-style-type: none"> <li>When the doors are locked (Terminal 3E): <b>1.0 V or less → B+ → 1.0 V or less</b></li> <li>When the doors are unlocked (Terminal 3O): <b>B+</b></li> </ul> </li> <li>Door lock actuator (Vehicles without double locking system)                   <ul style="list-style-type: none"> <li>When the doors are locked (Terminal 3M): <b>B+</b></li> <li>When the doors are unlocked (Terminal 3O): <b>B+</b></li> </ul> </li> <li>Liftgate (3HB, 5HB)/trunk lid (4SD) opener switch                   <ul style="list-style-type: none"> <li>When the switch is operated with all doors locked (Terminal 6U): Wave pattern</li> </ul> </li> <li>Are the voltages normal?</li> </ul> </li> </ul>	Yes Inspect the BCM and replace it if necessary. (See 09-40-4 BODY CONTROL MODULE (BCM) INSPECTION.) (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No Inspect the wiring harness between the BCM and the door lock actuator for an open or short circuit. Inspect the door lock actuator, repair if necessary, then go to the next step. (See 09-14-72 FRONT DOOR LOCK ACTUATOR INSPECTION.)
10	<ul style="list-style-type: none"> <li>Does the advanced keyless system operate normally?</li> </ul>	Yes Troubleshooting completed.
		No Verify the malfunction, then go to Step 1 if it recurs.

### NO.4 ADVANCED KEYLESS START FUNCTION INOPERATIVE [ADVANCED KEYLESS AND START SYSTEM]

id0903d1801500

4	<b>Advanced keyless start function inoperative</b>
Possible Cause	<ul style="list-style-type: none"> <li>Transmitter (advanced key) malfunction</li> <li>Keyless control module malfunction</li> <li>Keyless receiver malfunction</li> <li>Keyless antenna malfunction</li> <li>PCM malfunction</li> </ul>

### Diagnostic Procedure

Step	Inspection	Action
1	<ul style="list-style-type: none"> <li>Inspect for any advanced keyless and start system-related DTCs. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Are any DTCs displayed?</li> </ul>	Yes Perform the corresponding DTC troubleshooting.
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Verify if the engine can be started using the auxiliary key.</li> <li>Does the engine start?</li> </ul>	Yes Go to the next step.
		No Perform symptom troubleshooting No.3 (Section 01-03). (See 01-03-12 NO.3 WILL NOT CRANK [ZJ, ZY].)
3	<ul style="list-style-type: none"> <li>Verify that the keyless indicator light (green) illuminates when the start knob is pressed.</li> </ul>	Yes Go to Step 10.
		No <b>If the keyless indicator light (green) does not illuminate:</b> <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul> <b>If the keyless indicator light (red) flashes:</b> <ul style="list-style-type: none"> <li>Go to Step 5.</li> </ul> <b>If the keyless indicator light (red) illuminates:</b> <ul style="list-style-type: none"> <li>Go to Step 8.</li> </ul>



## SYMPTOM TROUBLESHOOTING [ADVANCED KEYLESS AND START SYSTEM]

Step	Inspection	Action
4	<ul style="list-style-type: none"> <li>Bring the advanced key into the cabin.</li> <li>Inspect the signal voltages at the following keyless control module connector (30-pin) when the start knob is pressed. <ul style="list-style-type: none"> <li>Start knob (push switch): B+ (Terminal 3V)</li> <li>Keyless switch: <b>1.0 V or less</b> (Terminal 3W)</li> </ul> </li> <li>Are the signal voltages normal?</li> </ul>	Yes
		Go to the next step.
5	<ul style="list-style-type: none"> <li>Perform the advanced keyless and start system DTC inspection with all the following conditions met. <ul style="list-style-type: none"> <li>The start knob is not in the LOCK position.</li> <li>The start knob is not pressed.</li> <li>All doors are closed.</li> <li>The auxiliary key is not inserted in the ignition key cylinder.</li> </ul> </li> <li>Perform DTC inspection. (See 09-02A-5 DTC INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Are any DTCs displayed?</li> </ul>	No
		<p>Inspect the wiring harness between the steering lock unit and the keyless control module.</p> <p><b>If the wiring harness is normal:</b></p> <ul style="list-style-type: none"> <li>Replace the steering lock unit, then go to the next step. (See 06-13-4 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION [L.H.D.].)</li> <li>(See 06-13-10 STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION [R.H.D.].)</li> </ul> <p><b>If the wiring harness is malfunctioning:</b></p> <ul style="list-style-type: none"> <li>Repair or replace the wiring harness, then go to the next step.</li> </ul>
6	<ul style="list-style-type: none"> <li>Inspect the advanced key.</li> <li>Is the advanced key normal?</li> </ul>	Yes
		<p>Perform the corresponding DTC troubleshooting.</p> <p>Go to the next step.</p>
7	<ul style="list-style-type: none"> <li>Inspect the advanced key.</li> <li>Is the advanced key normal?</li> </ul>	No
		Replace the advanced key, then go to the next step.
8	<ul style="list-style-type: none"> <li>Inspect the keyless receiver. (See 09-14-109 KEYLESS RECEIVER INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the keyless receiver normal?</li> </ul>	Yes
		Go to the next step.
9	<ul style="list-style-type: none"> <li>Measure the voltage at keyless control module connector (12-pin) terminal 2L.</li> <li>Is the voltage <b>5.0 V</b>?</li> </ul>	No
		<p>Inspect the wiring harness between keyless control module connector (12-pin) terminal 2L and steering lock unit (8-pin) terminal G for an open or short circuit.</p> <p><b>If the wiring harness is normal:</b></p> <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul> <p><b>If the wiring harness is malfunctioning:</b></p> <ul style="list-style-type: none"> <li>Replace the malfunctioning part, then go to the next step.</li> </ul>
10	<ul style="list-style-type: none"> <li>Inspect the steering lock unit. (See 09-21-6 STEERING LOCK UNIT INSPECTION [WITH ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the steering lock unit normal?</li> </ul>	Yes
		<p>Replace the keyless receiver, then go to Step 8. (See 09-14-108 KEYLESS RECEIVER REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</p> <p>Replace the advanced key, then go to the next step.</p>
11	<ul style="list-style-type: none"> <li>Inspect the keyless receiver. (See 09-14-109 KEYLESS RECEIVER INSPECTION [ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the keyless receiver normal?</li> </ul>	No
		Inspect the corresponding part following "Inspection item(s)".
12	<ul style="list-style-type: none"> <li>Measure the voltage at keyless control module connector (12-pin) terminal 2L.</li> <li>Is the voltage <b>5.0 V</b>?</li> </ul>	Yes
		Go to the next step.
13	<ul style="list-style-type: none"> <li>Inspect the wiring harness between keyless control module connector (12-pin) terminal 2L and steering lock unit (8-pin) terminal G for an open or short circuit.</li> <li>Is the wiring harness normal?</li> </ul>	No
		<p>Inspect the wiring harness between keyless control module connector (12-pin) terminal 2L and steering lock unit (8-pin) terminal G for an open or short circuit.</p> <p><b>If the wiring harness is normal:</b></p> <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul> <p><b>If the wiring harness is malfunctioning:</b></p> <ul style="list-style-type: none"> <li>Replace the malfunctioning part, then go to the next step.</li> </ul>
14	<ul style="list-style-type: none"> <li>Inspect the steering lock unit. (See 09-21-6 STEERING LOCK UNIT INSPECTION [WITH ADVANCED KEYLESS AND START SYSTEM].)</li> <li>Is the steering lock unit normal?</li> </ul>	Yes
		<p>Replace the keyless control module, then go to the next step. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)</p> <p>Go to the next step.</p>
15	<ul style="list-style-type: none"> <li>Turn the start knob to the START position.</li> <li>Does the advanced keyless entry and start system operate normally?</li> </ul>	Yes
		Troubleshooting completed.
16	<ul style="list-style-type: none"> <li>Turn the start knob to the START position.</li> <li>Does the advanced keyless entry and start system operate normally?</li> </ul>	No
		Verify the malfunction, then go to Step 1 if it recurs.

## SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

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### 09-03C SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

#### SYMPTOM TROUBLESHOOTING CHART

[KEYLESS ENTRY SYSTEM].....	09-03C-1
KEYLESS ENTRY SYSTEM	
WIRING DIAGRAM	
[KEYLESS ENTRY SYSTEM].....	09-03C-2
TROUBLESHOOTING INDEX	
[KEYLESS ENTRY SYSTEM].....	09-03C-2
KEYLESS ENTRY SYSTEM	
CHECK SHEET	
[KEYLESS ENTRY SYSTEM].....	09-03C-2
KEYLESS ENTRY SYSTEM	
PRELIMINARY INSPECTION	
[KEYLESS ENTRY SYSTEM].....	09-03C-3
ON-BOARD DIAGNOSTIC FUNCTION	
[KEYLESS ENTRY SYSTEM].....	09-03C-4

#### NO.1 ONE OR MORE ON-BOARD

##### DIAGNOSTIC FUNCTIONS

##### INOPERATIVE

[KEYLESS ENTRY SYSTEM] .....	09-03C-5
Diagnostic Procedure .....	09-03C-5

#### NO.2 ALL ON-BOARD DIAGNOSTIC

##### FUNCTIONS INOPERATIVE

[KEYLESS ENTRY SYSTEM] .....	09-03C-6
Diagnostic Procedure .....	09-03C-6

#### NO.3 TRANSMITTER ID CODE

##### CANNOT BE REPROGRAMMED

[KEYLESS ENTRY SYSTEM] .....	09-03C-7
Diagnostic Procedure .....	09-03C-8

## SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

### SYMPTOM TROUBLESHOOTING CHART [KEYLESS ENTRY SYSTEM]

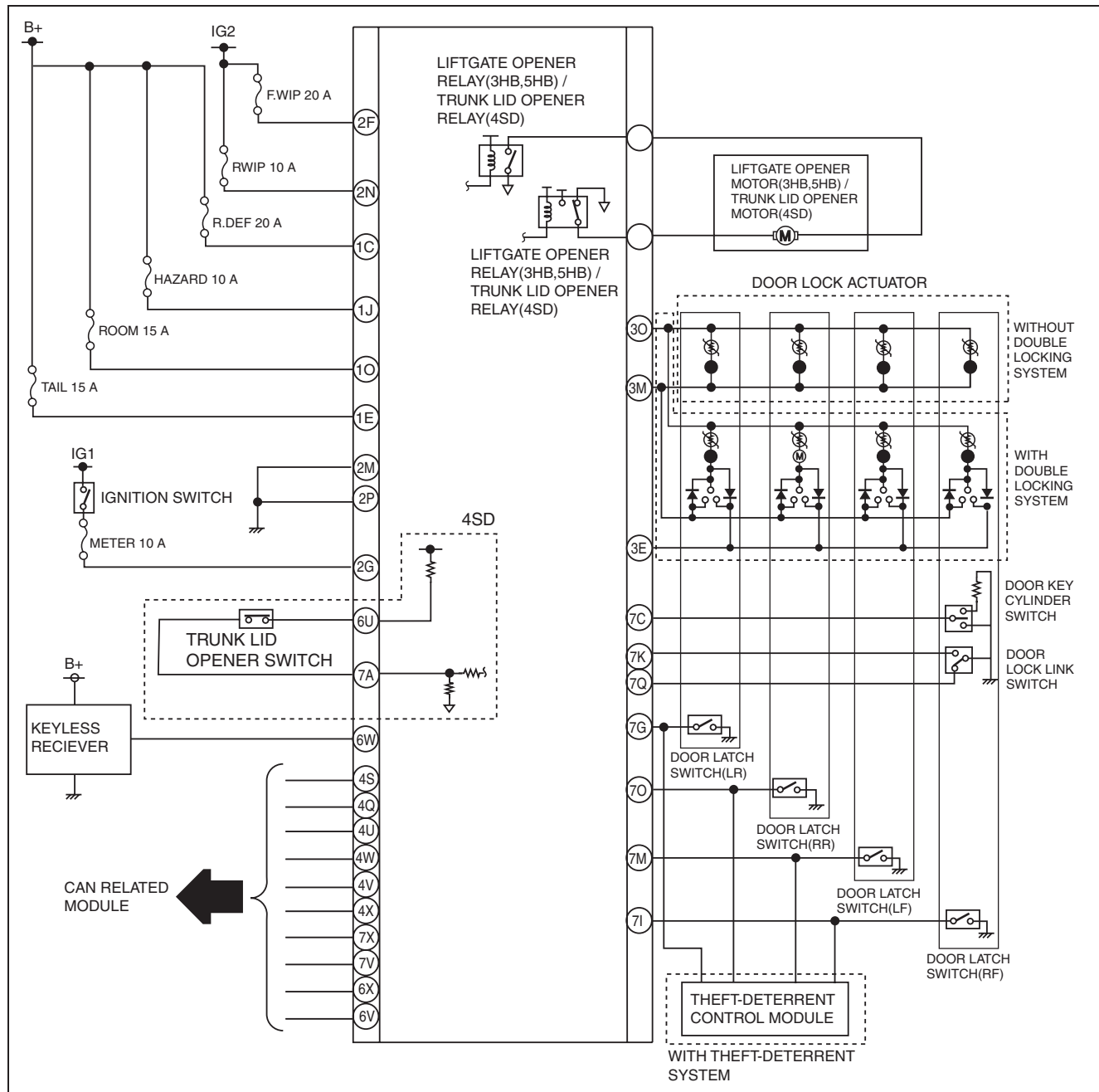
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No.	Troubleshooting item	Description	Page
1	One or more on-board diagnostic functions inoperative	<ul style="list-style-type: none"><li>Malfunction in door lock linkage system</li></ul>	<a href="#">See 09-03C-5</a> NO.1 ONE OR MORE ON-BOARD DIAGNOSTIC FUNCTIONS INOPERATIVE [KEYLESS ENTRY SYSTEM]
2	All on-board diagnostic functions inoperative	<ul style="list-style-type: none"><li>Malfunction in BCM power supply circuit, door latch switch circuit, BCM ground circuit, or keyless receiver.</li></ul>	<a href="#">See 09-03C-6</a> NO.2 ALL ON-BOARD DIAGNOSTIC FUNCTIONS INOPERATIVE [KEYLESS ENTRY SYSTEM]
3	Transmitter ID code cannot be reprogrammed	<ul style="list-style-type: none"><li>Malfunction in transmitter battery, transmitter, keyless receive bracket, keyless receive bracket ground screw, or BCM circuit. keyless receive circuit.</li></ul>	<a href="#">See 09-03C-7</a> NO.3 TRANSMITTER ID CODE CANNOT BE REPROGRAMMED [KEYLESS ENTRY SYSTEM]

## SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

### KEYLESS ENTRY SYSTEM WIRING DIAGRAM [KEYLESS ENTRY SYSTEM]

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### TROUBLESHOOTING INDEX [KEYLESS ENTRY SYSTEM]

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- Refer to the general information and check the basic troubleshooting procedure.
- The keyless entry system is controlled by the BCM.
- The phrase "All doors" includes the liftgate (3HB, 5HB)/trunk lid (4SD).

