

PASSIVE RESTRAINT SYSTEMS

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GENERAL INFORMATION

INTRODUCTION

A dual front airbag system is standard factory-installed equipment on this model. Refer to 8W-43 - Airbag System in Group 8W - Wiring Diagrams for complete circuit descriptions and diagrams.

AIRBAG SYSTEM

The driver side airbag system includes an inflatable airbag module in the center of the steering wheel. The passenger side airbag system includes a second inflatable airbag module in the instrument panel above the glove box. These supplemental restraint systems are designed to reduce serious injuries to the driver and front seat passenger during a frontal impact of the vehicle.

The primary passenger restraints in this vehicle are the standard equipment factory-installed seat

belts, which require active use by the vehicle occupants. The airbag is a supplemental passive restraint system that was designed and is intended to enhance the protection for the front seat occupants of the vehicle **only** when used in conjunction with the seat belts. Refer to the owner's manual in the vehicle glove box for more information on the features, use and operation of all of the factory-installed passenger restraints, including the airbag system.

Following are general descriptions of the major components in the airbag system. To test the airbag system, refer to the proper Diagnostic Procedures manual. If an airbag module assembly is faulty or damaged and non-deployed, refer to the parts return list in the current Chrysler Corporation Warranty Policies and Procedures manual for the proper handling and disposal procedures.

GENERAL INFORMATION (Continued)

WARNING:

- **THE AIRBAG SYSTEM IS A SENSITIVE, COMPLEX ELECTROMECHANICAL UNIT. BEFORE ATTEMPTING TO DIAGNOSE OR SERVICE ANY AIRBAG SYSTEM OR RELATED STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENTS YOU MUST FIRST DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE. THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE FURTHER SYSTEM SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE AIRBAG SYSTEM. FAILURE TO DO THIS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.**

- **THE AIRBAG MODULE INFLATOR ASSEMBLY CONTAINS SODIUM AZIDE AND POTASSIUM NITRATE. THESE MATERIALS ARE POISONOUS AND EXTREMELY FLAMMABLE. CONTACT WITH ACID, WATER, OR HEAVY METALS MAY PRODUCE HARMFUL AND IRRITATING GASES (SODIUM HYDROXIDE IS FORMED IN THE PRESENCE OF MOISTURE) OR COMBUSTIBLE COMPOUNDS. IN ADDITION, THE PASSENGER AIRBAG MODULE CONTAINS ARGON GAS PRESSURIZED TO OVER 2500 PSI. DO NOT ATTEMPT TO DISMANTLE AN AIRBAG MODULE OR TAMPER WITH ITS INFLATOR. DO NOT PUNCTURE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY. DO NOT STORE AT TEMPERATURES EXCEEDING 93° C (200° F).**

- **REPLACE AIRBAG SYSTEM COMPONENTS ONLY WITH PARTS SPECIFIED IN THE CHRYSLER MOPAR PARTS CATALOG. SUBSTITUTE PARTS MAY APPEAR INTERCHANGEABLE, BUT INTERNAL DIFFERENCES MAY RESULT IN INFERIOR OCCUPANT PROTECTION.**

- **THE FASTENERS, SCREWS, AND BOLTS ORIGINALLY USED FOR THE AIRBAG SYSTEM COMPONENTS HAVE SPECIAL COATINGS AND ARE SPECIFICALLY DESIGNED FOR THE AIRBAG SYSTEM. THEY MUST NEVER BE REPLACED WITH ANY SUBSTITUTES. ANY TIME A NEW FASTENER IS NEEDED, REPLACE IT WITH THE CORRECT FASTENERS PROVIDED IN THE SERVICE PACKAGE OR SPECIFIED IN THE CHRYSLER MOPAR PARTS CATALOG.**

- **WHEN A STEERING COLUMN HAS AN AIRBAG MODULE ATTACHED, NEVER PLACE THE COLUMN ON THE FLOOR OR ANY OTHER SURFACE WITH THE STEERING WHEEL OR AIRBAG MODULE FACE DOWN.**

DESCRIPTION AND OPERATION

AIRBAG MODULE*DRIVER SIDE*

The airbag module protective trim cover is the most visible part of the driver side airbag system. The module is mounted directly to the steering wheel. Located under the airbag module trim cover are the horn switch, the airbag cushion, and the airbag cushion supporting components. The airbag module includes a housing to which the cushion and inflator are attached and sealed. The airbag module cannot be repaired, and must be replaced if deployed or in any way damaged.

The inflator assembly is mounted to the back of the airbag module. The inflator seals the hole in the airbag cushion so it can discharge the gas it produces directly into the cushion when supplied with the proper electrical signal. The protective trim cover is fitted to the front of the airbag module and forms a decorative cover in the center of the steering wheel. Upon airbag deployment, this cover will split at a predetermined breakout line.

PASSENGER SIDE

The airbag door in the instrument panel top cover above the glove box is the most visible part of the passenger side airbag system. Located under the airbag door are the airbag cushion and its supporting components. The airbag module includes a housing to which the cushion and inflator are attached and sealed. The airbag module cannot be repaired, and must be replaced if deployed or in any way damaged.

The inflator assembly is mounted to the back of the airbag module. The inflator includes a small canister of highly compressed argon gas. The inflator seals the hole in the airbag cushion so it can discharge the compressed gas it contains directly into the cushion when supplied with the proper electrical signal. The airbag door is secured to the instrument panel top cover, and has predetermined breakout lines concealed beneath its decorative cover. Upon airbag deployment, the airbag door will split at the breakout lines and the door will pivot out of the way.

The airbag module is secured at the bottom to the instrument panel base above the glove box opening, and at the top it is secured to a flange and bracket on the airbag door. The airbag door is serviced as a unit with the instrument panel top cover. Following an airbag deployment, the airbag module and the instrument panel assembly must be replaced.

STORAGE

An airbag module must be stored in its original, special container until used for service. Also, it must be stored in a clean, dry environment; away from

DESCRIPTION AND OPERATION (Continued)

sources of extreme heat, sparks, and high electrical energy. Always place or store an airbag module on a surface with its trim cover or airbag side facing up, to minimize movement in case of an accidental deployment.

