RESTRAINT SYSTEM

CONTENTS

page

GENERAL INFORMATION
WARNINGS AND PRECAUTIONS 1
DESCRIPTION AND OPERATION
AIRBAG CONTROL MODULE (ACM) 1
CLOCKSPRING 2
DRIVER AND PASSENGER AIRBAG MODULES 2
DIAGNOSIS AND TESTING
AIRBAG SYSTEM TEST 2
SERVICE PROCEDURES
CLEANUP PROCEDURE 3
HANDLING AIRBAG MODULE 3
REMOVAL AND INSTALLATION
AIRBAG CONTROL MODULE 3
CLOCKSPRING 5
DRIVER AIRBAG MODULE 5
PASSENGER AIRBAG 6
ADJUSTMENTS
CLOCKSPRING CENTERING PROCEDURE 7

GENERAL INFORMATION

WARNINGS AND PRECAUTIONS

WARNING: THIS SYSTEM IS A SENSITIVE, COMPLEX ELECTRO–MECHANICAL UNIT. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE CABLE BEFORE BEGINNING AIRBAG SYSTEM COMPONENT REMOVAL OR INSTALLATION PROCEDURES. THIS WILL DISABLE THE AIRBAG SYSTEM. FAILURE TO DISCONNECT THE BATTERY COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

ALLOW SYSTEM CAPACITOR TO DISCHARGE FOR TWO MINUTES BEFORE REMOVING AIRBAG COMPONENTS.

DO NOT PLACE AN INTACT UNDEPLOYED AIRBAG FACE DOWN ON A SOLID SURFACE, THE AIRBAG WILL PROPEL INTO THE AIR IF ACCIDENTALLY DEPLOYED AND COULD RESULT IN PERSONAL INJURY. WHEN CARRYING OR HANDLING AN UNDEPLOYED AIRBAG MODULE, THE TRIM SIDE OF THE AIRBAG SHOULD BE POINTING AWAY FROM THE BODY TO MINIMIZE POSSIBILITY OF INJURY IF ACCIDENTAL DEPLOYMENT OCCURS.

REPLACE AIRBAG SYSTEM COMPONENTS WITH MOPAR® REPLACEMENT PARTS. SUBSTITUTE PARTS MAY APPEAR INTERCHANGEABLE, BUT INTERNAL DIFFERENCES MAY RESULT IN INFERIOR OCCUPANT PROTECTION.

WEAR SAFETY GLASSES, RUBBER GLOVES, AND LONG SLEEVED CLOTHING WHEN CLEANING POWDER RESIDUE FROM VEHICLE AFTER AIRBAG DEPLOYMENT. SODIUM HYDROXIDE POWDER RESIDUE EMITTED FROM A DEPLOYED AIRBAG CAN CAUSE SKIN IRRITATION. FLUSH AFFECTED AREA WITH COOL WATER IF IRRITATION IS EXPERIENCED. IF NASAL OR THROAT IRRITATION IS EXPERIENCED, EXIT THE VEHICLE FOR FRESH AIR UNTIL THE IRRITATION CEASES. IF IRRITATION CONTINUES, SEE A PHYSICIAN.

DO NOT USE A REPLACEMENT AIRBAG THAT IS NOT IN THE ORIGINAL PACKAGING, IMPROPER DEPLOYMENT AND PERSONAL INJURY CAN RESULT.

THE FACTORY INSTALLED FASTENERS, SCREWS AND BOLTS USED TO FASTEN AIRBAG COMPONENTS HAVE A SPECIAL COATING AND ARE SPECIFICALLY DESIGNED FOR THE AIRBAG SYSTEM. DO NOT USE SUBSTITUTE FASTENERS, USE ONLY ORIGINAL EQUIPMENT FASTENERS LISTED IN THE PARTS CATALOG WHEN FASTENER REPLACEMENT IS REQUIRED.

NOTE: Airbags should be stored in a cool dry location away from excessive heat and static electrical activity with the fabric airbag facing UP, or a premature deployment can result.

