

AIR BAG RESTRAINT SYSTEM

1992 Subaru SVX

1992 ACCESSORIES & SAFETY EQUIPMENT
Subaru Air Bags

Legacy, SVX

* PLEASE READ THIS FIRST *

WARNING: To avoid injury from accidental air bag deployment, read and carefully follow all WARNINGS and SERVICE PRECAUTIONS.

DESCRIPTION & OPERATION

Supplement Restraint System (SRS) consists of an AIR BAG warning light in the instrument cluster, 2 front impact sensors, 2 safety sensors, air bag module, inflator (located in air bag), roll connector (clockspring), control unit and associated wiring harnesses. See Fig. 1.

During a front-end collision, the front impact sensor(s) internal roller is thrown forward. The roller completes an electrical circuit and ignites the inflator to deploy air bag. At least 2 sensors, one safety sensor and one front impact sensor, must activate simultaneously to inflate air bag.

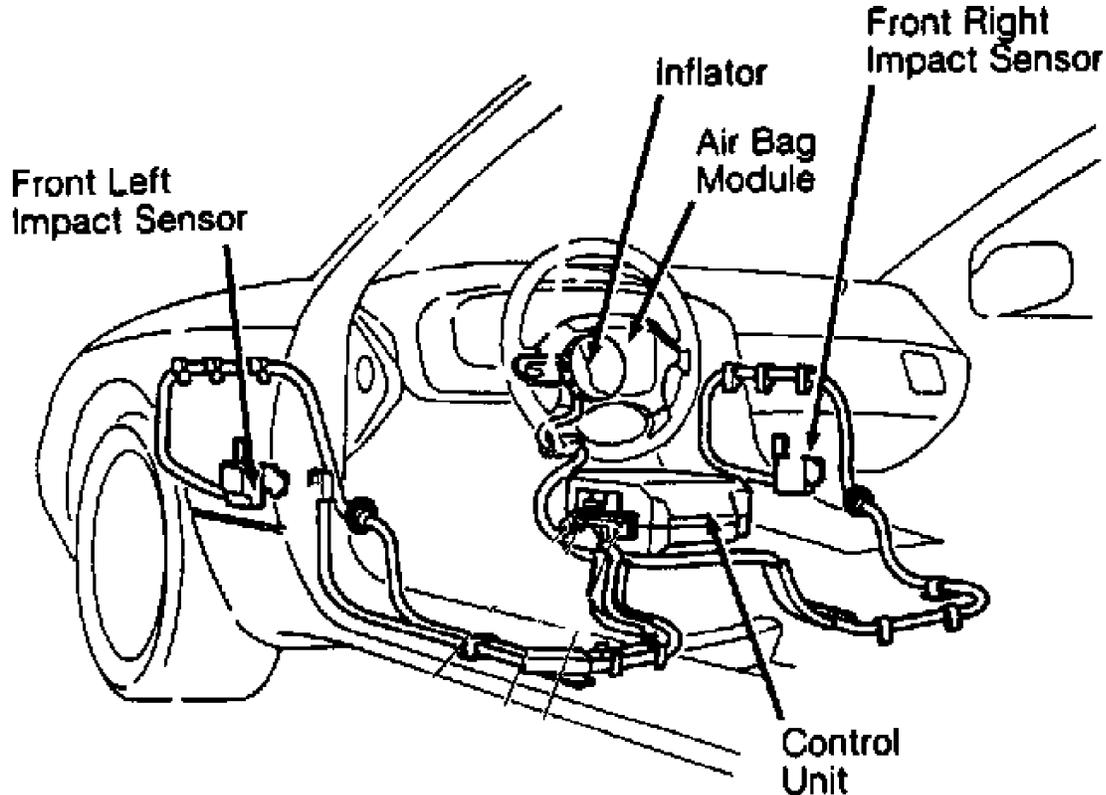


Fig. 1: Locating SRS Components (SVX Is Shown; Legacy Is Similar)
Courtesy of Subaru of America, Inc.

AIR BAG MODULE

The air bag module is located in center of the steering wheel and contains an air bag and inflator. When front impact sensor(s) close, signaling a front impact, the ignitor causes ignition of inflator gas generant. This ignition reaction combusts sodium azide/copper oxide gas generant in the inflator, producing nitrogen gas, which inflates air bag.

When air bag deploys, tear seams molded into steering wheel trim cover separate, allowing inflation of air bag assembly. Air bag module is not serviceable and must be replaced as complete assembly.

BACK-UP POWER SUPPLY

Back-up power supply is used on all models and is located inside air bag control unit. If battery or battery cables are damaged in a collision before front impact sensors close the circuit, back-up power supply will deploy air bag. Back-up power supply will hold a deployment charge for about 10 minutes after battery cables are disconnected.

CLOCKSPRING

The steering column contains a clockspring contact assembly to transfer electrical signals from steering column wiring harness to air bag module. Clockspring is mounted to steering column between column and steering wheel.

CONTROL UNIT

Control unit contains a microcomputer, which monitors electrical system components and connections. Control unit performs a system self-check of system's internal circuits every time ignition switch is turned to RUN position. Control unit also energizes SRS readiness indicator light (AIR BAG warning light) during initial system self-check and whenever a fault is detected. The faults are translated into coded light and is displayed through AIR BAG warning light.

ELECTRICAL SYSTEM

SRS is powered directly from battery and can function with ignition switch in any position, including OFF and LOCK. System can also function when driver and passenger seats are unoccupied. The 3 main functions performed by electrical subsystem are as follows: detecting an impact, switching electric power to inflator for air bag, and monitoring readiness of SRS system.

IMPACT SENSORS

Each impact sensor reacts to impacts according to direction and force. It discriminates between impacts that require air bag inflation and impacts that do not require air bag inflation. When an impact occurs requiring air bag inflation, impact sensor roller completes an electrical circuit necessary for system operation. At least 2 sensors, one safety and one front impact, must be activated simultaneously to inflate air bag. The front impact sensors are located inside front right and left fender wells. The 2 safing sensors are located inside control unit

SERVICING

To ensure long-term operation of SRS, manufacturer recommends

inspecting SRS 10 years from vehicle manufacture date; see certification label on driver-side center pillar.

SYSTEM OPERATION CHECK

Turn ignition switch to ON position. AIR BAG warning light in instrument cluster should glow and go out after approximately 8 seconds. If AIR BAG warning light stays illuminated for more than 8 seconds with ignition switch in ON position, SRS is malfunctioning and needs repair. See DIAGNOSIS & TESTING.

SERVICE PRECAUTIONS

Observe following precautions when working with air bag systems:

- * Disable SRS before servicing any SRS or steering column component. Failure to disable system could result in accidental air bag deployment and possible personal injury. See DISABLING & ACTIVATING AIR BAG SYSTEM.
- * Wait about 10 minutes after disconnecting negative battery cable before servicing SRS. System reserve capacitor maintains SRS voltage for about 10 minutes after battery is disconnected. Servicing SRS before 10 minutes may cause accidental air bag deployment and possible personal injury.
- * When trouble shooting SRS, always check for diagnostic codes before disconnecting battery.
- * In a minor collision in which air bag does not deploy, front air bag impact sensors and steering wheel pad should be inspected.
- * DO NOT use air bag parts from another vehicle. Replace air bag parts with new parts.
- * Remove front impact sensors if shocks are likely to be applied to sensors during repairs.
- * DO NOT disassemble and attempt repair of front impact sensors or steering wheel pad.
- * If front impact sensors, control unit or steering wheel pad is dropped, or if there are cracks, dents or other defects in the case or connector, replace parts with new ones.
- * DO NOT expose front impact sensors, control unit or steering wheel pad to temperatures greater than 194°F (90°C).
- * Use a digital volt/ohmmeter with high impedance (10 k/ohm minimum) for troubleshooting electrical circuit.
- * Information labels are attached to air bag components. Follow all notices on labels.
- * After work on SRS is completed, check AIR BAG warning light to ensure system is functioning properly. See SYSTEM OPERATION CHECK.
- * Always wear safety glasses when servicing or handling an air bag.
- * DO NOT check air bag module continuity with air bag removed from vehicle.
- * When placing a live air bag on a bench or other surface, always face air bag and trim cover up, away from surface. This will reduce motion of module if it is accidentally deployed.
- * After deployment, air bag surface may contain deposits of sodium hydroxide, which irritates skin, from the gas generant combustion. Always wear safety glasses, rubber

gloves and long-sleeved shirt during clean-up, and wash hands using mild soap and water.

- * When carrying a live air bag module, trim cover should be pointed away from your body to minimize injury in case of accidental deployment.
- * If SRS is not fully functional for any reason, vehicle should not be driven until system is repaired and again becomes operational. DO NOT remove bulbs, modules, sensors or other components or in any way disable system from operating normally. If SRS is not functional, park vehicle until it is repaired and functions properly.

DISABLING & ACTIVATING

AIR BAG SYSTEM

WARNING: Wait about 10 minutes after disconnecting negative battery cable before servicing SRS. System reserve capacitor maintains SRS voltage for about 10 minutes after battery is disconnected. Servicing SRS system before 10 minutes may cause accidental air bag deployment and possible personal injury.

To disable SRS, turn ignition switch to OFF position. Disconnect and shield negative then positive battery cables. After battery cables have been disconnected, wait about 10 minutes before servicing SRS. To activate SRS, reconnect positive and then negative battery cables. Check AIR BAG warning light to ensure system is functioning properly. See SYSTEM OPERATION CHECK.

DISPOSAL PROCEDURES

DEPLOYED AIR BAG

Deployed air bag modules can be disposed of as you would any other part. Handle air bag module using gloves, and wear safety glasses.

SCRAPPED VEHICLE

WARNING: Some vehicles to be scrapped may have an undeployed air bag. Undeployed air bag modules must NOT be disposed of at normal refuse locations.

Information is not available from manufacturer. Contact vehicle manufacturer for proper air bag disposal instructions prior to scrapping vehicle.

UNDEPLOYED AIR BAG

Information is not available from manufacturer. Contact vehicle manufacturer for proper air bag disposal instructions.

Undeployed air bag modules must NOT be disposed of at normal refuse locations. Undeployed air bag modules contain substances which can cause illness or injury if handled improperly. Disposal of air bag module in any manner inconsistent with proper procedures may be a violation of federal, state and/or local laws.

Transportation of undeployed air bag modules is regulated by hazardous materials regulations of Department of Transportation (DOT) and most state governments. Special shipping procedures are required. Repair shops should check with hazardous material section of their

respective state governments for applicable shipping requirements.

POST-COLLISION INSPECTION

SRS components to be replaced are determined by a proper inspection of entire SRS. Perform following inspection. After repairs, check AIR BAG warning light to ensure system is functioning properly. See SYSTEM OPERATION CHECK.

Air Bag Module

Check pad cover for dents, cracks and deformities. Remove air bag module from steering wheel. See AIR BAG MODULE under REMOVAL & INSTALLATION. Check terminals for deformities and harness for binds. Check air bag inflator case for dents, cracks and deformities. Install air bag module to steering wheel to check fit and alignment with steering wheel.

Control Unit & Wiring Harness

Visually inspect control unit and wiring harness for deformities, heat damage, cracks and breakage. If wiring is damaged, replace wiring harness.

Front Impact Sensors

If damage to front bumper, fender or tie down hook area exists, check front impact sensors and bracket assemblies for deformities, heat damage, cracks and breakage. Check sensor harness for binds, connectors for damage and terminals for deformities.