AIRBAG CONTROL MODULE

The Airbag Control Module (ACM) is secured to a bracket on the floor panel transmission tunnel below the instrument panel inside the vehicle. The ACM contains a microprocessor that contains the airbag system logic, the impact sensor, and an energy storage capacitor. The ACM system logic includes On-Board Diagnostics (OBD) capability, and communicates with the instrument cluster circuitry on the Chrysler Collision Detection (CCD) data bus to control the airbag indicator lamp.

The microprocessor in the ACM monitors the impact sensor signal and the airbag system electrical circuits to determine the system readiness. If the ACM detects a monitored system fault, it sends messages to the instrument cluster on the CCD data bus to turn on the airbag indicator lamp. A pre-programmed decision algorithm in the ACM microprocessor determines when the deceleration rate signaled by the impact sensor indicates an impact that is severe enough to require airbag system protection. When the programmed conditions are met, the ACM sends an electrical signal to deploy the airbag system components.

Only one impact sensor is used in this airbag system. The impact sensor is an accelerometer that senses the rate of vehicle deceleration, which provides verification of the direction and severity of an impact. The impact sensor is calibrated for the specific vehicle, and is only serviced as a unit with the ACM.

The ACM also contains an energy-storage capacitor. This capacitor stores enough electrical energy to deploy the airbags for up to one second following a battery disconnect or failure during an impact. The purpose of the capacitor is to provide airbag system protection in a severe secondary impact, if the initial impact has damaged or disconnected the battery, but was not severe enough to deploy the airbags.

The ACM cannot be repaired or adjusted and, if damaged or faulty, it must be replaced.

CLOCKSPRING

The clockspring is mounted on the steering column behind the steering wheel. This assembly consists of a plastic housing which contains a flat, ribbon-like, electrically conductive tape that winds and unwinds with the steering wheel rotation.

The clockspring is used to maintain a continuous electrical circuit between the instrument panel wire

harness and the driver side airbag module, the horn switch, and the vehicle speed control switches on vehicles that are so equipped.

The clockspring must be properly centered when it is installed on the steering column following any service removal, or it will be damaged. See Clockspring Centering in the Adjustments section of this group for the procedures.

The clockspring cannot be repaired. If the clockspring is faulty, damaged, or if the airbag has been deployed, the clockspring must be replaced.

DIAGNOSIS AND TESTING**AIRBAG SYSTEM**

A DRB scan tool is required for diagnosis of the airbag system. Refer to the proper Diagnostic Procedures manual for more information.

(1) Connect the DRB scan tool to the 16-way data link wire harness connector. The connector is located on the driver side lower edge of the instrument panel, outboard of the steering column (Fig. 1).

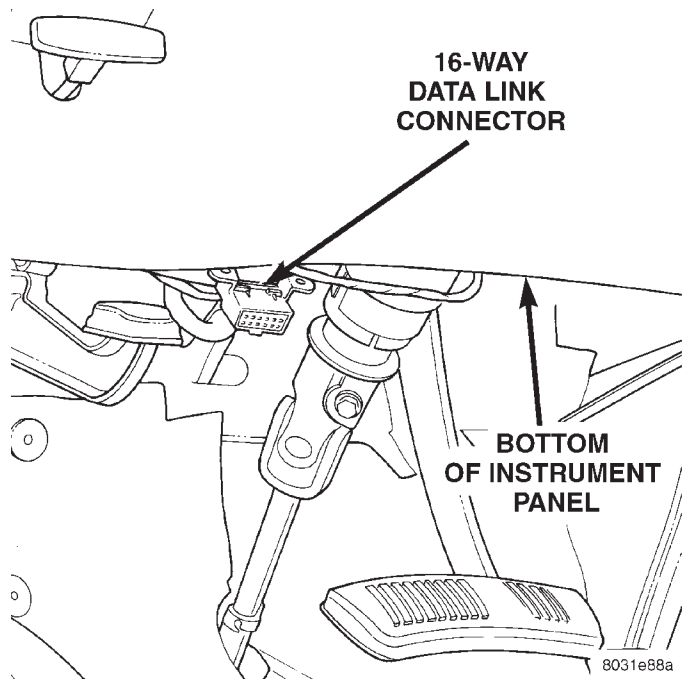


Fig. 1 16-Way Data Link Connector - Typical

(2) Turn the ignition switch to the On position. Exit the vehicle with the DRB. Use the latest version of the proper DRB cartridge.

(3) Using the DRB, read and record the active Diagnostic Trouble Code (DTC) data.

(4) Read and record any stored DTC data.

(5) Refer to the proper Diagnostic Procedures manual if any DTC is found in Step 3 or Step 4.

(6) Erase the stored DTC data. If any problems remain, the stored DTC data will not erase.

DIAGNOSIS AND TESTING (Continued)

(7) With the ignition switch still in the On position, make sure nobody is in the vehicle.

(8) From outside of the vehicle (away from the airbag modules in case of an accidental deployment) turn the ignition switch to the Off position for about ten seconds, and then back to the On position. Observe the airbag indicator lamp in the instrument cluster. It should light for six to eight seconds, and then go out. This indicates that the airbag system is functioning normally.

NOTE: If the airbag indicator lamp fails to light, or lights and stays on, there is an airbag system malfunction. Refer to the proper Diagnostic Procedures manual to diagnose the problem.

SERVICE PROCEDURES

AIRBAG SYSTEM

NON-DEPLOYED

At no time should any source of electricity be permitted near the inflator on the back of an airbag module. When carrying a non-deployed airbag module, the trim cover or airbag side of the module should be pointed away from the body to minimize injury in the event of an accidental deployment. If the module is placed on a bench or any other surface, the trim cover or airbag side of the module should be face up to minimize movement in the event of an accidental deployment.

In addition, the airbag system should be disarmed whenever any steering wheel, steering column, or instrument panel components require diagnosis or service. Failure to observe this warning could result in accidental airbag deployment and possible personal injury. Refer to Group 8E - Instrument Panel Systems for additional service procedures on the instrument panel. Refer to Group 19 - Steering for additional service procedures on the steering wheel and steering column.