If the Driver/Passenger Airbag Module is defective and not deployed, refer to Chrysler Corporation current return list for proper handling procedures.

DESCRIPTION AND OPERATION

AIRBAG CONTROL MODULE (ACM)

The Airbag Control Module (ACM) contains the impact sensor and energy reserve capacitor. The

DESCRIPTION AND OPERATION (Continued)

ACM monitors the system to determine the system readiness. The ACM contains on-board diagnostics and will light the AIRBAG warning lamp in the message center when a problem occurs.

The driver and passenger airbag system is a safety device designed to reduce the risk of fatality or serious injury, caused by a frontal impact of the vehicle.

The impact sensor provides verification of the direction and severity of the impact. One impact sensor is used. It is located inside the Airbag Control Module (ACM) which is mounted on a bracket, just forward of the center console. The impact sensor is an accelerometer that senses deceleration. The deceleration pulses are sent to a microprocessor which contains a decision algorithm. When an impact is severe enough to require airbag protection, the ACM micro processor sends a signal that completes the electrical circuit to the driver and passenger airbags. The sensor is calibrated for the specific vehicle and reacts to the severity and direction of the impact.

CLOCKSPRING

The clockspring is snapped into a plastic mounting platform on the steering column behind the steering wheel. The clockspring is used to maintain a continuous electrical circuit between the wiring harness and the driver's airbag module. This assembly consists of a flat ribbon like electrically conductive tape which winds and unwinds with the steering wheel rotation.

DRIVER AND PASSENGER AIRBAG MODULES

The Driver Airbag Module is located in the center of the steering wheel. The Passenger Airbag Module is located in the instrument panel above the glove box (Fig. 1). The Driver Airbag Module cover contains the horn switch, inflator device, and a fabric bag. The airbag cover/horn switch is serviced separately from the inflator and bag components. Refer to Group 8G, Horns for proper service procedure for horn switch. The Passenger Airbag Module is serviced as an assembly.

WARNING: WHEN THE AIRBAG SYSTEM IS DEPLOYED BECAUSE OF A COLLISION, THE FOLLOWING MUST BE REPLACED:

- **COMPLETE STEERING COLUMN ASSEMBLY**
- **LOWER STEERING COUPLER**
- **STEERING WHEEL**
- **STEERING COLUMN CLOCKSPRING**
- **DRIVER AIRBAG COVER/HORN SWITCH**
- **DRIVER AIRBAG MODULE**
- **PASSENGER AIRBAG MODULE**
- **UPPER INSTRUMENT PANEL WITH PAD**

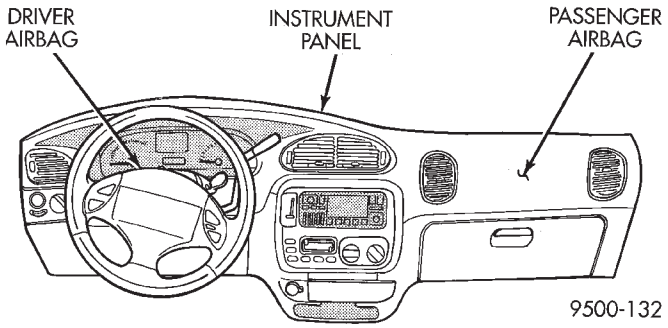

Fig. 1 Airbag Module Locations

DIAGNOSIS AND TESTING

AIRBAG SYSTEM TEST

(1) Disconnect and isolate the battery negative cable.

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(2) Connect scan tool (DRB) to Data Link connector, located at left side of the steering column and at the lower edge of the lower instrument panel.

(3) Turn the ignition key to ON position. Exit vehicle with scan tool. Use the latest version of the proper cartridge.

(4) After checking that no one is inside the vehicle, connect the battery negative terminal.

(5) Using the scan tool, read and record active diagnostic code data.

(6) Read and record any stored diagnostic codes.