### KEYLESS ENTRY SYSTEM CHECK SHEET [KEYLESS ENTRY SYSTEM]

id0903d2871400

- Use the sheet below as a customer interview sheet when accepting a vehicle for service.
- If the symptom is "Power door lock system does not operate with transmitter at all," find out how the customer uses the keyless entry system by following the check sheet below.

## SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

Perform the following inspection with customer.

Q1. What's the customer's complaint?

- ☐ Power door lock system does not operate with transmitter (door does not lock/unlock).  
☐ Other \_\_\_\_\_

Q2. Is system factory-installed or after-market?

- ☐ Factory-installed system

→ GO to Q3.

- ☐ After-market system

→ Perform troubleshooting according to after-market keyless entry system manual.

Q3. Operate transmitter with customer from 2.5 m {8.2 ft} away from center of vehicle. (Make sure the ignition key is either in the LOCK position or removed.)

Does keyless entry system work?

- ☐ Yes

→ Explain the following to the customer.

- Keyless entry system does not work when ignition switch is in ON position.
- Keyless entry system does not work from excessive distances (more than 2.5 m {8.2 ft} away from center of vehicle).

- ☐ No

→ Go to Q4.

Q4. Check location where customer uses keyless entry system.

Does a particular area, such as being near TV towers, power plants, power lines, or factories, have an effect on malfunction?

- ☐ Yes Place \_\_\_\_\_

→ Area of operation is bad. Explain effect of outside interference on transmitter to customer.

- ☐ No

→ Go to Q5.

Q5. Make sure there are no after-market electrical parts installed on vehicle.

Are there any of the following present?

- Cellular phone
- Radio-wave equipment
- Remote engine starter
- TV, etc.

- ☐ Yes Parts \_\_\_\_\_

- ☐ No

Perform the keyless entry system preliminary inspection.

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### KEYLESS ENTRY SYSTEM PRELIMINARY INSPECTION [KEYLESS ENTRY SYSTEM]

id0903d2800300

- Perform the following preliminary inspection before troubleshooting.

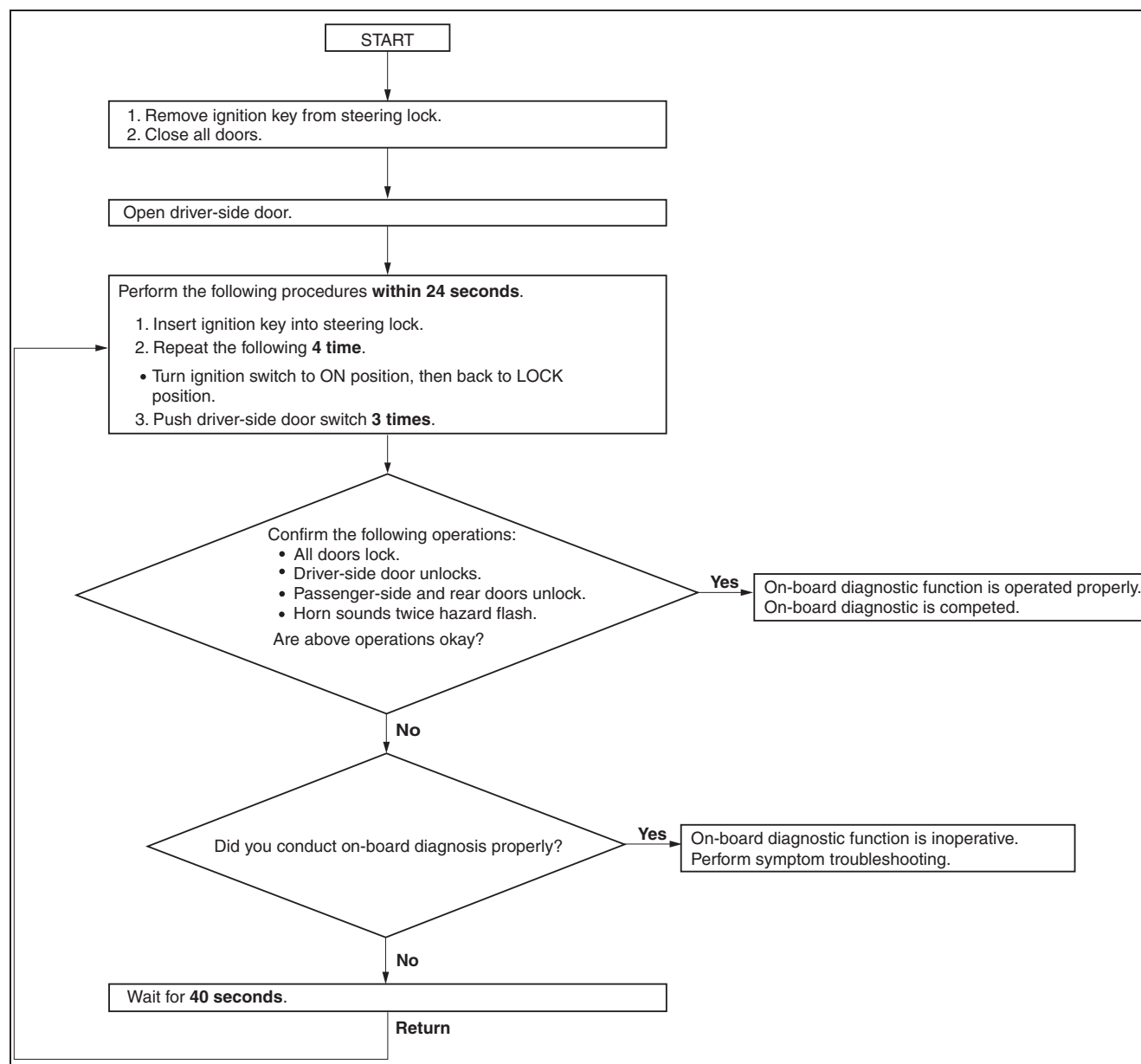
STEP	INSPECTION		ACTION
1	• Is system an after-market one?	Yes	Perform troubleshooting according to after-market keyless entry system manual.
		No	Go to next step.
2	• Did customer activate keyless entry system when ignition switch was in LOCK position?	Yes	Go to next step.
		No	<ul style="list-style-type: none"> <li>• Explain to customer that system does not work when ignition is in ON position.</li> <li>• Turn ignition switch to LOCK position, then go to next step.</li> </ul>
3	• Did customer use keyless entry system in particular area, such as being near TV towers, power plants, power lines, or factories?	Yes	Attempt to lock/unlock doors with transmitter in non-interference area. <b>If system operates:</b> <ul style="list-style-type: none"> <li>• Area of operation is bad. Explain effect of outside interference on transmitter to customer.</li> </ul> <b>If system does not operate:</b> <ul style="list-style-type: none"> <li>• Go to next step.</li> </ul>
		No	Go to next step.

## SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

STEP	INSPECTION	ACTION
4	<ul style="list-style-type: none"> <li>Are any of the following after-market electrical parts on the vehicle? <ul style="list-style-type: none"> <li>Cellular phone</li> <li>Radio-wave equipment</li> <li>Remote engine starter</li> <li>TV, etc.</li> </ul> </li> </ul>	Yes Disconnect after-market electrical part connectors and attempt to lock/unlock doors with transmitter. <b>If system operates:</b> <ul style="list-style-type: none"> <li>After-market electrical parts are interfering with keyless entry system.</li> </ul> <b>If system does not operate:</b> <ul style="list-style-type: none"> <li>Go to next step.</li> </ul>
		No Go to next step.
5	<ul style="list-style-type: none"> <li>Perform on-board diagnostic function. (See 09-03C-4 ON-BOARD DIAGNOSTIC FUNCTION [KEYLESS ENTRY SYSTEM].)</li> <li>Does on-board diagnostic function work?</li> </ul>	Yes Go to next step.
		No <ul style="list-style-type: none"> <li>Go to Step 1 of NO. 1 ONE OR MORE ON-BOARD DIAGNOSTIC FUNCTIONS INOPERATIVE.</li> <li>Go to Step 1 of NO. 2 ALL ON-BOARD DIAGNOSTIC FUNCTIONS INOPERATIVE.</li> </ul>
6	<ul style="list-style-type: none"> <li>Attempt to reprogram transmitter ID code.</li> <li>Can transmitter ID code be reprogrammed?</li> </ul>	Yes System is normal now.
		No Go to Step 1 of troubleshooting NO. 3 TRANSMITTER ID CODE CANNOT BE REPROGRAMMED.

### ON-BOARD DIAGNOSTIC FUNCTION [KEYLESS ENTRY SYSTEM]

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## SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

### NO.1 ONE OR MORE ON-BOARD DIAGNOSTIC FUNCTIONS INOPERATIVE [KEYLESS ENTRY SYSTEM]

id0903d2800600

1	One or more on-board diagnostic functions inoperative
<b>Possible Cause</b>	<ul style="list-style-type: none"> <li>• BCM power supply, ground, or input/output signal error               <ul style="list-style-type: none"> <li>— Power supply (IG1)</li> <li>— Power supply (B+)</li> <li>— Key reminder switch</li> <li>— Ground</li> <li>— Door latch switch</li> <li>— Turn light system malfunction</li> <li>— Door lock actuator malfunction</li> </ul> </li> </ul>

#### Diagnostic Procedure

Step	Inspection		Action
1	Did any of the following operate during the malfunction diagnosis? <ul style="list-style-type: none"> <li>• All doors lock/unlock</li> <li>• Hazard warning lights flash</li> </ul>	Yes	Go to the next step.
		No	Inspect the connection of the BCM connectors, then go to Step 4.
2	Did the following operate during the malfunction diagnosis? <ul style="list-style-type: none"> <li>• All doors lock/unlock</li> </ul>	Yes	Go to the next step.
		No	Go to Step 7.
3	Did the following operate during the malfunction diagnosis? <ul style="list-style-type: none"> <li>• Hazard warning lights flash</li> </ul>	Yes	Go to the next step.
		No	Go to Step 9.
4	Are the BCM power supply voltages normal? <ul style="list-style-type: none"> <li>• Power supply (IG1) (Terminal 2G)</li> <li>• Power supply (B+) (Terminals 1J, 1O, and 1P)</li> </ul>	Yes	Go to the next step.
		No	<ul style="list-style-type: none"> <li>• Inspect for a burnt fuse (METER 10A, ROOM 15A, D/L 20 A).</li> <li>• Inspect the power supply system wiring harness for an open or short circuit.</li> </ul>
5	Is the BCM ground voltage normal? <ul style="list-style-type: none"> <li>• <b>0 V</b> (Terminals 2M and 2P)</li> </ul>	Yes	Go to the next step.
		No	Inspect the ground system wiring harness for an open circuit.
6	Are the BCM and each door latch switch normal? <ul style="list-style-type: none"> <li>• Inspect each terminal (7G, 7O, 7M, and 7I) under the following conditions. (See 09-40-4 BODY CONTROL MODULE (BCM) INSPECTION.)               <ul style="list-style-type: none"> <li>— When the door is closed: <b>1.0 V or less</b></li> <li>— When the door is open: <b>Wave pattern</b></li> </ul> </li> </ul>	Yes	Go to the next step.
		No	<ul style="list-style-type: none"> <li>• Inspect the door latch switch. (See 09-14-74 FRONT DOOR LATCH SWITCH INSPECTION.) (See 09-14-83 REAR DOOR LATCH SWITCH INSPECTION.)</li> <li>• Inspect the door latch switch system wiring harness for an open or short circuit.</li> </ul>
7	Is the signal voltage transmitted from the key reminder switch to the BCM normal? <ul style="list-style-type: none"> <li>— When the key is inserted into the steering lock: <b>B+</b> (Terminal 6R)</li> <li>— When the key is not inserted into the steering lock: <b>1.0 V or less</b> (Terminal 6R)</li> </ul>	Yes	Go to the next step.
		No	<ul style="list-style-type: none"> <li>• Inspect the wiring harness between the BCM and the key reminder switch for an open or short circuit.</li> <li>• Replace the key reminder switch.</li> </ul>
8	Are the signal voltages transmitted from the BCM to the door lock actuator normal? <ul style="list-style-type: none"> <li>• Do the signal voltages transmitted to the door lock actuator change as follows when the malfunction diagnosis inspection procedure is performed.               <ul style="list-style-type: none"> <li>— When the doors are unlocked: <b>1.0 V or less→B+→1.0V or less</b> (Terminal 3O)</li> <li>— When the doors are locked (Vehicles with double locking system): <b>1.0 V or less→B+→1.0V or less</b> (Terminal 3E)</li> <li>— When the doors are locked (Vehicles without double locking system): <b>1.0 V or less→B+→1.0V or less</b> (Terminal 3M)</li> </ul> </li> </ul>	Yes	Troubleshooting completed.
		No	<ul style="list-style-type: none"> <li>• Inspect the wiring harness between the BCM and the door lock actuator for an open or short circuit.</li> <li>• Inspect the door lock actuator. (See 09-14-72 FRONT DOOR LOCK ACTUATOR INSPECTION.)</li> </ul>
9	Is the signal voltage transmitted to the BCM and each turn light normal? <ul style="list-style-type: none"> <li>• Does the signal voltage transmitted to each turn light change as follows when the malfunction diagnosis inspection procedure is performed.               <ul style="list-style-type: none"> <li>— <b>B+ ⇔ 1.0 V or less</b> (Terminals 1K, 1L, 3J, and 3L)</li> </ul> </li> </ul>	Yes	Troubleshooting completed.
		No	<ul style="list-style-type: none"> <li>• Inspect the wiring harnesses between the BCM and each turn light for an open or short circuit.</li> <li>• Inspect each turn light. (See 09-18-35 LIGHT SWITCH INSPECTION.)</li> </ul>

## SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

### NO.2 ALL ON-BOARD DIAGNOSTIC FUNCTIONS INOPERATIVE [KEYLESS ENTRY SYSTEM]

id0903d2800700

2	All on-board diagnostic functions inoperative
Possible Cause	<ul style="list-style-type: none"> <li>• Transmitter malfunction (battery or other parts)</li> <li>• Customer's mis-operation or misunderstanding</li> <li>• Effect of non-standard equipment (any control unit with built-in micro computer such as radio set, mobile telephone, and TV)</li> <li>• Mistakes in previous services</li> <li>• Keyless receiver malfunction</li> <li>• BCM malfunction</li> </ul>

#### Diagnostic Procedure

Step	Inspection	Action
1	Does the on-board diagnosis function operate?	Yes: Go to the next step. No: Perform symptom troubleshooting No.1 (See 09-03C-5 NO.1 ONE OR MORE ON-BOARD DIAGNOSTIC FUNCTIONS INOPERATIVE [KEYLESS ENTRY SYSTEM].)
2	Can any operation be performed using the transmitter?	Yes: Replace the transmitter, then go to Step 24. No: Go to the next step.
3	Did the customer operate the transmitter within the operation range (7.5 m {25 ft} from the vehicle)?	Yes: Go to the next step. No: System is normal. (Explain to the customer to operate the transmitter within the operation range.)
4	Did the customer operate at a place where extrinsic noise is received such as a TV tower, electric power station, or a broadcast station.	Yes: System is normal. (Explain to the customer to operate the transmitter away from extrinsic noise.) No: Go to the next step.
5	Did the customer operate the transmitter with the key inserted in the ignition key cylinder?	Yes: System is normal. (Explain to the customer that the system does not operate due to the cancel function with the key in the ignition key cylinder.) No: Go to the next step.
6	Has the customer ever updated the transmitter ID number before?	Yes: Go to the next step. No: Go to Step 9.
7	Did the malfunction occur after the ID number updating?	Yes: Go to the next step. No: Go to Step 9.
8	Does the malfunction occur only when the transmitter which had been used before the ID number updating is used?	Yes: Update the ID number of the transmitter which cause the malfunction, then go to Step 24. No: Go to the next step.
9	Did the malfunction occur after any non-standard equipment (any control unit with built-in micro computer such as radio set, mobile telephone, and TV) was installed?	Yes: Go to the next step. No: Go to Step 11.
10	Turn the ignition switch to the LOCK position. Disconnect the negative battery cable. Was the malfunction corrected when the connector of the equipment was disconnected?	Yes: System is normal. (Explain to the customer that noise from the equipment affected the operation.) No: Go to the next step.
11	Is there repair record of the customer's keyless entry system?	Yes: Go to the next step. No: Go to Step 14.
12	Does the malfunction occur after the repair?	Yes: Go to the next step. No: Go to Step 14.
13	Connect the negative battery cable. Is the malfunction corrected when the ID numbers for all the customer's transmitters are updated? (See 09-14-120 TRANSMITTER ID CODE REGISTRATION [KEYLESS ENTRY SYSTEM].)	Yes: System is normal. (Explain to the customer that the malfunction occurred because all the transmitter ID numbers were not updated even though the body control module or a transmitter was replaced in the previous servicing.) No: Go to the next step.
14	Is lock/unlock possible only near the keyless receivers when the transmitter is operated?	Yes: Go to the next step. No: Go to Step 16.
15	Verify the keyless and start system operation using another normal battery. Does the keyless system operate normally?	Yes: Replace the battery, then go to Step 26. (See 09-14-118 TRANSMITTER BATTERY REPLACEMENT [KEYLESS ENTRY SYSTEM].) No: Go to the next step.



## SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

Step	Inspection	Action
16	Visually inspect the transmitter battery. Are the following correct? <ul style="list-style-type: none"> <li>Battery direction (polarity)</li> <li>Battery type — CR1620</li> </ul>	Yes Go to the next step.
		No Properly install the battery or replace the battery with a specified one (CR1620), then go to Step 26
17	Visually inspect the transmitter. <ul style="list-style-type: none"> <li>Is there any rust on the battery terminals (+), (-)?</li> <li>Is there any poor contact between the battery terminals and the battery when the battery is inserted?</li> </ul>	Yes Replace the transmitter or repair the battery terminals, then go to Step 23.
		No Go to the next step.
18	Inspect the battery. Is it normal?	Yes Go to Step 20.
		No Go to the next step.
19	Verify the keyless and start system operation using another normal battery. Does the keyless system operate normally?	Yes Replace the battery, then go to Step 26. (See 09-14-118 TRANSMITTER BATTERY REPLACEMENT [KEYLESS ENTRY SYSTEM].)
		No Replace the transmitter, then go to Step 26.
20	Inspect the keyless receiver installation condition. Is the bracket installed securely?	Yes Go to the next step.
		No Install the bracket securely, then go to the next step.
21	Perform ID number updating using another normal transmitter. After the updating, does the keyless entry system operate normally?	Yes Replace the transmitter, then go to Step 26.
		No Go to the next step.
22	Inspect the keyless receiver. <ul style="list-style-type: none"> <li>Is the keyless receiver power supply voltage normal?</li> </ul> <b>4-pin connector type</b> — Power supply (+B) (terminal B) <b>6-pin connector type</b> — Power supply (+B) (terminal A)	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Inspect for a burnt fuse (ROOM 15 A).</li> <li>Inspect the power supply system wiring harness for an open or short circuit.</li> </ul>
23	Inspect the keyless receiver. <ul style="list-style-type: none"> <li>Is the keyless receiver ground normal?</li> </ul> <b>4-pin connector type</b> — 0 V (terminal D) <b>6-pin connector type</b> — 0 V (terminal E)	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Inspect the ground system wiring harness for an open circuit.</li> <li>Inspect the ground tightening screw and nut for looseness.</li> </ul>
24	Turn the ignition switch to the LOCK position. Disconnect the negative battery cable. Disconnect the keyless receiver connector and the BCM connector. <ul style="list-style-type: none"> <li>Inspect the wiring harness between the following terminals for an open or short circuit.</li> </ul> <b>4-pin connector type</b> — Terminal C to 6W <b>6-pin connector type</b> — Terminal D to 6W <ul style="list-style-type: none"> <li>Is it normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between the keyless receiver connector and the BCM.
25	Replace the keyless receiver. (See 09-14-109 KEYLESS RECEIVER REMOVAL/INSTALLATION [KEYLESS ENTRY SYSTEM].) <ul style="list-style-type: none"> <li>Does the keyless entry system operate normally?</li> </ul>	Yes Troubleshooting completed.
		No Replace the BCM, then go to the next step. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
26	Does the keyless entry system operate normal?	Yes Troubleshooting completed.
		No Verify the malfunction, then go to Step 1 if it recurs.

### NO.3 TRANSMITTER ID CODE CANNOT BE REPROGRAMMED [KEYLESS ENTRY SYSTEM]

id0903d2800800

<b>3</b>	<b>Transmitter ID code cannot be reprogrammed</b>
<b>Possible Cause</b>	<ul style="list-style-type: none"> <li>Mis-operation in ID number updating or BCM malfunction</li> </ul>

## SYMPTOM TROUBLESHOOTING [KEYLESS ENTRY SYSTEM]

### Diagnostic Procedure

Step	Inspection	Action
1	Is the customer's keyless entry system standard equipment?	Yes Go to the next step.
		No Perform troubleshooting following the separate service manual.
2	Does the on-board diagnosis function operate?	Yes Go to the next step.
		No Perform symptom troubleshooting No.1. (See 09-03C-5 NO.1 ONE OR MORE ON-BOARD DIAGNOSTIC FUNCTIONS INOPERATIVE [KEYLESS ENTRY SYSTEM].)
3	Do all doors lock/unlock using the transmitter?	Yes Go to the next step.
		No Perform symptom troubleshooting No.2. (See 09-03C-6 NO.2 ALL ON-BOARD DIAGNOSTIC FUNCTIONS INOPERATIVE [KEYLESS ENTRY SYSTEM].)
4	Perform ID number updating following the procedure. (See 09-14-120 TRANSMITTER ID CODE REGISTRATION [KEYLESS ENTRY SYSTEM].) Can the ID number be updated?	Yes System is normal.
		No Go to the next step.
5	Inspect the keyless receiver. <ul style="list-style-type: none"> <li>Is the keyless receiver power supply voltage normal?</li> </ul> <b>4-pin connector type</b> — Power supply (+B) (terminal B) <b>6-pin connector type</b> — Power supply (+B) (terminal A)	Yes Go to the next step.
		No <ul style="list-style-type: none"> <li>Inspect for a burnt fuse (ROOM 15 A)</li> <li>Inspect the power supply system wiring harness for an open or short circuit.</li> </ul>
6	Inspect the keyless receiver. <ul style="list-style-type: none"> <li>Is the keyless receiver grounded normally?</li> </ul> <b>4-pin connector type</b> — 0 V (terminal D) <b>6-pin connector type</b> — 0 V (terminal E)	Yes Go to the next step.
		No Inspect the ground system wiring harness for an open circuit.
7	Turn the ignition switch to the LOCK position. Disconnect the negative battery cable. Disconnect the keyless receiver connector (4-pin/6-pin) and the BSM connector (24-pin). <ul style="list-style-type: none"> <li>Inspect the wiring harness between the following terminals for an open or short circuit.</li> </ul> <b>4-pin connector type</b> — Terminal C to 6W <b>6-pin connector type</b> — Terminal D to 6W <ul style="list-style-type: none"> <li>Is it normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the wiring harness between the keyless receiver connector and the BCM connector, then go to the next step.
8	Connect the negative battery cable. Is the signal voltage transmitted from the keyless receiver to the BCM is normal when the transmitter is operated with the key not inserted into the ignition key cylinder. <ul style="list-style-type: none"> <li>B+→1.0V or less (Terminal 6W)</li> </ul>	Yes Replace the BCM, then go to the next step. (See 09-40-1 BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION.)
		No Replace the keyless receiver, then go to the next step. (See 09-14-109 KEYLESS RECEIVER REMOVAL/INSTALLATION [KEYLESS ENTRY SYSTEM].)
9	Can the ID number be updated? (See 09-14-120 TRANSMITTER ID CODE REGISTRATION [KEYLESS ENTRY SYSTEM].)	Yes Troubleshooting completed.
		No Verify the malfunction, then go to Step 1 if it recurs.

## SYMPTOM TROUBLESHOOTING [IMMOBILIZER SYSTEM]

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### 09-03D SYMPTOM TROUBLESHOOTING [IMMOBILIZER SYSTEM]

SYMPTOM TROUBLESHOOTING  
CHART [IMMOBILIZER SYSTEM] . . . . 09-03D-1

NO.1 THE SECURITY LIGHT DISPLAY  
IS NOT NORMAL  
[IMMOBILIZER SYSTEM] . . . . .09-03D-1

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## SYMPTOM TROUBLESHOOTING [IMMOBILIZER SYSTEM]

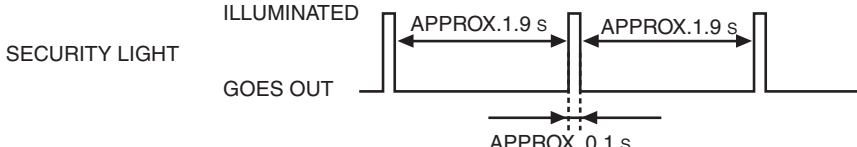
### SYMPTOM TROUBLESHOOTING CHART [IMMOBILIZER SYSTEM]

id0903f5814200

No.	TROUBLESHOOTING ITEM	PAGE
1	The security light display is not normal	09-03D-1 NO.1 THE SECURITY LIGHT DISPLAY IS NOT NORMAL [IMMOBILIZER SYSTEM]

### NO.1 THE SECURITY LIGHT DISPLAY IS NOT NORMAL [IMMOBILIZER SYSTEM]

id0903f5900400

1	The security light display is not normal
DESCRIPTION	<ul style="list-style-type: none"> <li>The security light remains illuminated 2 min or more after the ignition switch is turned to the ON position</li> <li>The security does not illuminate when the ignition switch is turned to the ON position</li> <li>The security light remains illuminated while the ignition switch is at the LOCK position</li> <li>The security light does not flash or the flashing interval is abnormal while the ignition switch is at the LOCK position</li> </ul>
POSSIBLE CAUSE	<ul style="list-style-type: none"> <li>Keyless control module malfunction (with advanced keyless and start system)</li> <li>Instrument cluster malfunction</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>If the security light continues to remain illuminated or flashing even after 1 min has elapsed since the ignition switch was turned to the ON position and a DTC is displayed, perform the immobilizer system malfunction diagnosis according to that DTC. (See 09-02B-3 DTC TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)].) (See 09-02C-3 DTC TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)].)</li> <li>While performing immobilizer system security access using the M-MDS, the security light does not illuminate even if the ignition switch is turned to the ON position. Verify the illumination condition of the security light by disconnecting the DLC-2 to release security access.</li> <li>The flashing security light conditions while the ignition switch is in the LOCK position are as follows:</li> </ul> 

#### Note

- Normal operation of the security light is as follows. The light starts flashing every 2 s when the ignition switch is turned from ON to ACC position and the immobilizer system is armed. The light stops flashing when the ignition switch is turned to the ON position with the correct ignition key. At this time, the immobilizer system is disarmed and the security light illuminates for about 3 s and then goes out.