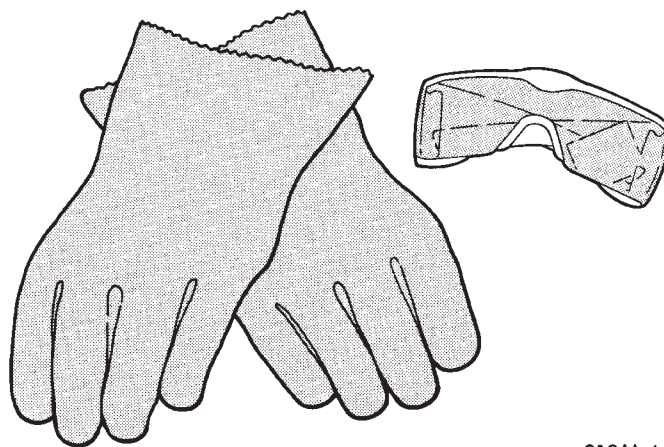
DEPLOYED

Any vehicle which is to be returned to use after an airbag deployment, must have both airbag modules, the clockspring, the steering column and the instrument panel assembly replaced. These components will be damaged or weakened as a result of an airbag deployment, which may or may not be obvious during a visual inspection, and are not intended for reuse.

Other vehicle components should be closely inspected, but are to be replaced only as required by the extent of the visible damage incurred.

CLEANUP PROCEDURE

Following an airbag system deployment, the vehicle interior will contain a powdery residue. This residue consists primarily of harmless particulate by-products of the small pyrotechnic charge used to initiate the airbag deployment propellant. However, this residue will also contain traces of sodium hydroxide powder, a chemical by-product of the propellant material that is used to generate the nitrogen gas that inflates the airbag. Since sodium hydroxide powder can irritate the skin, eyes, nose, or throat, be sure to wear safety glasses, rubber gloves, and a long-sleeved shirt during cleanup (Fig. 2).



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Fig. 2 Wear Safety Glasses and Rubber Gloves

WARNING: IF YOU EXPERIENCE SKIN IRRITATION DURING CLEANUP, RUN COOL WATER OVER THE AFFECTED AREA. ALSO, IF YOU EXPERIENCE IRRITATION OF THE NOSE OR THROAT, EXIT THE VEHICLE FOR FRESH AIR UNTIL THE IRRITATION CEASES. IF IRRITATION CONTINUES, SEE A PHYSICIAN.

Begin the cleanup by removing the airbag modules from the vehicle as described in this group.

Use a vacuum cleaner to remove any residual powder from the vehicle interior. Clean from outside the vehicle and work your way inside, so that you avoid kneeling or sitting on a non-cleaned area.

Be sure to vacuum the heater and air conditioning outlets as well (Fig. 3). Run the heater and air conditioning blower on the lowest speed setting and vacuum any powder expelled from the outlets. You may need to vacuum the interior of the vehicle a second time to recover all of the powder.

Place the deployed airbag modules in your vehicular scrap pile.

SERVICE PROCEDURES (Continued)

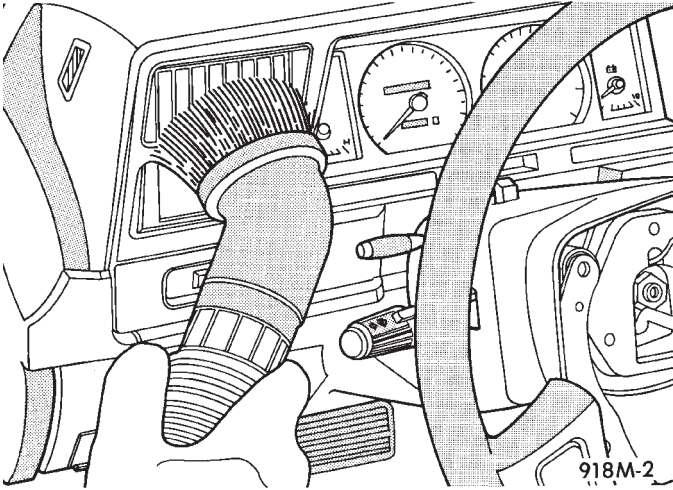


Fig. 3 Vacuum Heater and A/C Outlets

REMOVAL AND INSTALLATION

AIRBAG MODULE

WARNING:

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CABLE. THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE FURTHER SYSTEM SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE AIRBAG SYSTEM. FAILURE TO DO THIS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

• WHEN REMOVING A DEPLOYED AIRBAG MODULE, RUBBER GLOVES, EYE PROTECTION, AND A LONG-SLEEVED SHIRT SHOULD BE WORN. THERE MAY BE DEPOSITS ON THE AIRBAG MODULE AND OTHER INTERIOR SURFACES. IN LARGE DOSES, THESE DEPOSITS MAY CAUSE IRRITATION TO THE SKIN AND EYES.

DRIVER SIDE

(1) Disconnect and isolate the battery negative cable. If the airbag has not been deployed, wait two minutes for the system capacitor to discharge before further service.

(2) From the underside of the steering wheel, remove the two screws that secure the driver side airbag module to the steering wheel (Fig. 4).

(3) Pull the airbag module away from the steering wheel far enough to access the wire harness connectors on the back of the airbag module.

(4) Unplug the airbag module and horn switch wire harness connectors from the back of the airbag module.