(7) Refer to the proper Body Diagnostic Procedures Manual if any diagnostic codes are found in Step 5 or Step 6.

(8) Erase stored diagnostic codes if there are no active diagnostic codes. If problems remain, diagnostic codes will not erase. Refer to the Passive Restraint Diagnostic Test Manual to diagnose the problem. **If airbag warning lamp either fails to light, or goes on and stays on, there is a system malfunction. Refer to the proper Body Diagnostic Procedures Manual to diagnose the problem.**

SERVICE PROCEDURES

CLEANUP PROCEDURE

Roll or fold the passenger airbag towards the instrument panel surface and close the door over the folded bag. Then tape the door shut.

Use a vacuum cleaner to remove any residual powder from the vehicle interior. Work from the outside in to avoid kneeling or sitting in a contaminated area. Vacuum the heater and A/C outlets as well (Fig. 2). If HVAC was in RECIRC mode at time of airbag deployment, operate HVAC blower on low speed/heat and vacuum powder residue expelled from the heat outlets. Multiple vacuum cleaning may to necessary to decontaminate the interior of the vehicle.

NOTE: Dispose deployed airbag properly, contact dealer or government agency for disposal recommendations.

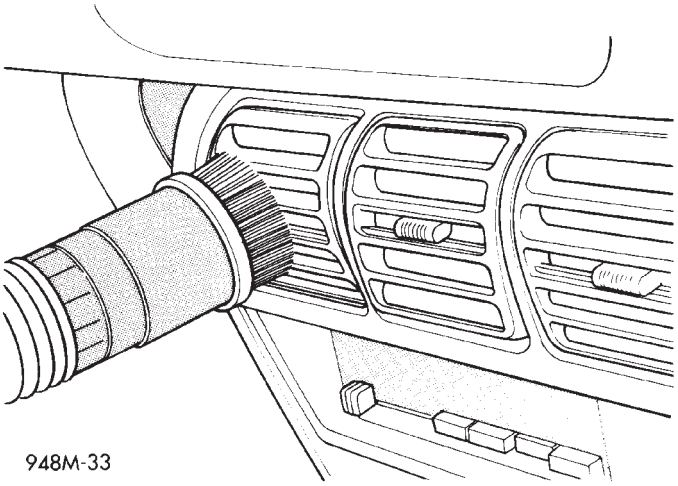

Fig. 2 Vacuum Heater and A/C Outlets

SERVICE OF DEPLOYED AIRBAG MODULE

DRIVER AIRBAG

If a Driver Airbag Module has been deployed, but not due to a collision, replace the following:

- Driver Airbag Module
- Clockspring assembly
- Driver airbag cover/horn switch

The components above must be replaced because they cannot be reused. Replace any other driver airbag system components if damaged.

PASSENGER AIRBAG

If a Passenger Airbag Module has been deployed, but not due to a collision, replace the following:

- Passenger Airbag Module
- Upper instrument panel with pad

The component above must be replaced because they cannot be reused. Inspect the heat duct near the passenger airbag for any damage replace as necessary. Replace any other passenger airbag system components if damaged.

HANDLING AIRBAG MODULE

DEPLOYED MODULE

The vehicle interior may contain a very small amount of sodium hydroxide powder, a by-product of airbag deployment. Sodium hydroxide powder can irritate the skin, eyes, nose and throat. Wear safety glasses, rubber gloves, and long sleeved clothing when cleaning any of the powder residue from the vehicle.

If you find that the cleanup is irritating your skin, run cool water over the affected area. Also, if you experience nasal or throat irritation, exit the vehicle for fresh air until the irritation ceases. If irritation continues, see a physician.

UNDEPLOYED

The airbag modules must be stored in its original special container until used for service. At no time should a source of electricity be permitted near the inflator on the back of an airbag module. When carrying or handling an undeployed airbag module, the trim side of the airbag should be pointing away from the body to minimize possibility of injury if accidental deployment occurs. Do not place undeployed airbag face down on a solid surface, the airbag will propel into the air if accidentally deployment occurs.