Steering Column

Steering column is equipped with a energy absorbing collar which upon severe impact collapses and is not repairable. Manufacturer recommends replacing steering column if vehicle has been in a collision and air bag has deployed.

Steering Wheel & Combination Switch

1) Remove air bag module from steering wheel. See AIR BAG MODULE under REMOVAL & INSTALLATION. Check wiring harness and connectors for damage and terminals for deformities.

2) Install air bag module to steering wheel to check fit and alignment with steering wheel. Check steering wheel for noise, binds or difficult operation and excessive free play.

REMOVAL & INSTALLATION

*** PLEASE READ THIS FIRST ***

WARNING: Failure to follow air bag service precautions may result in air bag deployment and personal injury. See SERVICE PRECAUTIONS. After component replacement, perform a system operational check to ensure proper system operation. See SYSTEM OPERATION CHECK.

AIR BAG MODULE

Removal

1) Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM. Ensure front wheels are in a straight-ahead position.

2) Disconnect combination switch connectors. Remove covers from both sides of steering wheel. Disconnect air bag module and horn connectors. Remove 4 Torx bolts securing air bag module to steering

wheel. Remove air bag module.

Installation

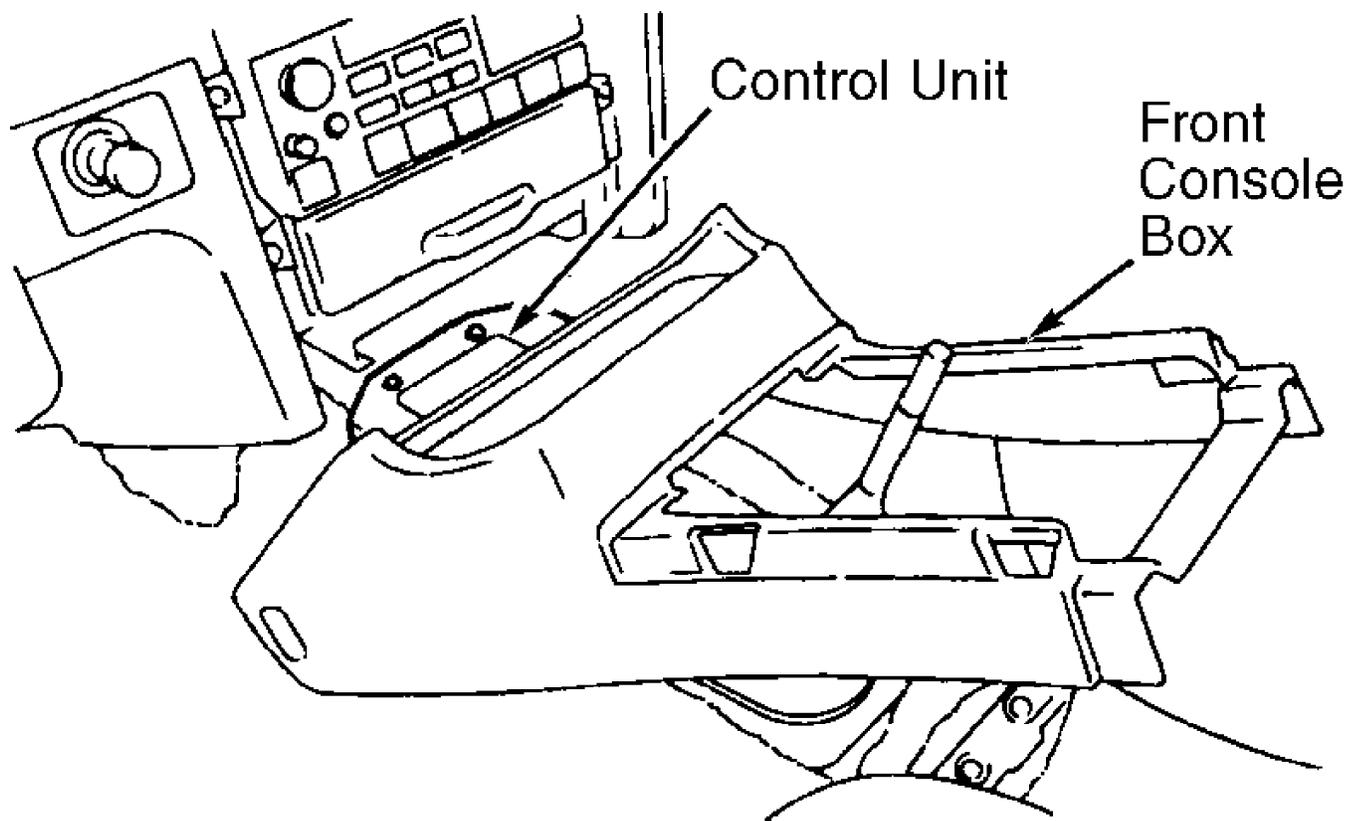
To install air bag module, reverse removal procedure. Use new air bag module-to-steering wheel Torx bolts. Ensure wiring harness and connectors are routed in original locations. After installation procedure is complete, reactivate SRS. Check AIR BAG warning light to ensure system is functioning properly. See SYSTEM OPERATION CHECK.

CONTROL UNIT

Removal (Legacy)

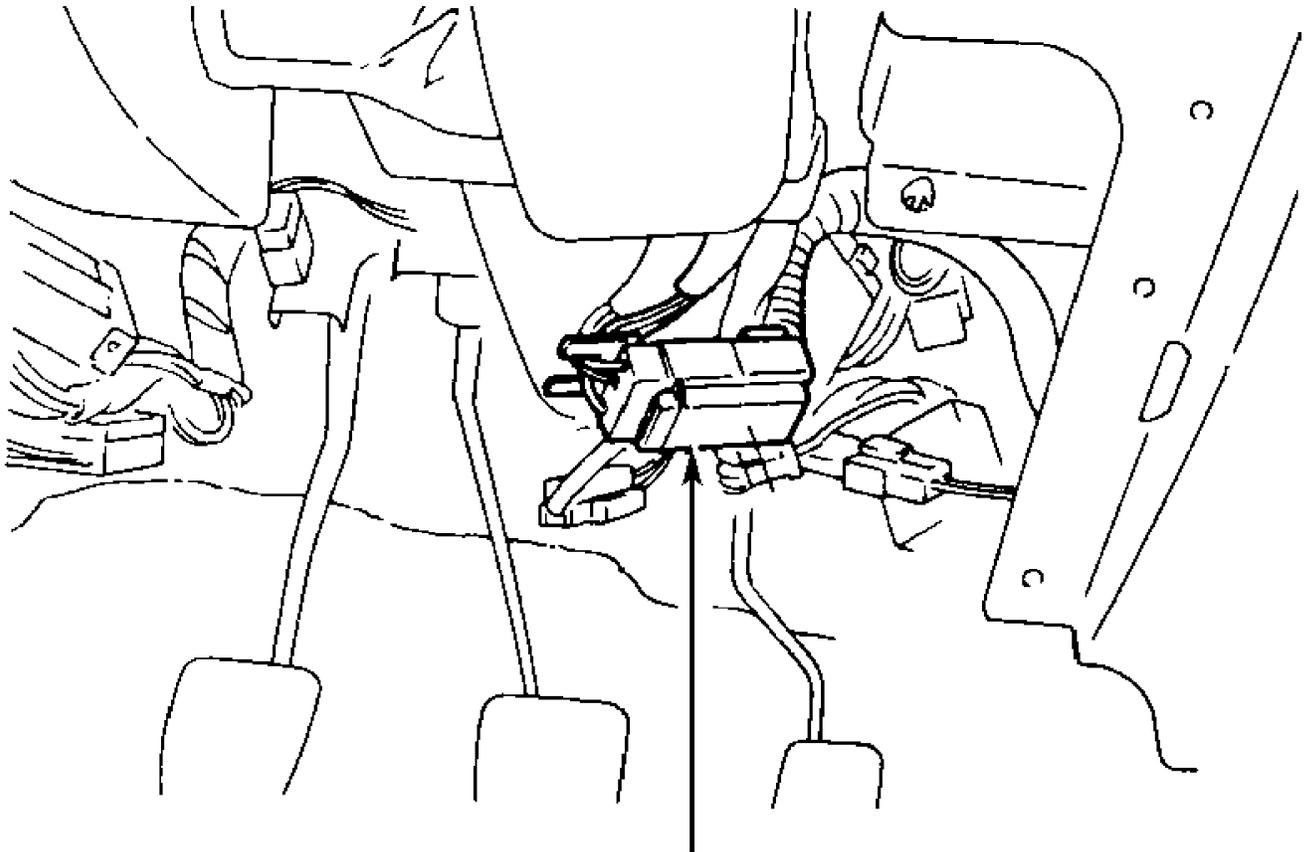
1) Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM. Control unit is located under front console box. See Fig. 2.

2) Remove drivers-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3. Remove front console box. Disconnect control unit connectors. Remove 4 mounting bolts and control unit.



92D24581

Fig. 2: Locating Control Unit (Legacy)
Courtesy of Subaru of America, Inc.



Yellow Connector (AB3 & AB8)

92E24582

Fig. 3: Air Bag Module Connector (Legacy Is Shown; SVX Is Similar)
Courtesy of Subaru of America, Inc.

Installation

To install control unit, reverse removal procedure. Use new control unit mounting bolts. Ensure all SRS connectors are fully connected. After installation procedure is complete, reactivate SRS. Check AIR BAG warning light to ensure system is functioning properly. See SYSTEM OPERATION CHECK.

Removal (SVX)

1) Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM. Control unit is located behind console. Remove driver-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3. Remove steering column brace.

2) Remove glove box door. Remove both side trim panels from console. Remove front ash tray and console mounting screws. Apply parking brake, and move shifter into 1st gear position. Remove 4 shift indicator mounting screws, and slide shift indicator towards rear of vehicle.

3) Remove left and right console braces. Remove radio. Remove carpet from right side of transmission tunnel. Disconnect cigarette lighter connectors. Disconnect control unit connectors. Remove 4 control unit mounting bolts. Remove control unit through radio opening

in dash.

Installation

To install control unit, reverse removal procedure. Use new control unit mounting bolts. Ensure all SRS connectors are fully connected. After installation procedure is complete, reactivate SRS. Check AIR BAG warning light to ensure system is functioning properly. See SYSTEM OPERATION CHECK.

COMBINATION SWITCH/CLOCKSPRING

Removal

Remove air bag module. See AIR BAG MODULE. Mark steering wheel-to-main shaft location for installation reference. Using a steering wheel puller, remove steering wheel. Remove upper and lower steering column covers. Remove 2 retaining screws and combination switch assembly.

Installation

Ensure front wheels are still in straight-ahead position. Ensure combination switch is in OFF position. Install combination switch. Center clockspring. See CLOCKSPRING under ADJUSTMENTS. To complete installation, reverse removal procedure. After installation procedure is complete, reactivate SRS. Check AIR BAG warning light to ensure system is functioning properly. See SYSTEM OPERATION CHECK.

FRONT IMPACT SENSORS

Removal (Legacy)

1) Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM. Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3.

2) Front impact sensors are located in left and right fenderwell areas. Note location of impact sensor wiring harness. See Fig. 1. Remove front console box. See Fig. 2. If replacing left impact sensor, disconnect 2-pin Orange connector from control unit.

3) If replacing right impact sensor, disconnect 2-pin Blue connector from control unit. On all models, remove carpeting and side sill cover. Remove seat (if necessary). Raise and support front of vehicle. Remove front wheels and mud guards. Remove sensor wiring harness brackets. Remove impact sensor.

