

2002 ACCESSORIES/SAFETY EQUIPMENT

Kia - Air Bag Restraint Systems

DESCRIPTION & OPERATION

WARNING: Accidental air bag deployment is possible. Personal injury may result. Read and follow all **WARNINGS** and **AIR BAG SAFETY PRECAUTIONS** before working on air bag system or related components.

Supplemental Restraint System (SRS), also known as air bag system, is designed to provide increased accident protection for driver and front seat passenger by deploying air bags and seat belt pretensioners during a frontal collision. The air bag system is designed to be used in conjunction with 3-point seat belts.

The air bag system includes the following components: Supplemental Restraint System Control Module (SRSCM), driver-side and passenger-side air bag modules, clockspring, driver and passenger front seat belt pretensioners, Passenger Presence Detection (PPD) sensor, AIR BAG warning light and associated wiring harnesses.

AIR BAG WARNING LIGHT

Ignition switch applies battery voltage to AIR BAG warning light. Supplemental Restraint System Control Module (SRSCM) controls AIR BAG warning light operation. When ignition switch is first turned on, SRSCM verifies SRS system operation while AIR BAG warning light flashes 6 times. If SRS system is okay, AIR BAG warning light will turn off. During vehicle operation, AIR BAG warning light warns driver of malfunctions which could potentially affect SRS system operation.

AIR BAG MODULES

Air bag modules consist of an inflatable bag and an inflator. When vehicle is in a collision of sufficient force, Supplemental Restraint System Control Module (SRSCM) causes current flow through deployment loops. Current passing through inflators ignites inflator charges, producing gas which rapidly inflates air bags.

CLOCKSPRING

Clockspring consists of two or more current carrying coils, which allow rotation of steering wheel while maintaining continuity of driver-side air bag module deployment loop.

PASSENGER PRESENCE DETECTION (PPD) SENSOR

PPD sensor detects presence of passenger in passenger front seat. System is designed primarily to prevent deployment of passenger-side air bag module when seat is unoccupied.

SEAT BELT PRETENSIONER

When vehicle is in a frontal collision of sufficient force, SRSCM causes current to flow through seat belt

pretensioner deployment loops. Seat belt pretensioners limit forward movement of driver and front seat passenger.

SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE (SRSCM)

SRSCM monitors vehicle velocity changes to detect frontal impact which are severe enough to warrant air bag module deployment. When a frontal impact of sufficient force is detected, SRSCM causes current flow through driver-side and passenger-side air bag modules and seat belt pretensioners, causing deployment of components.

Additionally, SRSCM provides diagnostic monitoring of SIR system electrical components. When a malfunction is detected, SRSCM sets a Diagnostic Trouble Code (DTC) which can be retrieved using a scan tool. SRSCM warns driver of system malfunctions by controlling AIR BAG warning light.

COMPONENT LOCATIONS

COMPONENT LOCATIONS

Component	Location
AIR BAG warning light	In instrument cluster
Clockspring	In steering column
Driver-side air bag module	On steering wheel
Passenger Presence Detection (PPD) sensor	Under passenger front seat cushion
Passenger-side air bag module	Passenger-side instrument panel
Seat belt pretensioners	Driver & passenger-side lower B-pillars
Supplemental Restraint System Control Module (SRSCM)	Under instrument panel below heater core

SYSTEM OPERATION CHECK

Turn ignition on. AIR BAG warning light should flash 6 times and then turn off. If AIR BAG warning light stays illuminated, a failure has occurred in air bag system. See **RETRIEVING & ERASING DIAGNOSTIC TROUBLE CODES** under DIAGNOSTICS.

AIR BAG SAFETY PRECAUTIONS

Observe these precautions when servicing the air bag system:

- Disable air bag system before servicing any air bag system or steering column component. See **DISABLING & ACTIVATING AIR BAG SYSTEM** .
- When trouble shooting air bag system, always check diagnostic codes before disconnecting battery.
- After turning ignition switch off and disconnecting negative battery cable, wait at least 30 seconds before working on air bag system. Air bag system is equipped with a back-up power source that may allow air bags or seat belt pretensioners to deploy up to 30 seconds after negative battery cable is disconnected.
- When welding on vehicle, disconnect negative battery cable and all air bag module connectors before beginning work.
- During servicing of air bag system, store air bag module where ambient temperature is less than 200°F

(93°C) and humidity and electrical noise are low.

- When placing a live air bag on a bench or other surface, ensure trim cover is facing up, away from work surface. This will reduce motion of module if it is accidentally deployed.
- When carrying air bag module, point cover away from body to lessen chance of injury during accidental deployment.
- Because of critical system operating requirements, DO NOT attempt to service any SRS component. Corrections are made by replacement with new parts only. Never use parts from another vehicle.
- If any SRS component has been dropped or there are cracks, dents or other defects visible, replace with new part.
- DO NOT attempt to measure resistance across air bag module or seat belt pretensioner squib connector. Accidental component deployment is possible, which could cause personal injury.
- After deployment, air bag surface may contain deposits of sodium hydroxide from gas generant combustion which can irritate skin. Always wear safety glasses, rubber gloves and long-sleeved shirt during clean-up. Wash hands using mild soap and water.
- After work on air bag system is completed, ensure system is functioning properly. See **SYSTEM OPERATION CHECK**.

DISABLING & ACTIVATING AIR BAG SYSTEM

WARNING: Accidental air bag deployment is possible. Personal injury may result.
After disabling air bag system, wait at least 30 seconds before servicing air bag system.

To disable air bag system, turn ignition switch to OFF position. Disconnect negative battery cable. Wait 30 seconds before servicing air bag system. To activate air bag system, ensure ignition switch is off. Reconnect negative battery cable. Perform **SYSTEM OPERATION CHECK**.

DISPOSAL PROCEDURES

DEPLOYED AIR BAG OR SEAT BELT PRETENSIONER

Wear gloves and safety glasses when handling deployed air bag modules or seat belt pretensioners. Seal component in a plastic bag and dispose of it as you would any other part.

