

# BODY & ACCESSORIES

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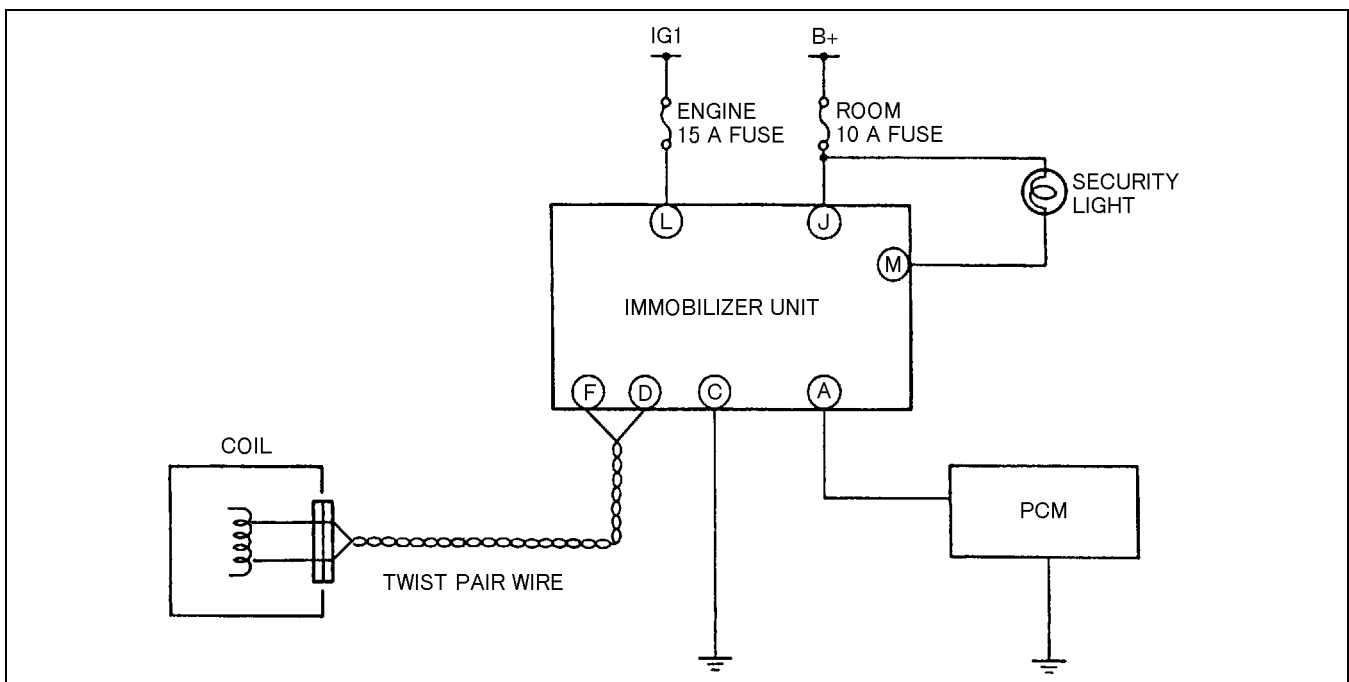
## 09-02 ON-BOARD DIAGNOSTIC

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### IMMOBILIZER SYSTEM WIRING DIAGRAM

A5U090267000W01



Z5U0902W001

# ON-BOARD DIAGNOSTIC

## FOREWORD

A5U090267000W02

### Caution

- When the engine does not start or stalls and the following DTCs are not indicated, go to engine symptom troubleshooting. (Refer to 01–03–6 SYMPTOM DIAGNOSTIC INDEX.)



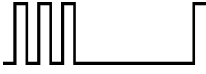




### Note

- When the immobilizer system is defective, the engine starts once and soon stalls after turning the starter for the first three times. The engine cannot be started after the third time.
- If engine condition is normal but light stays on, inspect for short circuit between security light and immobilizer unit connector terminal M. Repair or replace the wiring harness if necessary.

1. Turn the ignition switch to START position **for 2 seconds**, then back to ON position.
2. Wait for **2 minutes**.
3. Verify the security light condition and read the DTC if indicated.
4. Verify the DTC with WDS or equivalent.
5. If the DTC is indicated, go to troubleshooting referring to the DTC table.