## SYMPTOM TROUBLESHOOTING [IMMOBILIZER SYSTEM]

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<b>THE MALFUNCTION LOCATION IS SPLIT INTO EITHER INSTRUMENT CLUSTER WARNING LIGHT CONTROL CIRCUIT OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position.</li> <li>Verify that the other warning lights in the instrument cluster condition.</li> <li>Do the warning lights illumination normal?</li> </ul>	Yes Go to the next step.
		No Refer to the symptom troubleshooting and inspect the instrument cluster. (See 09-22-8 INSTRUMENT CLUSTER INSPECTION.)
2	<b>THE MALFUNCTION LOCATION IS SPLIT INTO EITHER SECURITY LIGHT CONTROL (MICRO-COMPUTER ALWAYS ON) OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>Verify that the security light illumination.</li> <li>Does the security light remains illuminate above 2 min?</li> </ul>	Yes Replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)
		No Go to the next step.
3	<b>THE MALFUNCTION LOCATION IS SPLIT INTO EITHER SECURITY LIGHT CONTROL CIRCUIT (SHORT CIRCUIT) OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Verify that the security light illumination.</li> <li>Does the security light remain illumination?</li> </ul>	Yes Replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)
		No Go to the next step.
4	<b>THE MALFUNCTION LOCATION IS SPLIT INTO EITHER IMMOBILIZER SYSTEM OR ELSEWHERE</b> <ul style="list-style-type: none"> <li>Verify that the security light is flashing.</li> <li>Does the security light flash normally?</li> </ul>	Yes Go to the next step.
		No If the security light flashes with DTC patterns, perform the applicable DTC troubleshooting procedure. (See 09-02B-3 DTC TABLE [IMMOBILIZER SYSTEM (ADVANCED KEYLESS AND START SYSTEM)]). (See 09-02C-3 DTC TABLE [IMMOBILIZER SYSTEM (KEYLESS ENTRY SYSTEM)]). If the security light does not flash, replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)
5	<b>VEHICLE SPECIFICATION VERIFICATION</b> <ul style="list-style-type: none"> <li>Is the advanced keyless and start system equipped?</li> </ul>	Yes Go to the next step.
		No Replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)
6	<b>THE MALFUNCTION LOCATION IS SPLIT INTO EITHER THE KEYLESS CONTROL MODULE OR THE INSTRUMENT CLUSTER.</b> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>DTCs could be stored in the keyless control module by performing the following procedure.</li> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the negative battery cable.</li> <li>Disconnect the keyless control module connectors.</li> <li>Connect the negative battery cable.</li> <li>Turn the ignition switch to the ON position.</li> <li>Does the security light illuminate normally?</li> </ul>	Yes Replace the instrument cluster. (See 09-22-5 INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)
		No Replace the keyless control module. (See 09-14-98 KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS AND START SYSTEM].)

## SYMPTOM TROUBLESHOOTING [AUDIO]

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### 09-03E SYMPTOM TROUBLESHOOTING [AUDIO]

<b>FOREWORD [AUDIO]</b> .....	09-03E-1	<b>NO.3 NO SOUND FROM</b>	
Troubleshooting Index .....	09-03E-1	<b>ALL SPEAKERS [AUDIO]</b> .....	09-03E-6
Quick Diagnostic Chart		<b>NO.4 NO SOUND FROM</b>	
(Entire Audio System) .....	09-03E-2	<b>SOME SPEAKERS [AUDIO]</b> .....	09-03E-7
<b>CONFIRMATION STEP 1: AUDIO</b>		<b>NO.5 SOUND BREAK-UP OR</b>	
<b>SWITCH CONFIRMATION [AUDIO]</b> ...	09-03E-2	<b>POOR SOUND QUALITY [AUDIO]</b> ....	09-03E-9
Diagnostic procedure.....	09-03E-3	<b>NO.6 SOUND BECOMES LOUD OR</b>	
<b>CONFIRMATION STEP 2: AUDIO</b>		<b>WEAK WHILE DRIVING</b>	
<b>CONTROL SWITCH CONFIRMATION</b>		<b>THE VEHICLE [AUDIO]</b> .....	09-03E-9
<b>[AUDIO]</b> .....	09-03E-3	<b>NO.7 ALC FUNCTION IS</b>	
Diagnostic procedure.....	09-03E-3	<b>INOPERATIVE [AUDIO]</b> .....	09-03E-10
<b>NO.1 AF NOISE OR POP NOISE AT ALL</b>		<b>NO.8 NO AUDIO SYSTEM</b>	
<b>SOURCES (RADIO, CD) [AUDIO]</b> ....	09-03E-4	<b>ILLUMINATION [AUDIO]</b> .....	09-03E-10
<b>NO.2 NO POWER TO THE ENTIRE</b>		<b>NO.9 LCD DOES NOT DISPLAY</b>	
<b>AUDIO SYSTEM [AUDIO]</b> .....	09-03E-6	<b>AT ALL [AUDIO]</b> .....	09-03E-11

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## SYMPTOM TROUBLESHOOTING [AUDIO]

### FOREWORD [AUDIO]

id0903e1802700

#### Note

- Note down all radio programs set by the customer prior to the repairs. Reset all radio programs and adjust the time after the repairs.

### Troubleshooting Index

No.	Symptom	Possible DTC
1	AF noise or POP noise at all sources (Radio, CD)	09:Er20, 09:Er21
2	No power to the entire audio system	09:Er20
3	No sound from all speakers	09:Er20, 09:Er21, 10:Er07, 22:Er07
4	No sound from some speakers	—
5	Sound break-up or poor sound quality	09:Er21
6	Sound becomes loud or weak while driving the vehicle	—
7	ALC function is inoperative	—
8	No audio system illumination	09:Er20, 21:Er19
9	LCD does not display at all	09:Er20, 21:Er19

## SYMPTOM TROUBLESHOOTING [AUDIO]

### Quick Diagnostic Chart (Entire Audio System)

		X: Applicable								
Possible factor	Troubleshooting item	1	2	3	4	5	6	7	8	9
		AF noise or POP noise on all sources (Radio, CD)	No power on the entire audio system	No sound from all speakers	No sound from some speakers	Sound break-up or poor sound quality	Sound becomes loud or weak while driving the vehicle	ALC function is inoperative	No audio system illumination	LCD does not display at all
Low vehicle battery voltage		X								
Jammed radio signals from after market equipment		X								
Speaker malfunction (e. g., any foreign material, broken)		X		X	X	X				
Improper speaker installation		X				X				
Poor connection of audio unit connector, terminal damage		X	X		X				X	
Antenna malfunction (e.g., poor ground)		X								
Audio unit malfunction			X	X	X	X	X	X	X	X
Burnt fuse (B+)			X							
Burnt fuse (ACC)			X							
Open or short circuit in power supply (B+) wiring harness			X							
Open or short circuit in power supply (ACC) wiring harness			X							
Short circuit in wiring harness between audio unit and speaker				X	X					
Open circuit in wiring harness between audio unit and speaker					X					
Short circuit inside speaker				X	X					
Vibration of door trim and/or package trim						X				
Open or short circuit in vehicle speed signal wiring harness								X		
Burnt fuse (TNS signal)									X	
Open or short circuit in TNS signal wiring harness									X	
Center panel malfunction									X	

am2zzw0000378

### CONFIRMATION STEP 1: AUDIO SWITCH CONFIRMATION [AUDIO]

id0903e1828800

- Verify the customer complaint and identify the malfunction as occurring from either the center panel or the audio unit.



## SYMPTOM TROUBLESHOOTING [AUDIO]

### Diagnostic procedure

STEP	INSPECTION		ACTION
1	<ul style="list-style-type: none"> <li>Activate the audio switch inspection mode. (See 09-02E-4 DIAGNOSTIC ASSIST FUNCTION [AUDIO].)</li> <li>Does the buzzer sound when a switch is pressed?</li> </ul>	Yes	Verify the customer complaint and then go to the appropriate symptom troubleshooting procedure.
		No	Go to the next step.
2	<ul style="list-style-type: none"> <li>Disassemble and reassemble the center panel and audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ASSEMBLY.)</li> <li>Activate the audio switch inspection mode. (See 09-02E-4 DIAGNOSTIC ASSIST FUNCTION [AUDIO].)</li> <li>Does the buzzer sound when a switch is pressed?</li> </ul>	Yes	Go to the next step.
		No	Replace the center panel. (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ASSEMBLY.)
3	<ul style="list-style-type: none"> <li>Does the audio system operate properly?</li> </ul>	Yes	The system is normal.
		No	Verify the customer complaint and then go to the appropriate symptom troubleshooting procedure.

### CONFIRMATION STEP 2: AUDIO CONTROL SWITCH CONFIRMATION [AUDIO]

id0903e1802900

- Verify the customer complaint and identify the malfunction as occurring from either the audio control switch or the audio unit.

### Diagnostic procedure

STEP	INSPECTION		ACTION
1	<ul style="list-style-type: none"> <li>Is the symptom related to either the audio control switch or the audio panel operation?</li> </ul>	Yes	Verify the customer complaint and then go to the appropriate symptom troubleshooting procedure.
		No	<b>The symptom is related to the audio panel operation:</b> <ul style="list-style-type: none"> <li>Follow "Confirmation Step 1". (See 09-03E-2 CONFIRMATION STEP 1: AUDIO SWITCH CONFIRMATION [AUDIO].)</li> </ul> <b>The symptom is related to the audio control switch operation:</b> <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul>
2	<ul style="list-style-type: none"> <li>Disconnect the audio unit connector (24-pin).</li> <li>Inspect both the audio unit and the wiring harness-side connectors for a poor connection. (such as damaged/pulled-out pins, corrosion).                             <ul style="list-style-type: none"> <li>Terminal 1N (ST SW1)</li> <li>Terminal 1P (ST SW2)</li> </ul> </li> <li>Are all the pins normal?</li> </ul>	Yes	Go to the next step.
		No	<b>If the audio unit side connector is malfunctioning:</b> <ul style="list-style-type: none"> <li>Replace the audio unit. (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ASSEMBLY.)</li> </ul> <b>If the wiring harness-side connector is malfunctioning:</b> <ul style="list-style-type: none"> <li>Repair or replace the pins and/or the connector.</li> </ul>
3	<ul style="list-style-type: none"> <li>Inspect the continuity between audio unit wiring harness-side connector terminals 1N and 1P while operating the audio control switch.</li> <li>Does the resistance change?</li> </ul>	Yes	Verify the customer complaint and then go to the appropriate symptom troubleshooting procedure.
		No	Go to the next step.
4	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Remove the audio control switch. (See 09-20-23 AUDIO CONTROL SWITCH REMOVAL/INSTALLATION.)</li> <li>Inspect the continuity between the audio unit wiring harness-side connector (24-pin) terminal and the audio control switch wiring harness-side connector (16-pin) terminal.                             <ul style="list-style-type: none"> <li>Terminal 1N (24-pin) — Terminal K (16-pin)</li> <li>Terminal 1P (24-pin) — Terminal M (16-pin)</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Replace the audio control switch. (See 09-20-23 AUDIO CONTROL SWITCH REMOVAL/INSTALLATION.)
		No	Repair or replace the related wiring harnesses.

