

PASSIVE RESTRAINT SYSTEMS

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GENERAL INFORMATION

INTRODUCTION

A dual front airbag system is a standard equipment safety feature on this model. The system includes an inflatable airbag module in the center of the steering wheel, and a second inflatable airbag module in the instrument panel above the glove box. This system is designed to reduce serious injuries to the driver and front seat passenger during a frontal impact of the vehicle.

To test this passive restraint system, refer to the proper Diagnostic Procedures manual. If an airbag module assembly is defective and non-deployed, refer to the Chrysler Corporation current parts return list in the Warranty Policies and Procedures manual for the proper handling procedures.

Following are general descriptions of the major components in the airbag system. Refer to 8W-43 - Airbag System in Group 8W - Wiring Diagrams for complete circuit descriptions and diagrams.

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

## GENERAL INFORMATION (Continued)

**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, the cover will split at a pre-determined breakout line.

*PASSENGER SIDE*

The instrument panel top pad is the most visible part of the passenger side airbag system. Located under the instrument panel top pad 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 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 instrument panel top pad above the glove box opening has a door and pre-determined breakout lines concealed beneath its decorative cover. Upon airbag deployment, the top pad will split at the breakout lines and the door will pivot out of the way.

The airbag module is secured to two mounting brackets beneath the instrument panel top pad and above the glove box opening. The airbag front mount-

ing bracket (closest to the dash panel) is welded to the instrument panel armature. The airbag rear mounting bracket (closest to the passenger) is bolted to the instrument panel armature. Following an airbag deployment, the airbag rear mounting bracket and the instrument panel top pad must be replaced. If the airbag front mounting bracket is damaged, the instrument panel armature assembly must also 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 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.

**IMPACT SENSOR**

The impact sensor provides verification of the direction and severity of an impact. One impact sensor is used. It is located inside the Airbag Control Module (ACM), which is secured to a bracket on the floor panel transmission tunnel inside the vehicle.

The impact sensor is an accelerometer that senses the rate of deceleration. The microprocessor in the ACM monitors the impact sensor signal. A pre-programmed decision algorithm in the microprocessor determines when the deceleration rate 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.

The impact sensor is calibrated for the specific vehicle. The sensor is only serviced as a unit with the ACM. The sensor cannot be repaired or adjusted and, if faulty or damaged, the ACM unit 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, the vehicle speed control switches, and the remote radio 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 the Clockspring Centering procedure in this group for more information.

## DESCRIPTION AND OPERATION (Continued)

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

**AIRBAG CONTROL MODULE**

The Airbag Control Module (ACM) contains the impact sensor, and a microprocessor that monitors the impact sensor and the airbag system electrical circuits to determine the system readiness. The ACM contains On-Board Diagnostics (OBD), and will send an airbag lamp-on message to the instrument cluster on the Chrysler Collision Detection (CCD) data bus to light the airbag indicator lamp in the instrument cluster when a monitored airbag system fault occurs.

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 and, if damaged or faulty, it 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).

(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.

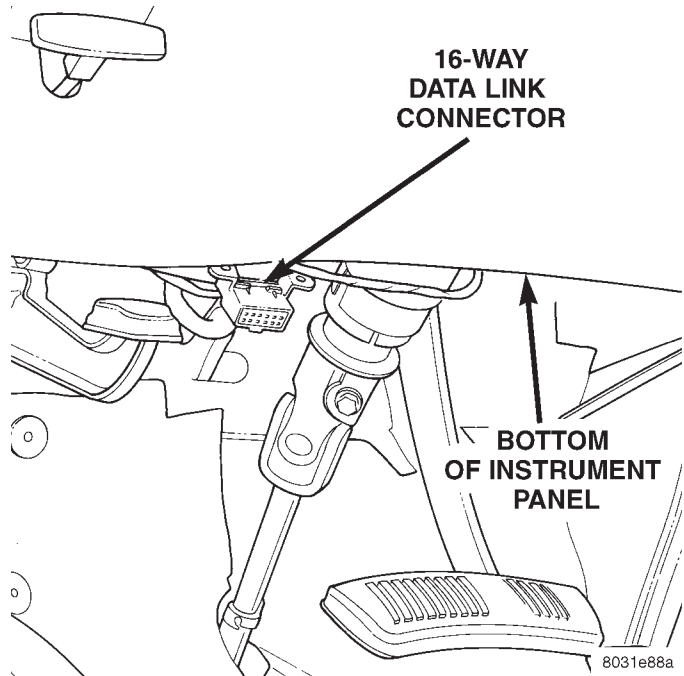
(4) Read and record any stored DTC data.