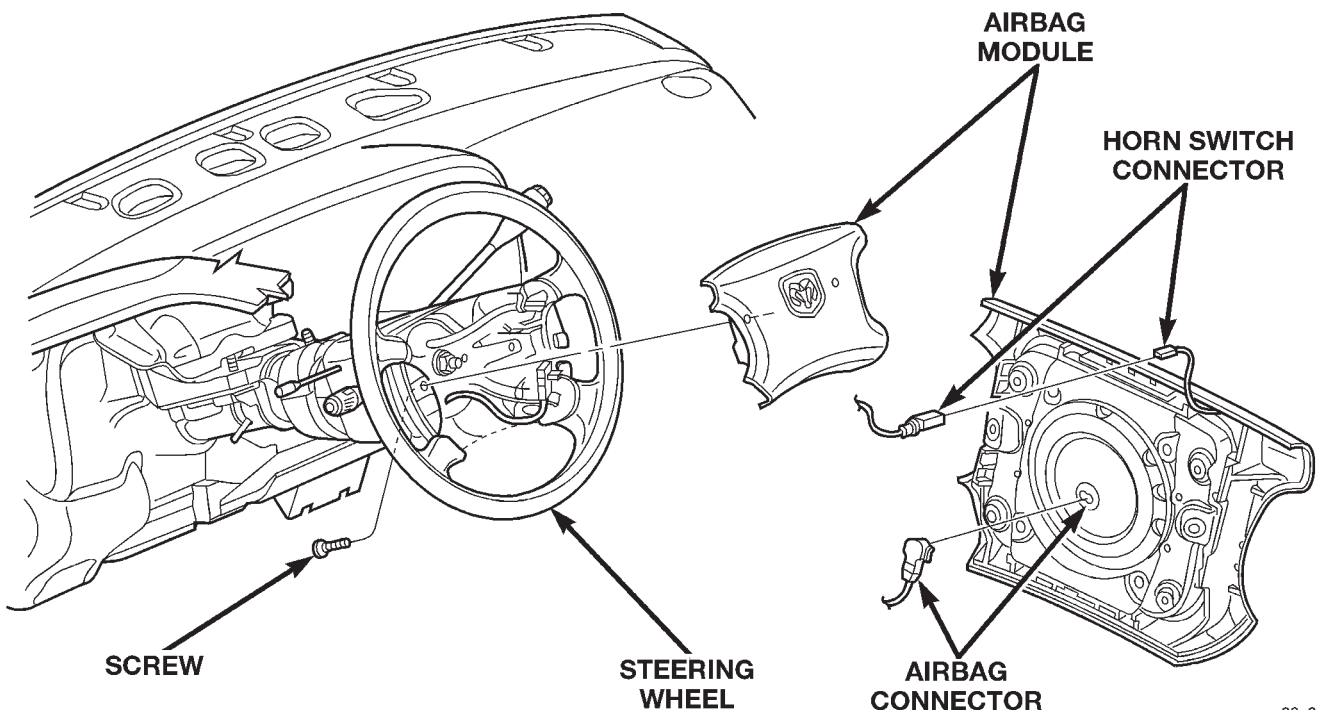


Fig. 4 Driver Side Airbag Module Remove/Install

REMOVAL AND INSTALLATION (Continued)

(5) Remove the driver side airbag module from the steering wheel.

(6) If the airbag has been deployed, the clockspring must be replaced. See Clockspring in the Removal and Installation section of this group for the procedures.

(7) When installing the airbag module, connect the clockspring wire harness connector to the module by pressing straight in on the connector. Be certain that the connector is fully engaged by observing the latch arms on each side of the connector. When these arms move outward from the connector, the connector is latched.

(8) Connect the horn switch wire harness connectors.

(9) Install the airbag module in the steering wheel. Tighten the mounting screws to 10.2 N·m (90 in. lbs.).

(10) Do not connect the battery negative cable at this time. See Airbag System in the Diagnosis and Testing section of this group for the proper procedures.

PASSENGER SIDE

The following procedure is for replacement of a faulty or damaged passenger side airbag module. If the passenger side airbag module has been deployed, the instrument panel assembly must be replaced. The instrument panel assembly includes a passenger side airbag and airbag door. Refer to Instrument Panel Assembly in the Removal and Installation section of Group 8E - Instrument Panel Systems for the service procedures.

(1) Disconnect and isolate the battery negative cable. If the airbag has not been deployed, wait two minutes for the system capacitor to discharge before further service.

(2) Remove the instrument panel top cover. Refer to Instrument Panel Top Cover in the Removal and Installation section of Group 8E - Instrument Panel Systems for the procedures.

(3) Apply masking tape over the passenger side airbag module vents on each end of the module. The tape will help prevent any foreign material from entering the module through the vents during disassembly and reassembly (Fig. 5).

WARNING: USE EXTREME CARE TO PREVENT ANY FOREIGN MATERIAL FROM ENTERING THE PASSENGER SIDE AIRBAG MODULE, OR BECOMING ENTRAPPED BETWEEN THE INSTRUMENT PANEL TOP COVER AND THE PASSENGER SIDE AIRBAG MODULE. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN OCCUPANT INJURIES UPON AIRBAG DEPLOYMENT.

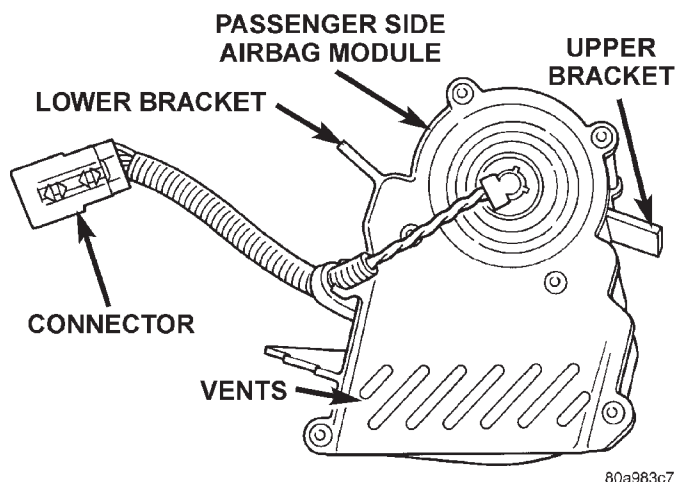


Fig. 5 Passenger Side Airbag Module Vents

(4) Use a center punch to drive out the mandrels from the four rivets that secure the airbag module to the upper airbag door flange and bracket on the instrument panel top cover (Fig. 6).

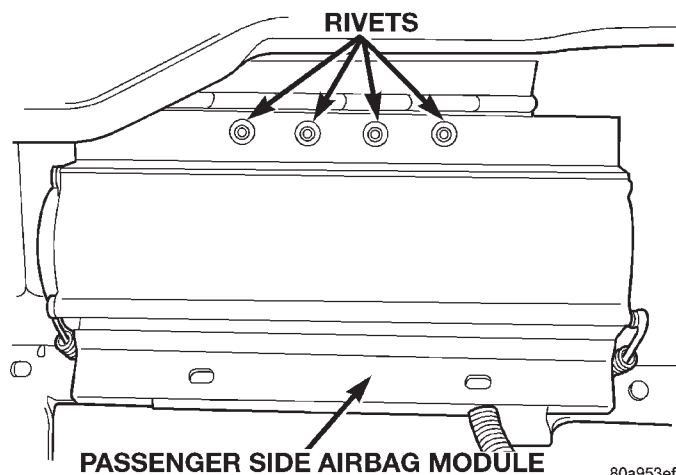


Fig. 6 Passenger Side Airbag Module Rivets

(5) Use a pair of rivet cutters or a large pair of side cutters to cut the rims or heads off of the four rivets.