REMOVAL AND INSTALLATION

AIRBAG CONTROL MODULE

WARNING: THE ACM CONTAINS THE IMPACT SENSOR WHICH ENABLES THE SYSTEM TO DEPLOY THE AIRBAGS. TO AVOID ACCIDENTAL DEPLOYMENT, NEVER CONNECT ACM ELECTRICALLY TO THE SYSTEM WHILE VEHICLE BATTERY IS CONNECTED. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE CABLE BEFORE BEGINNING ANY AIRBAG SYSTEM COMPONENT SERVICE PROCEDURES. THIS WILL DISABLE THE AIRBAG SYSTEM. FAILURE TO DISCONNECT THE BATTERY COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY. ALLOW SYSTEM CAPACITOR TO DISCHARGE FOR TWO MINUTES BEFORE REMOVING AIRBAG COMPONENTS.

REMOVAL

(1) Disconnect and isolate battery negative cable. Allow at least two minutes for the reserve capacitor in the Airbag Control Module (ACM) to discharge.

REMOVAL AND INSTALLATION (Continued)

(2) Remove forward lower console from instrument panel, refer to Group 8E, Instrument Panel and Systems for proper procedures.

(3) Remove screw holding lower heat duct to instrument panel support (Fig. 3).

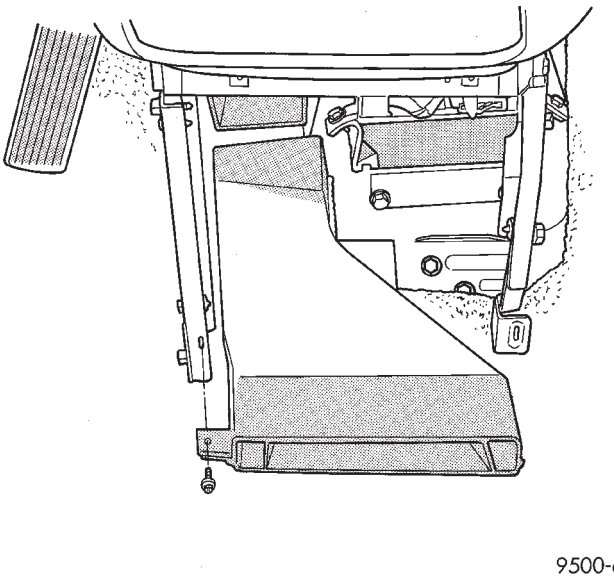

Fig. 3 Heat Duct

(4) Remove heat duct from instrument panel.

(5) Remove two bolts holding top of right support to instrument panel (Fig. 4).

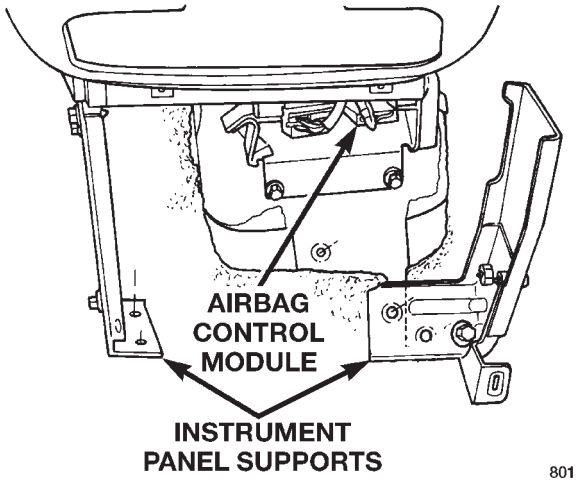

Fig. 4 Instrument Panel Supports

(6) Remove two bolts holding bottom of right support to floor pan.

(7) Separate right instrument panel support from vehicle.

(8) Disconnect two wire connectors from ACM (Fig. 5).

(9) Remove four bolts holding the ACM bracket assembly to floor (Fig. 6).

(10) Remove the ACM from vehicle.