## SYMPTOM TROUBLESHOOTING [AUDIO]

### NO.1 AF NOISE OR POP NOISE AT ALL SOURCES (RADIO, CD) [AUDIO]

id0903e1817600

1	AF noise or POP noise at all sources (Radio, CD)
Possible DTC	09:Er20, 09:Er21
Possible cause	<ul style="list-style-type: none"><li>• Low vehicle battery voltage.</li><li>• Jammed radio signals from after market equipment.</li><li>• Speaker malfunction (e.g., foreign material penetration, damage)</li><li>• Improper speaker installation</li><li>• Audio unit malfunction</li><li>• Poor connection of audio unit connector, terminal damage</li><li>• Antenna malfunction (e.g., poor ground)</li></ul> <p><b>Note</b></p> <ul style="list-style-type: none"><li>• AF noise is a snapping noise that generally occurs during ON/OFF switching operations of electrical equipment other than the audio unit, or a continual rasping noise that occurs when electrical equipment is operated. This is caused by noise interference in the power supply wiring, signal wiring, speaker cable or head of cassette deck. Therefore noise can be heard regardless of radio wave conditions or the audio volume position. The noise will start after one click from the minimum position of the POWER/VOLUME switch but normally does not change even when volume is turned to a higher position.</li><li>• POP noise is snapping or popping noise that occurs during ON/OFF switching operation of the audio unit, or when switching from radio to CD. Even a normal audio unit sometimes emits a little noise depending on the conditions.</li></ul>

## SYMPTOM TROUBLESHOOTING [AUDIO]

### Diagnostic procedure

STEP	INSPECTION		ACTION
1	<ul style="list-style-type: none"> <li>Inspect the vehicle battery voltage.</li> <li>Is the vehicle battery voltage normal?</li> </ul> <b>Specification:</b> <b>Ignition switch ON: 11.5 V or more</b> <b>Idle: 12.5 V or more</b>	Yes	Go to the next step.
		No	Charge the battery, then go to the next step.
2	<ul style="list-style-type: none"> <li>Turn the audio system on.</li> <li>Is there any noise?</li> </ul>	Yes	Go to the next step.
		No	The system is normal. Explain to the customer that the vehicle battery voltage was low.
3	<ul style="list-style-type: none"> <li>Are any of the following after-market equipment installed? (Inspect especially near the antenna.) <ul style="list-style-type: none"> <li>— Radar detector</li> <li>— Remote engine starter</li> <li>— Anti-theft device</li> <li>— Other</li> </ul> </li> </ul>	Yes	Go to the next step.
		No	Go to Step 5.
4	<ul style="list-style-type: none"> <li>Remove the after-market equipment.</li> <li>Turn the audio system on.</li> <li>Is there any noise?</li> </ul>	Yes	Go to the next step.
		No	The system is normal. The after-market electrical devices might be the cause of the noise.
5	<ul style="list-style-type: none"> <li>Is there noise coming from all the speakers?</li> </ul>	Yes	Go to Step 7.
		No	Go to the next step.
6	<ul style="list-style-type: none"> <li>Inspect the suspect speaker.  (See 09-20-7 FRONT DOOR SPEAKER INSPECTION.)  (See 09-20-8 REAR DOOR SPEAKER REMOVAL/INSTALLATION.)  (See 09-20-11 REAR SPEAKER INSPECTION [3HB].)  (See 09-20-12 TWEETER INSPECTION.)</li> <li>Is the speaker normal?</li> </ul>	Yes	Go to the next step.
		No	<b>If there is any foreign material adhering to the speaker:</b> <ul style="list-style-type: none"> <li>Remove the foreign material from the speaker.</li> </ul> <b>If the speaker is malfunctioning:</b> <ul style="list-style-type: none"> <li>Replace the speaker.  (See 09-20-6 FRONT DOOR SPEAKER REMOVAL/INSTALLATION.)  (See 09-20-8 REAR DOOR SPEAKER REMOVAL/INSTALLATION.)  (See 09-20-10 REAR SPEAKER REMOVAL/INSTALLATION [3HB].)  (See 09-20-12 TWEETER REMOVAL/INSTALLATION.)</li> </ul> <b>If the speaker is not installed properly:</b> <ul style="list-style-type: none"> <li>Install the speaker properly.</li> </ul>
7	<ul style="list-style-type: none"> <li>Attempt to duplicate the symptom on another vehicle.</li> <li>Does the noise level improve compared to the customer's vehicle?</li> </ul>	Yes	Go to the next step.
		No	The system is normal. Explain the noise generation mechanism to the customer.  <b>Note</b> <ul style="list-style-type: none"> <li>The noise level that may be heard varies depending on the operating speed of the audio power and/or mode switches.</li> </ul>
8	<ul style="list-style-type: none"> <li>Remove the center panel unit.  (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.)</li> <li>Inspect the connection of the audio unit connector (24-pin).</li> <li>Disconnect the audio unit connector and inspect both the audio unit and the wiring harness-side connectors for a poor connection. (such as damaged/pulled-out pins, corrosion).</li> <li>Are all the pins normal?</li> </ul>	Yes	Go to the next step.
		No	<b>If poor connection of audio unit connector:</b> <ul style="list-style-type: none"> <li>Securely connect the audio unit connector.</li> </ul> <b>If the audio unit side connector is malfunctioning:</b> <ul style="list-style-type: none"> <li>Replace the audio unit.  (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.)  (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ASSEMBLY.)</li> </ul> <b>If the wiring harness-side connector is malfunctioning:</b> <ul style="list-style-type: none"> <li>Repair or replace the pins and/or the connector. After treating either the above-mentioned, then go to the next step.</li> </ul>
9	<ul style="list-style-type: none"> <li>Is there any noise?</li> </ul>	Yes	Go to the next step.
		No	The system is normal.
10	<ul style="list-style-type: none"> <li>Inspect the ground condition of manual antenna.</li> <li>Is the ground condition normal?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the ground. Go to the next step.

## SYMPTOM TROUBLESHOOTING [AUDIO]

STEP	INSPECTION	ACTION
11	<ul style="list-style-type: none"> <li>Is there any noise?</li> </ul>	Yes <ul style="list-style-type: none"> <li>Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)</li> </ul>
		No The system is normal.

### NO.2 NO POWER TO THE ENTIRE AUDIO SYSTEM [AUDIO]

id0903e1817800

2	No power to the entire audio system
Possible DTC	09:Er20
Possible cause	<ul style="list-style-type: none"> <li>Poor connection of audio unit connector, terminal damage</li> <li>Audio unit malfunction</li> <li>Burnt fuse (B+)</li> <li>Burnt fuse (ACC)</li> <li>Open or short circuit in power supply (B+) wiring harness</li> <li>Open or short circuit in power supply (ACC) wiring harness</li> </ul>

#### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Inspect the following fuses:               <ul style="list-style-type: none"> <li>MIRROR 7.5 A</li> <li>ROOM 15 A</li> </ul> </li> <li>Are the fuses normal?</li> </ul>	Yes Go to the next step.
		No Replace with the appropriate standard fuse. <ul style="list-style-type: none"> <li>If the fuse is melted, inspect the wiring harness for a short to ground. Repair or replace the wiring harness, then replace the fuse.</li> </ul>
2	<ul style="list-style-type: none"> <li>Remove the center panel unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.)</li> <li>Inspect the connection of the audio unit connector (24-pin).</li> <li>Disconnect the audio unit connector and inspect both the audio unit and the wiring harness-side connectors for a poor connection. (such as damaged/pulled-out pins, corrosion).</li> <li>Are all the pins normal?</li> </ul>	Yes Go to the next step.
		No <b>If audio unit connector has a poor connection:</b> <ul style="list-style-type: none"> <li>Securely connect the audio unit connector.</li> </ul> <b>If the audio unit side connector is malfunctioning:</b> <ul style="list-style-type: none"> <li>Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)</li> </ul> <b>If the wiring harness-side connector is malfunctioning:</b> <ul style="list-style-type: none"> <li>Repair or replace the pins and/or the connector.</li> </ul>
3	<ul style="list-style-type: none"> <li>Connect the audio unit connector.</li> <li>Inspect the voltage for the power supply line (B+, ACC).</li> </ul> <b>Specification:</b> <b>Ignition switch ON: 11.5 V or more</b> <b>Idle: 12.5 V or more</b> <ul style="list-style-type: none"> <li>Is the voltage normal?</li> </ul>	Yes Go to the next step.
		No Repair or replace the related wiring harnesses. Charge the battery, if necessary.
4	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Remove the audio unit connector (24-pin).</li> <li>Inspect the continuity between audio unit wiring harness-side connector terminal 1W and the ground.</li> <li>Is there continuity?</li> </ul>	Yes Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
		No Repair or replace the wiring harness.

### NO.3 NO SOUND FROM ALL SPEAKERS [AUDIO]

id0903e1803200

3	No sound from all speakers
Possible DTC	09:Er20, 09:Er21, 10:Er07, 22:Er07
Possible cause	<ul style="list-style-type: none"> <li>Speaker malfunction (e.g., foreign material penetration, damage)</li> <li>Audio unit malfunction</li> <li>Short circuit in wiring harness between audio unit and speaker</li> <li>Short circuit inside speaker</li> </ul>

## SYMPTOM TROUBLESHOOTING [AUDIO]

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Press AUDIO CONT switch for <b>1 s or more</b>.</li> <li>Play the CD or Radio.</li> <li>Adjust the volume between "10" and "15".</li> <li>Is there sound?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Press the MENU switch for approx. 1 s or more to initialize the sound adjustment value, then start the inspection.</li> </ul>	Yes The system is normal.
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Remove the center panel unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.)</li> <li>Disconnect the audio connector (24-pin).</li> <li>Inspect the continuity between the audio unit wiring harness-side connector terminal and ground:</li> </ul> <p><b>For front door speakers</b></p> <ul style="list-style-type: none"> <li>Terminal 1A (LH+)—ground</li> <li>Terminal 1C (LH-)—ground</li> <li>Terminal 1D (RH+)—ground</li> <li>Terminal 1F (RH-)—ground</li> </ul> <p><b>For rear door speakers/rear speakers (3HB)</b></p> <ul style="list-style-type: none"> <li>Terminal 1S (LH+)—ground</li> <li>Terminal 1U (LH-)—ground</li> <li>Terminal 1V (RH+)—ground</li> <li>Terminal 1X (RH-)—ground</li> </ul> <ul style="list-style-type: none"> <li>Is there continuity?</li> </ul>	Yes Repair or replace the suspect wiring harness or speaker unit.
		No Go to the next step.
3	<ul style="list-style-type: none"> <li>Remove the speaker. (See 09-20-6 FRONT DOOR SPEAKER REMOVAL/INSTALLATION.) (See 09-20-8 REAR DOOR SPEAKER REMOVAL/INSTALLATION.) (See 09-20-10 REAR SPEAKER REMOVAL/INSTALLATION [3HB].)</li> <li>Disconnect the speaker connector (4-pin).</li> <li>Inspect the continuity between the speaker wiring harness-side connector (4-pin) terminal and ground:</li> </ul> <p><b>For each speaker</b></p> <ul style="list-style-type: none"> <li>Terminal B—ground</li> <li>Terminal C—ground</li> </ul> <ul style="list-style-type: none"> <li>Is there continuity?</li> </ul>	Yes Replace the speaker.
		No Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ASSEMBLY.)

### NO.4 NO SOUND FROM SOME SPEAKERS [AUDIO]

id0903e1818100

<b>4</b>	<b>No sound from some speakers</b>
<b>Possible DTC</b>	—
<b>Possible cause</b>	<ul style="list-style-type: none"> <li>Speaker malfunction (e.g., foreign material penetration, damage)</li> <li>Audio unit malfunction</li> <li>Short circuit inside speaker</li> <li>Open or short circuit in wiring harness between audio unit and speaker</li> </ul>

## SYMPTOM TROUBLESHOOTING [AUDIO]

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Activate the speaker Inspection mode. (See 09-02E-4 DIAGNOSTIC ASSIST FUNCTION [AUDIO].)</li> <li>Is there any speaker that does not output sound?</li> </ul>	Yes <b>If there is no sound from some speakers:</b> <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul> <b>If there is no sound at all:</b> <ul style="list-style-type: none"> <li>Go to the troubleshooting of “No.3 No sound from all speakers”. (See 09-03E-6 NO.3 NO SOUND FROM ALL SPEAKERS [AUDIO].)</li> </ul>
		No The troubleshooting is completed.
2	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Remove the center panel unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.)</li> <li>Inspect the continuity between the audio unit wiring harness-side connector (24-pin) terminal and ground.</li> <li>Is there continuity?</li> </ul>	Yes Repair or replace the suspect wiring harness or speaker unit.  <b>Note</b> <ul style="list-style-type: none"> <li>If there is a short circuit between the speaker harness or the speaker lead wire and ground, the protector circuit inside the audio unit operates to cut the sound.</li> </ul>
		No Go to the next step.
3	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Remove the audio unit.</li> <li>Disconnect the audio unit connector (24-pin).</li> <li>Inspect the continuity between the audio unit wiring harness-side connector terminal and ground:</li> </ul> <b>For front door speaker</b> <ul style="list-style-type: none"> <li>Terminal 1A (LH+) – GND</li> <li>Terminal 1C (LH-) – GND</li> <li>Terminal 1D (RH+) – GND</li> <li>Terminal 1F (RH-) – GND</li> </ul> <b>For rear speaker/rear door speaker</b> <ul style="list-style-type: none"> <li>Terminal 1S (LH+) – GND</li> <li>Terminal 1U (LH-) – GND</li> <li>Terminal 1V (RH+) – GND</li> <li>Terminal 1X (RH-) – GND</li> </ul> <li>Is there continuity?</li>	Yes Repair or replace the suspect wiring harness or speaker unit.
		No Go to the next Step.  <b>Note</b> <ul style="list-style-type: none"> <li>If there is a short circuit between the speaker harness or speaker lead wire and ground, the protector circuit inside the audio unit operates to cut the sound.</li> </ul>
4	<ul style="list-style-type: none"> <li>Disconnect the speaker connector (2-pin) and inspect the resistance of speaker.</li> <li>Inspect the continuity between the audio unit wiring harness-side connector terminal and speaker wiring harness-side connector:</li> </ul> <b>Audio unit-front door speaker</b> <ul style="list-style-type: none"> <li>Terminal 1A (LH+) – terminal C</li> <li>Terminal 1C (LH-) – terminal B</li> <li>Terminal 1D (RH+) – terminal C</li> <li>Terminal 1F (RH-) – terminal B</li> </ul> <b>Audio unit-rear speaker/rear door speaker</b> <ul style="list-style-type: none"> <li>Terminal 1S (LH+) – terminal C</li> <li>Terminal 1U (LH-) – terminal B</li> <li>Terminal 1V (RH+) – terminal C</li> <li>Terminal 1X (RH-) – terminal B</li> </ul> <li>Is there continuity?</li>	Yes Go to the next step.
		No Repair or replace the suspect wiring harness or speaker unit.
5	<ul style="list-style-type: none"> <li>Inspect the suspect speaker. (See 09-20-7 FRONT DOOR SPEAKER INSPECTION.) (See 09-20-9 REAR DOOR SPEAKER INSPECTION.) (See 09-20-11 REAR SPEAKER INSPECTION [3HB].) (See 09-20-12 TWEETER INSPECTION.)</li> <li>Is the speaker normal?</li> </ul> <b>Note</b> <ul style="list-style-type: none"> <li>If the speaker lead wire contacts to either ground or vehicle frame, replace the speaker.</li> </ul>	Yes Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ASSEMBLY.)
		No Replace the speaker. (See 09-20-6 FRONT DOOR SPEAKER REMOVAL/INSTALLATION.) (See 09-20-8 REAR DOOR SPEAKER REMOVAL/INSTALLATION.) (See 09-20-10 REAR SPEAKER REMOVAL/INSTALLATION [3HB].) (See 09-20-12 TWEETER REMOVAL/INSTALLATION.)