Installation

1) To install front impact sensor, reverse removal procedure. Ensure all SRS wiring harness connectors are fully connected. Ensure SRS wiring harnesses are routed in original locations with all harness clips and brackets properly installed.

2) After installation procedure is complete, reactivate SRS. Check AIR BAG warning light to ensure system is functioning properly. See SYSTEM OPERATION CHECK.

Removal (SVX)

1) Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM. Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3.

2) Front impact sensors are located in left and right fenderwell areas. Note location of impact sensor wiring harness. See Fig. 1. Remove left console trim panel.

3) If replacing left impact sensor, disconnect 2-pin Orange connector from control unit. Remove driver seat. If replacing right impact sensor, disconnect 2-pin Blue connector from control unit.

Remove passengers seat.

4) On all models, remove lower trim panel from front door pillar. Remove trim panel from rear quarter panel. Remove seat belt cover. Remove upper and lower sill covers. Raise and support front of vehicle. Remove front wheels and mud guards. Remove impact sensor wiring harness brackets. Remove impact sensor.

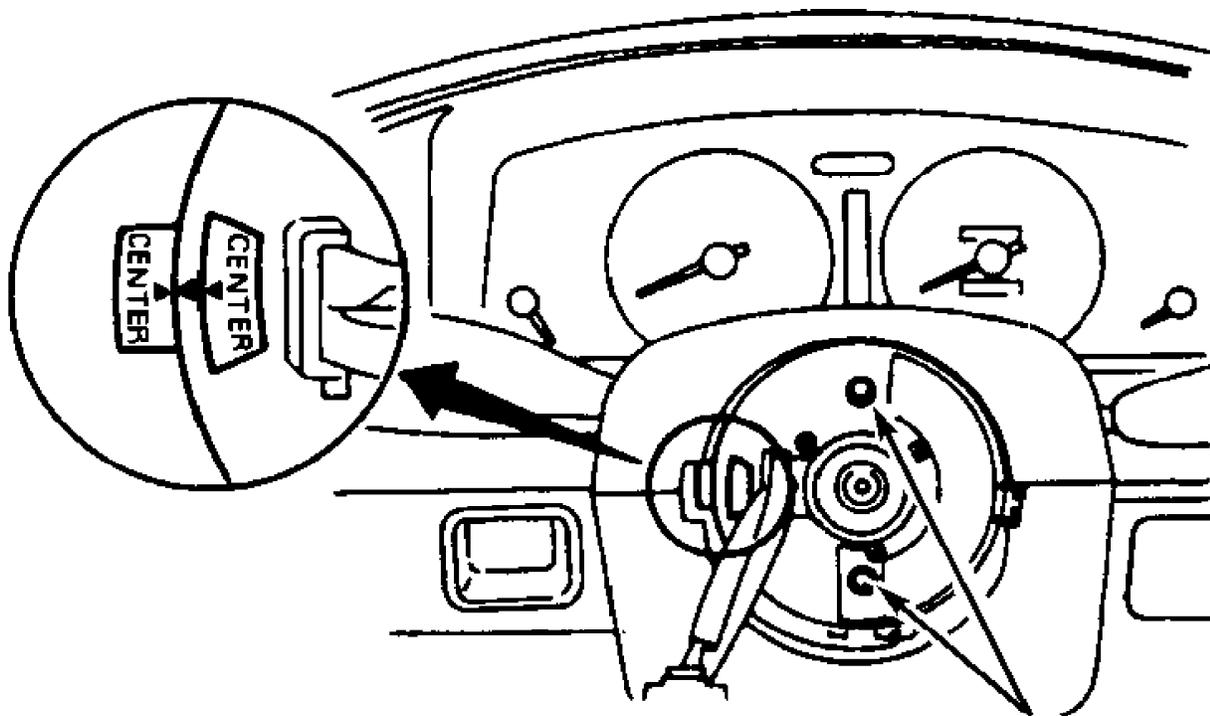
Installation

To install front impact sensor, reverse removal procedure. Ensure all SRS wiring harness connectors are fully connected. Ensure SRS wiring harnesses are routed in original locations with all harness clips and brackets properly installed. After installation procedure is complete, reactivate SRS. Check AIR BAG warning light to ensure system is functioning properly. See SYSTEM OPERATION CHECK.

ADJUSTMENTS

CLOCKSPRING

Ensure wheels are in a straight-ahead position. With air bag module and steering wheel removed, turn clockspring pin clockwise until it stops. See Fig. 4. Then turn clockspring pin counterclockwise approximately 2 1/2 turns until word CENTER appears in indicator. Align arrow marks. See Fig. 4. Clockspring is now centered. Install steering wheel and air bag module. Turn steering wheel fully in both directions to ensure steering is normal.



Clockspring Pin

92F24583

Fig. 4: Centering Clockspring
Courtesy of Subaru of America, Inc.

WIRE REPAIR

Air bag wiring harness repair procedures are not available from manufacturer. If wires in air bag wiring harness need repair or wiring harness is damaged, manufacturer recommends replacing air bag wiring harness.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

| APPLICATION | Ft. Lbs. (N.m) |
|---------------------------------------|-------------------|
| Steering Wheel Nut | 22-29 (30-39) |
| Front Impact Sensor Bolts | |
| Legacy | 12-18 (16-24) |
| SVX | 13-23 (18-31) |
| Wheel Lug Nuts | |
| Legacy | 58-72 (79-98) |
| SVX | 72-86 (98-117) |
| | INCH Lbs. (N.m) |
| Air Bag Control Unit Torx Bolts | (1) 71-106 (8-12) |
| Air Bag Module Torx Bolts | (1) 71-106 (8-12) |

(1) - Use NEW Torx bolts.

DIAGNOSIS & TESTING

* PLEASE READ THIS FIRST *

WARNING: Failure to follow air bag service precautions may result in air bag deployment and personal injury. See SERVICE PRECAUTIONS. After component replacement, perform system operational check to ensure proper system operation. See SYSTEM OPERATION CHECK.

SELF-DIAGNOSTIC SYSTEM

AIR BAG Warning Light Check

Turn ignition switch to ON position, and ensure AIR BAG warning light glows and then goes out after approximately 8 seconds. If AIR BAG warning light remains on, control unit has detected a malfunction code. To retrieve codes, see ENTERING SELF-DIAGNOSTICS.

Entering Self-Diagnostics

- 1) On Legacy, connect one of 2 diagnostic terminals to terminal No. 1 of diagnostic connector. Diagnostic connector is located below lower instrument cover (near console). See Fig. 5.
- 2) On SVX, connect one of 2 diagnostic terminals to terminal No. 9 of diagnostic connector. Diagnostic connector is located behind left side kick panel. See Fig. 6. On all models, turn ignition switch to ON position.
- 3) Read diagnostic codes by noting number of air bag warning light flashes. A long flash (1.2 seconds) indicates a 10 and a short flash (.3 seconds) indicates a one. For example, a long flash followed by 2 short flashes would indicate a Code 12. Code will be displayed 3 times with a 1.5-second pause in between codes. Identify code, and perform test as specified. See AIR BAG CODE IDENTIFICATION table.

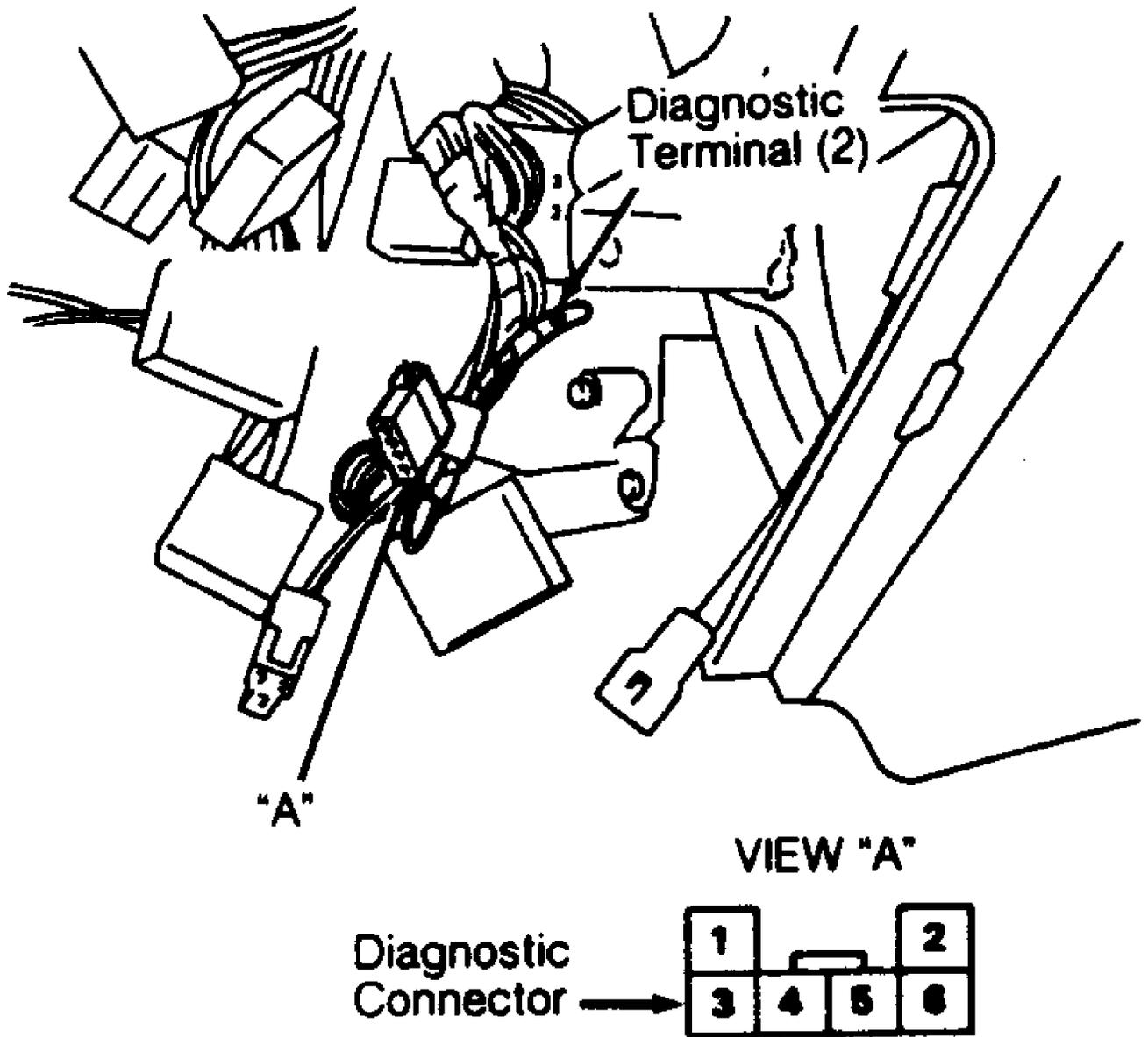


Fig. 5: Identifying Diagnostic Connector Terminals (Legacy)
 Courtesy of Subaru of America, Inc.

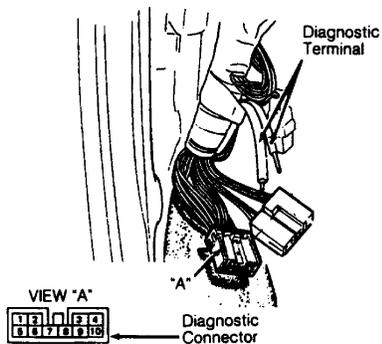


Fig. 6: Identifying Diagnostic Connector Terminals (SVX)
 Courtesy of Subaru of America, Inc.

