

## ON-BOARD DIAGNOSTIC FUNCTION

### IMMOBILIZER SYSTEM Diagnostic Trouble Code

#### Caution


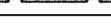







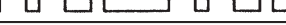

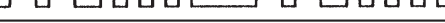

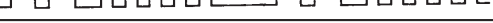








- When engine does not start or engine stalls and the following DTCs are not indicated, go to engine symptom troubleshooting. (Refer to section F2, TROUBLESHOOTING, ENGINE SYMPTOM TROUBLESHOOTING.)

#### Note

- When the immobilizer system is defective, the engine cannot be started.
- If engine condition is normal but light stays on, inspect for short circuit between immobilizer indicator light and immobilizer unit connector terminal M.  
Repair or replace the wiring harness if necessary.
- The DDS1 is installed to the FIP with set bolts and cannot be removed. If there is a possibility that the DDS1 is faulty, be sure to ask your distributor to repair it.

- Turn the ignition switch to ON position.
- Verify the immobilizer indicator light condition and read the DTC if indicated.
- If the DTC is indicated, go to troubleshooting referring to the diagnostic trouble code table.

**Diagnostic Trouble Code Table**  
**DTC indicated by immobilizer unit**

DTC	Output pattern	Description
01	ON  OFF 	ID number unregistered in immobilizer unit is input after engine cranking.
02	ON  OFF 	ID number format error (voltage range, frequency)
03	ON  OFF 	ID number is not input into immobilizer unit after engine cranking.
11	ON  OFF 	Coil or wiring harness between immobilizer unit and coil is open circuit.
21	ON  OFF 	Code word/ID number memorized in immobilizer unit EEPROM cannot be read.
24	ON  OFF 	Wiring harness between immobilizer unit and DDS1 is open or short circuit.
25	ON  OFF 	IG circuit of immobilizer unit is open or IG circuit of DDS1 is short to B+ circuit.
30	ON  OFF 	DDS1 is defective. (Malfunction of communication line inside DDS1)
41	ON  OFF 	Immobilizer unit or DDS1 is defective. (Code words of immobilizer unit and DDS1 do not match)
42	ON  OFF 	DDS1 is defective. (Communication error between immobilizer unit and DDS1)
44	ON  OFF 	DDS1 is defective. (Malfunction of DDS1, except for malfunction to DTC 30, 41 or 42)

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### Note

- If DTC 25 and the other DTC are indicated, go to DTC 25 first and then go to the other DTC.

### Note

Perform the following if the immobilizer indicator light stays on:

- If engine stalls, go to symptom troubleshooting No.7 "Rough idle" in section F2. (Refer to section F2, TROUBLESHOOTING, SYMPTOM TROUBLESHOOTING.)
- If engine won't start, go to symptom troubleshooting No.5 "Engine will not start" in section F2. (Refer to section F2, TROUBLESHOOTING, SYMPTOM TROUBLESHOOTING.)
- If engine condition is normal but light stays on, inspect for continuity between the following wiring harness and body ground: Immobilizer indicator light and immobilizer unit connector terminal M. Repair or replace the wiring harness.

DTC 01		ID number unregistered in immobilizer unit is input after engine cranking	
POSSIBLE CAUSE		<ul style="list-style-type: none"> <li>• ID number is unregistered in immobilizer unit</li> </ul>	
STEP	INSPECTION		ACTION
—	—	—	Go to ID number input procedure. + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, Key Replacement or Addition

DTC 02		ID number format error (voltage range, frequency)	
POSSIBLE CAUSE		<ul style="list-style-type: none"> <li>• Defective transponder in the key</li> </ul>	
STEP	INSPECTION		ACTION
—	—	—	Dispose of defective key. Duplicate key if necessary. + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, Key Replacement or Addition

DTC 03		ID number is not input into immobilizer unit after engine cranking	
POSSIBLE CAUSE		<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> </ul>	
STEP	INSPECTION		ACTION
—	—	—	Dispose of defective key. Duplicate key if necessary. + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, Key Replacement or Addition

DTC 11		Coil or wiring harness between immobilizer unit and coil is open circuit	
POSSIBLE CAUSE		<ul style="list-style-type: none"> <li>• Coil is open circuit</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>	
STEP	INSPECTION		ACTION
1	INSPECT POOR CONNECTION OF COIL OR IMMOBILIZER UNIT Is connector of coil or immobilizer unit connected securely?	Yes	Go to next step.
		No	Connect connector securely.
2	INSPECT INNER CIRCUIT OF COIL Inspect for continuity between terminal A and B at coil of wiring harness. Is there continuity?	Yes	Go to next step.
		No	Replace coil. + IMMOBILIZER SYSTEM, COIL REMOVAL/ INSTALLATION