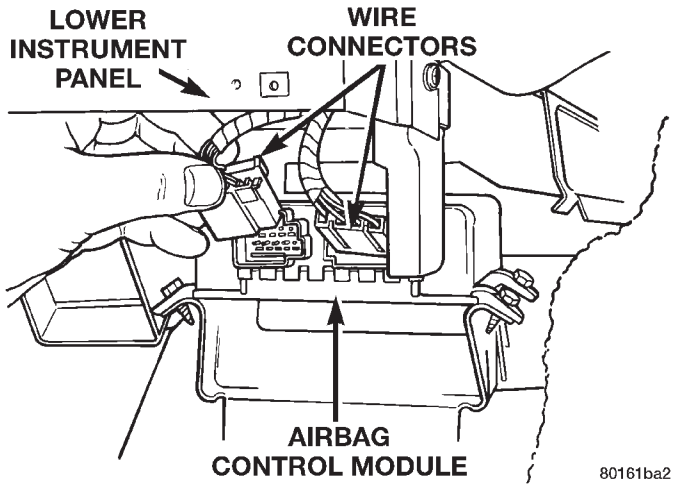

Fig. 5 ACM Connectors

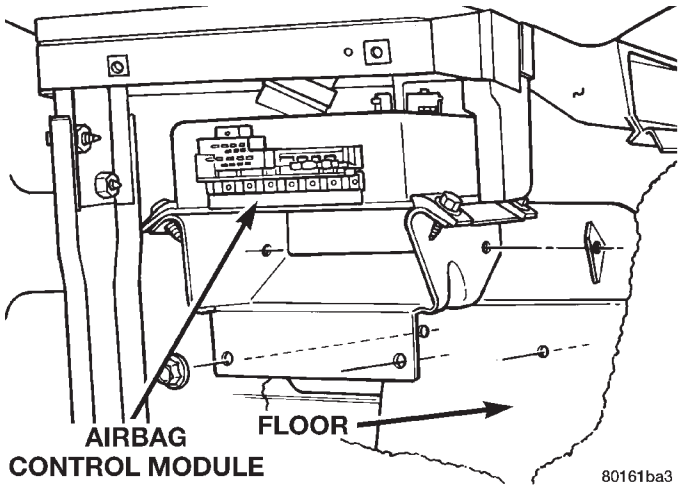

Fig. 6 ACM Bracket Assembly

INSTALLATION

WARNING: DO NOT REMOVE THE BOLTS HOLDING THE ACM TO THE ACM BRACKET. THESE BOLTS ARE SAFETY TORQUED AT THE MANUFACTURING FACILITY AND SHOULD NOT BE REMOVED FOR ANY REASON. THE NEW ACM WILL COME WITH A NEW BRACKET INSTALLED.

CAUTION: USE CORRECT SCREWS WHEN INSTALLING THE ACM

For installation, reverse the above procedures. Attach the ACM bracket assembly to vehicle with the proper screws and tighten to 805 to 11.9 N·m (75 to 105 in. lbs.) torque. Do not connect battery negative cable. Refer to Diagnosis and Testing for Airbag System Test procedures.

REMOVAL AND INSTALLATION (Continued)

CLOCKSPRING

WARNING: DISCONNECT AND ISOLATE THE BATTERY NEGATIVE CABLE BEFORE BEGINNING AIRBAG SYSTEM COMPONENT SERVICE PROCEDURES. THIS WILL DISABLE THE AIRBAG SYSTEM. FAILURE TO DISCONNECT THE BATTERY COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY. ALLOW SYSTEM CAPACITOR TO DISCHARGE FOR TWO MINUTES BEFORE REMOVING AIRBAG COMPONENTS.

REMOVAL

(1) Position steering wheel and front wheels straight ahead.

(2) Release hood latch and open hood.

(3) Disconnect and isolate battery negative cable. Allow at least two minutes for the reserve capacitor in the ACM to discharge.

(4) Remove driver airbag from steering wheel (Fig. 7).