UNDEPLOYED AIR BAG OR SEAT BELT PRETENSIONER

Disposing of an undeployed air bag or seat belt pretensioner may violate federal, state and/or local laws. Undeployed components contain substances which can cause illness or injury if handled improperly. When scrapping a vehicle, air bags and seat belt pretensioners must be deployed. If components cannot be deployed using the following procedures, contact vehicle manufacturer for further instructions.

OFF-VEHICLE DEPLOYMENT

WARNING: Components are very hot after deployment. Personal injury may result.

Wait at least 20 minutes before handling a deployed component.

NOTE: Off-vehicle deployment procedure for seat belt pretensioner not available.

1. Remove vehicle battery. Wait at least 30 seconds. Disconnect appropriate air bag module and remove from vehicle. See **REMOVAL & INSTALLATION**. Connect Air Bag Deployment Tool (0957A-34100-A) to component connector using Driver Deployment Adapter (0957A-382000) or Passenger Deployment Adapter (9057A-34200). Place air bag module inside a stack of 6-8 tires at least 20 feet (6 m) from any obstacle.
2. Position deployment tool and battery at least 20 feet (6 m) from deployment site. Connect Red deployment tool lead to positive battery terminal and Black deployment tool lead to negative battery terminal. Verify that deployment tool Green POWER indicator is illuminated. Depress and hold READY button. Verify that deployment tool Yellow DEPLOY indicator is illuminated.
3. Depress and hold DEPLOY button. Air bag module should deploy. If component does not deploy, verify that Red DEPLOY indicator is illuminated. Release both buttons. Verify that both READY and DEPLOY indicators are not illuminated. Disconnect deployment tool power leads. Wait at least 30 minutes before approaching component. Contact manufacturer for additional instructions.
4. After deployment, air bag module will be extremely hot. Allow component to cool for 20 minutes before handling. Wear safety glasses and rubber gloves when handling all SRS components. Place air bag module in a strong plastic bag and seal tightly. Component can now be disposed of in the same manner as any other scrap part.

ON-VEHICLE DEPLOYMENT

**WARNING: After deployment, components are very hot. Personal injury may result.
Wait at least 20 minutes before handling a deployed component.**

1. Open all doors and windows on vehicle. Remove vehicle battery. Wait at least 30 seconds. Remove center console side cover. Disconnect Supplemental Restraint System Control Module (SRSCM) connector. Disconnect all air bag system component electrical connectors. Selecting one component at a time, connect Air Bag Deployment Tool (K95U-6000-BDY) to component connector.
2. Position deployment tool and battery as far from vehicle as possible. Connect Red deployment tool lead to positive battery terminal and Black deployment tool lead to negative battery terminal. Verify that deployment tool Green POWER indicator is illuminated. Depress and hold READY button. Verify that deployment tool Yellow DEPLOY indicator is illuminated.
3. Depress and hold DEPLOY button. Selected SRS component should deploy. If component does not deploy, verify that Red DEPLOY indicator is illuminated. Release both buttons. Verify that both READY and DEPLOY indicators are not illuminated. Disconnect deployment tool power leads. Wait at least 30 minutes before approaching component. Contact manufacturer for additional instructions.
4. After deployment, deployed component will be extremely hot. Allow each component to cool for 20 minutes before handling. Wear safety glasses and rubber gloves when handling SRS components. Place deployed component in a plastic bag and seal tightly. Component can now be disposed of in the same manner as any other scrap part.

POST-COLLISION INSPECTION

When a vehicle has been involved in a collision, certain components of the passive restraint system must be inspected or replaced. See **AIR BAG/SRS COMPONENT INSPECTION & REPLACEMENT TABLES** article in the GENERAL INFORMATION section.

REMOVAL & INSTALLATION

WARNING: Accidental air bag deployment is possible. Personal injury may result. Read and follow all service precautions. See **AIR BAG SAFETY PRECAUTIONS** .

CLOCKSPRING

Removal & Installation

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. See **DRIVER-SIDE AIR BAG MODULE** . Remove steering wheel. See **Fig. 1** . Remove upper and lower steering column covers. Disconnect clockspring connectors from wire harness. Remove clockspring from steering column.
2. To install, reverse removal procedure. Tighten steering wheel nut to specification. See **TORQUE SPECIFICATIONS** . Activate air bag system.