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STEP	INSPECTION		ACTION
3	<b>INSPECT FOR OPEN TO COIL</b> Disconnect coil connector and immobilizer unit connector. Inspect for continuity wiring harness open circuit: <ul style="list-style-type: none"> <li>• Immobilizer unit D—coil A and immobilizer unit F—coil B</li> <li>• Immobilizer unit D—coil B and immobilizer unit F—coil A</li> </ul> <b>Note</b> <ul style="list-style-type: none"> <li>• Vehicle harness which is connected to A terminal and F terminal of immobilizer unit, uses a twist pair wire. Because twist pair wire does not have polarity, A terminal of immobilizer unit connector may be connected to A terminal or B terminal of coil connector. Likewise, F terminal of immobilizer unit connector may be connected to A terminal or B terminal of coil connector.</li> </ul>	Yes	Replace immobilizer unit and reprogram immobilizer system. + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, Immobilizer Unit Replacement
		No	Repair wiring harness between coil and immobilizer unit.

<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>	
STEP	INSPECTION		ACTION
—	<b>CONFIRM DTC AGAIN</b> Turn the IG switch from LOCK position to ON position. Does immobilizer indicator light indicate DTC 21 again?	Yes	Replace immobilizer unit and reprogram immobilizer system. + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, Immobilizer Unit Replacement
		No	Immobilizer system is okay.

<b>DTC 24</b>		<b>Wiring harness between immobilizer unit and DDS1 is open or short circuit</b>	
<b>POSSIBLE CAUSE</b>		<ul style="list-style-type: none"> <li>• Defective immobilizer unit</li> <li>• Defective DDS1</li> <li>• Poor connection of connector</li> <li>• Defective wiring harness</li> </ul>	
STEP	INSPECTION		ACTION
1	<b>INSPECT POOR CONNECTION OF IMMOBILIZER UNIT AND DDS1</b> Is both immobilizer unit and FIP connectors connected properly?	Yes	Go to next step.
		No	Connect connectors properly.
2	<b>INSPECT SIGNAL CIRCUIT FOR OPEN</b> Disconnect FIP connector. Turn ignition switch to ON position. Measure voltage at terminal H at FIP connector of wiring harness. Is voltage <b>more than 10 V</b> ?	Yes	Go to Step 5.
		No	Go to next step.
3	<b>INSPECT SIGNAL CIRCUIT FOR OPEN</b> Disconnect immobilizer unit. Connect one probe to terminal A at immobilizer unit connector and another probe to terminal H at FIP connector. Inspect for continuity between terminal A at immobilizer unit connector and terminal H at FIP connector of wiring harness. Is there continuity?	Yes	Go to next step.
		No	Repair for open wiring harness between DDS1 and immobilizer unit.

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STEP	INSPECTION		ACTION
4	INSPECT SIGNAL CIRCUIT FOR SHORT TO GROUND Inspect for continuity between terminal A at immobilizer unit connector of wiring harness and ground. Is there continuity?	Yes	Repair for short circuit to ground on wiring harness between DDS1 and immobilizer unit.
		No	Go to next step.
5	INSPECT POWER CIRCUIT FOR OPEN TO DDS1 Turn ignition switch to ON position. Measure voltage at terminal G at FIP connector of wiring harness. Is voltage <b>more than 10 V</b> ?	Yes	Go to next step.
		No	Repair wiring harness between ENGINE 15 A fuse and DDS1.
6	INSPECT FOR GROUND TO DDS1 Turn ignition switch to LOCK position. Disconnect FIP connector. Inspect for continuity between terminal F at FIP connector of wiring harness and ground. Is there continuity ?	Yes	Go to next step.
		No	Repair wiring harness between DDS1 and ground.
7	INSPECT FOR INNER CIRCUIT OF IMMOBILIZER UNIT Replace immobilizer unit and reprogram immobilizer system. + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, Immobilizer Unit Replacement Does engine start?	Yes	Immobilizer unit was defective.
		No	Reinstall original immobilizer unit, replace DDS1 and reprogram immobilizer system. + Section F2, FUEL SYSTEM, FUEL INJECTION PUMP (FIP) REMOVAL/INSTALLATION + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, DDS1 Replacement