(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.

(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.



**Fig. 1 16-Way Data Link Connector - Typical**

**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.



## SERVICE PROCEDURES (Continued)

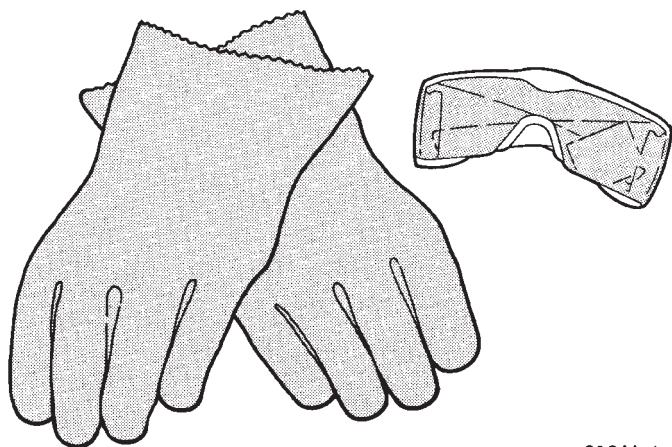
## DEPLOYED

Any vehicle which is to be returned to use after an airbag deployment, must have both airbag modules, the clockspring, the instrument panel top pad, and the passenger side airbag rear mounting bracket 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**

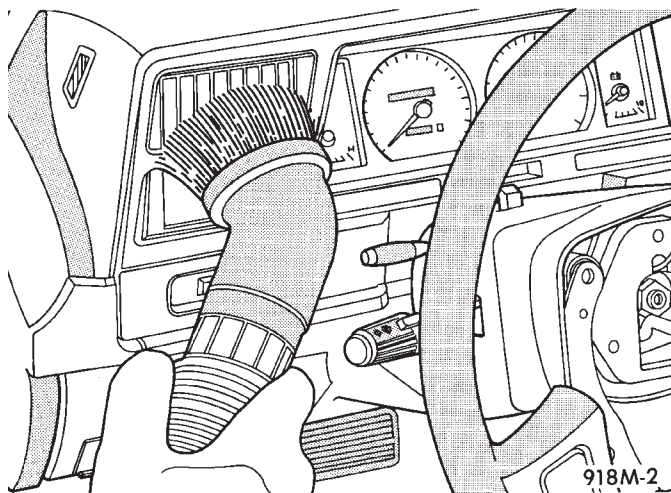
**WARNING:** IF YOU EXPERIENCE SKIN IRRITATION DURING CLEANUP, RUN COOL WATER OVER THE AFFECTED AREA. ALSO, IF YOU EXPERIENCE IRRITATION OF THE NOSE OR THROAT, EXIT THE VEHICLE FOR FRESH AIR UNTIL THE IRRITATION CEASES. IF IRRITATION CONTINUES, SEE A PHYSICIAN.

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.



918M-2

**Fig. 3 Vacuum Heater and A/C Outlets**

Place the deployed airbag modules in your vehicular scrap pile.

## REMOVAL AND INSTALLATION

## AIRBAG MODULE

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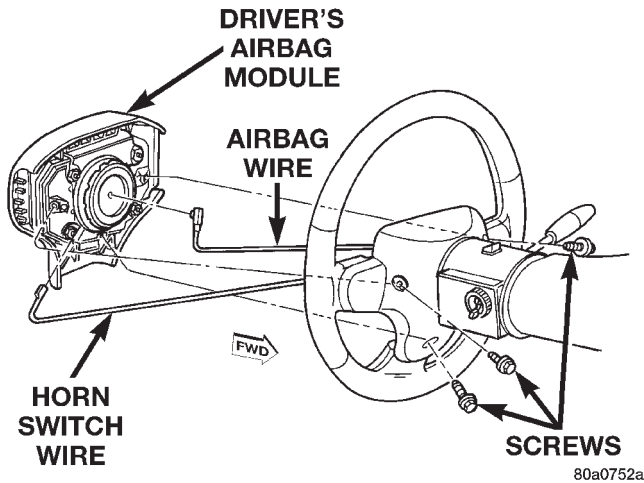
- WHEN REMOVING A DEPLOYED AIRBAG MODULE, RUBBER GLOVES, EYE PROTECTION, AND A LONG-SLEEVED SHIRT SHOULD BE WORN. THERE MAY BE DEPOSITS ON THE AIRBAG MODULE AND OTHER INTERIOR SURFACES. IN LARGE DOSES, THESE DEPOSITS MAY CAUSE IRRITATION TO THE SKIN AND EYES.