## SYMPTOM TROUBLESHOOTING [AUDIO]

### NO.5 SOUND BREAK-UP OR POOR SOUND QUALITY [AUDIO]

id0903e1818300

<b>5</b>	<b>Sound break-up or poor sound quality</b>
<b>Possible DTC</b>	<b>09:Er21</b>
Possible cause	<ul style="list-style-type: none"> <li>• Speaker malfunction (e.g., foreign material penetration, damage)</li> <li>• Improper speaker installation</li> <li>• Audio unit malfunction</li> <li>• Vibration of door trim and/or package trim</li> </ul>

#### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>• Is there sound break-up or poor sound quality from all speakers?</li> </ul>	Yes
		No
2	<ul style="list-style-type: none"> <li>• Inspect the sound while adjusting the sound volume.</li> <li>• Is there sound break-up or poor sound quality between “15” and “20”?</li> </ul>	Yes
		No
3	<ul style="list-style-type: none"> <li>• Inspect the BASS/TREB.</li> <li>• Is there poor sound quality between “-3 — +3” of “BASS/TREB”?</li> </ul>	Yes
		No
4	<ul style="list-style-type: none"> <li>• Attempt to duplicate the symptom on another vehicle.</li> <li>• Is the sound quality better than the customer’s vehicle?</li> </ul>	Yes
		No
5	<ul style="list-style-type: none"> <li>• Identify the speaker with sound break-up by adjusting BAL/FADE.</li> <li>• Is the suspect speaker pointed upward?</li> </ul>	Yes
		No
6	<ul style="list-style-type: none"> <li>• Remove the speaker. (See 09-20-6 FRONT DOOR SPEAKER REMOVAL/INSTALLATION.) (See 09-20-8 REAR DOOR SPEAKER REMOVAL/INSTALLATION.) (See 09-20-10 REAR SPEAKER REMOVAL/INSTALLATION [3HB].)</li> <li>• Is there any foreign material penetration or damage to the speaker?</li> </ul>	Yes
		No
7	<ul style="list-style-type: none"> <li>• Inspect the sound again.</li> <li>• Is there sound break-up?</li> </ul>	Yes
		No
8	<ul style="list-style-type: none"> <li>• Replace with a speaker known to be operational. (e.g., swap right and left speakers)</li> <li>• Does the sound break-up heard at the same location?</li> </ul>	Yes
		No

### NO.6 SOUND BECOMES LOUD OR WEAK WHILE DRIVING THE VEHICLE [AUDIO]

id0903e1803500

<b>6</b>	<b>Sounds becomes loud or weak while driving the vehicle</b>
<b>Possible DTC</b>	—
Possible cause	<ul style="list-style-type: none"> <li>• Audio unit malfunction</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• Inspect the ALC function while driving the vehicle and playing a CD.</li> </ul>



## SYMPTOM TROUBLESHOOTING [AUDIO]

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Does the ALC function turn on?</li> </ul>	Yes Go to the next step.
		No Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
2	<ul style="list-style-type: none"> <li>Turn the ALC function off.</li> <li>Does the sound change while driving the vehicle?</li> </ul>	Yes Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
		No The system is normal. Explain the ALC function to the customer.

### NO.7 ALC FUNCTION IS INOPERATIVE [AUDIO]

id0903e1803600

<b>7</b>	<b>ALC function is inoperative</b>
<b>Possible DTC</b>	—
<b>Possible cause</b>	<ul style="list-style-type: none"> <li>Audio unit malfunction</li> <li>Instrument cluster malfunction</li> <li>Open or short circuit in vehicle speed signal wiring harness (e. g., instrument cluster)</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Inspect the ALC function while driving the vehicle and playing a CD.</li> </ul>

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Turn the ALC function on.</li> <li>Inspect the ALC function operation while driving the vehicle.</li> <li>Does the ALC system operate properly?</li> </ul>	Yes The system is normal.Explain the ALC function to the customer.
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Verify that the speedometer operation.</li> <li>Does the speedometer indicate vehicle speed correctly?</li> </ul>	Yes Go to the next step.
		No Go to the instrument cluster symptom troubleshooting "No.7 Speedometer indication is defective." procedure.
3	<ul style="list-style-type: none"> <li>Inspect for open or short circuit in wiring between the audio unit (24-pin) terminal 11 and instrument cluster terminal 2O.</li> <li>Is the open or short circuit detected?</li> </ul>	Yes Repair or replace for open or short circuit.
		No Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)

### NO.8 NO AUDIO SYSTEM ILLUMINATION [AUDIO]

id0903e1818700

<b>8</b>	<b>No audio system illumination</b>
<b>Possible DTC</b>	<b>09:Er20, 21:Er19</b>
<b>Possible cause</b>	<ul style="list-style-type: none"> <li>Poor connection of audio unit connector, terminal damage</li> <li>Audio unit malfunction</li> <li>Burnt fuse (TNS signal)</li> <li>Open or short circuit in TNS signal wiring harness</li> <li>Center panel malfunction</li> </ul>



## SYMPTOM TROUBLESHOOTING [AUDIO]

### Diagnostic procedure

STEP	INSPECTION		ACTION
1	<ul style="list-style-type: none"> <li>Is all the illumination on the audio unit turned off?</li> </ul>	Yes	Go to the next step.
		No	Replace the center panel. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
2	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Inspect the fuse (ILLUMI 7.5 A).</li> <li>Is the fuse normal?</li> </ul>	Yes	Go to the Step 4.
		No	Go to the next step.
3	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Disconnect the audio unit connector (24-pin) and inspect the continuity between the audio unit wiring harness-side connector terminal 1E (TNS) and the ground.</li> <li>Is there continuity?</li> </ul>	Yes	Repair or replace the short circuit in the suspect wiring harness. After repairing the wiring harness, replace with the appropriate standard fuse.
		No	Go to the next step.
4	<ul style="list-style-type: none"> <li>Inspect the connection of the audio unit connector (24-pin).</li> <li>Inspect both the audio unit and wiring harness-side connector terminal 1E for a poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>Are all the pins normal?</li> </ul>	Yes	Go to the next step.
		No	<b>If audio unit connector has a poor connection:</b> <ul style="list-style-type: none"> <li>Securely connect the audio unit connector.</li> </ul> <b>If the audio unit side connector is malfunctioning:</b> <ul style="list-style-type: none"> <li>Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)</li> </ul> <b>If the wiring harness-side connector is malfunctioning:</b> <ul style="list-style-type: none"> <li>Repair or replace the pins and/or the connector.</li> </ul>
5	<ul style="list-style-type: none"> <li>Connect the audio unit connector (24-pin).</li> <li>Turn the ignition switch to the ACC position.</li> <li>Inspect the voltage at the audio unit connector terminal 1E (TNS).</li> <li>Is the voltage <b>B+</b> when the light switch is turned to the TNS position?</li> </ul>	Yes	Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
		No	Repair or replace the related wiring harness (TNS signal).

### NO.9 LCD DOES NOT DISPLAY AT ALL [AUDIO]

id0903e1803800

<b>9</b>	<b>LCD does not display at all</b>
<b>Possible DTC</b>	<b>09:Er20, 21:Er19</b>
<b>Possible cause</b>	<ul style="list-style-type: none"> <li>Audio unit malfunction</li> <li>Center panel malfunction.</li> </ul>

### Diagnostic procedure

STEP	INSPECTION		ACTION
1	<ul style="list-style-type: none"> <li>Activate the LCD inspection mode. (See 09-02E-4 DIAGNOSTIC ASSIST FUNCTION [AUDIO].)</li> <li>Does the LCD display properly?</li> </ul>	Yes	Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
		No	Replace the center panel. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)

## SYMPTOM TROUBLESHOOTING [RADIO]

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### 09-03F SYMPTOM TROUBLESHOOTING [RADIO]

<b>FOREWORD [RADIO]. . . . .</b>	<b>09-03F-1</b>	<b>NO.3 NOISE FROM RADIO (FM ONLY)</b>	
Troubleshooting Index . . . . .	09-03F-1	[RADIO] . . . . .	09-03F-7
Quick Diagnostic Chart (Radio) . . . . .	09-03F-2	<b>NO.4 CANNOT TUNE</b>	
<b>CONFIRMATION STEP 1:</b>		(SEEK DOES NOT STOP) [RADIO]. . . .	09-03F-9
<b>RECEPTION CONDITION SYMPTOM</b>		<b>NO.5 CANNOT PRESET (PRESET</b>	
(EXAMPLE) [RADIO] . . . . .	09-03F-2	<b>FUNCTION DOES NOT OPERATE)</b>	
<b>CONFIRMATION STEP 2:</b>		[RADIO] . . . . .	09-03F-10
<b>ANTENNA SYSTEM SYMPTOM</b>		<b>NO.6 RECEPTION FREQUENCY OF</b>	
(EXAMPLE) [RADIO] . . . . .	09-03F-2	<b>RADIO SLIPS [RADIO] . . . . .</b>	09-03F-11
<b>CONFIRMATION STEP 3:</b>		<b>REFERENCE [RADIO]. . . . .</b>	09-03F-12
<b>ANTENNA SYSTEM SIMPLE</b>		1. Multipath Noise . . . . .	09-03F-12
INSPECTION [RADIO] . . . . .	09-03F-3	2. Flutter/Skip Noise . . . . .	09-03F-12
<b>NO.1 NO RADIO RECEPTION (AM/FM)/</b>		3. Stereo and Monaural	
<b>NO OR LOW VOLUME [RADIO]. . . . .</b>	09-03F-3	Receptions . . . . .	09-03F-12
<b>NO.2 NOISE FROM RADIO (AM ONLY)</b>		Measures in Audio System . . . . .	09-03F-12
[RADIO]. . . . .	09-03F-5	Effect Setting of Separation Control	
		and High Tone Control . . . . .	09-03F-12

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## SYMPTOM TROUBLESHOOTING [RADIO]

### FOREWORD [RADIO]

id0903e3802700

#### Note

- If the case location, time, and broadcasting station etc. can be specified through interview with the customer, there is the possibility that the signal reception environment is the cause of the problem.
- Perform confirmation of symptom and evaluate under the conditions that customer reported (location, time, broadcasting station etc.). If this is not possible, perform it under equivalent conditions.
- Before inspection or repair, record the broadcasting stations that customer has preset and reset them accordingly after the inspection or repair. Adjust the clock too.

### Troubleshooting Index

No.	Symptom	Possible DTC
1	No radio reception (AM/FM)/No or low volume	09:Er20, 09:Er22
2	Noise from radio (AM only)	09:Er22
3	Noise from radio (FM only)	09:Er22
4	Cannot tune (SEEK does not stop)	09:Er20, 09:Er22
5	Cannot preset (preset function does not operate)	—
6	Reception frequency of radio slips	09:Er22

## SYMPTOM TROUBLESHOOTING [RADIO]

### Quick Diagnostic Chart (Radio)

Possible factor	X: Applicable					
	1	2	3	4	5	6
Troubleshooting item	No radio reception (AM/FM)/No or low volume	Noise from radio (AM only)	Noise from radio (FM only)	Cannot tune (SEEK does not stop)	Cannot preset (preset function does not operate)	Reception frequency of radio slips
Jamming from aftermarket electronic equipment (two-way radio, navigation system, mobile phone, etc)	X	X	X			
Audio unit	X	X	X	X	X	X
Antenna plug poor connection	X	X	X	X		
Antenna feeder	X	X	X	X		
Open or short circuit in wiring harness between audio unit and antenna (antenna amplifier power supply system)	X	X	X	X		
Electronic jamming from outside, or inferior condition of broadcasting station radio wave	X	X	X	X		X
Antenna rod is not installed (standard parts)	X	X	X	X		
Noise from electrical system on vehicle (e.g. fuel pump)		X	X			
Battery		X	X			
Charging system		X	X			
Antenna installation loosened		X	X			
Center panel				X	X	

am2zzw0000497

### CONFIRMATION STEP 1: RECEPTION CONDITION SYMPTOM (EXAMPLE) [RADIO]

id0903e3804000

Symptom	Antenna signal condition	Source
Only a buzzing sound from the speakers	<ul style="list-style-type: none"> <li>There is no broadcasting wave.</li> <li>Signals from antenna to audio unit are not transmitted.</li> </ul>	<ul style="list-style-type: none"> <li>Electric noise caused by the operation of internal circuit from audio unit it self</li> <li>Atmosphere noise</li> </ul>
A buzzing or crunching sound and normal sound produced at the same time from the speakers	<ul style="list-style-type: none"> <li>Though signals are transmitted from antenna to audio unit, electric noise from other sources is larger.</li> </ul>	<ul style="list-style-type: none"> <li>Electrical noise caused by operation of electrical component on vehicle</li> <li>Electrical noise from high tension wire, transformer substation (factory), electrical feeder line (street car), or motorcycle.</li> </ul>
A thumping sound and normal sound produced at the same time from the speakers (FM only)	<ul style="list-style-type: none"> <li>Noise occurs due to radio wave environment at specific places (e.g. in valleys between buildings). Noise varies when own vehicle or surrounding vehicles moves. (FM only)</li> </ul>	<ul style="list-style-type: none"> <li>Interference between direct and reflected waves of FM signals causes noise (Multipass noise).</li> </ul>

### CONFIRMATION STEP 2: ANTENNA SYSTEM SYMPTOM (EXAMPLE) [RADIO]

id0903e3804100

Possible cause	AM reception condition	FM reception condition
<ul style="list-style-type: none"> <li>Antenna feeder axis, open circuit</li> <li>Antenna feeder plug not attached</li> </ul>	NG: No reception	YES: Reception possible. (Sensitivity decreases, but reception is possible under strong electric field.)
<ul style="list-style-type: none"> <li>Antenna feeder axis (+) to ground (-), open circuit</li> </ul>	NG: No reception	NG: No reception

## SYMPTOM TROUBLESHOOTING [RADIO]

Possible cause	AM reception condition	FM reception condition
<ul style="list-style-type: none"> <li>Antenna feeder and antenna, poor ground</li> </ul>	YES: Reception possible (Noise may occur)	YES: Reception possible (Sensitivity decreases, but reception is possible under strong electric field.)
<ul style="list-style-type: none"> <li>Antenna feeder, jack and plug poor connection</li> </ul>	NG: No reception (Depending on connection conditions)	YES: Reception possible (Depending on connection conditions)

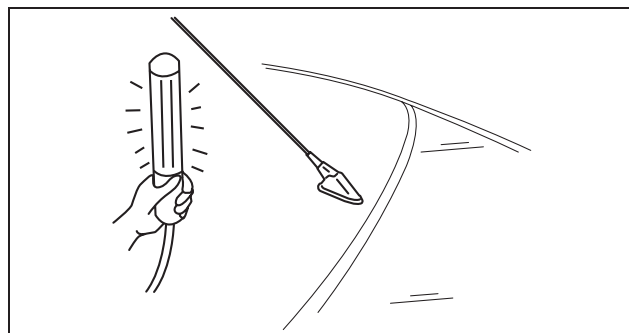
### CONFIRMATION STEP 3: ANTENNA SYSTEM SIMPLE INSPECTION [RADIO]

id0903e3804200

- Because the antenna system is equipped with a capacitor, the continuity cannot be checked. Therefore proceed to the following simple inspection.
  - Turn the AM radio on.
  - Tune to the frequency with no broadcast and listen for a buzzing sound.
  - Turn a hand-held light on and shake it around the antenna rod (around **10—20 mm{0.40—0.78 in}**)
  - If a whirring sound from the speaker synchronized to the work light movement is confirmed, the antenna system is normal.