DTC 25		IG circuit of Immobilizer unit is open or IG circuit of DDS1 is short to B+ circuit	
POSSIBLE CAUSE		<ul style="list-style-type: none"> <li>Defective wiring harness between ENGINE 15 A fuse and immobilizer unit</li> <li>Defective wiring harness between ENGINE 15 A fuse and DDS1</li> </ul>	
STEP	INSPECTION		ACTION
1	INSPECT IG CIRCUIT OF DDS1 FOR SHORT TO B+ CIRCUIT Turn ignition switch to LOCK position. Measure voltage at terminal G at FIP connector of wiring harness. Is voltage <b>more than 10 V</b> ?	Yes	Repair wiring harness between ENGINE 15 A fuse and DDS1.
		No	Go to next step.
2	INSPECT FOR IG CIRCUIT TO IMMOBILIZER UNIT Measure voltage at terminal L at immobilizer unit connector of wiring harness. Is voltage <b>more than 10 V</b> ?	Yes	Replace immobilizer unit and reprogram immobilizer system. + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, Immobilizer Unit Replacement
		No	Repair wiring harness between ENGINE 15 A fuse and immobilizer unit.

DTC 30		DDS1 is defective (Malfunction of communication line inside DDS1)	
POSSIBLE CAUSE		<ul style="list-style-type: none"> <li>Defective DDS1</li> </ul>	
STEP	INSPECTION		ACTION
—	—		Replace DDS1 and reprogram immobilizer system. + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, DDS1 Replacement

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DTC 41		Immobilizer unit or DDS1 is defective (Code words of immobilizer unit and DDS1 do not match)	
POSSIBLE CAUSE		<ul style="list-style-type: none"> <li>Defective immobilizer unit</li> <li>Defective DDS1</li> </ul>	
STEP	INSPECTION		ACTION
—	INSPECT FOR INNER CIRCUIT OF IMMOBILIZER UNIT Replace immobilizer unit and reprogram immobilizer system. + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, Immobilizer Unit Replacement Does engine start?	Yes	Immobilizer unit was defective.
		No	Reinstall original immobilizer unit, replace DDS1 and reprogram immobilizer system. + Section F2, FUEL SYSTEM, FUEL INJECTION PUMP (FIP) REMOVAL/INSTALLATION + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, DDS1 Replacement

DTC 42		DDS1 is defective (Communication error between immobilizer unit and DDS1)	
POSSIBLE CAUSE		<ul style="list-style-type: none"> <li>Defective DDS1</li> </ul>	
STEP	INSPECTION		ACTION
—	—	—	Replace DDS1 and reprogram immobilizer system. + Section F2, FUEL SYSTEM, FUEL INJECTION PUMP (FIP) REMOVAL/INSTALLATION + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, DDS1 Replacement

DTC 44		DDS1 is defective (Malfunction of DDS1, except for malfunction related to DTC 30, 41, or 42)	
POSSIBLE CAUSE		<ul style="list-style-type: none"> <li>Defective DDS1</li> </ul>	
STEP	INSPECTION		ACTION
—	—	—	Replace DDS1 and reprogram immobilizer system. + Section F2, FUEL SYSTEM, FUEL INJECTION PUMP (FIP) REMOVAL/INSTALLATION + IMMOBILIZER SYSTEM, IMMOBILIZER SYSTEM REPROGRAM PROCEDURE, DDS1 Replacement