AIR BAG CODE IDENTIFICATION TABLE

| CODE | MALFUNCTION | PERFORM TEST |
|---------------------------------|---|--------------|
| AIR BAG Warning Light Stays On | * Air BAG Warning Light Defective * Wiring Harness Shorted Or Open * Ground Circuit Defective * Air Bag Control Unit Defective | TEST A |
| AIR BAG Warning Light Stays Off | * Fuse No. 15 Blown * Body Wiring Harness Open * AIR BAG Warning Light Defective * Air Bag Control Unit Defective * Air Bag Main Wiring Harness Defective | TEST B |
| 2 | * Front Impact Sensor Or Wiring Harness Shorted * Air Bag Module Wiring Harness Shorted * Air Bag Main Wiring Harness Shorted * Clockspring Circuit Shorted * Air Bag Control Unit Defective | TEST C |
| 3 | * Open Front Impact Sensor Circuit | TEST D |
| 11 | * Air Bag Control Unit Defective * Air Bag Main Wiring Harness Open * Fuse No. 8 Blown * Body Wiring Harness Open | TEST E |
| 12 | * Air Bag Main Wiring Harness Open * Air Bag Module Wiring Harness Open * Clockspring Circuit Open * Air Bag Control Unit Defective | TEST F |
| 13 | * Air Bag Main Wiring Harness Shorted * Air Bag Module Wiring Harness Shorted * Clockspring Circuit Shorted * Air Bag Control Unit Defective | TEST G |
| 14 | * Bad Connector Connection At Control Unit Or Air Bag Module | TEST H |
| 21 | * Air Bag Control Unit Defective | TEST I |
| 23 | * Front Impact Sensor Wiring Harness Shorted * Air Bag Main Wiring Harness Shorted To Voltage * Air Bag Module Wiring Harness Damaged * Clockspring Shorted To Voltage * Air Bag Control Unit Defective | TEST J |
| 31 | * Control Unit Defective * Air Bag Main Wiring Harness Open * Fuse No. 16 Blown * Body Wiring Harness Open | TEST K |

Clearing Codes

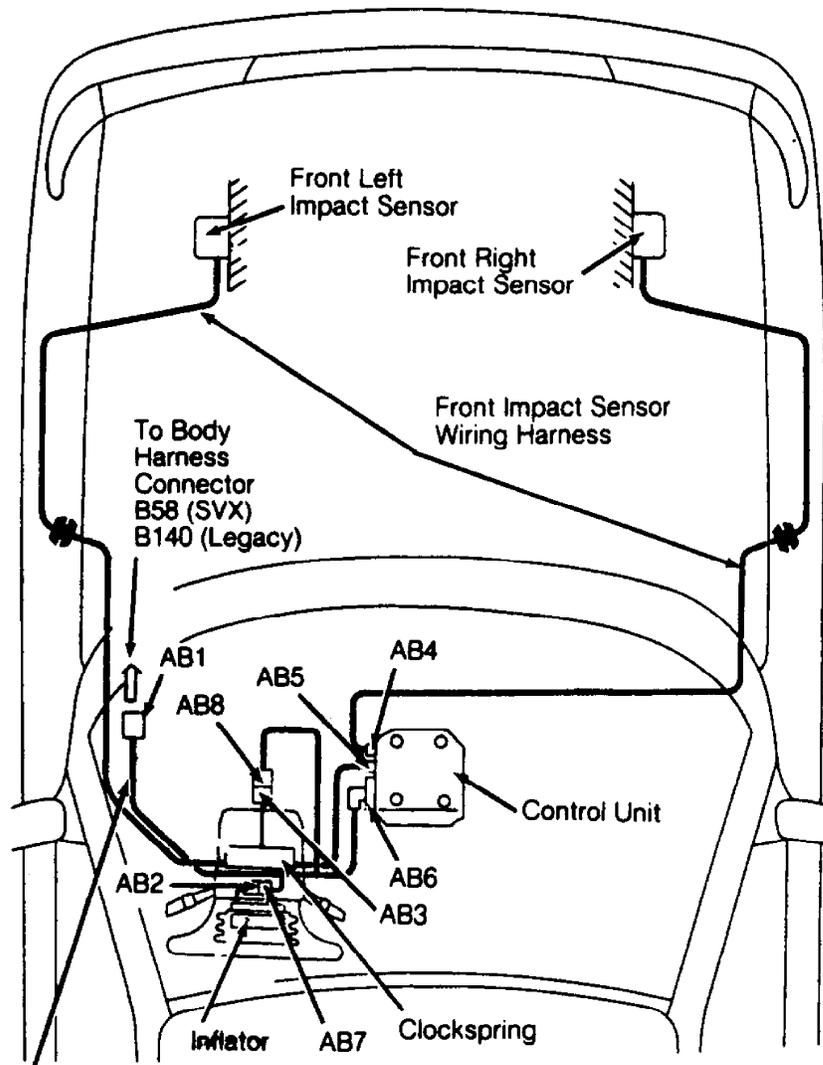
1) After malfunction has been corrected, check diagnostic codes again. See ENTERING SELF-DIAGNOSTICS. To clear codes on Legacy, connect remaining diagnostic terminal to terminal No. 2 of diagnostic

connector for 3 seconds while AIR BAG warning light is flashing. See Fig. 5.

2) To clear codes on SVX, connect remaining diagnostic terminal to terminal No. 3 for 3 seconds while AIR BAG warning light is flashing. See Fig. 6. On all models, codes should now be cleared. Disconnect both diagnostic terminals from diagnostic connector.

TEST A (AIR BAG WARNING LIGHT STAYS ON)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.



Air Bag Main
Wiring Harness

Fig. 7: Locating Air Bag System Connectors
Courtesy of Subaru of America, Inc.

AIR BAG Warning Light & Wiring Harness Test

1) Turn ignition switch to OFF position. Disconnect 7-pin

Yellow connector AB1 from body wiring harness connector B140 (Legacy) or B58 (SVX). Connector is located behind left kick panel. Connect connector AB1 to connector 2A of Test Harness "A" (98299PA000). See Fig. 8.

2) Turn ignition switch to ON position. Connect connectors 3A and 4A of test harness "A" together. Check AIR BAG warning light. If AIR BAG warning light is off, go to next step. If AIR BAG warning light is on, check body wiring harness and repair as necessary. After repairs are completed, disconnect connectors 3A and 4A. If body wiring harness is okay, replace AIR BAG warning light assembly. See Fig. 9. After repair is completed, disconnect connectors 3A and 4A.

3) Turn ignition switch to OFF position. Reconnect connectors AB1 and B140 (Legacy) or B58 (SVX). Remove driver-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3. Disconnect 12-pin Yellow connector AB6 from control unit. Connector connector AB6 to connector 8B of Test Harness "B" (98299PA010). See Fig. 10.

4) Turn ignition switch to ON position, and connect connectors 6B and 7B of test harness "B" together. Check AIR BAG warning light. If AIR BAG warning light is off, go to GROUND CIRCUIT TEST. If AIR BAG warning light is on, replace air bag main wiring harness. After repair is completed, disconnect connectors 6B and 7B.

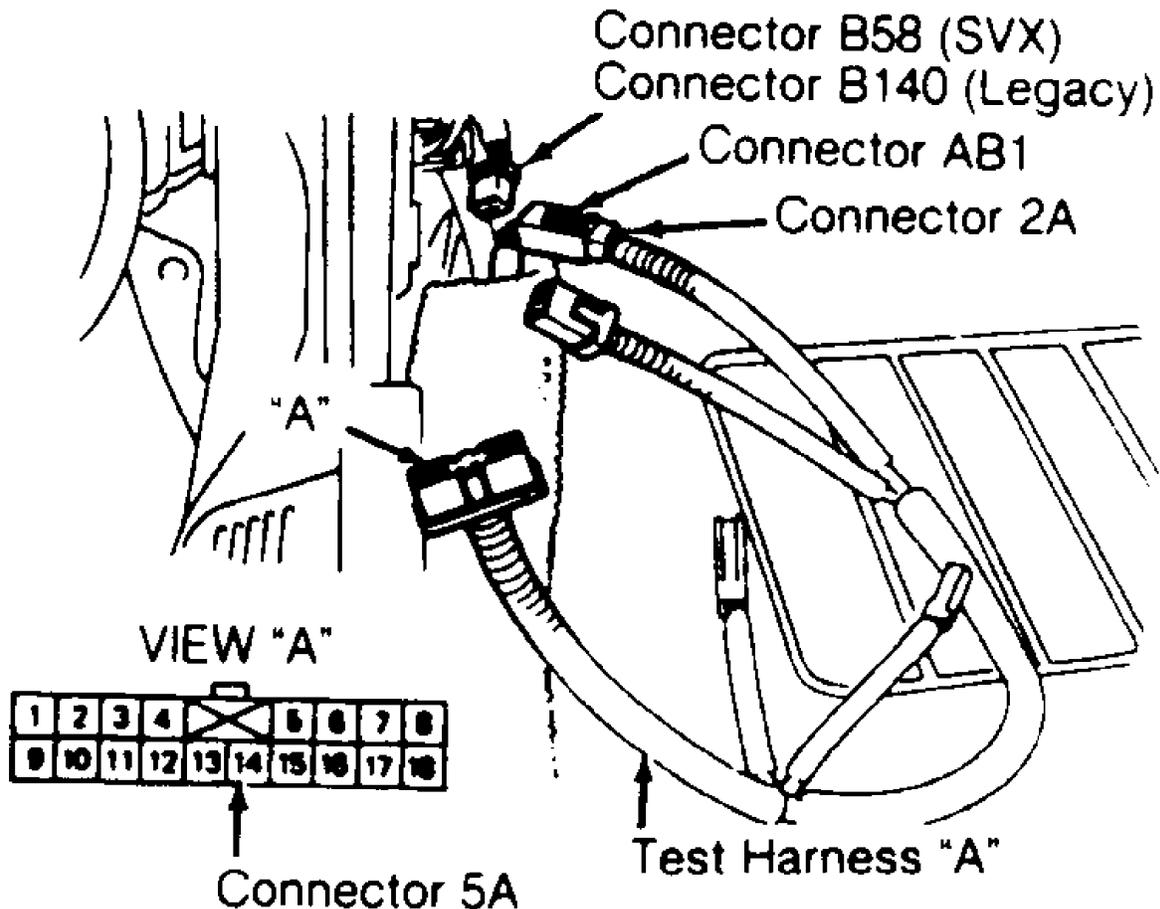
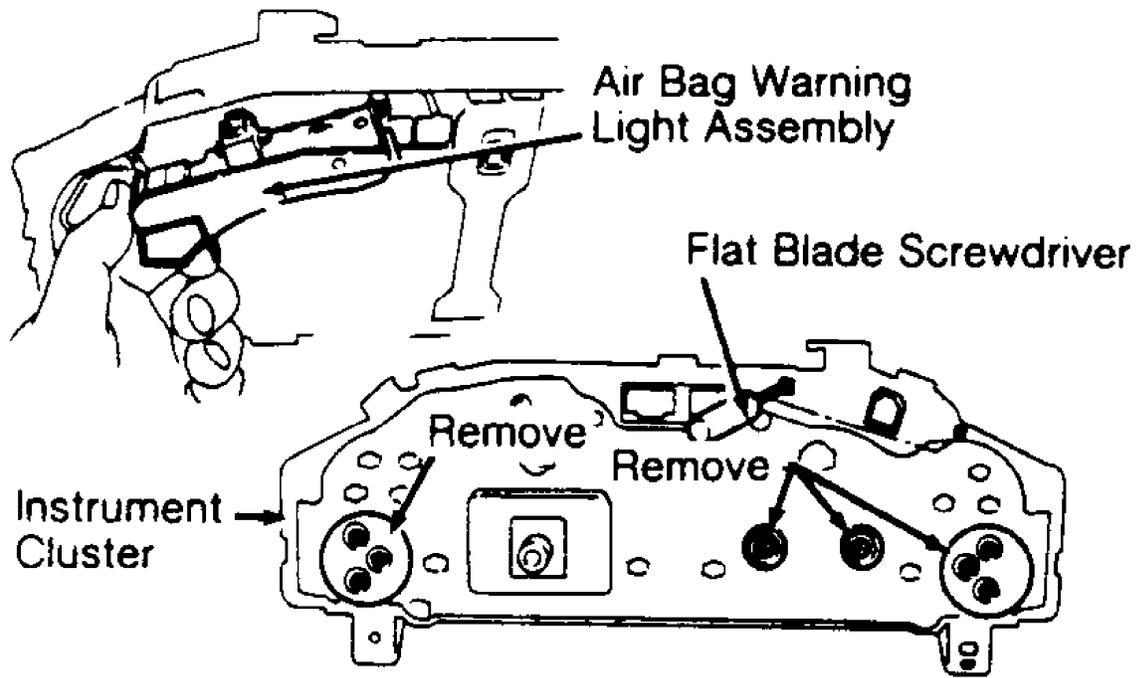
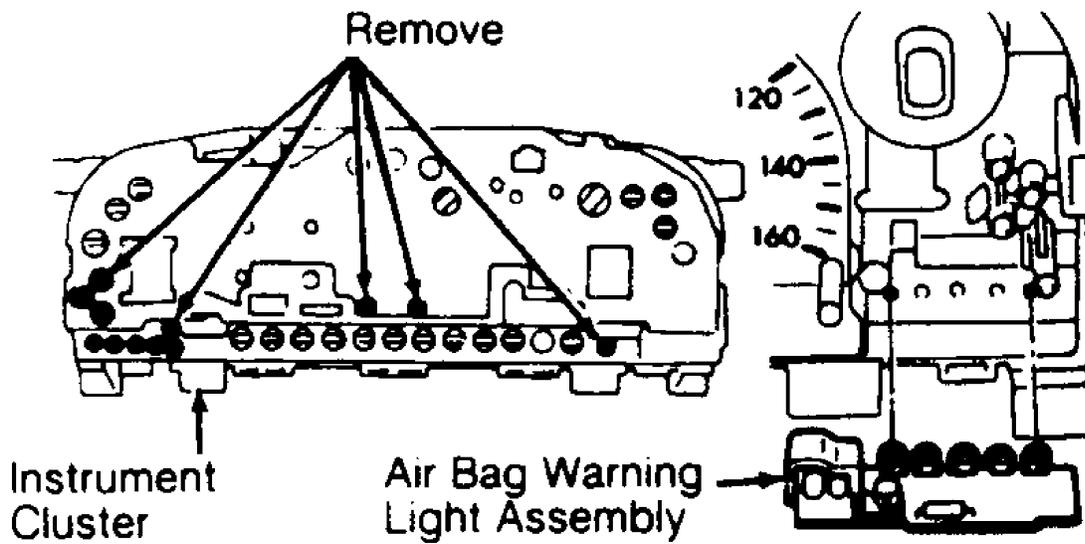