## REMOVAL AND INSTALLATION (Continued)

**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 three screws that secure the driver side airbag module to the steering wheel (Fig. 4).



**Fig. 4 Driver Side Airbag Module Remove/Install**

(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.

(5) Remove the driver side airbag module from the vehicle.

(6) If the airbag has been deployed, the clockspring must be replaced. See Clockspring in 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

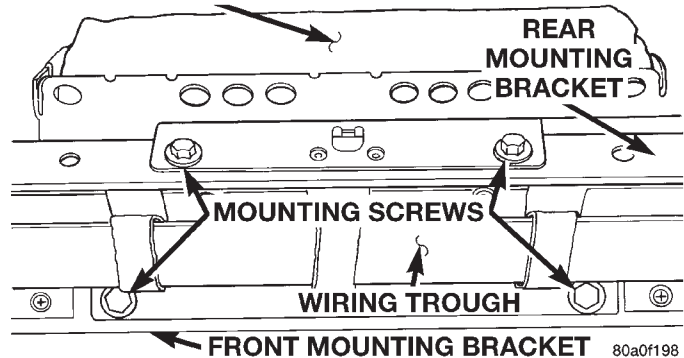
the passenger side airbag has been deployed, the instrument panel top pad and passenger side airbag rear mounting bracket must be replaced. Refer to Group 8E - Instrument Panel Systems for the procedures required for instrument panel top pad service.

(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 pad. Refer to Instrument Panel Top Pad in Group 8E - Instrument Panel Systems for the procedures.

(3) Remove the screw that secures the upper airbag mounting bracket tab to the instrument panel base.

(4) Remove the two screws that secure the airbag module to the front airbag mounting bracket (Fig. 5).

**PASSENGER'S AIRBAG MODULE**

**Fig. 5 Passenger Side Airbag Module Remove/Install**

(5) Remove the two screws that secure the airbag module to the rear airbag mounting bracket.

(6) Unplug the airbag module wire harness connector and remove the airbag module from the instrument panel.

(7) If the airbag has been deployed, the passenger side rear airbag mounting bracket must be replaced. See Passenger Side Rear Airbag Mounting Bracket in this group for the procedures.

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

(8) Install the passenger side airbag module in the instrument panel. Tighten the lower airbag module mounting screws to 11.75 N·m (105 in. lbs.). Tighten the upper airbag module mounting bracket tab screw to 2.2 N·m (20 in. lbs.).

## REMOVAL AND INSTALLATION (Continued)

**NOTE:** If the lower airbag module mounting screws cannot be tightened to the specified torque value, replace the screws with the oversized screws specified in the Mopar Parts Catalog.

(9) When reinstalling the passenger side airbag module, be certain that the airbag module wire harness connector latches are fully engaged.