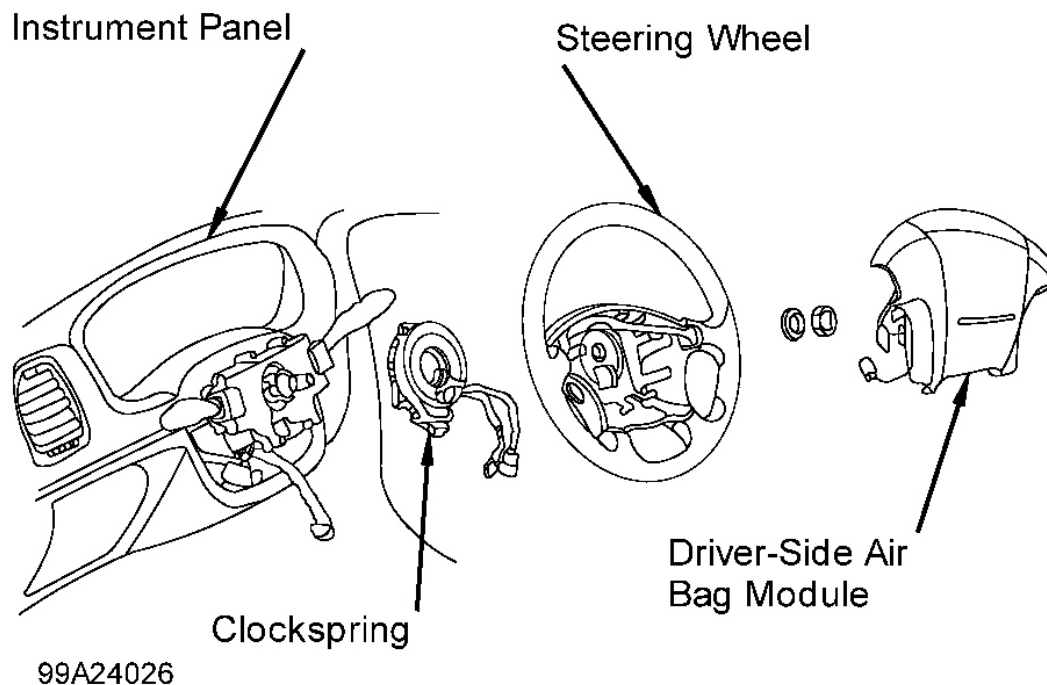


Fig. 1: Identifying Clockspring & Driver-side Air Bag Module
Courtesy of KIA MOTORS AMERICA, INC.

DRIVER-SIDE AIR BAG MODULE

Removal & Installation

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module mounting screws from left and right sides of steering wheel. Remove driver-side air bag module from steering wheel. See **Fig. 1** . Release driver-side air bag module connector locking device by pulling locking device outward and spreading it open.
2. To install, reverse removal procedure. Activate air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Check AIR BAG warning light to ensure system is functioning properly. See **SYSTEM OPERATION CHECK** .

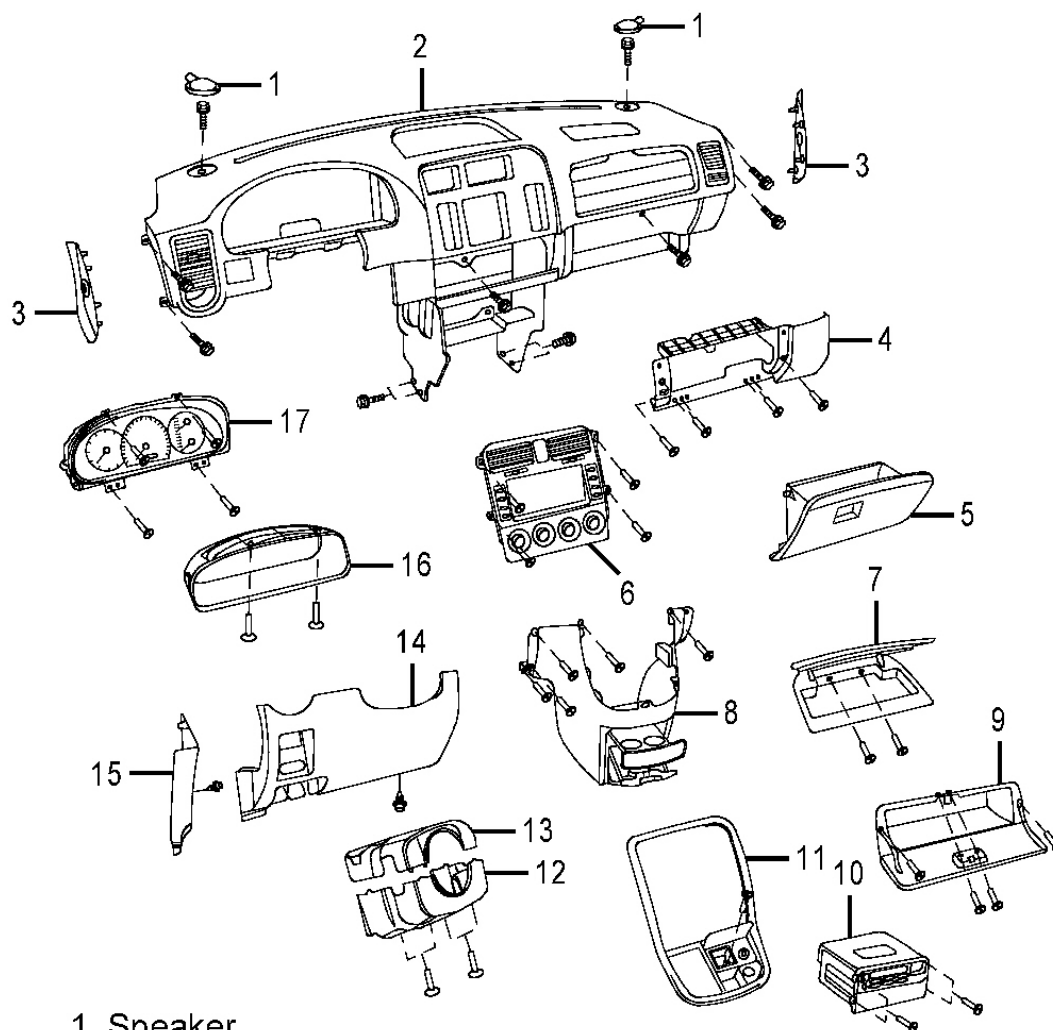
INSTRUMENT PANEL

Removal & Installation

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. See **DRIVER-SIDE AIR BAG MODULE** . Remove steering wheel. Remove upper and lower steering

column covers. See **Fig. 2** . Remove turn signal assembly from steering column. Remove upper A-pillar trim.

2. Remove screws from instrument cluster trim. Remove instrument cluster trim. Remove 4 screws from instrument cluster. Pull instrument cluster away from instrument panel. Disconnect electrical connector from rear of instrument cluster. Remove instrument cluster.
3. Remove lower A-pillar trim. Remove hood release handle from left lower panel. Remove left lower panel. Remove multi-tray. Remove audio trim panel. Remove ventilation control panel. Remove radio assembly.
4. Remove radio assembly. Remove center console. Remove speaker assemblies. Remove instrument panel trim. Remove instrument panel mounting bolts, located in speaker openings. Remove remaining instrument panel mounting bolts. Disconnect all electrical connectors connecting instrument panel wiring to bulkhead wire harness. Remove instrument panel. To install, reverse removal procedure. Activate air bag system.