Fig. 8: Testing Air Bag Main Wiring Harness
 Courtesy of Subaru of America, Inc.



LEGACY



SVX

Fig. 9: Replacing AIR BAG Warning Light Assembly
 Courtesy of Subaru of America, Inc.

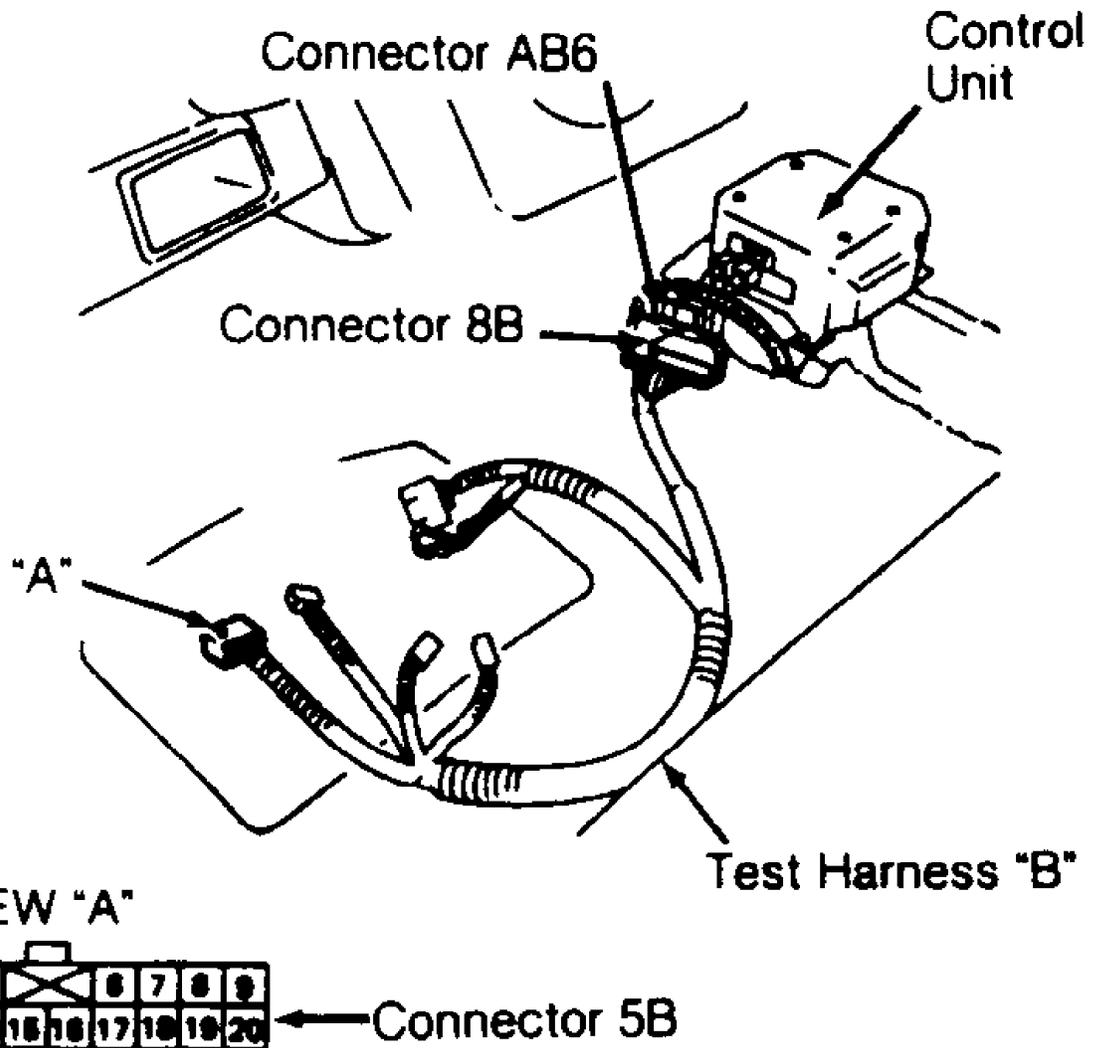


Fig. 10: Testing Air Bag Main Wiring Harness
 Courtesy of Subaru of America, Inc.

Ground Circuit Test

- 1) Turn ignition switch to OFF position. Disconnect 7-pin Yellow connector AB1 from body wiring harness connector B140 (Legacy) or B58 (SVX). Connector is located behind left kick panel. Connect connector AB1 to connector 2A of Test Harness "A" (98299PA000). See Fig. 8.
- 2) Using an ohmmeter, check resistance between ground and terminals No. 17 and 18 at connector 5B of test harness "B". If resistance is less than 10 ohms at both terminals, go to next step. If resistance is more than 10 ohms at any terminal, repair body grounding circuit.
- 3) Disconnect connector AB1 from test harness "A". Connect connectors AB1 and B140 (Legacy) or B58 (SVX) together. Disconnect 12-pin Yellow connector AB6 from control unit. Connect connector AB6 to connector 8B of test harness "B". See Fig. 10. Using an ohmmeter, check resistance between ground and terminals No. 11 and 12 at connector 5B of test harness "B". If resistance is more than 10 ohms, replace air bag main wiring harness. If resistance is less than 10 ohms, replace control unit.

TEST B (AIR BAG WARNING LIGHT STAYS OFF)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

1) Turn ignition switch to OFF position. Remove and visually inspect fuse No. 15 from instrument panel fuse block. If fuse is okay, go to BODY WIRING HARNESS TEST. If fuse is blown, replace fuse. Turn ignition switch to ON position, and recheck AIR BAG warning light.

2) If AIR BAG warning light is on, system is functioning properly now but may have an intermittent problem. Go to BODY WIRING HARNESS TEST. If AIR BAG warning light is off, recheck fuse No. 15. If fuse is blown again, replace fuse and go to BODY WIRING HARNESS TEST.

Body Wiring Harness Test

Turn ignition switch to ON position. Check if other warning lights in instrument cluster are on. If warning lights are on, go to AIR BAG WARNING LIGHT TEST. If warning lights are off, repair or replace body wiring harness.

AIR BAG Warning Light Test

Turn ignition switch to OFF position. Disconnect connector AB1 from body wiring harness connector B140 (Legacy) or B58 (SVX). See Fig. 7. Turn ignition switch to ON position. Check AIR BAG warning light. If AIR BAG warning light is on, go to AIR BAG MAIN WIRING HARNESS TEST. If AIR BAG warning light is off, replace AIR BAG warning light assembly. See Fig. 9.

Air Bag Main Wiring Harness Test

1) Turn ignition switch to OFF position. Reconnect connectors AB1 and B140 (Legacy) or B58 (SVX). Remove driver-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3.