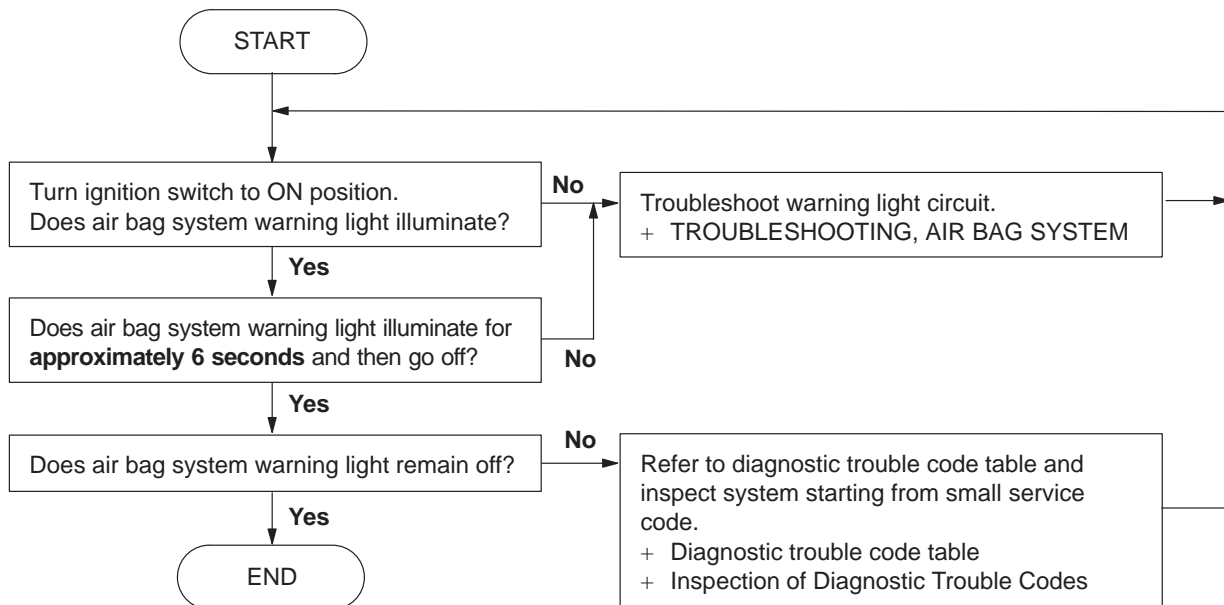
## ON-BOARD DIAGNOSTIC FUNCTION

### AIR BAG SYSTEM

#### Diagnostic Trouble Code

- The SAS unit has an on-board diagnostic function that flashes or illuminates the air bag system warning light to indicate trouble in the air bag system. The trouble can be determined by the warning light illumination or flashing pattern.






#### Flowchart



#### Note

- When a malfunction has occurred in the air bag system and the air bag system warning light doesn't turn on after the ignition switch is turned to ON position, the warning buzzer built into the SAS unit sounds 5 times for 5 cycles.

#### Diagnostic trouble code table

DTC	Output pattern	Diagnosed circuit
1	ON  OFF	SAS unit connector poor connection
2	ON  OFF	SAS unit
3	ON  OFF	Power supply of SAS unit
6	ON  OFF	Driver-side air bag module
7	ON  OFF	Passenger-side air bag module
—	Continuously flashes	Deployment authorization standby code

#### Caution

- When the output pattern continuously flashes (standby code), perform the deployment authorization procedure. (Refer to AIR BAG SYSTEM, AIR BAG MODULE DEPLOYMENT AUTHORIZATION PROCEDURE.)

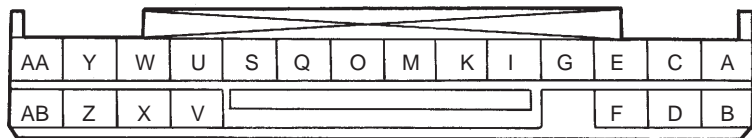
## ON-BOARD DIAGNOSTIC FUNCTION

### Inspection of Diagnostic Trouble Codes

DTC 1		SAS UNIT CONNECTOR POOR CONNECTION	
DETECTION CONDITION	<b>Warning</b> <ul style="list-style-type: none"><li>• Detection conditions are for understanding DTC outline before performing inspection. Performing inspection with only detection conditions may cause injury due to operating error or damage the system. When performing inspection, always follow inspection procedure.</li></ul>		
	No continuity between poor connection detector bar terminals of SAS unit		
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>• Poor connection of connector</li><li>• SAS unit connector malfunction</li><li>• Damaged SAS unit</li></ul>		
STEP	INSPECTION		ACTION
1	VERIFY THAT SAS UNIT CONNECTOR IS CONNECTED WITH SAS UNIT  <b>Warning</b> <ul style="list-style-type: none"><li>• Handling air bag system components improperly can accidentally deploy air bag modules, which may seriously injure you. Read <b>SERVICE WARNINGS</b> before handling air bag system components.</li></ul> + <b>AIR BAG SYSTEM, SERVICE WARNINGS</b>  Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b> . Remove front console. Is SAS unit connector securely connected?	Yes	Go to next step.
		No	Reconnect connector properly.
2	INSPECT SAS UNIT CONNECTOR Remove column cover. Disconnect clock spring connector. Remove glove compartment. (Vehicles with passenger-side air bag) Disconnect passenger-side air bag module connector. (Vehicles with passenger-side air bag) Disconnect SAS unit connector. Is SAS unit connector okay?	Yes	Replace SAS unit. + AIR BAG SYSTEM, SAS UNIT REMOVAL/INSTALLATION
		No	Replace wiring harness.

DTC 2		SAS UNIT	
DETECTION CONDITION	<b>Warning</b> <ul style="list-style-type: none"><li>Detection conditions are for understanding DTC outline before performing inspection. Performing inspection with only detection conditions may cause injury due to operating error or damage the system. When performing inspection, always follow inspection procedure.</li></ul>		
	Malfunction in SAS unit inner circuit		
POSSIBLE CAUSE	Damaged SAS unit		
STEP	INSPECTION		ACTION
—	—		Replace SAS unit. + AIR BAG SYSTEM, SAS UNIT REMOVAL/INSTALLATION