- | | |
|------------------------------|---------------------------------|
| 1. Speaker | 10. Radio Assembly |
| 2. Instrument Panel | 11. Audio Trim Panel |
| 3. Instrument Trim | 12. Lower Steering Column Cover |
| 4. Right Lower Panel | 13. Upper Steering Column Cover |
| 5. Glove Box | 14. Left Lower Panel |
| 6. Ventilation Control Panel | 15. Lower A-Pillar Trim |
| 7. Center Upper Tray | 16. Instrument Cluster Trim |
| 8. Center Console | 17. Instrument Cluster |
| 9. Multi-Tray | |

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Fig. 2: Identifying Instrument Panel Components
 Courtesy of KIA MOTORS AMERICA, INC.

Removal & Installation

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** .
2. Remove glove box. Disconnect passenger-side air bag module connector. Remove instrument panel. See **INSTRUMENT PANEL** . Remove passenger-side air bag module from rear of instrument panel. To install, reverse removal procedure. Activate air bag system.

SEAT BELT PRETENSIONER

Removal & Installation

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove applicable seat belt buckle. Remove anchor bolt from end of seat belt. Allow seat belt to retract as far as possible.
2. Remove upper seat belt anchor bolt. Remove B-pillar trim. Disconnect seat belt pretensioner electrical connector. Remove sheet metal screw and anchor bolt from pretensioner. Remove seat belt pretensioner.
3. To install, reverse removal procedure. Tighten seat belt pretensioner bolts to specification. See **TORQUE SPECIFICATIONS** . Activate air bag system.

SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE (SRSCM)

Removal & Installation

Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove center console. Disconnect SRSCM connector. Remove SRSCM fasteners. Remove SRSCM. To install, reverse removal procedure. Activate air bag system.

DIAGNOSTICS

WARNING: Accidental air bag deployment is possible. Personal injury may result. Read and follow service precautions. See **AIR BAG SAFETY PRECAUTIONS** .

SRSCM DIAGNOSTIC CHECK

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** .
2. Disconnect SRSCM connector. Remove driver-side air bag module. Disconnect passenger-side air bag module connector and seat belt pretensioner connectors.
3. Install jumper wires on harness side of connectors for all disconnected SRS components. Connect SRSCM connector. Install scan tool to Data Link Connector (DLC), located under driver side instrument panel.
4. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear Diagnostic Trouble Codes (DTC's). Turn ignition off. Wait at least 30 seconds.

Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve DTC's. If any DTC's are displayed, replace SRSCM. If no DTC's are displayed, SRSCM is okay at this time.

RETRIEVING & ERASING DIAGNOSTIC TROUBLE CODES

1. Retrieving and erasing air bag Diagnostic Trouble Codes (DTC's) is performed using a serial data port located within the Data Link Connector (DLC), located under left side of instrument panel. Retrieving and erasing DTC's can only be accomplished using a Hi-Scan Pro Tool equipped with proper software. Disconnecting battery will not erase DTC's.
2. To retrieve DTC's, turn ignition switch to LOCK position. Connect scan tool to DLC. Turn ignition on. Turn scan tool on. Request SIR DTC's. Diagnose displayed DTC's. See **FAULT CODES** table. When diagnosis is complete, erase DTC's using scan tool.

FAULT CODES

Fault Code	Description
<u>B1111</u>	Battery voltage too high
<u>B1112</u>	Battery voltage too low
<u>B1346</u>	Driver-side air bag module resistance high/open
<u>B1347</u>	Driver-side air bag module resistance low/short
<u>B1348</u>	Driver-side air bag module short to ground
<u>B1349</u>	Driver-side air bag module short to voltage
<u>B1352</u>	Passenger-side air bag module resistance high/open
<u>B1353</u>	Passenger-side air bag module resistance low/short
<u>B1354</u>	Passenger-side air bag module short to ground
<u>B1355</u>	Passenger-side air bag module short to voltage
<u>B1361</u>	Driver seat belt pretensioner resistance high/open
<u>B1362</u>	Driver seat belt pretensioner resistance low/short
<u>B1363</u>	Driver seat belt pretensioner short to ground
<u>B1364</u>	Driver seat belt pretensioner short to voltage
<u>B1367</u>	Passenger seat belt pretensioner resistance high/open
<u>B1368</u>	Passenger seat belt pretensioner resistance low/short
<u>B1369</u>	Passenger seat belt pretensioner short to ground
<u>B1370</u>	Passenger seat belt pretensioner short to voltage
<u>B1406</u>	PPD defect
<u>B1407</u>	PPD communication error
<u>B1511</u>	Driver seat belt buckle short to voltage/open
<u>B1512</u>	Driver seat belt buckle short to ground/short
<u>B1513</u>	Passenger seat belt buckle short to voltage/open
<u>B1514</u>	Passenger seat belt buckle short to ground/short
<u>B1620</u>	Internal fault
<u>B1650</u>	Crash recorded front air bag
<u>B1657</u>	Ignition recorded belt pretensioner

B1661	ECU mismatching
B2500	Warning lamp failure

DIAGNOSTIC TESTS

DTC B1111 : BATTERY VOLTAGE HIGH

- Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Connect negative battery cable. Turn ignition on. Measure voltage between ground and terminal No. 5 of SRSCM connector. See **Fig. 3** . If battery voltage (10.0-16.5 volts) is present, go to step 3 . If battery voltage is not present, go to next step.
- Check wire harness between SRSCM terminal No. 5 (Pink wire) and fuse. Inspect battery and charging system. Repair as necessary.
- Turn ignition switch to LOCK position. Connect seat belt pretensioner and passenger-side air bag module connectors. Install driver-side air bag module. Connect SRSCM connector. Turn ignition on. If AIR BAG warning light goes off after flashing 6 times, system is okay. If AIR BAG warning light does not go off, retrieve DTC's using scan tool and diagnose displayed DTC's. See **FAULT CODES** table. If DTC B1111 or B1112 is displayed, replace SRSCM. See **SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE (SRSCM)** under REMOVAL & INSTALLATION.