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

(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

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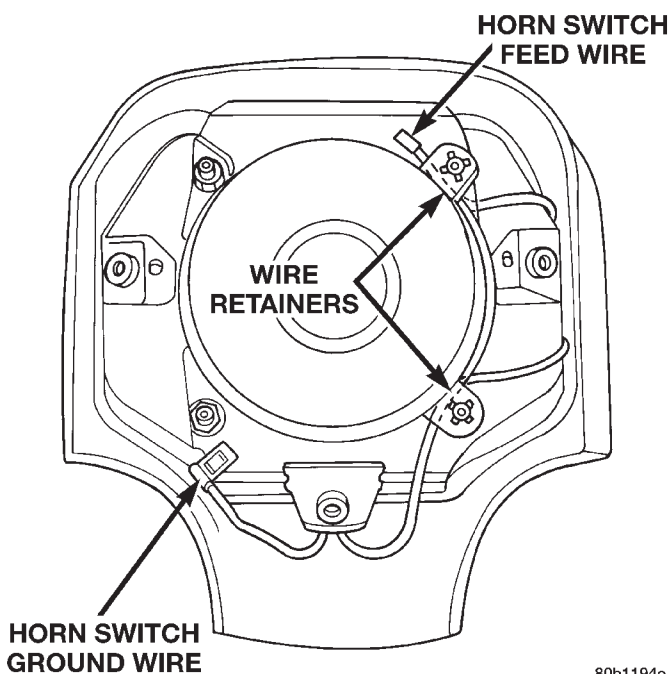
- THE HORN SWITCH IS INTEGRAL TO THE AIRBAG MODULE TRIM COVER. SERVICE OF THIS COMPONENT SHOULD BE PERFORMED ONLY BY CHRYSLER-TRAINED AND AUTHORIZED DEALER SERVICE TECHNICIANS. FAILURE TO TAKE THE PROPER PRECAUTIONS OR TO FOLLOW THE PROPER PROCEDURES COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

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

(2) Remove the driver side airbag module from the steering wheel. See Airbag Module in this group for the procedures.

(3) Remove the plastic horn switch feed wire retainers from the studs on the airbag housing (Fig. 6).

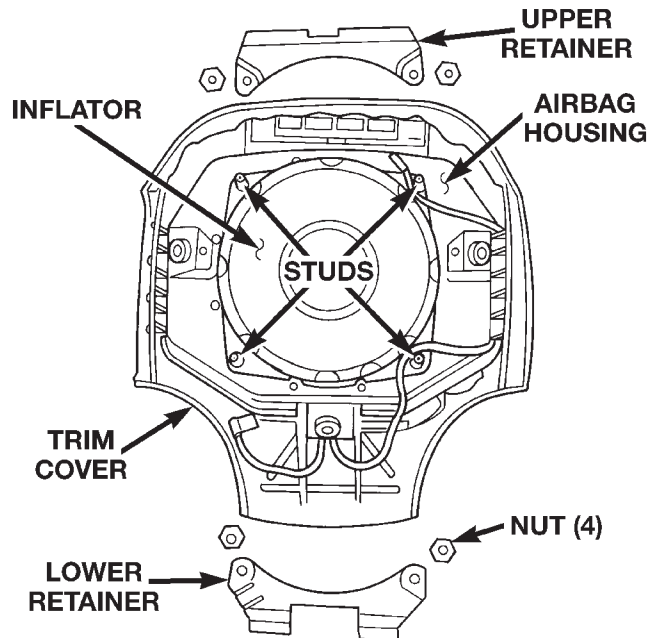
(4) Unplug the horn switch ground wire from the airbag module lower trim cover retainer.



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**Fig. 6 Horn Switch Feed Wires Remove/Install**

(5) Remove the four nuts that secure the upper and lower trim cover retainers to the studs on the airbag housing (Fig. 7).



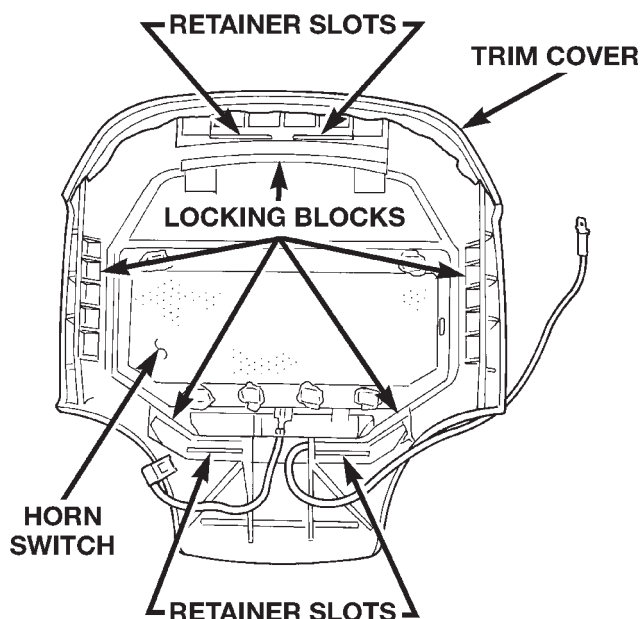
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**Fig. 7 Airbag Trim Cover Retainers Remove/Install**

(6) Remove the upper and lower trim cover retainers from the airbag housing studs.