# ON-BOARD DIAGNOSTIC FUNCTION

DTC 3		POWER SUPPLY OF SAS UNIT	
DETECTION CONDITION	<b>Warning</b> <ul style="list-style-type: none"><li>Detection conditions are for understanding DTC outline before performing inspection. Performing inspection with only detection conditions may cause injury due to operating error or damage the system. When performing inspection, always follow inspection procedure.</li></ul> Voltage supplied to SAS unit is 9 V or less.		
POSSIBLE CAUSE	<b>Note</b> <ul style="list-style-type: none"><li>Diagnostic trouble code 3 is indicated when voltage simultaneously drops in the harness of both of following circuits.<ol style="list-style-type: none"><li>Harness between METER 15 A fuse and terminal AB of SAS unit connector.</li><li>Harness between ENGINE 15 A fuse and terminal Z of SAS unit connector.</li></ol></li><li>Weak battery</li><li>Malfunction in wiring harness between battery and SAS unit</li><li>Damaged SAS unit</li></ul>		
STEP	INSPECTION		ACTION
1	INSPECT BATTERY	Yes	Go to next step.
	<b>Warning</b> <ul style="list-style-type: none"><li>Handling air bag system components improperly can accidentally deploy air bag modules, which may seriously injure you. Read <b>SERVICE WARNINGS</b> before handling air bag system components.</li></ul> + <b>AIR BAG SYSTEM, SERVICE WARNINGS</b>  Is battery voltage <b>more than 9 V</b> ?	No	Battery is weak. Inspect charge/discharge system. + Section G, CHARGING SYSTEM, BATTERY INSPECTION
2	INSPECT WIRING HARNESS BETWEEN BATTERY AND SAS UNIT Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b> . Remove column cover. Disconnect clock spring connector. Remove glove compartment. (Vehicles with passenger-side air bag) Disconnect passenger-side air bag module connector. (Vehicles with passenger-side air bag) Remove front console. Disconnect SAS unit connector. Turn ignition switch to ON position. Measure voltage at terminal AB or Z of SAS unit connector. Is voltage <b>more than 9 V</b> ?	Yes	Replace SAS unit. + <b>AIR BAG SYSTEM, SAS UNIT REMOVAL/INSTALLATION</b>
		No	Repair wiring harness. (Ignition switch-Fuse block)
SAS UNIT CONNECTOR			
			



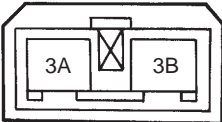
## ON-BOARD DIAGNOSTIC FUNCTION

DTC 6		DRIVER-SIDE AIR BAG MODULE	
DETECTION CONDITION	<b>Warning</b> <ul style="list-style-type: none"><li>Detection conditions are for understanding DTC outline before performing inspection. Performing inspection with only detection conditions may cause injury due to operating error or damage the system. When performing inspection, always follow inspection procedure.</li></ul>		
	Resistance detected between terminals M and O of SAS unit is other than 1.87—3.42 Ω .		
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>Damaged driver-side air bag module</li><li>Damaged clock spring</li><li>Open or short circuit in wiring harness between clock spring and SAS unit</li><li>Damaged SAS unit</li></ul>		
STEP	INSPECTION		ACTION
1	INSPECT CLOCK SPRING PIN  <b>Warning</b> <ul style="list-style-type: none"><li>Handling air bag system components improperly can accidentally deploy air bag modules, which may seriously injure you. Read <b>SERVICE WARNINGS</b> before handling air bag system components.</li></ul> + <b>AIR BAG SYSTEM, SERVICE WARNINGS</b>  Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b> . Remove driver-side air bag module. + <b>AIR BAG SYSTEM, DRIVER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION</b> Is clock spring pin okay?	Yes	Go to next step.
		No	Replace clock spring. + <b>AIR BAG SYSTEM, CLOCK SPRING REMOVAL/INSTALLATION</b>
2	VERIFY WHETHER MALFUNCTION IS IN DRIVER-SIDE AIR BAG MODULE OR OTHER PARTS Connect <b>SST</b> (Air bag simulator) to clock spring. Connect negative battery cable. Is diagnostic trouble code 6 indicated when ignition switch is turned to ON position?	Yes	Go to next step.
		No	Replace driver-side air bag module. + <b>AIR BAG SYSTEM, DRIVER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION</b>
3	INSPECT CLOCK SPRING CONNECTOR PIN Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b> . Remove column cover. Disconnect clock spring connector. Is clock spring connector pin okay?	Yes	Go to next step.
		No	Replace wiring harness.
4	VERIFY WHETHER MALFUNCTION IS IN CLOCK SPRING OR OTHER PARTS Connect <b>SST</b> (Air bag simulator) to clock spring connector. Connect negative battery cable. Is diagnostic trouble code 6 indicated when ignition switch is turned to ON position?	Yes	Go to next step.
		No	Replace clock spring. + <b>AIR BAG SYSTEM, CLOCK SPRING REMOVAL/INSTALLATION</b>