25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
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50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26

○ : SHORTING BAR

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Fig. 3: Identifying Supplemental Restraint System Control Module (SRSCM) Connector Terminals
Courtesy of KIA

DTC B1112 : BATTERY VOLTAGE LOW

- Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Connect negative battery cable. Turn ignition on. Measure voltage between ground and terminal No. 5 of SRSCM connector. See **Fig. 3** . If battery voltage (10.0-16.5 volts) is present, go to step 3 . If battery voltage is not present, go to next step.

2. Check wire harness between SRSCM terminal No. 5 and fuse. Inspect battery and charging system. Repair as necessary. See **WIRING DIAGRAMS**.
3. Turn ignition switch to LOCK position. Connect seat belt pretensioner and passenger-side air bag module connectors. Install driver-side air bag module. Connect SRSCM connector. Turn ignition on. If AIR BAG warning light goes off after flashing 6 times, system is okay. If AIR BAG warning light does not go off, retrieve DTC's using scan tool and diagnose displayed DTC's. See **FAULT CODES** table. If DTC B1111 or B1112 is displayed, replace SRSCM. See **SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE (SRSCM)** under REMOVAL & INSTALLATION.

DTC B1346 : DRIVER-SIDE AIR BAG MODULE RESISTANCE HIGH/OPEN

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS**. Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM**. Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Install Load Resistor (0957A-38200) on upper clockspring connector. Measure resistance between driver-side air bag module high-side circuit terminal No. 10 (White wire) and low-side circuit terminal No. 11 (Red wire) at SRSCM connector. See **Fig. 3**. If resistance is 1.7-2.3 ohms, go to next step. If resistance is not 1.7-2.3 ohms, go to step 4.
3. Ensure ignition is off. Remove load resistor from clockspring connector. Reconnect all SRS connectors. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve SIR DTC's. If DTC B1346 is retrieved, replace driver-side air bag module. See **DRIVER-SIDE AIR BAG MODULE** under REMOVAL & INSTALLATION. If DTC B1346 is not retrieved, system is okay.
4. Disconnect lower clockspring connector. Install load resistor on harness side of connector. Measure resistance between driver-side air bag module high-side circuit terminal No. 10 (White wire) and low-side circuit terminal No. 11 (Red wire) at SRSCM connector terminals. If resistance is 1.7-2.3 ohms, replace clockspring. See **CLOCKSPRING** under REMOVAL & INSTALLATION. If resistance is not 1.7-2.3 ohms, replace wire harness between SRSCM and clockspring.

DTC B1347 : DRIVER-SIDE AIR BAG MODULE RESISTANCE LOW/SHORT

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS**. Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM**. Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Install Load Resistor (0957A-38200) on upper clockspring connector. Measure resistance between driver-side air bag module high-side circuit terminal No. 10 (White wire) and low-side circuit terminal No. 11 (Red wire) at SRSCM connector. See **Fig. 3**. If resistance is 1.7-2.3 ohms, go to next step. If resistance is not 1.7-2.3 ohms, go to step 4.
3. Ensure ignition is off. Remove load resistor from clockspring connector. Reconnect all SRS connectors. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve SIR DTC's. If DTC B1346 is retrieved, replace driver-side air bag module. See **DRIVER-SIDE AIR BAG MODULE** under REMOVAL & INSTALLATION. If DTC B1346 is not retrieved, system is okay.

4. Disconnect lower clockspring connector. Install load resistor on harness side of connector. Measure resistance between driver-side air bag module high-side and low-side circuits at SRSCM connector terminals. If resistance is 1.7-2.3 ohms, replace clockspring. See **CLOCKSPRING** under REMOVAL & INSTALLATION. If resistance is not 1.7-2.3 ohms, replace wire harness between SRSCM and clockspring. See **WIRING DIAGRAMS** .

DTCB1348 : DRIVER-SIDE AIR BAG MODULE SHORT TO GROUND

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Measure resistance between upper clockspring high-side circuit (Red wire) and ground. If resistance is infinite, go to next step. If resistance is not infinite, go to step 4 .

NOTE: **DTC's other than DTC B1348 may be retrieved by scan tool. They are not relevant to this test.**

3. Connect driver-side air bag module. Connect SRSCM connector. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear DTC's. Turn ignition off. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve DTC's. If DTC B1348 is retrieved, replace driver-side air bag module. See **DRIVER-SIDE AIR BAG MODULE** under REMOVAL & INSTALLATION. If DTC B1348 is not retrieved, system is okay.
4. Disconnect lower clockspring connector. Measure resistance between clockspring high-side circuit (White wire) and ground. If resistance is not infinite, replace clockspring. See **CLOCKSPRING** under REMOVAL & INSTALLATION. If resistance is infinite, replace wire harness between SRSCM and clockspring.

DTCB1349 : DRIVER-SIDE AIR BAG MODULE SHORT TO VOLTAGE

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Connect negative battery cable. Turn ignition on. Measure voltage between upper clockspring high-side circuit (White wire) and ground. If no voltage is detected, go to next step. If voltage is detected, go to step 4 .

NOTE: **DTC's other than DTC B1349 may be retrieved by scan tool. They are not relevant to this test.**

3. Turn ignition off. Disconnect negative battery cable. Connect driver-side air bag module. Connect SRSCM connector. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear DTC's. Turn ignition off. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve DTC's. If DTC B1349 is retrieved, replace driver-

side air bag module. See **DRIVER-SIDE AIR BAG MODULE** under REMOVAL & INSTALLATION. If DTC B1349 is not retrieved, system is okay.

4. Turn ignition off. Disconnect lower clockspring connector. Turn ignition on. Measure voltage between clockspring connector high-side circuit (White wire) and ground. If voltage is detected, replace clockspring. See **CLOCKSPRING** under REMOVAL & INSTALLATION. If no voltage is detected, replace wire harness between SRSCM and clockspring. See **WIRING DIAGRAMS**.