#### Note

- Use a fluorescent light type for the inspection. Accurate diagnostic cannot be done with an incandescent light.



adejiw00001109

### NO.1 NO RADIO RECEPTION (AM/FM)/NO OR LOW VOLUME [RADIO]

id0903e3804300

1	No radio reception (AM/FM) / no or low volume
Possible DTC	09:Er20, 09:Er22
Possible cause	<ul style="list-style-type: none"> <li>Jamming from aftermarket electronic equipment (two-way radio, navigation system, mobile phone, etc.)</li> <li>Audio unit malfunction</li> <li>Poor connection of antenna feeder plug</li> <li>Antenna feeder malfunction</li> <li>Electronic jamming from outside, or inferior condition of broadcasting station radio wave</li> <li>Antenna rod is not installed</li> </ul>

## SYMPTOM TROUBLESHOOTING [RADIO]

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Turn the audio unit power to on.</li> <li>Is the LCD indicated correctly?</li> </ul>	Yes Go to Step 3.
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Measure the voltage at <b>B+</b> and ACC terminals.</li> <li>Is the voltage normal?</li> </ul> <b>Specification</b> <b>With ignition switch ON: 11.5 V or more</b> <b>At idling: 12.5 V or more</b>	Yes Go to the next step.
		No Follow diagnostic procedure for symptom No. 2 (Audio). (See 09-03E-6 NO.2 NO POWER TO THE ENTIRE AUDIO SYSTEM [AUDIO].)
3	<ul style="list-style-type: none"> <li>Set the volume between 10 and 15.</li> <li>Is a buzzing sound or voice confirmed?</li> </ul>	Yes Go to the next step.
		No Follow diagnostic procedure for symptom No. 3 (Audio) or No. 4 (Audio). (See 09-03E-6 NO.3 NO SOUND FROM ALL SPEAKERS [AUDIO].) (See 09-03E-7 NO.4 NO SOUND FROM SOME SPEAKERS [AUDIO].)
4	<ul style="list-style-type: none"> <li>Tune to a local broadcasting station and check the reception condition.</li> <li>Is the reception normal?</li> </ul>	Yes Go to the next step.
		No Go to Step 6.
5	<ul style="list-style-type: none"> <li>Push the Preset switches and check the preset conditions.</li> <li>Have preset stations been stored?</li> </ul>	Yes The system is normal.
		No Preset broadcasting stations.
6	<ul style="list-style-type: none"> <li>Is aftermarket electronic equipment (two-way radio, navigation system, mobile phone, etc.) installed?</li> </ul> <b>Note</b> <ul style="list-style-type: none"> <li>A TV antenna located close to the audio antenna can be the cause of noise. Relocate the TV antenna.</li> </ul>	Yes Go to the next step.
		No Go to Step 8.
7	<ul style="list-style-type: none"> <li>Remove aftermarket electronic equipment.</li> <li>Turn the audio unit on and check the reception condition.</li> <li>Does reception improve?</li> </ul>	Yes The system is normal. (Explain to the customer that aftermarket electronic equipment is the cause of the noise)
		No Go to the next step.
8	<ul style="list-style-type: none"> <li>Refer to confirmation Step 3, and inspect the antenna system.</li> <li>Is a whirring sound present?</li> </ul>	Yes Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
		No Go to the next step.
9	<ul style="list-style-type: none"> <li>Inspect the antenna feeder plug connection condition.</li> <li>Is the connection normal?</li> </ul>	Yes Go to the next step.
		No Insert the antenna feeder plug securely.
10	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Measure the continuity between the antenna feeder axis and ground.</li> <li>Is there any continuity?</li> </ul>	Yes Replace the antenna feeder. (See 09-20-17 ANTENNA FEEDER NO.1 REMOVAL/ INSTALLATION.) (See 09-20-20 ANTENNA FEEDER NO.2 REMOVAL/ INSTALLATION.)
		No Go to the next step.

## SYMPTOM TROUBLESHOOTING [RADIO]

STEP	INSPECTION	ACTION
11	<ul style="list-style-type: none"> <li>Compare the reception with another audio unit on the same model (model/unit) under the same problem conditions.</li> <li>Is the reception equivalent to the customer's unit?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Due to the following differences, you may sense a difference in reception efficiency.                             <p><b>(Vehicle factor)</b></p> <ul style="list-style-type: none"> <li>Antenna installation location, height, feeder wiring routing, optional electrical equipment</li> </ul> <p><b>(Audio unit factor)</b></p> <ul style="list-style-type: none"> <li>High-tone setting: Decreases effective volume range when signals become weak. (Noise is easy to be conspicuous)</li> <li>Noise restraint setting: Widens effective volume range when signals become weak.</li> </ul> </li> </ul>	Yes The system is normal. (It is caused by electronic jamming from outside, or inferior broadcasting station signal condition.)
		No Replace audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)

### NO.2 NOISE FROM RADIO (AM ONLY) [RADIO]

id0903e3804400

2	Noise from radio (AM only)
Possible DTC	09:Er22
Possible cause	<ul style="list-style-type: none"> <li>Antenna rod is not installed</li> <li>Jamming from aftermarket electronic equipment (two-way radio, navigation system, mobile phone, etc.)</li> <li>Noise from electrical system on vehicle (e.g. fuel pump)</li> <li>Battery malfunction</li> <li>Charging system malfunction</li> <li>Audio unit malfunction</li> <li>Poor connection of antenna feeder plug</li> <li>Antenna feeder malfunction</li> <li>Electronic jamming from outside, or inferior condition of broadcasting station radio wave</li> <li>Antenna installation loosened</li> </ul>

## SYMPTOM TROUBLESHOOTING [RADIO]

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Tune to a local broadcasting station and check the reception condition.</li> <li>Is the reception normal?</li> </ul>	Yes Tune to the correct frequency for the broadcasting station. If not preset, preset it.
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Inspect the antenna rod condition.</li> <li>Is the antenna rod installed?</li> </ul>	Yes Go to the next step.
		No Advise the customer to install the antenna rod when the radio is used.
3	<ul style="list-style-type: none"> <li>Is aftermarket electronic equipment (two-way radio, navigation system, mobile phone, etc.) installed?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>A TV antenna located close to the audio antenna can be the cause of noise. Relocate the TV antenna.</li> </ul>	Yes Go to the next step.
		No Go to Step 5.
4	<ul style="list-style-type: none"> <li>Remove aftermarket electronic equipment.</li> <li>Turn the audio unit on and check the reception condition.</li> <li>Does reception improve?</li> </ul>	Yes The system is normal. (Explain to the customer that aftermarket electronic equipment is the cause of the noise)
		No Go to the next step.
5	<ul style="list-style-type: none"> <li>Measure the battery voltage.</li> <li>Is battery voltage normal?</li> </ul> <p><b>Standard</b> With ignition switch ON: 11.5 V or more At idling: 12.5 V or more</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Verify that the battery cables are connected to the terminals securely.</li> </ul>	Yes Go to the next step.
		No Charge the battery. Inspect the charging system, and repair or replace if necessary.
6	<ul style="list-style-type: none"> <li>Does the noise occur only when the vehicle electrical system (e.g. fuel pump) operates?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Identify the suspect electrical component by disconnecting fuses, turning switches on &amp; off, or disconnecting &amp; connecting connectors.</li> <li>It is easier to use the simulation function on the M-MDS.</li> </ul>	Yes Go to the next step.
		No Go to Step 8.
7	<ul style="list-style-type: none"> <li>Verify the condition of the power supply and ground of the electric components, and the noise prevention capacitor.</li> <li>Is noise present after the inspection?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Inspect the following: <ul style="list-style-type: none"> <li>Power supply to electrical component for voltage drop (compare with battery voltage)</li> <li>Resistance between ground of electrical component and body. (Should be close to 0 ohm)</li> <li>Installation condition of noise prevention capacitor for fuel pump.</li> </ul> </li> </ul>	Yes Go to the next step.
		No Troubleshooting completed.
8	<ul style="list-style-type: none"> <li>Inspect the antenna feeder plug connection condition.</li> <li>Is the connection normal?</li> </ul>	Yes Go to the next step.
		No Insert the antenna feeder plug securely.
9	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Measure the continuity between the antenna the feeder axis and ground.</li> <li>Is there any continuity?</li> </ul>	Yes Replace antenna feeder. (See 09-20-17 ANTENNA FEEDER NO.1 REMOVAL/ INSTALLATION.) (See 09-20-20 ANTENNA FEEDER NO.2 REMOVAL/ INSTALLATION.)
		No Go to the next step.



## SYMPTOM TROUBLESHOOTING [RADIO]

STEP	INSPECTION	ACTION
10	Compare the reception with another audio unit on the same model (model/unit) under the same problem conditions. <ul style="list-style-type: none"> <li>Is the reception equivalent to the customer's unit?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Due to the following differences, you may sense a difference in reception efficiency.               <p><b>(Vehicle factor)</b></p> <ul style="list-style-type: none"> <li>Antenna installation location, height, feeder wiring routing, optional electrical equipment</li> </ul> <p><b>(Audio unit factor)</b></p> <ul style="list-style-type: none"> <li>High-tone setting: Decreases effective volume range when signals become weak. (Noise is easy to be conspicuous)</li> <li>Noise restraint setting: Widens effective volume range when signals become weak. (Noise is not conspicuous.)</li> </ul> </li> </ul>	Yes The system is normal (It is caused by electronic jamming from outside, or inferior broadcasting station signal condition).
		No Go to the next step.
11	<ul style="list-style-type: none"> <li>Retighten the ground for the antenna and antenna amplifier.</li> <li>Retighten the antenna rod.</li> <li>Is noise present, after retightening?</li> </ul>	Yes Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
		No Troubleshooting completed.

### NO.3 NOISE FROM RADIO (FM ONLY) [RADIO]

id0903e3804500

3	Noise from radio (FM only)
Possible DTC	09:Er22
Possible cause	<ul style="list-style-type: none"> <li>Antenna rod is not installed</li> <li>Jamming from aftermarket electronic equipment (two-way radio, navigation system, mobile phone, etc.)</li> <li>Noise from electrical system on vehicle (e.g. fuel pump)</li> <li>Battery malfunction</li> <li>Charging system malfunction</li> <li>Audio unit malfunction</li> <li>Poor connection of antenna feeder plug</li> <li>Antenna feeder malfunction</li> <li>Electronic jamming from outside, or inferior condition of broadcasting station radio wave</li> <li>Antenna installation loosened</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>FM broadcasts are known for good sound quality and resistance to noise, but FM broadcasts do carry characteristic noise. Though the audio unit is designed to reduce noise, there are times when noise occurs due to reception conditions.</li> </ul>