## DTC TABLE

A5U090267000W03

DTC	Output pattern	Description	Page
01		ID number unregistered in immobilizer unit is input after engine cranking.	(See 09–02–3 DTC 01)
02		ID number format error (voltage range, frequency)	(See 09–02–3 DTC 02)
03		ID number is not input into immobilizer unit after cranking engine.	(See 09–02–3 DTC 03)
11		Open circuit in coil or wiring harness between immobilizer unit and coil.	(See 09–02–4 DTC 11)
21		Code word/ID number memorized in immobilizer unit EEPROM cannot be read.	(See 09–02–4 DTC 21)
24		Open or short circuit in wiring harness between immobilizer unit and PCM.	(See 09–02–5 DTC 24)
30		Immobilizer unit—PCM communication error	(See 09–02–5 DTC 30)

### Note

- Perform the following if the security light stays on:
  - If gasoline engine stalls, go to symptom troubleshooting “NO.11 ENGINE STALLS/QUITS, ENGINE RUNS ROUGH, MISSES, BUCK/JERK, HESITATION/STUMBLE, SURGES” in Section 01–03 (See 01–03–30 NO.11 ENGINE STALLS/QUITS, ENGINE RUNS ROUGH, MISSES, BUCK/JERK, HESITATION/STUMBLE, SURGES.)
  - If gasoline engine will not start, go to symptom troubleshooting NO.6 “CRANKS NORMALLY BUT WILL NOT START” in Section 01–03. (Refer to 01–03–22 NO.6 CRANKS NORMALLY BUT WILL NOT START.)
  - If engine condition is normal but light stays on, inspect for continuity between the following wiring harness and body ground: security light and immobilizer unit connector terminal M. Repair or replace the wiring harness.

# ON-BOARD DIAGNOSTIC

## DTC 01

A5U090267000W04

<b>DTC 01</b>	<b>ID number unregistered in immobilizer unit is input after engine cranking.</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>ID number is unregistered in immobilizer unit.</li> </ul>

### Diagnostic procedure

STEP	INSPECTION	ACTION
—	—	Go to ID number input procedure. (See 09–14–21 Key Replacement or Addition)

## DTC 02

A5U090267000W05

<b>DTC 02</b>	<b>ID number format error (voltage range, frequency)</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>Defective transponder in the key</li> </ul>

### Diagnostic procedure

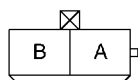
STEP	INSPECTION	ACTION
—	—	Dispose of defective key. Duplicate key if necessary. (See 09–14–21 Key Replacement or Addition)

## DTC 03

A5U090267000W06

<b>DTC 03</b>	<b>ID number is not input into immobilizer unit after cranking engine.</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>No transponder in the key</li> <li>Defective transponder in the key (ID number is not output.)</li> <li>Defective coil at steering lock</li> <li>Defective wiring harness between coil and immobilizer unit</li> </ul>

COIL CONNECTOR


HARNESS SIDE CONNECTOR  
(VIEW FROM HARNESS SIDE)

### Diagnostic procedure

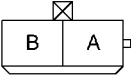
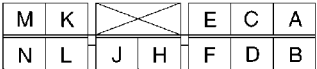
STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> <li>Does security light indicate DTC 11?</li> </ul>	Yes
		No
2	<ul style="list-style-type: none"> <li>Does security light indicate DTC 30?</li> </ul>	Yes
		No
3	<b>INSPECT FOR OTHER PROPER KEYS</b> <ul style="list-style-type: none"> <li>Does engine start with other proper keys?</li> </ul>	Yes
		No
4	<b>INSPECT COIL CIRCUIT FOR SHORT TO GND OR COIL CIRCUIT FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>Disconnect the coil connector.</li> <li>Inspect for short circuits between coil connector terminals A and B and ground, and also between coil connector terminals A and B.</li> <li>Is there a short?</li> </ul>	Yes
		No

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# ON-BOARD DIAGNOSTIC

## DTC 11

A5U090267000W07

<b>DTC 11</b>	<b>Open circuit in coil or wiring harness between immobilizer unit and coil.</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>• Open circuit in coil</li> <li>• Poor connection of coil connector</li> <li>• Poor connection of immobilizer unit</li> <li>• Defective wiring harness between immobilizer unit and coil</li> </ul>
<p>COIL CONNECTOR</p>  <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p>	<p>IMMOBILIZER UNIT CONNECTOR</p>  <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p>