(5) Disconnect wire connectors from back of airbag module.

(6) Remove steering wheel (Fig. 8).

(7) Remove steering column shrouds (Fig. 9).

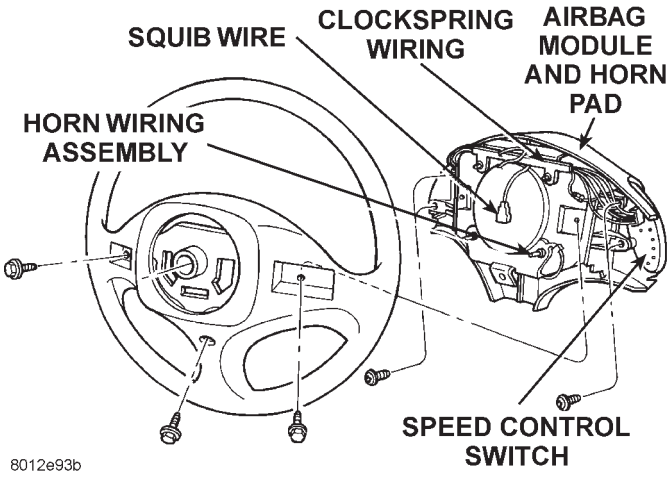

Fig. 7 Airbag/Horn Switch

(8) Disconnect 2-way and 4-way connectors between the clockspring and the instrument panel wiring harness.

(9) Remove clockspring from housing assembly by depressing the two tabs on the clockspring (Fig. 10)

INSTALLATION

For installation, reverse the above procedures. Do not connect battery negative cable. Refer to Diagnosis and Testing for Airbag System Test procedures.

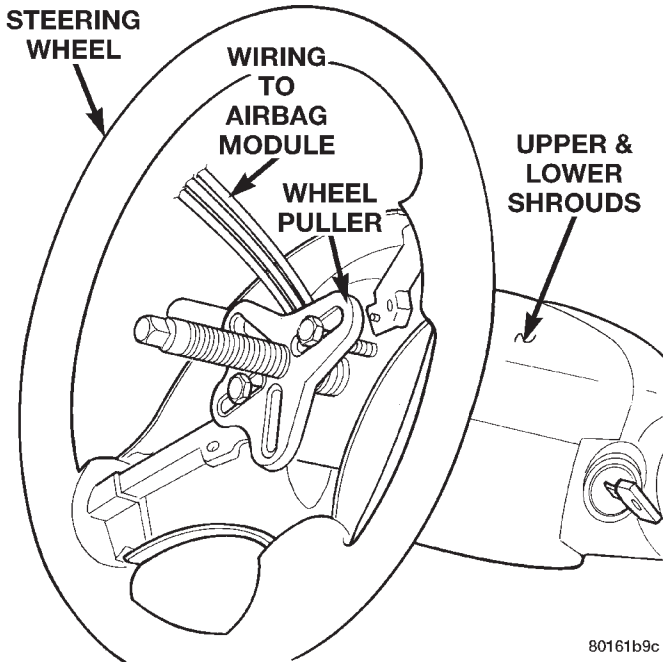

Fig. 8 Steering Wheel

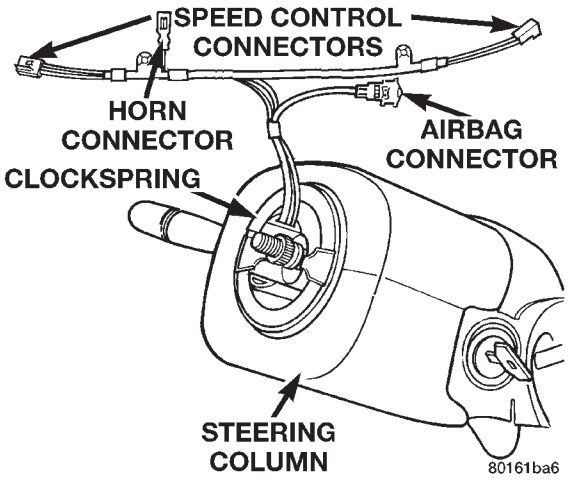

Fig. 9 Airbag Clockspring

DRIVER AIRBAG MODULE

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REMOVAL AND INSTALLATION (Continued)