(7) Disengage the five trim cover locking blocks from the lip around the outside edge of the airbag housing and remove the housing from the cover (Fig. 8).

## REMOVAL AND INSTALLATION (Continued)



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**Fig. 8 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.**

(8) When installing the trim cover and horn switch, be certain that the locking blocks are fully engaged on the lip of the airbag housing and that the horn switch feed wire is captured between the lip of the airbag housing and the locking block (Fig. 9).

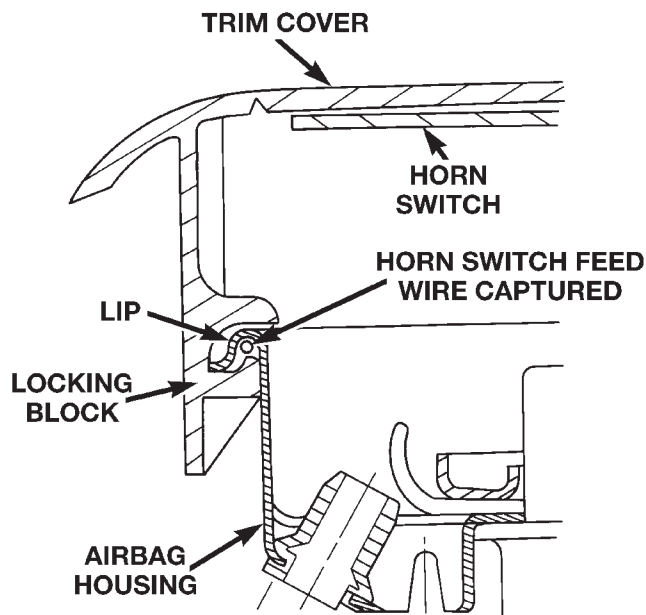
(9) When installing the upper and lower trim cover retainers, be certain that the tabs on each retainer are engaged in the retainer slots of the trim cover (Fig. 8).

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

(11) Reverse the remaining removal procedures to complete the installation, but 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 AIRBAG REAR MOUNTING BRACKET

(1) Remove the passenger side airbag module from the instrument panel. See Airbag Module in this group for the procedures.



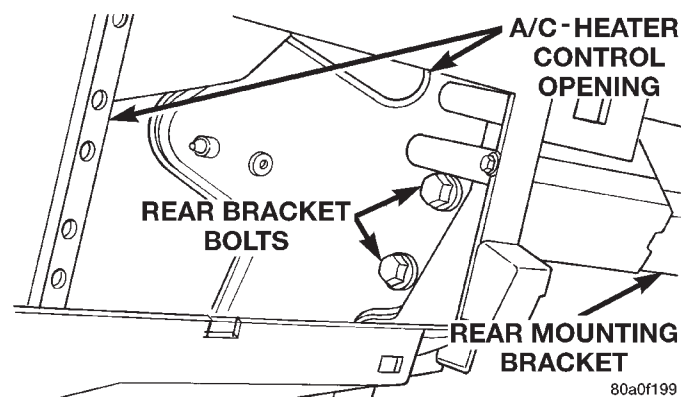
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**Fig. 9 Airbag Trim Cover Locking Blocks Installed**

(2) Remove the screws that secure the instrument panel wire harness trough to the airbag rear mounting bracket.

(3) Remove the heater and air conditioner control from the instrument panel. Refer to Heater-A/C Control in Group 24 - Heating and Air Conditioning for the procedures.

(4) Reach through the heater-A/C control opening in the instrument panel to remove the two bolts that secure the inboard end of the airbag rear mounting bracket to the instrument panel armature (Fig. 10).