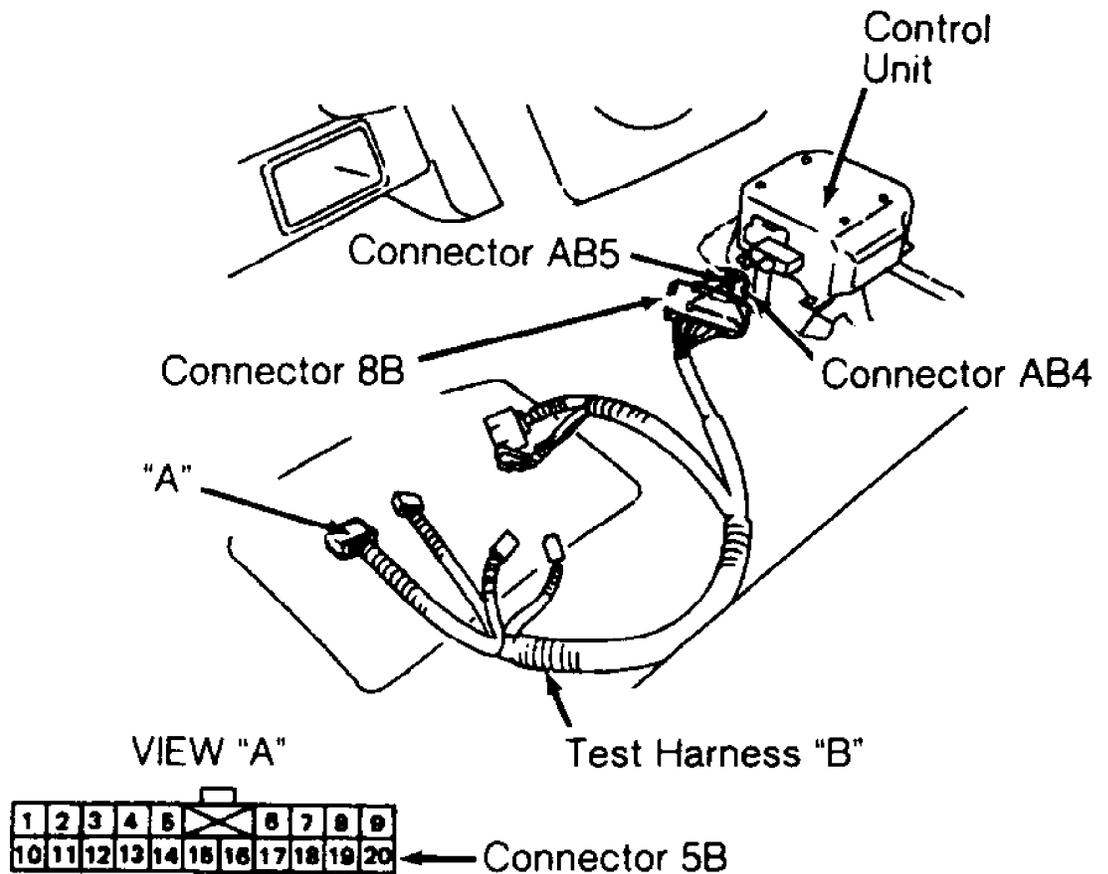
2) Disconnect 12-pin Yellow connector AB6 from control unit. Turn ignition switch to ON position. Check AIR BAG warning light. If AIR BAG warning light is off, replace control unit. If AIR BAG warning light is on, replace air bag main wiring harness.

TEST C (CODE 2)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

Front Impact Sensor & Wiring Harness Test

1) Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM. Remove driver-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3. Disconnect 2-pin Orange connector AB5 and Blue connector AB4 from control unit. See Fig. 7. Connect connectors AB5 and AB4 to connector 8B of Test Harness "B" (98299PA010). See Fig. 11.



92b24670

Fig. 11: Preparing For Front Impact Sensor & Wiring Harness Test
 Courtesy of Subaru of America, Inc.

2) Using an ohmmeter, check resistance between terminals No. 15 and 16 at connector 5B of test harness "B". If resistance is not 1.4-1.6 k/ohms, front left impact sensor and/or wiring harness is defective. Replace left front impact sensor.

3) If resistance is 1.4-1.6 k/ohms, check resistance between terminals No. 17 and 18 at connector 5B of test harness "B". If resistance is not 1.4-1.6 k/ohms, front right impact sensor and/or wiring harness is defective. Replace right front impact sensor.

4) If resistance is 1.4-1.6 k/ohms, check resistance between ground and terminals No. 15 and 16 at connector 5B of test harness "B". If resistance is less than 200 ohms at either terminal, front left impact sensor and/or wiring harness is defective. Replace left front impact sensor.

5) If resistance is more than 200 ohms at both terminals, check resistance between ground and terminals No. 17 and 18 at connector 5B of test harness "B". If resistance is less than 200 ohms at either terminal, front right impact sensor and/or wiring harness is defective. Replace right front impact sensor. If resistance is more

than 200 ohms at both terminals, go to AIR BAG MODULE CHECK.

Air Bag Module Check

Remove air bag module. Visually inspect air bag module wiring harness for pinched or damaged wires. If wires are okay, go to AIR BAG MAIN WIRING HARNESS TEST. If wires are pinched or damaged, replace air bag module.

Air Bag Main Wiring Harness Test

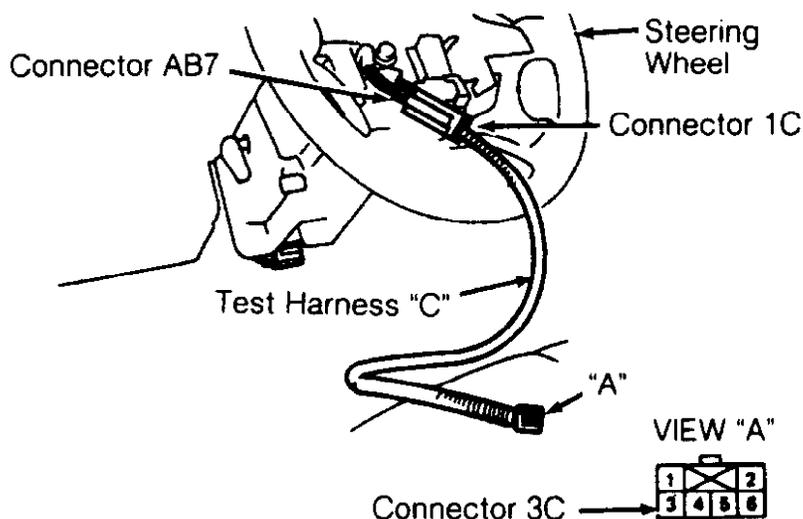
1) Disconnect 12-pin Yellow connector (AB6) from control unit. Connect connector AB6 to connector 8B of Test Harness "B" (98299PA010). See Fig. 10.

2) Using an ohmmeter, check resistance between ground and terminals No. 1 and 14 at connector 5B of test harness "B". If resistance is less than 200 ohms at either terminal, replace main wiring harness. If resistance is more than 200 ohms at both terminals, go to CLOCKSPrING CIRCUIT TEST.

Clockspring Circuit Test

1) Remove air bag module. Remove drivers-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering wheel. See Fig. 3. Connect air bag module connector AB7 to connector 1C of Test Harness "C" (98299PA020). See Figs. 7 and 14.

2) Using an ohmmeter, check resistance between ground and terminals No. 1, 3 and 5 at connector 3C of test harness "C". If resistance is less than 200 ohms at any terminal, replace clockspring. If resistance is more than 200 ohms at all terminals, replace control unit.



92d24672

Fig. 12: Preparing For Clockspring Test
Courtesy of Subaru of America, Inc.

TEST D (CODE 3)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

Front Impact Sensor Circuit Test

1) Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM.

Disconnect 2-pin Orange connector AB5 and Blue connector AB4 from control unit. Connect connectors AB5 and AB4 to connector 8B of Test Harness "B" (98299PA010). See Fig. 11.

2) Using an ohmmeter, check resistance between terminals No. 15 and 16 at connector 5B of test harness "B". If resistance is not 1.4-1.6 k/ohms, front left impact sensor and/or wiring harness is defective. Replace left front impact sensor.

3) If resistance is 1.4-1.6 k/ohms, check resistance between terminals No. 17 and 18 at connector 5B of test harness "B". If resistance is not 1.4-1.6 k/ohms, front right impact sensor and/or wiring harness is defective. Replace right front impact sensor. If resistance is 1.4-1.6 k/ohms, replace control unit.

TEST E (CODE 11)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

Air Bag Control Unit Test

1) Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM.

Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3. Disconnect 12-pin Yellow connector (AB6) from control unit. See Fig. 7. Connect connector AB6 to connector 8B of Test Harness "B" (98299PA010). See Fig. 10.

2) Connect battery cables. Turn ignition switch to ON position. Measure voltage between ground and terminal No. 2 at connector 5B of test harness "B". If voltage is less than 10 volts, go to AIR BAG MAIN WIRING HARNESS TEST. If voltage is more than 10 volts, replace air bag control unit.

Air Bag Main Wiring Harness Test

1) Turn ignition switch to OFF position. Disconnect and shield negative then positive battery cables. Wait a minimum of 10 minutes. Disconnect 7-pin Yellow connector AB1 from body wiring harness connector B140 (Legacy) or B58 (SVX). Connector is located behind left kick panel. Connect connector AB1 to connector 2A of Test Harness "A" (98299PA000). See Fig. 8.

2) Using an ohmmeter, check resistance between terminal No. 1 at connector 5A of test harness "A" and terminal No. 2 at connector 5B of test harness "B". If resistance is more than 10 ohms, replace air bag main wiring harness.

3) If resistance is less than 10 ohms, check resistance between ground and terminal No. 1 at connector 5A of test harness "A". If resistance is less than 10 k/ohms, replace air bag main wiring harness. If resistance is more than 10 k/ohms, check resistance between ground and terminal No. 2 at connector 5B of test harness "B". If resistance is less than 10 k/ohms, replace air bag main wiring harness. If resistance is more than 10 k/ohms, go to FUSE NO. 8 CHECK.

Fuse No. 8 Check

Remove fuse No. 8 from instrument panel fuse box. Visually check fuse. Replace fuse if blown. If fuse is okay, repair body wiring

harness.

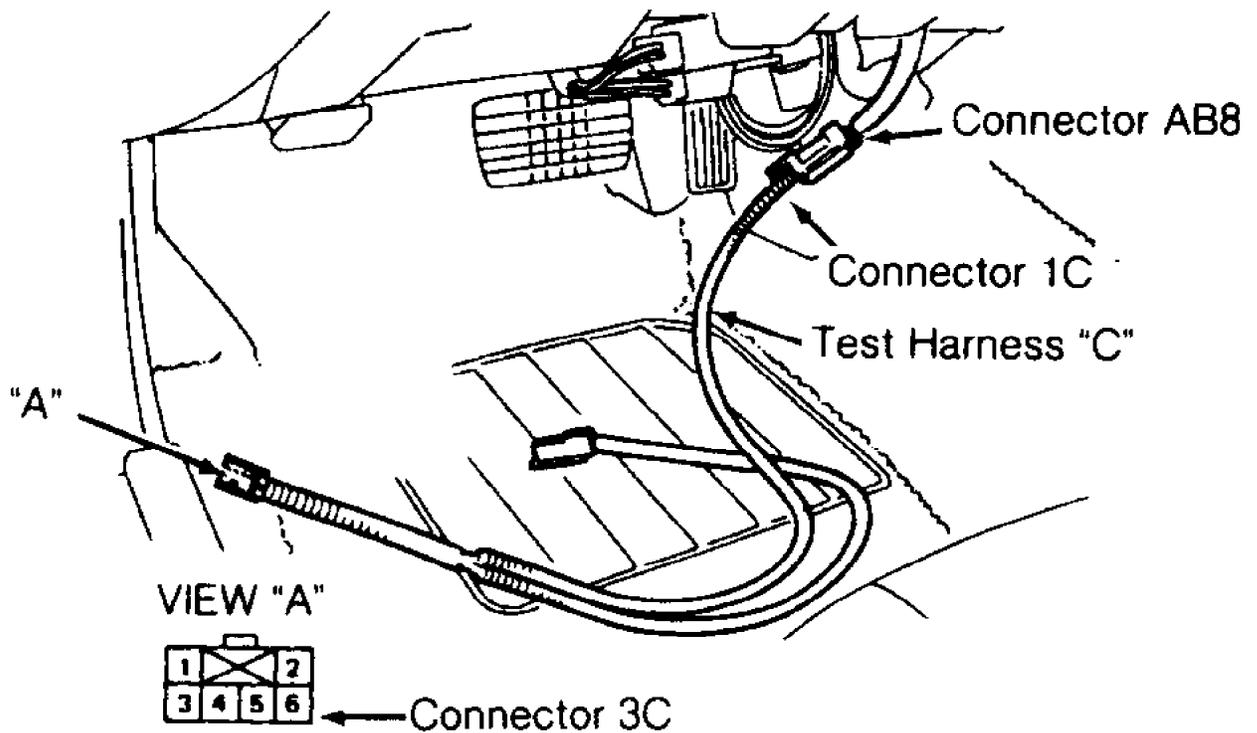
TEST F (CODE 12)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

Air Bag Main Wiring Harness Test

1) Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM.