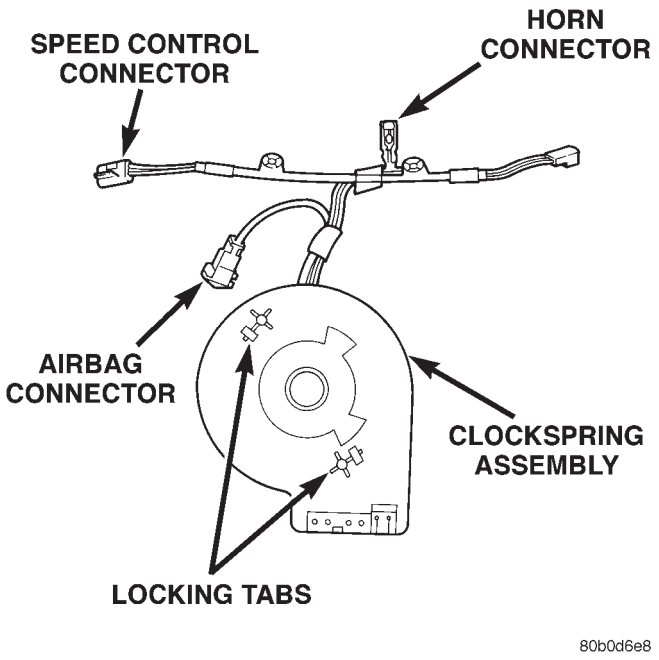

Fig. 10 Clockspring Locking Tabs

DEPLOYED MODULE

The Driver Airbag Module and Driver Airbag Cover/Horn Pad are serviced separately from eachother.

REMOVAL

(1) Disconnect battery negative cable. Allow at least two minutes for the reserve capacitor in the ACM to discharge.

(2) Clean powder residue from interior of vehicle, refer to Cleanup Procedure.

(3) Remove three screws attaching Driver Airbag Module to steering wheel (Fig. 7).

(4) Remove airbag module from steering wheel.

(5) Disconnect wire connectors from Airbag Module, horn switch, and speed control switches.

(6) Adjust the steering wheel so that the tires are in a straight ahead position. Remove steering wheel (Fig. 8), refer to Group 19, Steering for proper procedure.

(7) Disconnect the 2-way and 4-way connectors between the clockspring and the instrument panel wiring harness.

(8) Remove upper and lower steering column shrouds.

(9) Remove clockspring from the housing assembly by depressing the 2 tabs on the clockspring (Fig. 10).

(10) Remove screws holding speed control switches to airbag cover and remove, if equipped.

INSTALLATION

For installation, reverse the above procedures. Do not connect battery negative cable. Refer to Diagnosis and Testing for Airbag System Test procedures.

UNDEPLOYED

REMOVAL

(1) Disconnect battery negative cable. Allow at least two minutes for the reserve capacitor in the Airbag Control Module (ACM) to discharge.

(2) Remove screws attaching airbag/horn switch to steering wheel (Fig. 7).

(3) Remove Driver Airbag Module from steering wheel.

(4) Disconnect wire connectors from airbag module, horn switch, and speed control switches, if equipped.

(5) Remove screws holding vehicle speed control switches to airbag cover and remove.

INSTALLATION

For installation, reverse the above procedures and do not connect battery negative cable. Do not connect battery negative cable. Refer to Diagnosis and Testing for Airbag System Test procedures.

PASSENGER AIRBAG

WARNING: DISCONNECT AND ISOLATE THE BATTERY NEGATIVE CABLE BEFORE BEGINNING AIRBAG SYSTEM COMPONENT SERVICE PROCEDURES. THIS WILL DISABLE THE AIRBAG SYSTEM. FAILURE TO DISCONNECT THE BATTERY COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY. ALLOW SYSTEM CAPACITOR TO DISCHARGE FOR TWO MINUTES BEFORE REMOVING AIRBAG COMPONENTS.