WARNING: DO NOT USE A DRILL TO REMOVE THE RIVETS. SPARKS CREATED WHEN DRILLING COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY. ALSO, METAL SHAVINGS CREATED WHEN DRILLING COULD ENTER THE PASSENGER SIDE AIRBAG MODULE AND RESULT IN OCCUPANT INJURIES UPON AIRBAG DEPLOYMENT.

(6) Remove the passenger side airbag module from the upper airbag door flange and bracket on the instrument panel top cover (Fig. 7).

REMOVAL AND INSTALLATION (Continued)

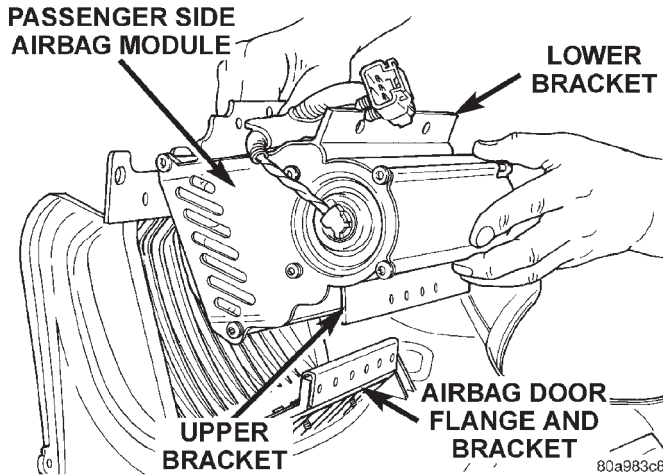


Fig. 7 Passenger Side Airbag Module Remove/Install

(7) When installing the passenger side airbag module, use only the correct rivets that are specified in the Chrysler Mopar Parts Catalog, or that are supplied in the service package with the new airbag module and/or the new instrument panel top cover.

(8) Remove the tape applied in Step 3 from the passenger side airbag module vents.

(9) Reverse the remaining removal procedures to complete the installation.

(10) When reinstalling the instrument panel top cover, be certain that the airbag module wire harness connector latches are fully engaged.

(11) Do not connect the battery negative cable at this time. See Airbag System in the Diagnosis and Testing section of this group for the proper procedures.

DRIVER SIDE AIRBAG TRIM COVER AND HORN SWITCH

WARNING:

- THE AIRBAG SYSTEM IS A SENSITIVE, COMPLEX ELECTROMECHANICAL UNIT. BEFORE ATTEMPTING TO DIAGNOSE OR SERVICE ANY AIRBAG SYSTEM OR RELATED STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENTS YOU MUST FIRST DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE. THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE FURTHER SYSTEM SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE AIRBAG SYSTEM. FAILURE TO DO THIS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

- THE HORN SWITCH IS INTEGRAL TO THE AIRBAG MODULE TRIM COVER. SERVICE OF THIS COMPONENT SHOULD BE PERFORMED ONLY BY CHRYSLER-TRAINED AND AUTHORIZED DEALER

SERVICE TECHNICIANS. FAILURE TO TAKE THE PROPER PRECAUTIONS OR TO FOLLOW THE PROPER PROCEDURES COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Disconnect and isolate the battery negative cable. If the airbag module has not been deployed, wait two minutes for the system capacitor to discharge before further service.

(2) Remove the driver side airbag module as described in this group.

(3) Remove the four nuts that secure the upper and lower trim cover retainers to the studs on the airbag housing (Fig. 8).

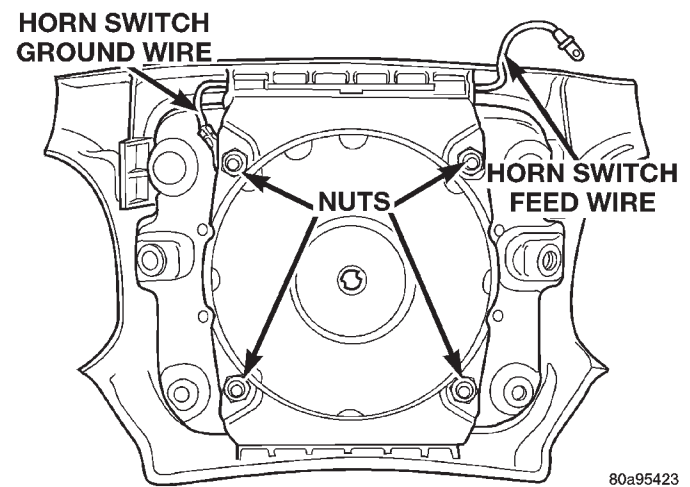


Fig. 8 Airbag Trim Cover Retainer Nuts Remove/Install

(4) Remove the upper and lower trim cover retainers from the airbag housing studs (Fig. 9).

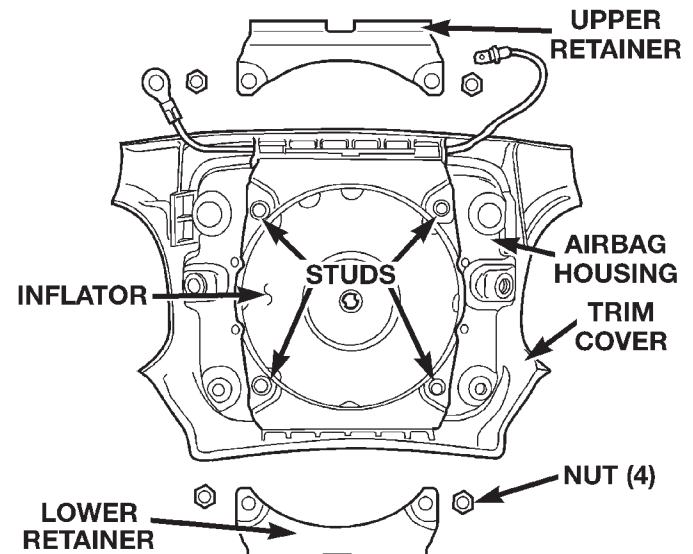


Fig. 9 Airbag Trim Cover Retainers Remove/Install

REMOVAL AND INSTALLATION (Continued)

(5) Remove the horn switch ground wire eyelet from the airbag housing stud.

(6) Disengage the six trim cover locking blocks from the lip around the outside edge of the airbag housing and remove the housing from the cover (Fig. 10).