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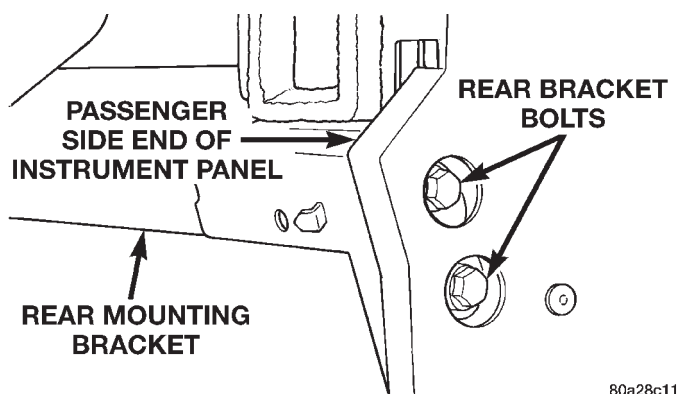
**Fig. 10 Inboard Mounting Bolts Remove/Install**

(5) Remove the two bolts that secure the outboard end of the airbag rear mounting bracket from the passenger side outboard end of the instrument panel armature (Fig. 11).

(6) Remove the airbag rear mounting bracket through the lower opening of the instrument panel armature, outboard end first.



## REMOVAL AND INSTALLATION (Continued)

**Fig. 11 Outboard Mounting Bolts Remove/Install**

(7) Reverse the removal procedures to install. Tighten the bracket mounting bolts to 11.75 N·m (105 in. lbs.). Tighten the wire harness trough screws to 2.2 N·m (20 in. lbs.).

**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.**

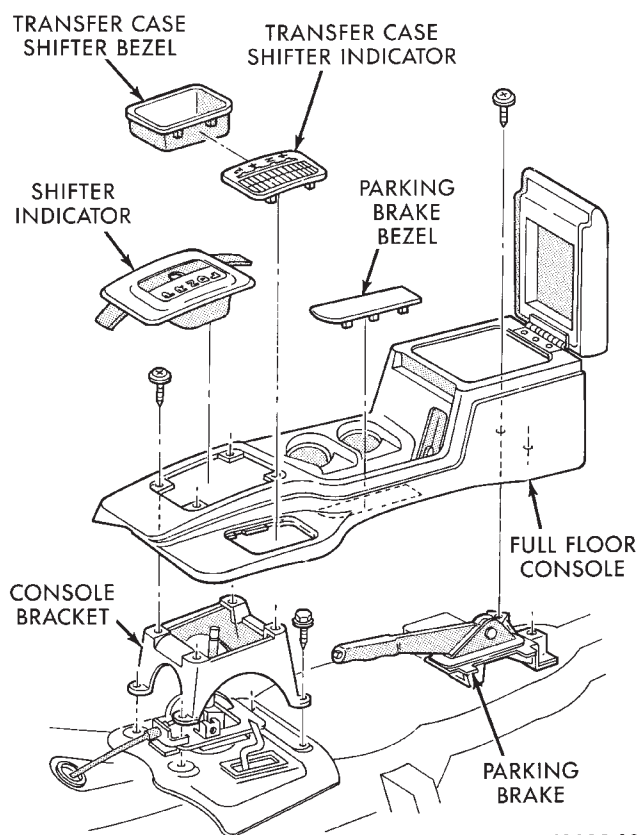
- **NEVER STRIKE OR KICK THE AIRBAG CONTROL MODULE, AS IT CAN DAMAGE THE IMPACT SENSOR OR AFFECT ITS CALIBRATION. IF AN AIRBAG CONTROL MODULE IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT.**

(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) Pull the transmission shift lever handle straight up firmly and quickly to remove the handle.

(3) Using a trim stick or another suitable wide flat-bladed tool, pry gently between the edge of the transmission shift indicator bezel and the floor console to release the snap clip retainers (Fig. 12).

(4) Raise the shift indicator bezel far enough from the console to remove the lamp sockets from the bezel, then remove the bezel from the console.

**Fig. 12 Floor Console Components**

(5) Remove the screws that secure the floor console to the console and parking brake lever mounting brackets.

(6) Remove the floor console from the floor pan transmission tunnel.

(7) Unplug the Airbag Control Module (ACM) wire harness connector. To unplug the wire harness connector from the ACM (Fig. 13):

- (a) Pull the two white locks out about 3 mm (0.125 in.) from each side of the connector.
- (b) Squeeze the two connector latch tabs between the thumb and forefinger.
- (c) Pull the connector out of the ACM receptacle.