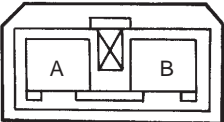
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STEP	INSPECTION		ACTION
5	<b>INSPECT WIRING HARNESS BETWEEN CLOCK SPRING AND SAS UNIT</b> Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b> . Remove glove compartment. (Vehicle with passenger-side air bag) Disconnect passenger-side air bag module connector. (Vehicle with passenger-side air bag) Remove front console. Disconnect SAS unit connector. Inspect wiring harness between terminal O of SAS unit connector and terminal A of clock spring connector, and between terminal M of SAS unit connector and terminal B of clock spring connector for following. <ul style="list-style-type: none"> <li>• Short to ground</li> <li>• Short to power supply</li> <li>• Open circuit</li> </ul> Is wiring harness okay?	Yes	Replace SAS unit. + AIR BAG SYSTEM, SAS UNIT REMOVAL/INSTALLATION
		No	Replace wiring harness.

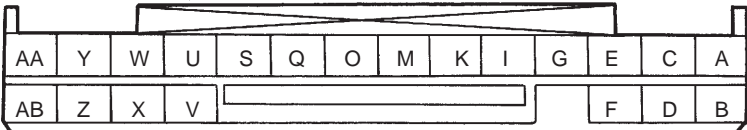
CLOCK SPRING



CLOCK SPRING CONNECTOR



SAS UNIT CONNECTOR



DTC 7		PASSENGER-SIDE AIR BAG MODULE	
DETECTION CONDITION	<b>Warning</b> <ul style="list-style-type: none"><li>● Detection conditions are for understanding DTC outline before performing inspection. Performing inspection with only detection conditions may cause injury due to operating error or damage the system. When performing inspection, always follow inspection procedure.</li></ul>		
	Resistance detected between terminals I and K of SAS unit is other than 1.63—2.71 Ω .		
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>● Damaged passenger-side air bag module (With passenger-side air bag)</li><li>● Damaged false resistance (Without passenger-side air bag)</li><li>● Open or short circuit in wiring harness between passenger-side air bag module and SAS unit</li><li>● Damaged SAS unit</li></ul>		
STEP	INSPECTION		ACTION
1	Is vehicle equipped with passenger-side air bag module?	Yes	Go to next step.
		No	Go to step 5.

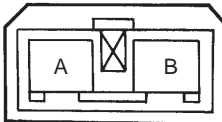
## ON-BOARD DIAGNOSTIC FUNCTION

STEP	INSPECTION		ACTION
2	<p>INSPECT PASSENGER-SIDE AIR BAG MODULE CONNECTOR PIN</p> <p><b>Warning</b></p> <ul style="list-style-type: none"> <li>• <b>Handling air bag system components improperly can accidentally deploy air bag modules, which may seriously injure you. Read SERVICE WARNINGS before handling air bag system components.</b></li> </ul> <p>+ <b>AIR BAG SYSTEM, SERVICE WARNINGS</b></p> <p>Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b>. Remove glove compartment. Disconnect passenger-side air bag module connector. Is passenger-side air bag module connector pin okay?</p>	Yes	Go to next step.
		No	Replace wiring harness.
3	<p>VERIFY WHETHER MALFUNCTION IS IN PASSENGER-SIDE AIR BAG MODULE OR OTHER PARTS</p> <p>Connect <b>SST</b> (Air bag simulator) to passenger-side air bag module connector. Connect negative battery cable. Is diagnostic trouble code 7 indicated when ignition switch is turned to ON position?</p>	Yes	Go to next step.
		No	Replace passenger-side air bag module. + <b>AIR BAG SYSTEM, PASSENGER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION</b>
4	<p>INSPECT WIRING HARNESS BETWEEN PASSENGER-SIDE AIR BAG MODULE AND SAS UNIT</p> <p>Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b>. Remove column cover. Disconnect clock spring connector. Remove front console. Disconnect SAS unit connector. Inspect wiring harness between terminal K of SAS unit connector and terminal A of passenger-side air bag module connector, and between terminal I of SAS unit connector and terminal B of passenger-side air bag module connector for following.</p> <ul style="list-style-type: none"> <li>• Short to ground</li> <li>• Short to power supply</li> <li>• Open circuit</li> </ul> <p>Is wiring harness okay?</p>	Yes	Replace SAS unit. + <b>AIR BAG SYSTEM, SAS UNIT REMOVAL/INSTALLATION</b>
		No	Replace wiring harness.