DTC B1352 : PASSENGER-SIDE AIR BAG MODULE RESISTANCE HIGH/OPEN

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS**. Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM**. Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Install Load Resistor (0957A-38200) on passenger-side air bag module harness connector. Measure resistance between passenger-side air bag module high-side terminal No. 13 (Orange wire) and low-side terminal No. 14 (Light Blue/Red wire) at SRSCM connector. See **Fig. 3**. If resistance is 1.7-2.3 ohms, go to next step. If resistance is not 1.7-2.3 ohms, replace wire harness between SRSCM and passenger-side air bag module. See **WIRING DIAGRAMS**.

NOTE: DTC's other than DTC B1352 may be retrieved by scan tool. They are not relevant to this test.

3. Remove load resistor from harness connector. Connect passenger-side air bag module connector. Connect SRSCM connector. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve SIR DTC's. If DTC B1352 is retrieved, replace passenger-side air bag module. See **PASSENGER-SIDE AIR BAG MODULE** under REMOVAL & INSTALLATION. If DTC B1352 is not retrieved, system is okay.

DTC B1353 : PASSENGER-SIDE AIR BAG MODULE RESISTANCE LOW/SHORT

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS**. Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM**. Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Install Load Resistor (0957A-38200) on passenger-side air bag module harness connector. Measure resistance between passenger-side air bag module high-side terminal No. 13 (Orange wire) and low-side terminal No. 14 (Light Blue/Red wire) at SRSCM connector. See **Fig. 3**. If resistance is 1.7-2.3 ohms, go to next step. See **Fig. 3**. If resistance is not 1.7-2.3 ohms, replace wire harness between SRSCM and passenger-side air bag module. See **WIRING DIAGRAMS**.

NOTE: DTC's other than DTC B1353 may be retrieved by scan tool. They are not relevant to this test.

3. Remove load resistor from harness connector. Connect passenger-side air bag module connector. Connect SRSCM connector. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve SIR DTC's. If DTC B1353 is retrieved, replace passenger-side

air bag module. See **PASSENGER-SIDE AIR BAG MODULE** under REMOVAL & INSTALLATION. If DTC B1353 is not retrieved, system is okay.

DTC B1354 : PASSENGER-SIDE AIR BAG MODULE SHORT TO GROUND

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Measure resistance between passenger-side air bag module harness connector high-side circuit terminal No. 13 (Orange wire) and ground at SRSCM connector. See **Fig. 3** . If resistance is infinite, go to next step. If resistance is not infinite, replace wire harness between SRSCM and passenger-side air bag module. See **WIRING DIAGRAMS** .

NOTE: **DTC's other than DTC B1354 may be retrieved by scan tool. They are not relevant to this test.**

3. Connect passenger-side air bag module to harness connector. Connect SRSCM connector. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear DTC's. Turn ignition off. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve DTC's. If DTC B1354 is retrieved, replace passenger-side air bag module. See **PASSENGER-SIDE AIR BAG MODULE** under REMOVAL & INSTALLATION. If DTC B1354 is not retrieved, system is okay.

DTC B1355 : PASSENGER-SIDE AIR BAG MODULE SHORT TO VOLTAGE

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Connect negative battery cable. Turn ignition on. Measure voltage between passenger-side air bag module connector high-side circuit terminal No. 13 (Orange wire) and ground at SRSCM connector. See **Fig. 3** . If no voltage is detected, go to next step. If voltage is detected, replace wire harness between SRSCM and passenger-side air bag module. See **WIRING DIAGRAMS** . Go to next step.

NOTE: **DTC's other than DTC B1355 may be retrieved by scan tool. They are not relevant to this test.**

3. Turn ignition off. Disconnect negative battery cable. Connect passenger-side air bag module connector. Connect SRSCM connector. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear DTC's. Turn ignition off. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve DTC's. If DTC B1355 is retrieved, replace passenger-side air bag module. See **PASSENGER-SIDE AIR BAG MODULE** under REMOVAL & INSTALLATION. If DTC B1355 is not retrieved, system is okay.

DTC B1361 : DRIVER SEAT BELT PRETENSIONER RESISTANCE HIGH/OPEN

Diagnostic procedure is not available.

DTC B1362 : DRIVER SEAT BELT PRETENSIONER RESISTANCE LOW/SHORT

Diagnostic procedure is not available.

DTC B1363 : DRIVER SEAT BELT PRETENSIONER SHORT TO GROUND

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Measure resistance between driver seat belt pretensioner high-side circuit terminal No. 1 (Light Green wire) and ground at SRSCM connector. See **Fig. 3** . If resistance is infinite, go to next step. If resistance is not infinite, replace wire harness between SRSCM and driver seat belt pretensioner. See **WIRING DIAGRAMS** .

NOTE: **DTC's other than DTC B1363 may be retrieved by scan tool. They are not relevant to this test.**

3. Connect driver seat belt pretensioner connector. Connect SRSCM connector. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear DTC's. Turn ignition off. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve DTC's. If DTC B1363 is retrieved, replace driver seat belt pretensioner. See **SEAT BELT PRETENSIONER** under REMOVAL & INSTALLATION. If DTC B1363 is not retrieved, system is okay.

DTC B1364 : DRIVER SEAT BELT PRETENSIONER SHORT TO VOLTAGE

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Connect negative battery cable. Turn ignition on. Measure voltage between driver seat belt pretensioner high-side circuit terminal No. 1 (Light Green wire) and ground at SRSCM connector. See **Fig. 3** . If voltage is not detected, go to next step. If voltage is detected, replace wire harness between SRSCM and driver seat belt pretensioner.