Remove drivers-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering wheel. See Fig. 3. Connect disconnected Yellow connector AB8 to terminal 1C of Test Harness "C" (98299PA020). See Figs. 7 and 13.



92e24673

Fig. 13: Preparing For Air Bag Main Wiring Harness Test
Courtesy of Subaru of America, Inc.

2) Disconnect 12-pin Yellow connector AB6 from control unit. Connect connector AB6 to connector 8B of Test Harness "B" (98299PA010). See Fig. 10. Using an ohmmeter, check resistance between terminal No. 14 at connector 5B of test harness "B" and terminal No. 2 at connector 3C of test harness "C". If resistance is more than 10 ohms, replace air bag main wiring harness.

3) If resistance is less than 10 ohms, check resistance between terminal No. 1 at connector 5B of test harness "B" and terminal No. 6 at connector 3C of test harness "C". If resistance is

more than 10 ohms, replace air bag main wiring harness. If resistance is less than 10 ohms, go to CLOCKSPrING CIRCUIT TEST.

Clockspring Circuit Test

1) Remove air bag module. Connect air bag module connector AB7 to connector 1C of Test Harness "C" (98299PA020). See Fig. 14. Remove drivers-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering wheel.

2) Connect disconnected Yellow connector AB3 to test harness "C". Using an ohmmeter, check resistance between terminals No. 1 and 5, No. 2 and 4 and No. 3 and 6 at connector 3C of test harness "C". If resistance at any terminal is more than 10 ohms, replace clockspring. If resistance is less than 10 ohms at all terminals, replace control unit.

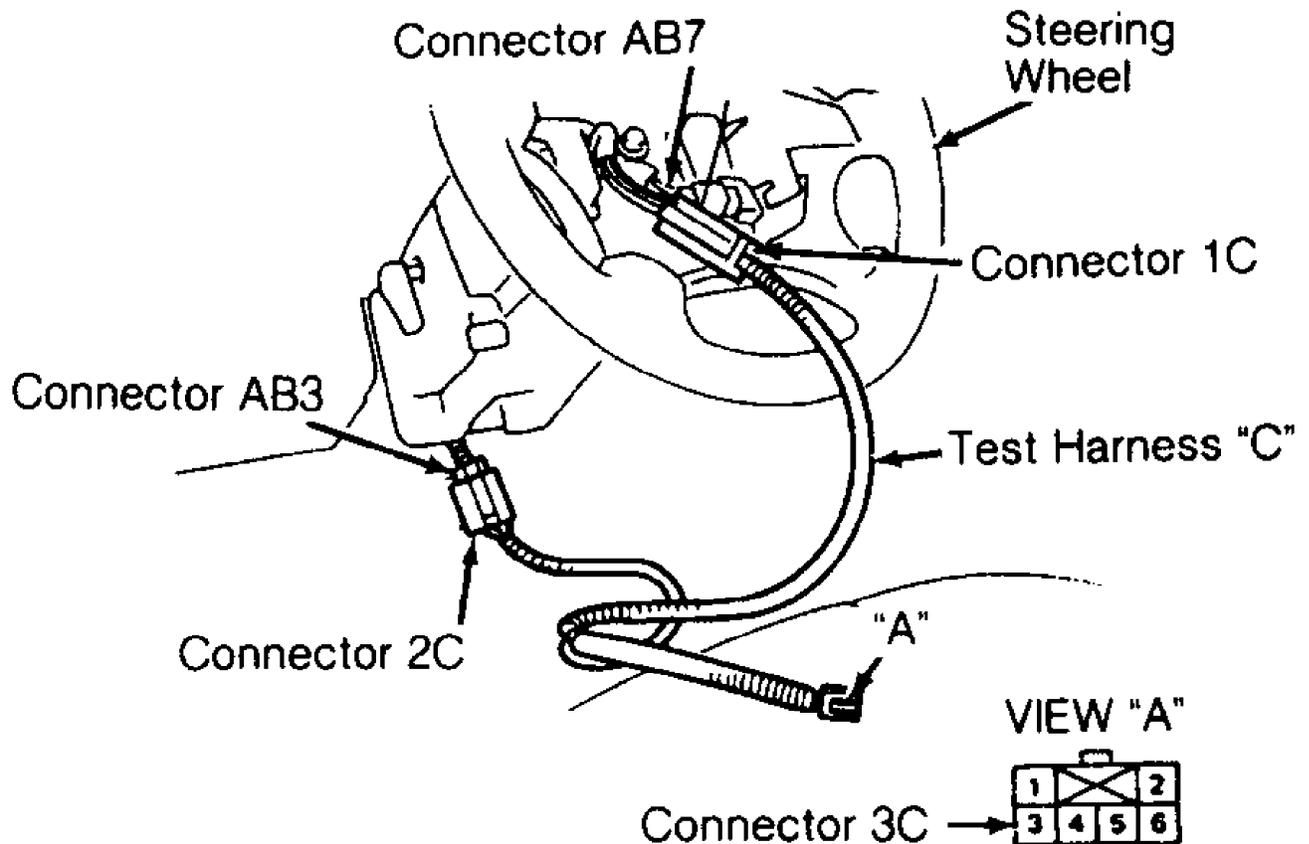


Fig. 14: Testing Clockspring
Courtesy of Subaru of America, Inc.

TEST G (CODE 13)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

Air Bag Main Wiring Harness Test

1) Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM. Remove drivers-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering wheel. See Fig. 3.

Disconnect 12-pin Yellow connector AB6 from control unit. Connect connector AB6 to connector 8B of Test Harness "B" (98299PA010). See Fig. 10.

2) Using ohmmeter, check resistance between terminals No. 1 and 14 at connector 5B of test harness "B". If resistance is less than 10 k/ohms, replace air bag main wiring harness. If resistance is more than 10 k/ohms, go to CLOCKSPrING CIRCUIT TEST.

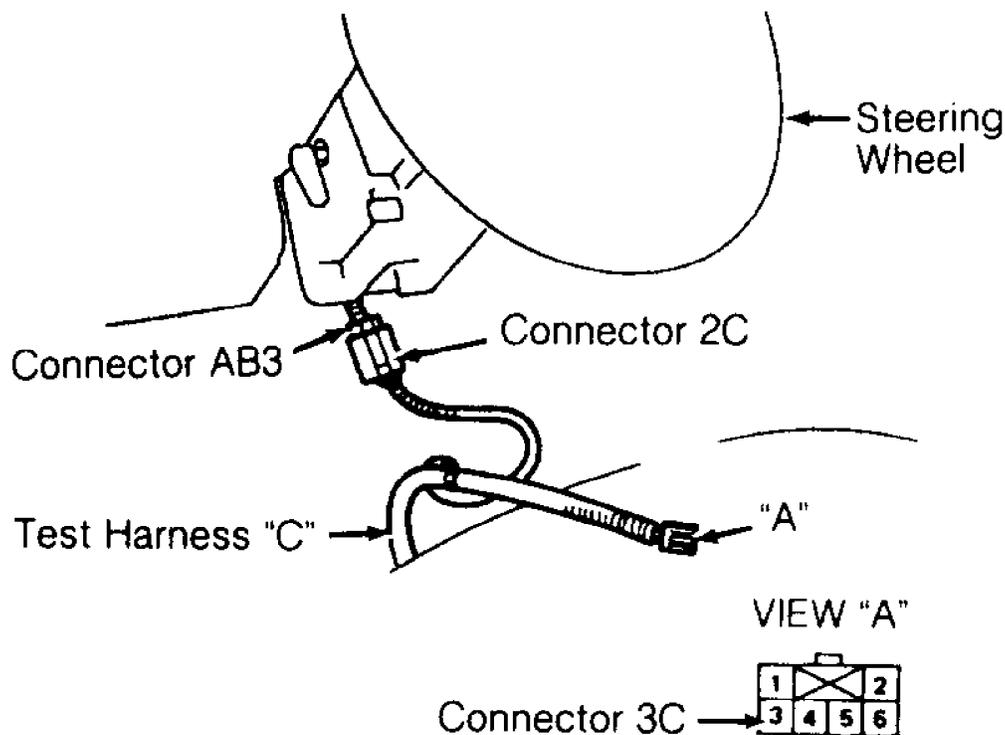
Clockspring Circuit Test

1) Remove air bag module. Connect Yellow connector (AB3) to connector 2C of Test Harness "C" (98299PA020). See Fig. 7 and 15.

2) Using ohmmeter, check resistance between terminals No. 4 and 5 at connector 3C of test harness 3C. If resistance is less than 10 k/ohms, replace spiral spring. If resistance is more than 10 k/ohms, go to AIR BAG MODULE CHECK.

Air Bag Module Check

Visually inspect air bag module wiring harness for pinched or damaged wires. If wires are okay, replace control unit. If wires are pinched or damaged, replace air bag module.



92g24675

Fig. 15: Preparing For Clockspring Test
Courtesy of Subaru of America, Inc.

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

Air Bag Control Unit Connector Check

Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM. Check connectors at control unit for proper installation. Refit connectors as necessary. If connectors are installed properly, go to AIR BAG MODULE LOWER CONNECTOR CHECK.

Air Bag Module Lower Connector Check

Remove drivers-side lower trim panel from dash. Check air bag module 3-pin Yellow connector at base of steering wheel for proper installation. Refit connector as necessary. If connector is installed properly, go to CLOCKSPrING CONNECTOR TEST.

Clockspring Connector Test

Remove air bag module to access air bag module connectors AB2 and AB7. See Fig. 7. Check connectors for proper installation. Refit connectors as necessary.

TEST I (CODE 21)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

If Code 21 is present, replace air bag control unit.

TEST J (CODE 23)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

Front Impact Sensor Test

1) Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM.

Remove driver-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3. Disconnect 2-pin Orange connector AB5 and Blue connector AB4 from control unit. See Fig. 7. Connect connectors AB5 and AB4 to connector 8B of Test Harness "B" (98299PA010). See Fig. 11.

2) Using an ohmmeter, check resistance between terminals No. 15 and 16 at connector 5B of test harness "B". If resistance is not 1.4-1.6 k/ohms, front left impact sensor and/or wiring harness is defective. Replace left front impact sensor.

3) If resistance is 1.4-1.6 k/ohms, check resistance between terminals No. 17 and 18 at connector 5B of test harness "B". If resistance is not 1.4-1.6 k/ohms, front right impact sensor and/or wiring harness is defective. Replace right front impact sensor. If resistance is 1.4-1.6k/ohms, go to AIR BAG MAIN WIRING HARNESS TEST.

Air Bag Main Wiring Harness Test

1) Disconnect 12-pin Yellow connector AB6 from control unit. Connect connector AB6 to connector 8B of Test Harness "B" (98299PA010). See Fig. 10. Connect battery cables. Turn ignition switch to ON position.

2) Measure voltage between ground and terminals No. 1 and 14 at connector 5B of test harness "B". If voltage is less than one volt at both terminals, go to AIR BAG MODULE CHECK. If voltage is more than one volt at either terminal, replace air bag main wiring harness.