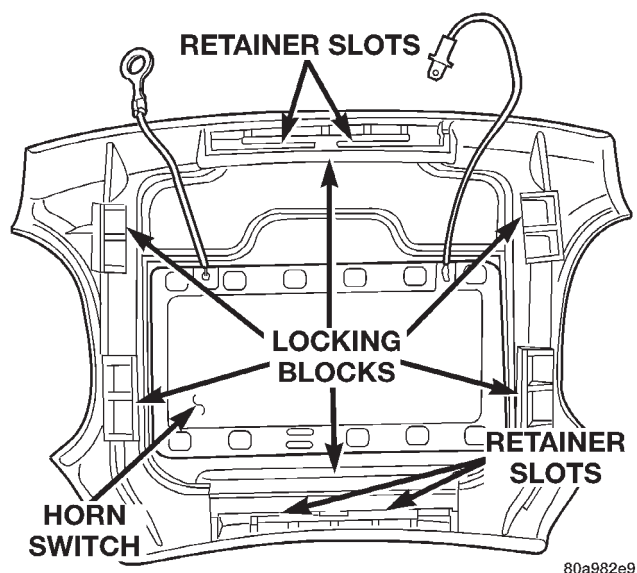


Fig. 10 Airbag Trim Cover Remove/Install

WARNING: USE EXTREME CARE TO PREVENT ANY FOREIGN MATERIAL FROM ENTERING THE DRIVER SIDE AIRBAG MODULE, OR BECOMING ENTRAPPED BETWEEN THE DRIVER SIDE AIRBAG MODULE TRIM COVER AND THE DRIVER SIDE AIRBAG MODULE. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN OCCUPANT INJURIES UPON AIRBAG DEPLOYMENT.

(7) When installing the trim cover and horn switch, be certain that the locking blocks are fully engaged on the lip of the airbag housing (Fig. 11).

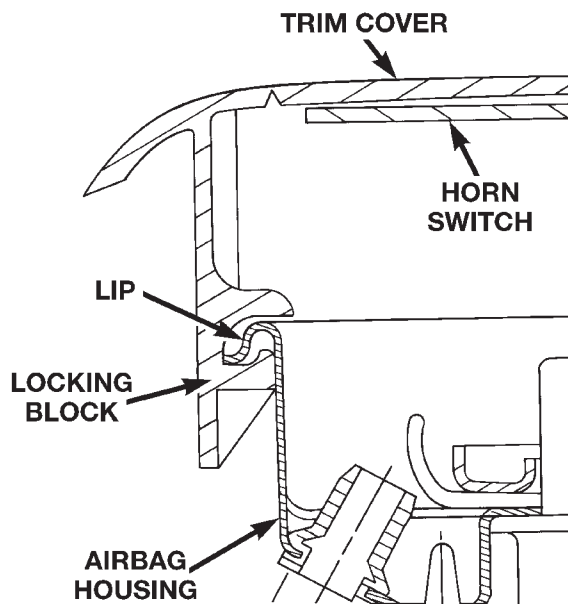
(8) When installing the upper and lower trim cover retainers, be certain that the tabs on each retainer are engaged in the retainer slots of the trim cover (Fig. 10).

(9) Install and tighten the trim cover retainer nuts to 10 N·m (90 in. lbs.).

(10) Reverse the remaining removal procedures to complete the installation, but do not connect the battery negative cable at this time. See Airbag System in Diagnosis and Testing for the proper procedures.

PASSENGER SIDE AIRBAG DOOR

The passenger side airbag door for this model is only serviced as a part of the instrument panel top cover assembly. If the passenger side airbag door is faulty or damaged, the instrument panel top cover assembly must be replaced. Refer to Instrument



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Fig. 11 Airbag Trim Cover Locking Blocks Installed

Panel Top Cover in Group 8E - Instrument Panel Systems for the procedures.

AIRBAG CONTROL MODULE

WARNING:

- THE AIRBAG CONTROL MODULE CONTAINS THE IMPACT SENSOR, WHICH ENABLES THE SYSTEM TO DEPLOY THE AIRBAG. BEFORE ATTEMPTING TO DIAGNOSE OR SERVICE ANY AIRBAG SYSTEM OR RELATED STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENTS YOU MUST FIRST DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE. THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE FURTHER SYSTEM SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE AIRBAG SYSTEM. FAILURE TO DO THIS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

- NEVER STRIKE OR KICK THE AIRBAG CONTROL MODULE, AS IT CAN DAMAGE THE IMPACT SENSOR OR AFFECT ITS CALIBRATION. IF AN AIRBAG CONTROL MODULE IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT.

(1) Disconnect and isolate the battery negative cable. If the airbag has not been deployed, wait two minutes for the system capacitor to discharge before further service.

(2) Remove the center support bracket from the instrument panel. Refer to Instrument Panel Center

REMOVAL AND INSTALLATION (Continued)

Support Bracket in the Removal and Installation section of Group 8E - Instrument Panel Systems for the procedures.

(3) Remove the screw that secures the instrument panel wire harness ground eyelet to the left side of the floor panel transmission tunnel.

(4) Unplug the Airbag Control Module (ACM) wire harness connector. To unplug the wire harness connector from the ACM, pull the two white locks out about 3 millimeters (0.125 inches) from each side of the connector (Fig. 12). Squeeze the two connector latch tabs between the thumb and forefinger, while pulling the connector out from the ACM.