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<b>INSPECT CONNECTOR CONNECTION</b> <ul style="list-style-type: none"> <li>• Is connector of coil or immobilizer unit connected securely?</li> </ul>	Yes: Go to next step. No: Connect connector securely.
2	<b>INSPECT COIL CIRCUIT FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>• Is there continuity between coil terminals A and C?</li> </ul>	Yes: Go to next step. No: Replace coil. (See 09–14–20 COIL REMOVAL/INSTALLATION)
3	<b>INSPECT COIL CIRCUIT FOR OPEN</b> <ul style="list-style-type: none"> <li>• Disconnect coil connector and immobilizer unit connector.</li> <li>• Inspect for open circuit in wiring harness:               <ul style="list-style-type: none"> <li>— Immobilizer unit D to coil A, and immobilizer unit F to coil B</li> <li>— Immobilizer unit D to coil B, and immobilizer unit F to coil A</li> </ul> </li> <li>• Is there an open?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• Vehicle harness which is connected to immobilizer unit terminals D and F, uses a twist pair wire. Because twist pair wire does not have polarity, immobilizer unit connector terminal D may be connected to coil connector terminal A or B. Likewise, immobilizer unit connector terminal F may be connected to coil connector terminal A or B.</li> </ul>	Yes: Replace immobilizer unit and reprogram immobilizer system. (See 09–14–23 Immobilizer Unit Replacement) No: Repair wiring harness between coil and immobilizer unit.

## DTC 21

A5U090267000W08

<b>DTC 21</b>	<b>Code word/ID number memorized in immobilizer unit EEPROM cannot be read.</b>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>• Defective immobilizer unit</li> </ul>







### Diagnostic procedure

STEP	INSPECTION	ACTION
—	<b>INSPECT IMMOBILIZER UNIT</b> <ul style="list-style-type: none"> <li>• Turn ignition switch from LOCK position to START position <b>for 2 seconds</b>.</li> <li>• Does security light indicate DTC 21 again?</li> </ul>	Yes: Replace immobilizer unit and reprogram immobilizer system. (See 09–14–23 Immobilizer Unit Replacement) No: Immobilizer system is okay.

# ON-BOARD DIAGNOSTIC

## DTC 24

A5U09026700W09

DTC 24	Open or short circuit in wiring harness between immobilizer unit and PCM												
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>Defective immobilizer unit</li><li>Defective PCM</li><li>Poor connection of connector</li><li>Defective wiring harness</li></ul>												
<div>IMMOBILIZER UNIT CONNECTOR</div> <table><tr><td>M</td><td>K</td><td></td><td>E</td><td>C</td><td>A</td></tr><tr><td>N</td><td>L</td><td></td><td>F</td><td>D</td><td>B</td></tr></table> <div>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</div>		M	K		E	C	A	N	L		F	D	B
M	K		E	C	A								
N	L		F	D	B								

### Diagnostic procedure

STEP	INSPECTION	ACTION
1	<b>INSPECT CONNECTOR CONNECTION</b> <ul style="list-style-type: none"> <li>Are both immobilizer unit and PCM connectors connected properly?</li> </ul>	Yes Go to next step.
		No Connect connectors properly.
2	<b>INSPECT COMMUNICATION CIRCUIT FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>Disconnect immobilizer unit and PCM connectors.</li> <li>Is there continuity between immobilizer unit connector terminal A and PCM terminal 3S?</li> </ul>	Yes Go to next step.
		No Repair wiring harness between PCM and immobilizer unit.
3	<b>INSPECT IMMOBILIZER UNIT FOR SHORT TO GND</b> <ul style="list-style-type: none"> <li>Is there continuity between immobilizer unit connector terminal A and ground?</li> </ul>	Yes Repair for short circuit in wiring harness between PCM and immobilizer unit.
		No Go to next step.
4	<b>INSPECT COMMUNICATION CIRCUIT</b> <ul style="list-style-type: none"> <li>Connect PCM connector.</li> <li>Turn ignition switch to ON position.</li> <li>Measure voltage at immobilizer unit connector terminal A.</li> <li>Is voltage <b>more than 10 V</b>?</li> </ul>	Yes Replace immobilizer unit and reprogram immobilizer system. (See 09–14–23 Immobilizer Unit Replacement)
		No Replace PCM and reprogram immobilizer system. (See 09–14–24 PCM Replacement)

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## DTC 30

A5U09026700W10

DTC 30	Immobilizer unit—PCM communication error
POSSIBLE CAUSE	<ul style="list-style-type: none"> <li>Defective immobilizer unit</li> <li>Defective PCM</li> </ul>

### Diagnostic procedure

STEP	INSPECTION	ACTION
—	<b>INSPECT INNER CIRCUIT OF IMMOBILIZER UNIT</b> <ul style="list-style-type: none"> <li>Replace immobilizer unit and reprogram immobilizer system. (See 09–14–23 Immobilizer Unit Replacement)</li> <li>Does engine start?</li> </ul>	Yes Immobilizer unit was defective.
		No Replace PCM and reprogram immobilizer system. (See 09–14–24 PCM Replacement)