## SYMPTOM TROUBLESHOOTING [RADIO]

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Tune to a local broadcasting station and check the reception condition.</li> <li>Is the reception normal?</li> </ul>	Yes Tune to the correct frequency for the broadcasting station. If not preset, preset it.
		No Go to the next step.
2	<ul style="list-style-type: none"> <li>Inspect the antenna rod condition.</li> <li>Is the antenna rod installed?</li> </ul>	Yes Go to the next step.
		No Advise the customer to install the antenna rod when the radio is used.
3	<ul style="list-style-type: none"> <li>Is aftermarket electronic equipment (two-way radio, navigation system, mobile phone, etc.) installed?</li> </ul>	Yes Go to the next step.
		No Go to Step 5.
4	<ul style="list-style-type: none"> <li>Remove aftermarket electronic equipment.</li> <li>Turn the audio unit on and check the reception condition.</li> <li>Does the reception improve?</li> </ul>	Yes The system is normal. (Explain to the customer that the aftermarket electronic equipment is the cause of the noise)
		No Go to the next step.
5	<ul style="list-style-type: none"> <li>Measure the battery voltage.</li> <li>Is the battery voltage normal?</li> </ul> <p><b>Standard</b>  <b>With ignition switch ON: 11.5 V or more</b>  <b>At idling: 12.5 V or more</b></p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Verify that the battery cables are connected to the terminals securely.</li> </ul>	Yes Go to the next step.
		No Charge the battery. Inspect the charging system, and repair or replace if necessary.
6	<ul style="list-style-type: none"> <li>Does the noise occur only when the vehicle's electrical system (e.g. fuel pump) operates?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Identify the suspect electrical component by disconnecting fuses, turning switches on &amp; off, or disconnecting &amp; connecting connectors.</li> <li>It is easier to use the simulation function on the M-MDS.</li> </ul>	Yes Go to the next step.
		No Go to Step 8.
7	<ul style="list-style-type: none"> <li>Verify the condition of the power supply and ground of the electric components, and the noise prevention capacitor.</li> <li>Is the noise present after inspection?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Inspect the following: <ul style="list-style-type: none"> <li>Power supply to electrical component for voltage drop (compare with battery voltage)</li> <li>Resistance between ground of electrical component and body. (Should be close to <b>0 ohm</b>)</li> <li>Installation condition of noise prevention capacitor for fuel pump.</li> </ul> </li> </ul>	Yes Go to the next step.
		No Troubleshooting completed.
8	<ul style="list-style-type: none"> <li>Inspect the antenna feeder plug connection condition.</li> <li>Is the connection normal?</li> </ul>	Yes Go to the next step.
		No Insert the antenna feeder plug securely.
9	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Measure the continuity between the antenna feeder axis and ground.</li> <li>Is there any continuity?</li> </ul>	Yes Replace the antenna feeder. (See 09-20-17 ANTENNA FEEDER NO.1 REMOVAL/ INSTALLATION.) (See 09-20-20 ANTENNA FEEDER NO.2 REMOVAL/ INSTALLATION.)
		No Go to the next step.
10	<ul style="list-style-type: none"> <li>Compare the reception with another audio unit on the same model (model/unit) under the same problem conditions.</li> <li>Is the reception equivalent to the customer's unit?</li> </ul>	Yes The system is normal (It is caused by electronic jamming from outside, or inferior broadcasting station signal condition).
		No Go to the next step.

## SYMPTOM TROUBLESHOOTING [RADIO]

STEP	INSPECTION	ACTION
11	<ul style="list-style-type: none"> <li>Retighten the ground for the antenna installation part and antenna amplifier.</li> <li>Retighten the antenna rod.</li> <li>Is the noise present, after retightening?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>When the antenna is not grounded properly, FM noise is likely to be noticed.</li> </ul>	Yes Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
		No Troubleshooting completed.

### NO.4 CANNOT TUNE (SEEK DOES NOT STOP) [RADIO]

id0903e3804600

4	Cannot tune (SEEK does not stop)
Possible DTC	09:Er20, 09:Er22
Possible cause	<ul style="list-style-type: none"> <li>Center panel malfunction</li> <li>Poor connection of antenna feeder plug</li> <li>Antenna feeder malfunction</li> <li>Audio unit malfunction</li> <li>Electronic jamming from outside, or inferior condition of broadcasting station radio wave</li> <li>Antenna rod is not installed</li> </ul>

## SYMPTOM TROUBLESHOOTING [RADIO]

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Verify that the SEEK switch is normal when the switch is pushed and released.</li> <li>Is it normal?</li> </ul>	Yes Go to the next step.
		No Perform confirmation step 1: audio switch confirmation. (See 09-03E-2 CONFIRMATION STEP 1: AUDIO SWITCH CONFIRMATION [AUDIO].) Replace the center panel if necessary. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
2	<ul style="list-style-type: none"> <li>Inspect the indication of LCD.</li> <li>Does the frequency indication increase or decrease when SEEK switch is pushed?</li> </ul>	Yes Go to the next step.
		No Perform confirmation step 1: audio switch confirmation. (See 09-03E-2 CONFIRMATION STEP 1: AUDIO SWITCH CONFIRMATION [AUDIO].) Replace the center panel if necessary. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
3	<ul style="list-style-type: none"> <li>Manually tune to a local broadcasting station and check the reception condition.</li> <li>Is the reception normal?</li> </ul>	Yes Go to Step 6.
		No Go to the next step.
4	<ul style="list-style-type: none"> <li>Inspect the antenna feeder plug connection condition.</li> <li>Is the connection normal?</li> </ul>	Yes Go to the next step.
		No Insert the antenna feeder plug securely.
5	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK position.</li> <li>Measure the continuity between the antenna feeder axis and ground.</li> <li>Is there any continuity?</li> </ul>	Yes Replace antenna feeder. (See 09-20-17 ANTENNA FEEDER NO.1 REMOVAL/ INSTALLATION.) (See 09-20-20 ANTENNA FEEDER NO.2 REMOVAL/ INSTALLATION.)
		No Go to the next step.
6	<ul style="list-style-type: none"> <li>Check if the number of broadcasting stations changes depending on time and place.</li> <li>Does it change?</li> </ul>	Yes The system is normal. (Explain to customer that SEEK sometimes does not stop depending on the signal reception condition.)  <b>Note</b> <ul style="list-style-type: none"> <li>Signals tend to reach longer distances at night. (It is conspicuous in AM signals, several audio functions may stop due to foreign broadcasting station or noise.) Though the audio system restrains sensitivity of SEEK and SCAN functions at night, the audio system may select broadcasting stations other than those desired when signals are considerably strong. This function is linked to the parking light. When the parking light or the headlights are turned on, SEEK and SCAN may not function for weak signals.</li> </ul>
		No Replace audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)

### NO.5 CANNOT PRESET (PRESET FUNCTION DOES NOT OPERATE) [RADIO]

id0903e3804700

5	Cannot preset (preset function does not operate)
Possible DTC	—
Possible cause	<ul style="list-style-type: none"> <li>Audio unit malfunction</li> <li>Center panel malfunction</li> </ul>

## SYMPTOM TROUBLESHOOTING [RADIO]

### Diagnostic procedure

STEP	INSPECTION		ACTION
1	<ul style="list-style-type: none"> <li>Tune to the desired station and press channel preset switch 1 for <b>about 2 s</b> to store it.</li> <li>Repeat the above for other stations using channel preset switch 2 to 5.</li> <li>Press channel preset switch 1 to 6 one by one.</li> <li>Are the stored stations present?</li> </ul>	Yes	Go to the next step.
		No	Go to Step 3.
2	<ul style="list-style-type: none"> <li>Turn the ignition switch to the LOCK and then to ACC.</li> <li>Check if the preset stations are stored by pressing the preset switch.</li> <li>Are the stations stored?</li> </ul>	Yes	The system is normal. (Explain preset procedure to customer using Owner's Manual)
		No	Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
3	<ul style="list-style-type: none"> <li>Remove the center panel from the audio unit, and reinstall the center panel to the audio unit.</li> <li>Activate the audio switch inspection mode. (See 09-02E-4 DIAGNOSTIC ASSIST FUNCTION [AUDIO].)</li> <li>Does the buzzer sound when a switch is pressed?</li> </ul>	Yes	Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
		No	Replace the center panel. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)

### NO.6 RECEPTION FREQUENCY OF RADIO SLIPS [RADIO]

id0903e3804800

6	Reception frequency of radio slip
Possible DTC	09:Er22
Possible cause	<ul style="list-style-type: none"> <li>Audio unit malfunction</li> <li>Electronic jamming from outside, or inferior condition of broadcasting station radio wave</li> </ul>

### Diagnostic procedure

STEP	INSPECTION		ACTION
1	<ul style="list-style-type: none"> <li>Press the SEEK switch and check if the desired broadcasting station is tuned.</li> <li>Is it normal?</li> </ul>	Yes	Go to Step 3.
		No	Go to the next step.
2	<ul style="list-style-type: none"> <li>Check if another broadcasting station is received at a certain location when the indication of the reception frequency remains.</li> <li>Is other station received?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>While receiving a weak signal from one broadcasting station and approaching a broadcasting antenna which emits a strong signal, broadcasting from the strong signal is sometimes received.</li> </ul>	Yes	Go to the next step.
		No	Replace audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)
3	<ul style="list-style-type: none"> <li>Compare the reception with another audio unit on the same model (model/unit) under the same problem conditions.</li> <li>Is the reception equivalent to the customer's unit?</li> </ul>	Yes	Troubleshooting completed (Audio unit is normal).
		No	Replace the audio unit. (See 09-20-3 CENTER PANEL UNIT REMOVAL/ INSTALLATION.) (See 09-20-4 CENTER PANEL UNIT DISASSEMBLY/ ASSEMBLY.)

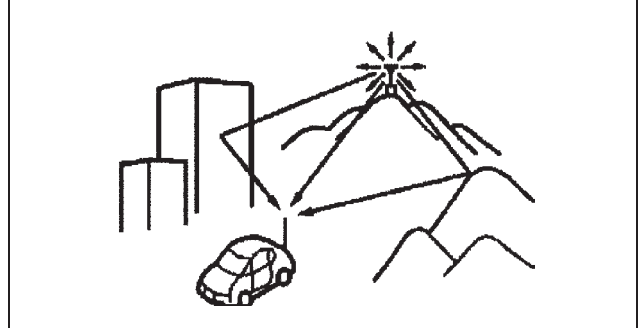
## SYMPTOM TROUBLESHOOTING [RADIO]

### REFERENCE [RADIO]

id0903e3830000

#### 1. Multipath Noise

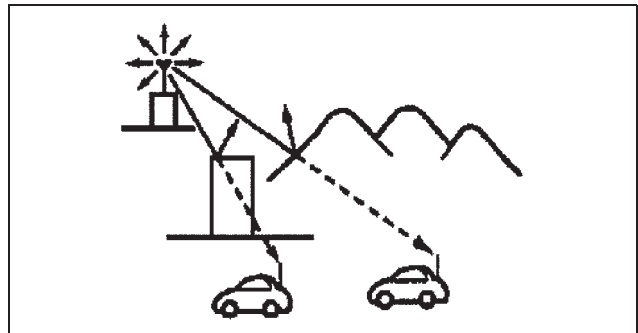
- Signals from an FM transmitter are a high frequency and similar to beams of light because they do not bend around corners, but they do reflect. Since FM signals can be reflected by obstructions, it is possible to receive both the direct signal and the reflected signal at the same time. This causes a slight delay in reception and may be heard as a broken sound or a distortion.



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#### 2. Flutter/Skip Noise

- Signals become weak in valleys between mountains, tall buildings, and other obstacles. When the vehicle passes through such an area, the reception conditions may change suddenly, resulting in annoying noise.



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#### 3. Stereo and Monaural Receptions

- As signals become weak, noise may appear more in stereo reception. Compared to stereo reception, noise in monaural reception is relatively less striking.

#### Measures in Audio System

##### Separation control

- Utilizing the characteristic of monaural reception that noise is relatively less striking than stereo reception, the audio system automatically changes the reception from stereo to monaural and lessens annoying noise when signals become weak or a multipath phenomenon occurs.

##### High tone control

- When signals become weak or a multipath phenomenon occurs, the audio system restrains volume level in high frequency band and lessens annoying noise.

##### Effect Setting of Separation Control and High Tone Control

- The separation and high tone controls influence sound quality. Therefore they are specifically tuned for individual model. (Comparison of characteristic must be done on the same models)

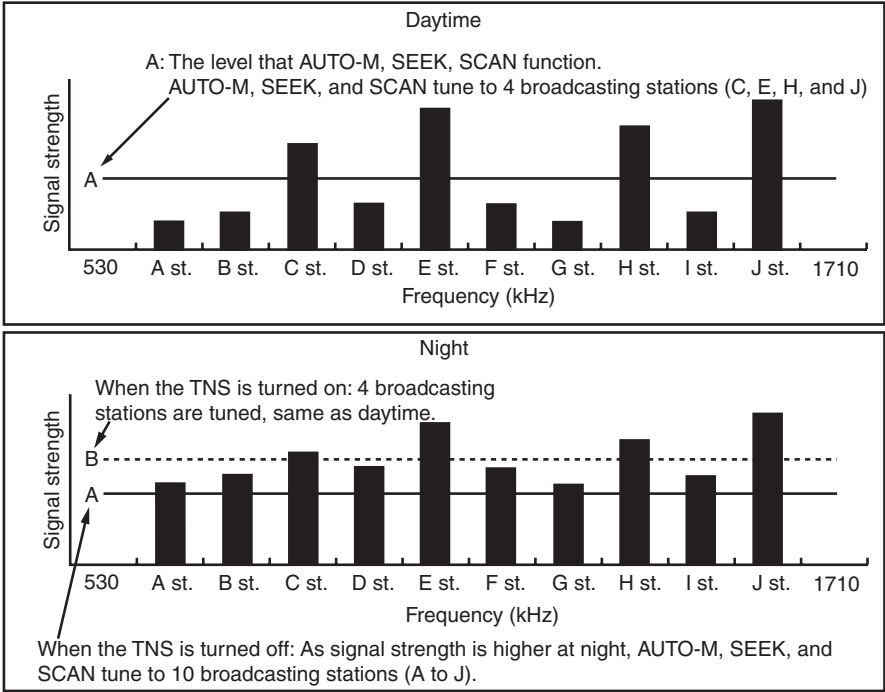
High tone setting	⇒	Less effective range	⇒	Noise is conspicuous
Noise restraint setting	⇒	Wider effective range	⇒	Noise is less conspicuous

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SYMPTOM TROUBLESHOOTING [RADIO]

Remarks

- Signals tend to reach longer distances at night. It is conspicuous in AM signals, several audio functions may stop due to foreign broadcasting station or noise. Though the audio system restrains sensitivity of SEEK and SCAN functions at night, the audio system may select other than desired broadcasting station when signals are considerably strong. This function is linked to the parking light. When the parking light or the headlight is turned on, SEEK and SCAN may not function for weak signals.



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