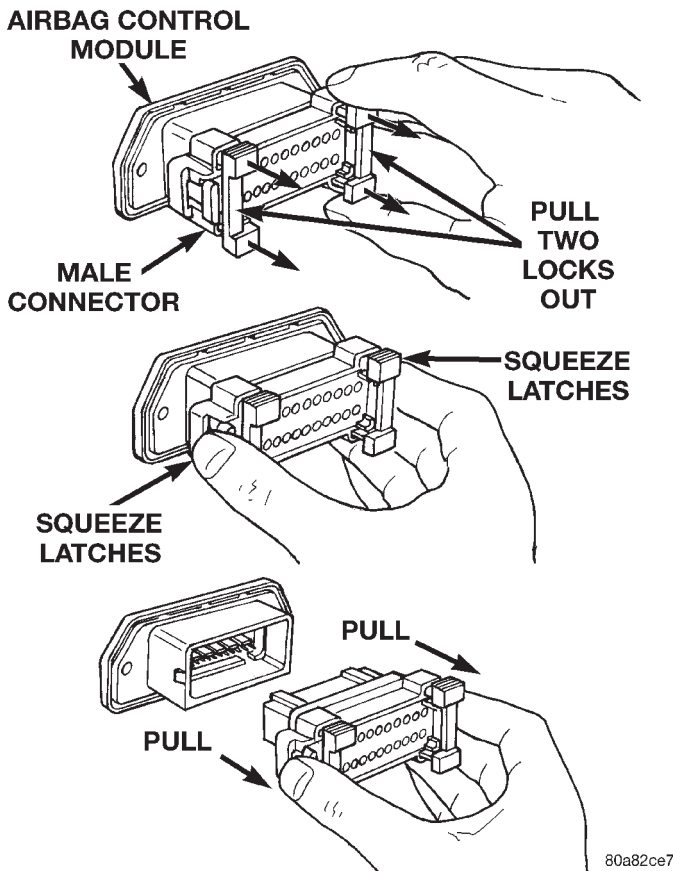


Fig. 12 Airbag Control Module Connector Removal

NOTE: Always remove and replace the airbag control module and its mounting bracket as a unit. Replacement modules include a replacement mounting bracket. Do not transfer the module to another mounting bracket.

(5) Remove the three screws that secure the ACM mounting bracket to the floor panel transmission tunnel (Fig. 13).

(6) Remove the ACM and its mounting bracket as a unit from the floor panel.

(7) When installing the ACM, position the unit with the arrow on the ACM housing pointing forward.

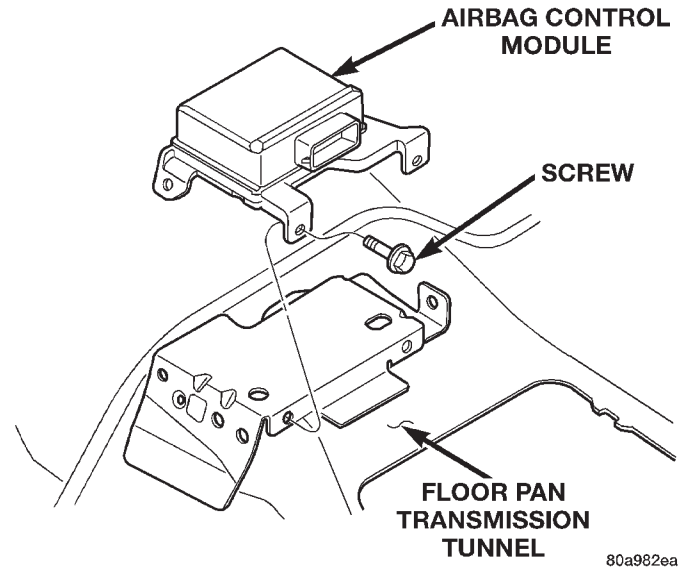


Fig. 13 Airbag Control Module Remove/Install

(8) Attach the ACM to the floor panel transmission tunnel with the four mounting screws. Tighten the mounting screws to 11.8 N·m (105 in. lbs.).

(9) Reinstall the screw that secures the instrument panel wire harness ground eyelet to the left side of the floor panel transmission tunnel.

(10) Plug in the wire harness connector to the ACM. Be certain that the connector latches are fully engaged and that the connector locks are pushed in.

(11) Reverse the remaining removal procedures to complete the installation.

(12) Do not connect the battery negative cable at this time. See Airbag System in the Diagnosis and Testing section of this group for the proper procedures.

CLOCKSPRING

WARNING: THE AIRBAG SYSTEM IS A SENSITIVE, COMPLEX ELECTROMECHANICAL UNIT. BEFORE ATTEMPTING TO DIAGNOSE OR SERVICE ANY AIRBAG SYSTEM OR RELATED STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENTS YOU MUST FIRST DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE. THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE FURTHER SYSTEM SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE AIRBAG SYSTEM. FAILURE TO DO THIS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Turn the steering wheel until the front wheels are in the straight-ahead position before starting the procedure.

REMOVAL AND INSTALLATION (Continued)

(2) Disconnect and isolate the battery negative cable. If the airbag has not been deployed, wait two minutes for the system capacitor to discharge before further service.

(3) Remove the driver side airbag module from the steering wheel. See Airbag Module in the Removal and Installation section of this group for the procedures.

(4) If the vehicle is equipped with the optional vehicle speed control, unplug the wire harness connectors from the speed control switches in the steering wheel.

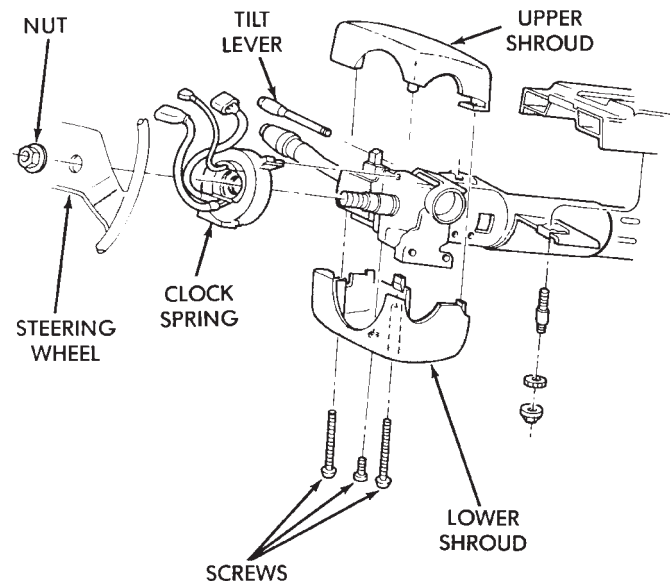
(5) Remove the nut that secures the steering wheel to the steering column upper shaft.

(6) Remove the steering wheel with a steering wheel puller (Special Tool C-3428-B).

(7) Remove the steering column opening cover and knee blocker from the instrument panel. Refer to Steering Column Opening Cover and Knee Blocker in the Removal and Installation section of Group 8E - Instrument Panel Systems for the procedures.

(8) If the vehicle is so equipped, remove the tilt steering column lever.

(9) Remove both the upper and lower shrouds from the steering column (Fig. 14).



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Fig. 14 Steering Column Shrouds Remove/Install - Typical

(10) Remove the lower fixed column shroud from the steering column.

(11) Unplug the wire harness connectors from the clockspring.

(12) Unplug the wire harness connector between the clockspring and the instrument panel wire har-

ness, located on the instrument panel lower reinforcement underneath the steering column.