NOTE: **DTC's other than DTC B1364 may be retrieved by scan tool. They are not relevant to this test.**

3. Turn ignition off. Disconnect negative battery cable. Wait at least 30 seconds. Connect driver seat belt pretensioner connector. Connect SRSCM connector. Connect negative battery cable. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear DTC's. Turn ignition off. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve DTC's. If DTC B1364 is retrieved, replace driver seat belt pretensioner. See **SEAT BELT PRETENSIONER** under REMOVAL &

INSTALLATION. If DTC B1364 is not retrieved, system is okay.

DTC B1367 : PASSENGER SEAT BELT PRETENSIONER RESISTANCE HIGH/OPEN

Diagnostic procedure is not available.

DTC B1368 : PASSENGER SEAT BELT PRETENSIONER RESISTANCE LOW/SHORT

Diagnostic procedure is not available.

DTC B1369 : PASSENGER SEAT BELT PRETENSIONER SHORT TO GROUND

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Measure resistance between passenger seat belt pretensioner high-side circuit terminal No. 4 and ground at SRSCM connector. See **Fig. 3** . If resistance is infinite, go to next step. If resistance is not infinite, replace wire harness between SRSCM and passenger seat belt pretensioner. See **WIRING DIAGRAMS** .

NOTE: **DTC's other than DTC B1369 may be retrieved by scan tool. They are not relevant to this test.**

3. Connect passenger seat belt pretensioner connector. Connect SRSCM connector. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear DTC's. Turn ignition off. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve DTC's. If DTC B1369 is retrieved, replace passenger seat belt pretensioner. See **SEAT BELT PRETENSIONER** under REMOVAL & INSTALLATION. If DTC B1369 is not retrieved, system is okay.

DTC B1370 : PASSENGER SEAT BELT PRETENSIONER SHORT TO VOLTAGE

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Measure voltage between passenger seat belt pretensioner high-side circuit terminal No. 4 and ground at SRSCM connector. See **Fig. 3** . If voltage is not detected, go to next step. If voltage is detected, replace wire harness between SRSCM and passenger seat belt pretensioner.

NOTE: **DTC's other than DTC B1370 may be retrieved by scan tool. They are not relevant to this test.**

3. Turn ignition off. Disconnect negative battery cable. Connect passenger seat belt pretensioner connector. Connect SRSCM connector. Connect negative battery cable. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear DTC's. Turn ignition off. Wait at least 30 seconds. Turn ignition on. Wait at least

30 seconds. Using scan tool, retrieve DTC's. If DTC B1370 is retrieved, replace passenger seat belt pretensioner. See **SEAT BELT PRETENSIONER** under REMOVAL & INSTALLATION. If DTC B1370 is not retrieved, system is okay.

DTC B1406 : PPD DEFECT

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Check continuity of high-side and low-side circuits of PPD wire harness between SRSCM and PPD interface unit. If continuity exists in both circuits, go to next step. If continuity does not exist in both circuits, replace wire harness between SRSCM and PPD interface unit.
3. Check continuity of high-side and low-side circuits of PPD wire harness between PPD interface unit and PPD sensor. If continuity exists in both circuits, go to next step. If continuity does not exist in both circuits, replace wire harness between PPD interface unit and PPD sensor. See **WIRING DIAGRAMS** .
4. Measure resistance change of PPD sensor with a change of weight. Resistance of PPD should be 50 K/Ohms or less when a weight of 33 pounds (15 kg) or more is placed on PPD. Resistance of PPD should be greater than 50 K/Ohms when a weight of 1.3 pounds (0.6 kg) or less is placed on PPD. If resistance is not as specified, replace PPD. If resistance is as specified, go to next step.

NOTE: **DTC's other than DTC B1406 may be retrieved by scan tool. They are not relevant to this test.**

5. Connect SRSCM connector. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear all DTC's. Turn ignition off. Wait at least 30 seconds. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve SIR DTC's. If DTC B1406 is retrieved, replace PPD. If DTC B1406 is not retrieved, system is okay

DTC B1407 : PPD COMMUNICATION ERROR

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Check continuity of high-side and low-side circuits of PPD wire harness between SRSCM and PPD interface unit. If continuity exists in both circuits, go to next step. If continuity does not exist in both circuits, replace wire harness between SRSCM and PPD interface unit.
3. Check continuity of high-side and low-side circuits of PPD wire harness between PPD interface unit and PPD sensor. If continuity exists in both circuits, go to next step. If continuity does not exist in both circuits, replace wire harness between PPD interface unit and PPD sensor.
4. Measure resistance change of PPD sensor with a change of weight. Resistance of PPD should be 50 K/Ohms or less when a weight of 33 pounds (15 kg) or more is placed on PPD. Resistance of PPD should be greater than 50 Kilo ohms when a weight of 1.3 pounds (0.6 kg) or less is placed on PPD. If resistance is not as specified, replace PPD. If resistance is as specified, go to next step.

NOTE: DTC's other than DTC B1407 may be retrieved by scan tool. They are not relevant to this test.

5. Connect SRSCM connector. Connect negative battery cable. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, clear all DTC's. Turn ignition off. Wait at least 30 seconds. Wait at least 30 seconds. Turn ignition on. Wait at least 30 seconds. Using scan tool, retrieve SIR DTC's. If DTC B1407 is retrieved, replace PPD. If DTC B14076 is not retrieved, system is okay

DTC B1511 : DRIVER SEAT BELT BUCKLE SWITCH SHORT TO VOLTAGE/OPEN

Diagnostic procedure is not available.

DTC B1512 : DRIVER SEAT BELT BUCKLE SWITCH SHORT TO GROUND/SHORT

Diagnostic procedure is not available.

DTC B1513 : PASSENGER SEAT BELT BUCKLE SWITCH SHORT TO VOLTAGE/OPEN

Diagnostic procedure is not available.

DTC B1514 : PASSENGER SEAT BELT BUCKLE SWITCH SHORT TO GROUND/SHORT

Diagnostic procedure is not available.

DTCB1620 : INTERNAL FAULT

There is no inspection or service possible for this DTC. Replace SRSCM. See **SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE (SRSCM)** under REMOVAL & INSTALLATION.