**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.**

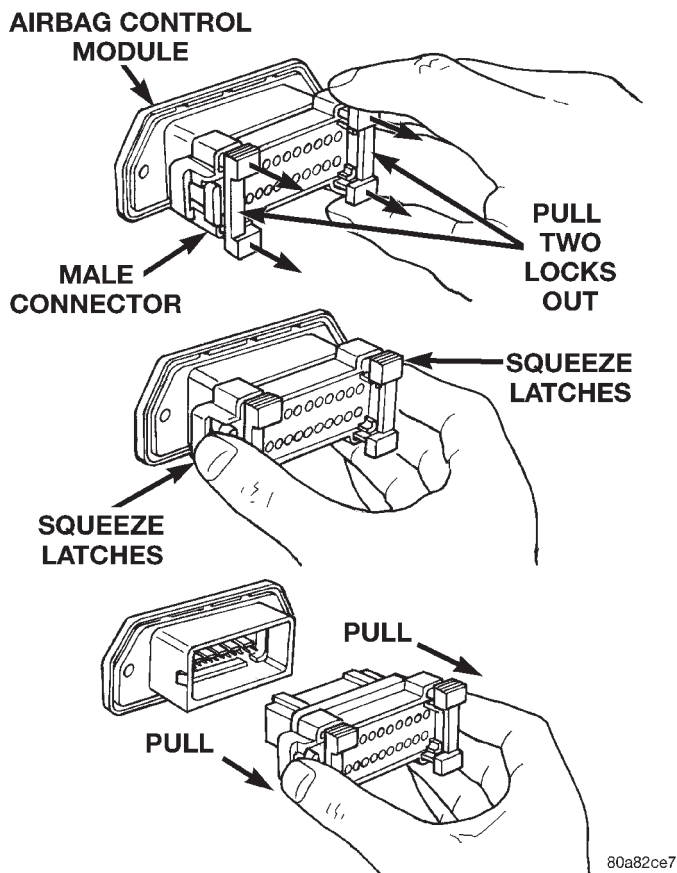
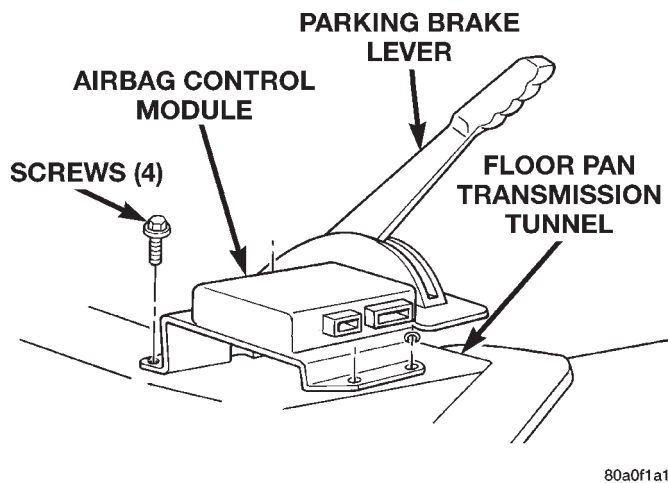
(8) Remove the four screws that secure the ACM mounting bracket to the floor pan transmission tunnel (Fig. 14).

(9) Remove the ACM and mounting bracket from the vehicle as a unit.

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



## REMOVAL AND INSTALLATION (Continued)

**Fig. 13 Airbag Control Module Connector Removal****Fig. 14 Airbag Control Module Remove/Install**

(11) Attach the ACM to the floor pan transmission tunnel with the four mounting screws. Tighten the mounting screws to 10.7 N·m (95 in. lbs.).

(12) 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.

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

(14) 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.

(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 this group for the procedures.

(4) If the vehicle is so equipped, unplug the vehicle speed control switch and the remote radio switch wire harness connectors 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 upper and lower steering column shrouds to gain access to the clockspring wire harness connectors (Fig. 15).

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

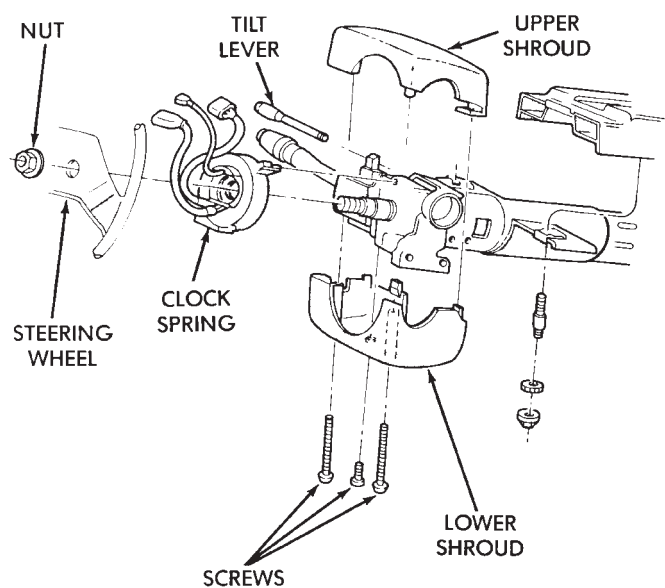
(9) Remove the lower fixed column shroud.