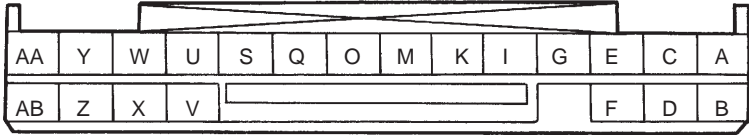
# ON-BOARD DIAGNOSTIC FUNCTION

STEP	INSPECTION	ACTION	
5	VERIFY WHETHER MALFUNCTION IS IN FALSE RESISTANCE OR OTHER PARTS <b>Warning</b> <ul style="list-style-type: none"><li>● <b>Handling air bag system components improperly can accidentally deploy air bag modules, which may seriously injure you. Read SERVICE WARNINGS before handling air bag system components.</b></li><li>+ <b>AIR BAG SYSTEM, SERVICE WARNINGS</b></li></ul> Turn the ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b> . Remove glove compartment. Remove false resistance. Connect <b>SST</b> (Air bag simulator) to passenger-side air bag module connector. Connect negative battery cable. Is diagnostic trouble code 7 indicated when ignition switch is turned to ON position?	Yes	Go to next step.
		No	Replace false resistance.
6	INSPECT WIRING HARNESS BETWEEN FALSE RESISTANCE AND SAS UNIT Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b> . Remove column cover. Disconnect clock spring connector. Remove front console. Disconnect SAS unit connector. Inspect wiring harness between terminal K of SAS unit connector and terminal A of passenger-side air bag module connector, and between terminal I of SAS unit connector and terminal B of passenger-side air bag module connector for following. <ul style="list-style-type: none"><li>● Short to ground</li><li>● Short to power supply</li><li>● Open circuit</li></ul> Is wiring harness okay?	Yes	Replace SAS unit. + AIR BAG SYSTEM, SAS UNIT REMOVAL/INSTALLATION
		No	Replace wiring harness.

PASSENGER-SIDE AIR BAG  
MODULE CONNECTOR



SAS UNIT CONNECTOR



# TROUBLESHOOTING

## TROUBLESHOOTING

### AIR BAG SYSTEM

#### Foreword

- Refer to section GI and thoroughly read and understand the basic flow of troubleshooting in order to properly perform the procedures.
- For the steps that have an asterisk (\*) , inspect the connector/terminal connection for continuity and damage. If the connection is poor, reconnect it, or repair or replace the appropriate parts if necessary.

#### Troubleshooting Index

- Use the chart below to verify the symptoms of the trouble in order to diagnose the appropriate area.

No.	Malfunction symptom
1	Air bag system warning light does not illuminate when ignition switch is turned to ON position.
2	Air bag system warning light illuminates immediately after ignition switch is turned to ON position and remains illuminated.

#### Symptom Troubleshooting

##### Note

- The following may be the cause of trouble if the symptom does not go away after the symptom troubleshooting steps are followed.

1. Poor contact at terminal G of short connector (6-pin) between instrument cluster and SAS unit.
2. Simultaneous poor contact at terminals D and F of short connector (6-pin) between METER 15 A fuse and SAS unit, and ENGINE 15 A fuse and SAS unit, respectively.
3. Simultaneous poor contact at terminals S and X of SAS unit connector (21-pin).
4. Simultaneous poor contact at terminals AB and Z of SAS unit connector (21-pin).
5. Simultaneous poor contact in wiring harness between terminal S of SAS unit connector (21-pin) and ground, terminal X of SAS unit connector (21-pin) and ground.
6. Simultaneous poor contact in wiring harness between METER 15 A fuse and SAS unit, ENGINE 15 A fuse and SAS unit.

1	Air bag system warning light does not illuminate when ignition switch is turned to ON position.		
<b>TROUBLESHOOTING HINTS</b> Malfunction in SAS unit power supply/ground circuit 1 Air bag system warning light does not illuminate <ul style="list-style-type: none"><li>• SAS unit malfunction</li><li>• Instrument cluster (print plate) malfunction</li><li>• Terminal 1J of instrument cluster connector (16–pin) malfunction</li><li>• Terminal 2J of instrument cluster connector (14–pin) malfunction</li><li>• Terminal Q of SAS unit connector (21–pin) malfunction</li><li>• Air bag system warning light bulb malfunction</li><li>• Poor installation of air bag system warning light bulb</li><li>• Poor connection at terminal 1J of instrument cluster connector (16–pin)</li><li>• Poor connection at terminal 2J of instrument cluster connector (14–pin)</li><li>• Poor connection at terminal Q of SAS unit connector (21–pin)</li><li>• Poor contact in instrument cluster connectors (14, 16–pin)</li><li>• Open or short circuit in wiring harness between instrument cluster and SAS unit</li></ul>			
<b>STEP</b>	<b>INSPECTION</b>		<b>ACTION</b>
1	Are instrument cluster connectors (14, 16–pin) securely connected?	Yes	Go to next step.
		No	Reconnect connector properly, then go to Step 10.
2	Is air bag system warning light bulb securely installed?	Yes	Go to next step.
		No	Reinstall properly, then go to Step 10.
3	Is air bag system warning light bulb functional?	Yes	Reinstall properly, then go to next step.
		No	Replace bulb, then go to Step 10.
4	Are terminal 1J of instrument cluster connector (16–pin) and terminal 2J of instrument cluster connector (14–pin) securely connected?	Yes	Go to next step.
		No	Reconnect properly, then go to Step 10.