Air Bag Module Check

Remove air bag module. Visually inspect air bag module wiring harness for pinched or damaged wires. If wires are okay, go to CLOCKSPrING CIRCUIT TEST. If wires are pinched or damaged, replace air bag module.

Clockspring Circuit Test

1) Turn ignition switch to OFF position. Remove drivers-side lower trim panel from dash. Disconnect air bag module 3-pin Yellow connector at base of steering wheel. See Fig. 3. Connect air bag module connector AB7 to connector 1C of Test Harness "C" (98299PA020). See Figs. 7 and 12.

2) Measure voltage between ground and terminals No. 2, 5 and 6 at connector 3C of test harness "C". If voltage is less than one volt at all terminals, replace control unit. If voltage is more than one volt at any terminal, replace spiral spring.

TEST K (CODE 31)

NOTE: Before proceeding, follow air bag service precautions. See SERVICE PRECAUTIONS. After repairs are performed, reactivate air bag system. Recheck AIR BAG warning light to ensure system is functioning correctly. See SYSTEM OPERATION CHECK. For SRS connector locations, see Fig. 7.

Air Bag Control Unit Test

1) Disable SRS. See DISABLING & ACTIVATING AIR BAG SYSTEM. Disconnect air bag module 3-pin Yellow connector at base of steering column. See Fig. 3. Disconnect 12-pin Yellow connector AB6 from control unit. See Fig. 7. Connect connector AB6 to connector 8B of Test Harness "B" (98299PA010). See Fig. 10.

2) Connect battery cables. Turn ignition switch to ON position. Measure voltage between ground and terminal No. 5 at connector 5B of test harness "B". If voltage is less than 10 volts, go to AIR BAG MAIN WIRING HARNESS TEST. If voltage is more than 10 volts, replace control unit.

Air Bag Main Wiring Harness Test

1) Turn ignition switch to OFF position. Disconnect and shield negative then positive battery cables. Wait a minimum of 10 minutes. Disconnect 7-pin Yellow connector AB1 from body wiring harness connector B140 (Legacy) or B58 (SVX). See Fig. 7. Connector is located behind left kick panel. Connect connector AB1 to connector 2A of Test Harness "A" (98299PA000). See Fig. 8.

2) Using an ohmmeter, check resistance between terminal No. 9 at connector 5A of test harness "A" and terminal No. 5 at connector 5B of test harness "B". If resistance is more than 10 ohms, replace air bag main wiring harness.

3) If resistance is less than 10 ohms, check resistance between ground and terminal No. 5 at connector 5A of test harness "A". If resistance is less than 10 k/ohms, replace air bag main wiring harness. If resistance is more than 10 k/ohms, check resistance between ground and terminal No. 5 at connector 5B of test harness "B". If resistance is less than 10 k/ohms, replace air bag main wiring harness. If resistance is more than 10 k/ohms, go to FUSE NO. 16 CHECK.

Fuse No. 16 Check

Remove fuse No. 16 from instrument panel fuse box. Visually check fuse. Replace fuse if blown. If fuse is okay, repair body wiring harness.

POST-COLLISION AIR BAG SAFETY INSPECTION

POST-COLLISION AIR BAG SAFETY INSPECTION TABLE

| | |
|--|---|
| Replace After Deployment | <ul style="list-style-type: none"> * Air Bag Module(s) * SRS Control Unit (1) |
| Inspect & If Damaged, Replace Component (Even If Air Bag Did Not Deploy) | <ul style="list-style-type: none"> * Clockspring * Combination Switch * Impact Sensors * SRS Control Unit * Steering Column Assembly * Steering Wheel * Wiring Harness |
| Comments | <ul style="list-style-type: none"> * DO NOT attempt SRS wiring repairs. * If any components are damaged or bent, they must be replaced. <p>(1) - 1995-96 Legacy Only</p> |

WIRING DIAGRAMS

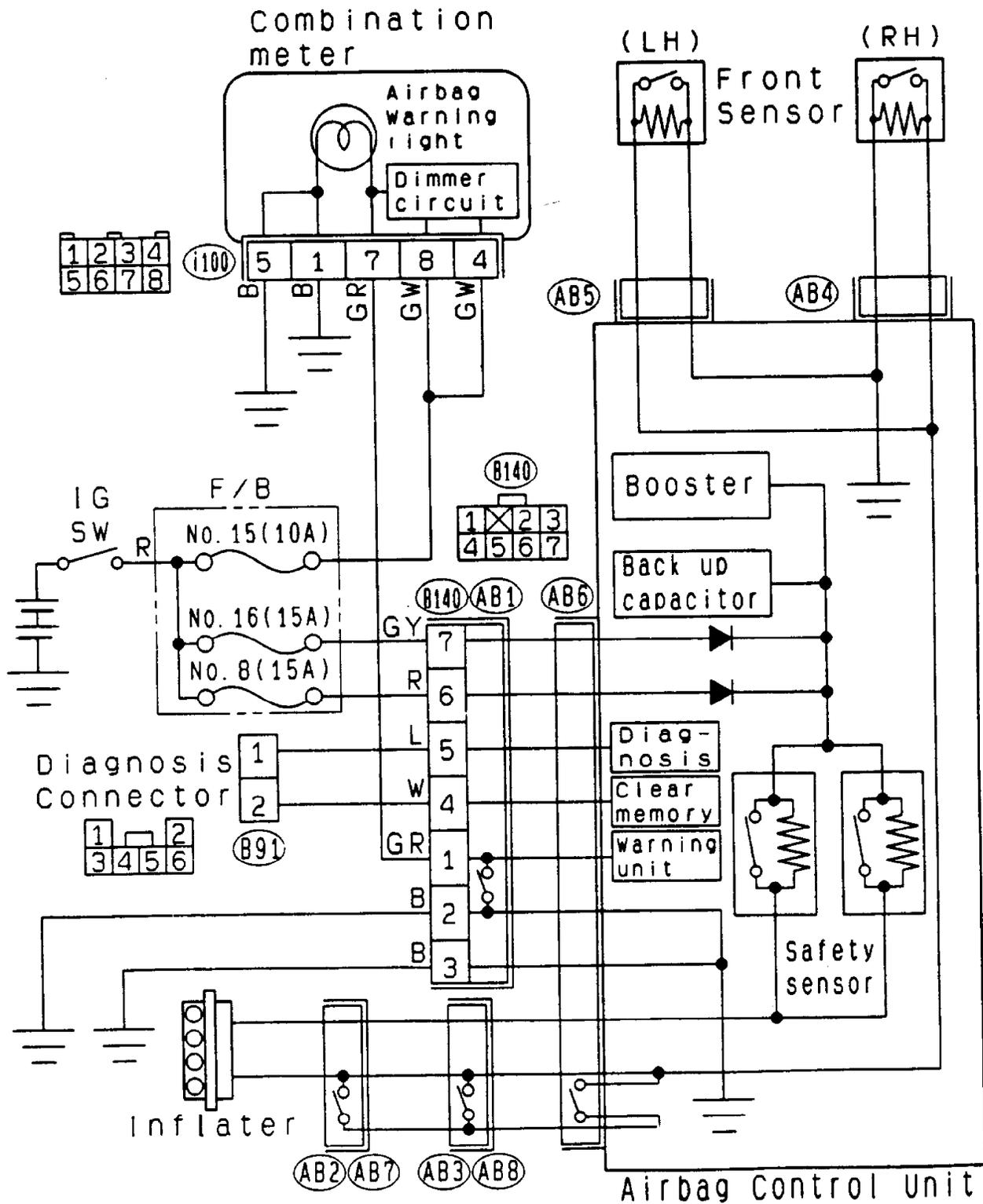


Fig. 16: SRS Wiring Diagram (Legacy)
 Courtesy of Subaru of America, Inc.

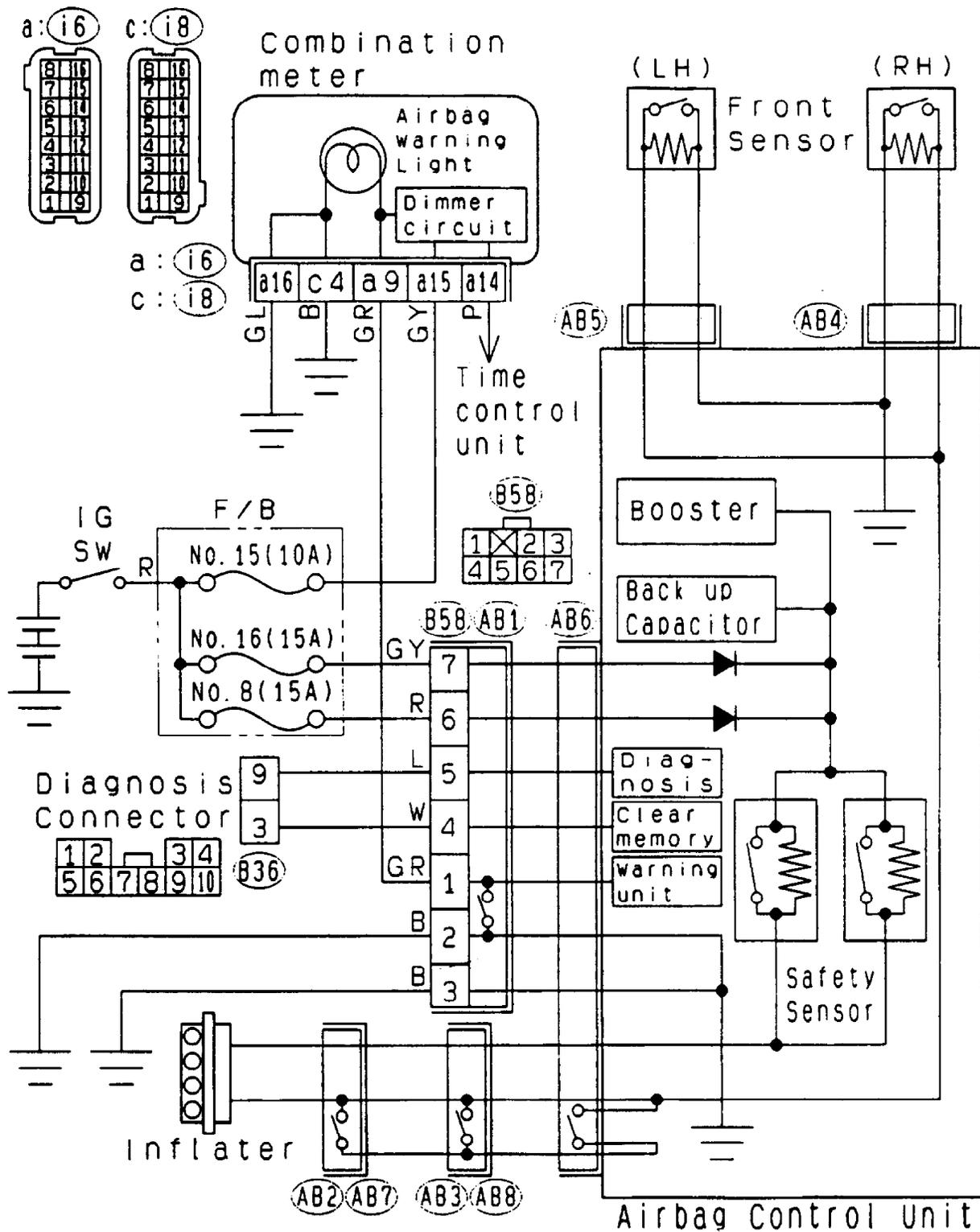


Fig. 17: SRS Wiring Diagram (SVX)
 Courtesy of Subaru of America, Inc.