(10) Unplug the wire harness connector between the clockspring and the instrument panel wire harness, located near the base of the steering column.

(11) 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.

(12) 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 this group before installing the steering wheel.

## REMOVAL AND INSTALLATION (Continued)



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**Fig. 15 Steering Column Shrouds Remove/Install - Typical**

(13) 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 wire harness connector latches are fully engaged.

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

(15) 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 in the steering wheel hub. 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.

(16) If the vehicle is so equipped, plug in the vehicle speed control switch and remote radio switch wire harness connectors.

(17) Install the driver side airbag module onto the steering wheel. See Airbag Module in this group for the procedures.

## ADJUSTMENTS

### CLOCKSPRING CENTERING

If the rotating tape within the clockspring is not positioned properly in relation to the steering wheel and the front wheels, the clockspring may fail during use. The clockspring must be centered if it is not

known to be properly positioned, or if the front wheels were moved from the straight-ahead position with the clockspring removed during any service procedure.

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(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 this group for the procedures.

(4) If the vehicle is so equipped, unplug the vehicle speed control switch and the remote radio switch wire harness connectors 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).

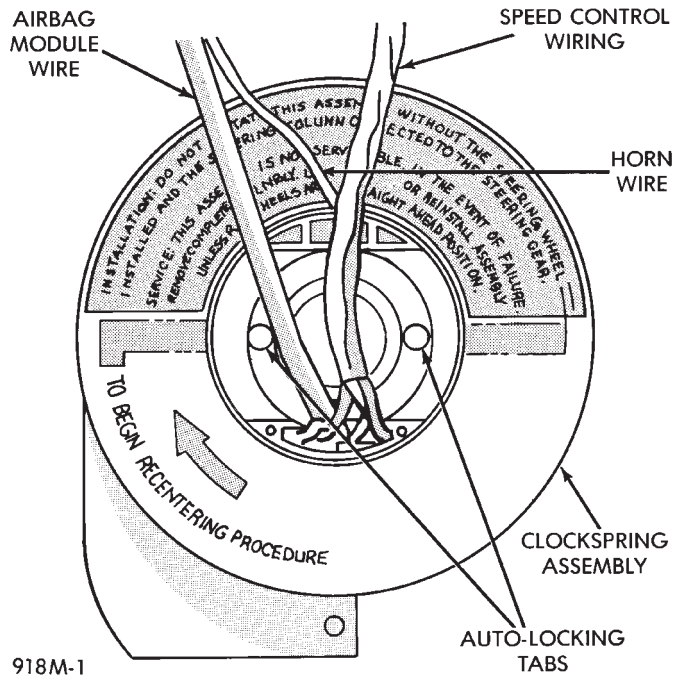
(7) Depress the two plastic clockspring auto-locking tabs (Fig. 16).

(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. The horn wire harness should end up at the top, and the airbag wire harness 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 in the steering wheel hub. Tighten the steering wheel nut to 61 N·m (45 ft. lbs.). Be certain not to pinch any of the wiring between the steering wheel and the nut.

## ADJUSTMENTS (Continued)



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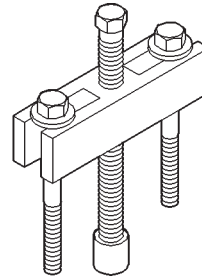
**Fig. 16 Clockspring Auto-Locking Tabs**

(11) If the vehicle is so equipped, plug in the vehicle speed control switch and remote radio switch wire harness connectors.

(12) Install the airbag module onto the steering wheel. See Airbag Module in this group for the procedures.

## SPECIAL TOOLS

## STEERING WHEEL

**Puller C-3428-B**