DTCB1650 : CRASH RECORDED FRONT AIR BAG

There is no inspection or service possible for this DTC. Replace SRSCM. See **SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE (SRSCM)** under REMOVAL & INSTALLATION.

DTC B1657 : IGNITION RECORDED BELT PRETENSIONER

There is no inspection or service possible for this DTC. Replace SRSCM. See **SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE (SRSCM)** under REMOVAL & INSTALLATION.

DTCB1661 : ECU MISMATCHING

There is no inspection or service possible for this DTC. Replace SRSCM. See **SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE (SRSCM)** under REMOVAL & INSTALLATION.

DTCB2500 : WARNING LAMP FAILURE

1. Before proceeding, see **AIR BAG SAFETY PRECAUTIONS** . Disable air bag system. See **DISABLING & ACTIVATING AIR BAG SYSTEM** . Remove driver-side air bag module. Disconnect passenger-side air bag module and seat belt pretensioner connectors. Disconnect SRSCM connector. Go to next step.
2. Remove and inspect fuse No. 11 and 14, located in junction block behind left side of instrument panel. Replace fuses if blown or damaged, reinstall fuses if okay. Go to next step.
3. Connect negative battery cable. Turn ignition on. Measure voltage on harness side of SRSCM connector terminal No. 7 (Brown wire). See **Fig. 3** . If voltage is 10.0-16.5 volts, go to next step. If voltage is not 10.0-16.5 volts, inspect and repair AIR BAG warning light circuit and/or warning light bulb.
4. Check AIR BAG warning light in instrument cluster. If AIR BAG warning light is functioning correctly, system is okay. If AIR BAG warning light is not functioning correctly, replace SRSCM. See **SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE (SRSCM)** under REMOVAL & INSTALLATION.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Seat belt	
Anchor bolts	10-14 (14-19)
Buckle bolt	10-14 (14-19)
Pretensioner bolt	10-14 (14-19)
Steering wheel nut	30-37 (40-50)

WIRING DIAGRAMS

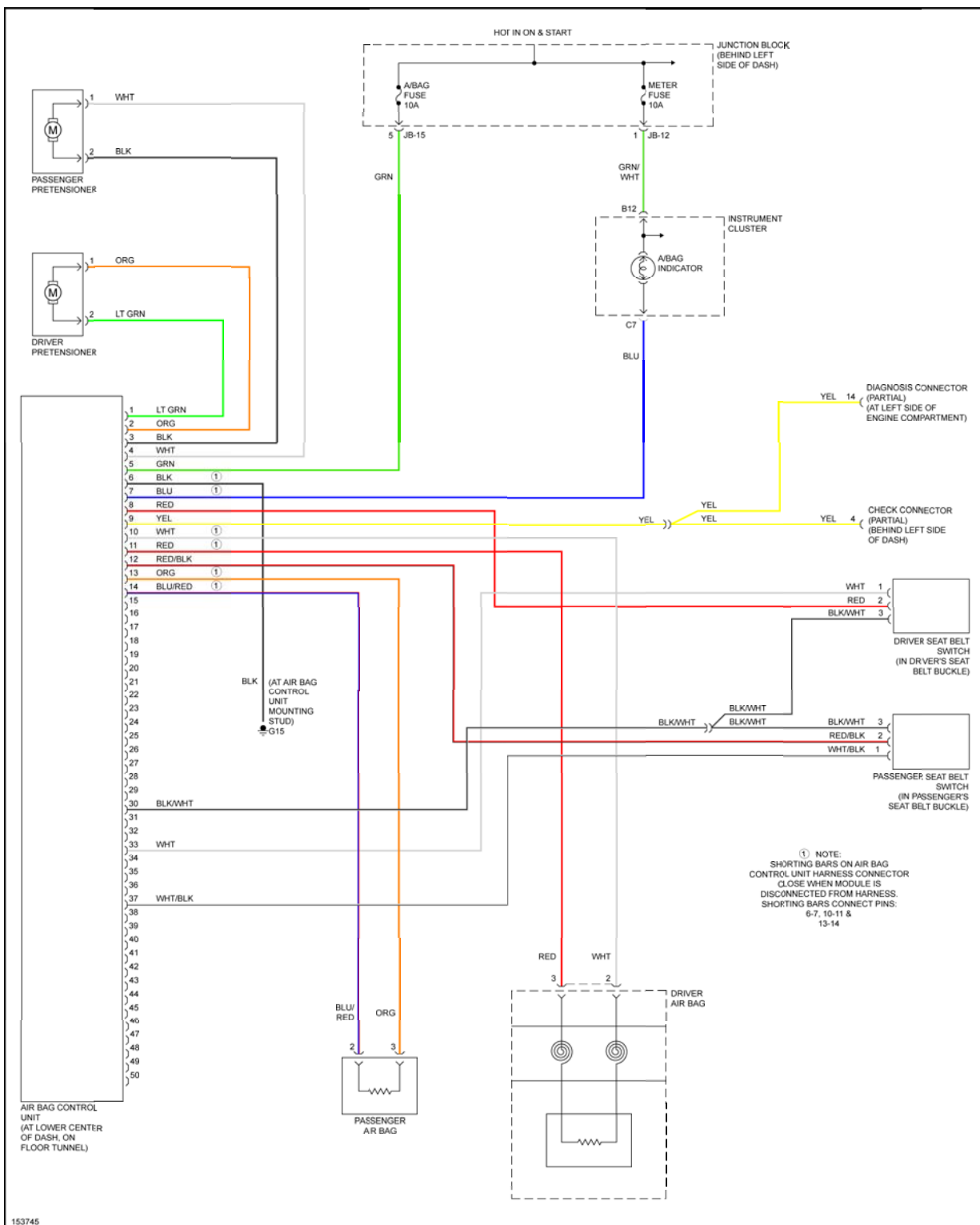


Fig. 4: Air Bag System Wiring Diagram (Sedona)