(13) To remove the clockspring, carefully lift the locating fingers of the clockspring assembly from the steering column as necessary. The clockspring cannot be repaired. It must be replaced if faulty or damaged, or if the airbag has been deployed.

CAUTION: Before installing the clockspring, be certain that the front wheels are still in the straight-ahead position.

(14) When installing the clockspring, snap the clockspring onto the steering column. If the clockspring is not positioned properly in relation to the steering wheel, see Clockspring Centering in the Adjustments section of this group before installing the steering wheel.

(15) Plug the clockspring wire harness connector into the instrument panel wire harness. Be certain that the wire harness locator clips are properly seated on the outside of the wiring trough and that the connector latches are fully engaged.

(16) Reinstall the steering column shrouds. Be certain that the clockspring wire harness is inside the shrouds.

(17) Reinstall the steering column opening cover and knee blocker to the instrument panel. Refer to Steering Column Opening Cover and Knee Blocker in the Removal and Installation section of Group 8E - Instrument Panel Systems for the procedures.

(18) The front wheels should still be in the straight-ahead position. Install the steering wheel being certain to index the flats on the hub of the steering wheel with the formations on the inside of the clockspring. Pull the wire harnesses from the clockspring through the upper and lower holes between the steering wheel back trim cover and the steering wheel armature. Tighten the steering wheel nut to 61 N·m (45 ft. lbs.). Be certain not to pinch the wiring between the steering wheel and the nut.

(19) If the vehicle is so equipped, plug in the wire harness connectors to the vehicle speed control switches. Be certain that the speed control switch wire harnesses are routed between the steering wheel back trim cover and the steering wheel armature.

(20) Install the driver side airbag module onto the steering wheel. See Airbag Module in the Removal and Installation section of this group for the procedures.

ADJUSTMENTS

CLOCKSPRING CENTERING

The clockspring is designed to wind and unwind when the steering wheel is rotated, but is only designed to rotate the same number of turns (about five complete rotations) as the steering wheel can be turned from stop to stop. If the rotating tape within the clockspring is not indexed properly to the steering wheel and the front wheels, the clockspring may become wound too tight and fail during use. The clockspring must be centered if it is not known to be properly indexed, or if the front wheels were moved from the straight-ahead position with the clockspring removed during any service procedure.

WARNING: THE AIRBAG SYSTEM IS A SENSITIVE, COMPLEX ELECTROMECHANICAL UNIT. BEFORE ATTEMPTING TO DIAGNOSE OR SERVICE ANY AIRBAG SYSTEM OR RELATED STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENTS YOU MUST FIRST DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE. THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE FURTHER SYSTEM SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE AIRBAG SYSTEM. FAILURE TO DO THIS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Turn the steering wheel until the front wheels are in the straight-ahead position before starting the centering procedure.

(2) Disconnect and isolate the battery negative cable. If the airbag has not been deployed, wait two minutes for the system capacitor to discharge before further service.

(3) Remove the driver side airbag module from the steering wheel. See Airbag Module in the Removal and Installation section of this group for the procedures.

(4) If the vehicle is equipped with the optional vehicle speed control, unplug the wire harness connectors from the speed control switches in the steering wheel.

(5) Remove the nut that secures the steering wheel to the steering column upper shaft.

(6) Remove the steering wheel with a steering wheel puller (Special Tool C-3428-B).

(7) Depress the two plastic clockspring auto-locking tabs (Fig. 15).

(8) Keeping the locking mechanism disengaged, rotate the clockspring rotor clockwise to the end of its travel. **Do not apply excessive torque.**

(9) From the end of the clockwise travel, rotate the rotor about two and one-half turns counterclockwise.

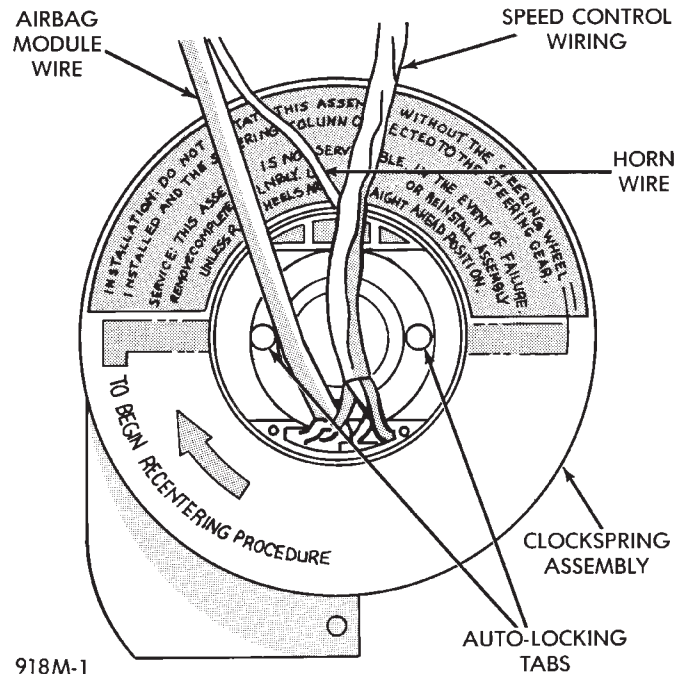


Fig. 15 Clockspring Auto-Locking Tabs

The clockspring horn wire harness should end up at the top, and the airbag wire harness and optional speed control switch wire harnesses at the bottom.

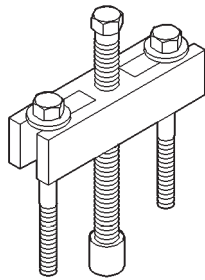
(10) The front wheels should still be in the straight-ahead position. Install the steering wheel being certain to index the flats on the hub of the steering wheel with the formations on the inside of the clockspring. Pull the wire harnesses from the clockspring through the upper and lower holes between the steering wheel back trim cover and the steering wheel armature. Tighten the steering wheel nut to 61 N·m (45 ft. lbs.). Be certain not to pinch the wiring between the steering wheel and the nut.

(11) If the vehicle is so equipped, plug in the wire harness connectors to the vehicle speed control switches. Be certain that the speed control switch wire harnesses are routed between the steering wheel back trim cover and the steering wheel armature.

(12) Install the driver side airbag module onto the steering wheel. See Airbag Module in the Removal and Installation section of this group for the procedures.

SPECIAL TOOLS

STEERING WHEEL



Puller C-3428-B