## TROUBLESHOOTING

STEP	INSPECTION		ACTION
5	Are terminal 1J of instrument cluster connector (16-pin) and terminal 2J of instrument cluster connector (14-pin) damaged?	Yes	Replace air bag harness for malfunctioning terminal, then go to Step 10.
		No	Go to next step.
6	Is there continuity between terminals 1J and 2J of print plate of instrument cluster?	Yes	Go to next step.
		No	Replace instrument cluster, then go to Step 10. + WARNING AND INDICATOR SYSTEM, INSTRUMENT CLUSTER REMOVAL/INSTALLATION
7	Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b> . Remove column cover. Disconnect clock spring connector. Remove glove compartment. (Vehicle with passenger-side air bag) Disconnect passenger-side air bag module connector. (Vehicle with passenger-side air bag) Remove front console. Disconnect SAS unit connector (21-pin). Is terminal Q of SAS unit connector (21-pin) securely connected?	Yes	Go to next step.
		No	Reconnect properly, then go to Step 10.
8	Is terminal Q of SAS unit connector (21-pin) damaged?	Yes	Replace air bag harness, then go to Step 10.
		No	Go to next step.
*9	Disconnect instrument cluster connector (14-pin). Is there continuity between terminal Q of SAS unit connector (21-pin) and terminal 2J of instrument cluster connector (14-pin)?	Yes	Replace SAS unit, then go to next step. + AIR BAG SYSTEM, SAS UNIT REMOVAL/INSTALLATION
		No	Replace air bag harness, then go to next step.
10	Connect SAS unit connector (21-pin). Connect passenger-side air bag module connector. (Vehicle with passenger-side air bag) Connect clock spring connector. Connect instrument cluster connector. Connect negative battery cable. When turning ignition switch to ON position, does air bag system warning light operate properly?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction reoccurs.

## TROUBLESHOOTING

2	Air bag system warning light illuminates immediately after ignition switch is turned to ON position and remains illuminated.		
TROUBLESHOOTING HINTS			
Malfunction in air bag system warning light circuit			
1 Air bag system warning light remains illuminated			
<ul style="list-style-type: none"><li>• SAS unit malfunction</li><li>• Malfunction of short bar between terminals Q and S of SAS unit connector (21-pin)</li><li>• No connection in SAS unit connector (21-pin)</li><li>• Short circuit in wiring harness between instrument cluster and SAS unit</li></ul>			
STEP	INSPECTION		ACTION
1	Turn ignition switch to LOCK position. Disconnect negative battery cable and wait for <b>more than 1 minute</b> . Remove front console. Is SAS unit connector (21-pin) securely connected?	Yes	Go to next step.
		No	Reconnect properly, then go to Step 5.
2	Is short bar between terminals Q and S of SAS unit connector (21-pin) bent?	Yes	Replace air bag harness, then go to Step 5.
		No	Go to next step.
3	Is SAS unit short bar hook okay?	Yes	Go to next step.
		No	Replace SAS unit, then go to Step 5. + AIR BAG SYSTEM, SAS UNIT REMOVAL/INSTALLATION
*4	Remove column cover. Disconnect clock spring connector. Remove glove compartment. (Vehicle with passenger-side air bag) Disconnect passenger-side air bag module connector. (Vehicle with passenger-side air bag) Disconnect SAS unit connector (21-pin). Disconnect instrument cluster connector (14-pin). Insert insulating material between terminals Q and S of SAS unit connector (21-pin) so short bar cannot function. Is there continuity between terminal Q and ground?	Yes	Replace air bag harness, then go to next step.
		No	Replace SAS unit, then go to next step. + AIR BAG SYSTEM, SAS UNIT REMOVAL/INSTALLATION
5	Connect SAS unit connector (21-pin). Connect passenger-side air bag module connector. (Vehicle with passenger-side air bag) Connect clock spring connector. Connect instrument cluster connector. Connect negative battery cable. When turning ignition switch to ON position, does air bag system warning light operate properly?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction reoccurs.