DEPLOYED MODULE

REMOVAL

(1) Disconnect and isolate battery negative cable. Allow at least two minutes for the reserve capacitor in the Airbag Control Module to discharge.

(2) Clean powder residue from interior of vehicle, refer to Cleanup Procedure in this section.

(3) Remove instrument panel, refer to Group 8E, Instrument Panel and Systems for proper procedures.

(4) Remove all reusable components from the upper instrument panel.

INSTALLATION

Transfer all reusable components to the new the upper instrument panel.

(1) Install new Passenger Airbag Module into instrument panel.

(2) Install airbag module attaching screws to the instrument panel.

REMOVAL AND INSTALLATION (Continued)

(3) Install Instrument panel. Refer to Group 8E, Instrument Panel and Systems for installation procedures.

(4) Through access holes in instrument panel above glove box opening, install screws holding airbag to back of panel.

(5) Install the bolts attaching forward airbag mount to the instrument panel (Fig. 11).

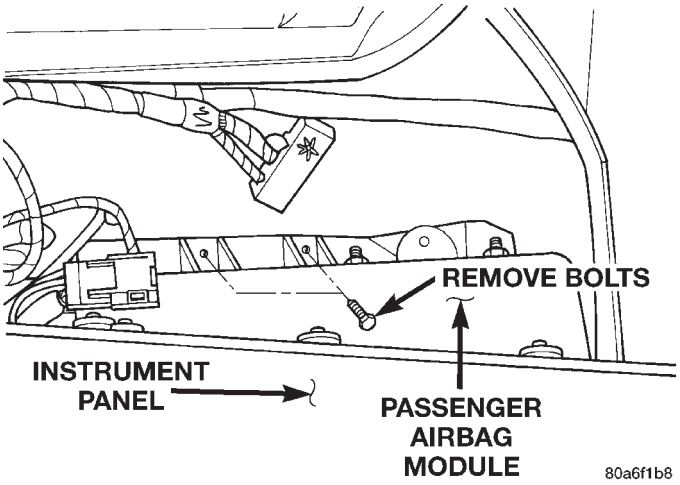

Fig. 11 Airbag Upper Attachment

(6) Connect yellow wire connector from passenger airbag.

(7) Install the glove box.

(8) Install right front instrument panel speaker.

(9) Install instrument panel top cover.

(10) Do not connect battery negative cable. Refer to Diagnosis and Testing for Airbag System Test procedures.

UNDEPLOYED

REMOVAL

(1) Disconnect battery negative cable. Allow at least two minutes for the reserve capacitor in the ACM to discharge.

(2) Remove instrument panel top cover.

(3) Remove right front instrument panel speaker.

(4) Remove glove box.

(5) Disconnect yellow wire connector from passenger airbag.

(6) Remove bolts attaching forward airbag mount to the instrument panel

(7) Through access holes in instrument panel above glove box opening, remove screws holding airbag to back of panel.

(8) Remove screws attaching airbag to upper instrument panel.

(9) Remove airbag from instrument panel through top of instrument panel.

INSTALLATION

For installation, reverse the above procedures. Do not connect battery negative cable. Refer to Diagnosis and Testing for Airbag System Test procedures.

ADJUSTMENTS

CLOCKSPRING CENTERING PROCEDURE

If the rotating tape (wire coil) in the clockspring is not positioned properly with the steering wheel and the front wheels, the clockspring may fail. The following procedure MUST BE USED to center the clockspring if it is not known to be properly positioned, or if the front wheels were moved from the straight ahead position.

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(1) Adjust the steering wheel so that the tires are in a straight ahead position.

(2) Disconnect and isolate battery negative cable. Allow at least two minutes for the reserve capacitor in the ACM to discharge.

(3) Remove Driver Airbag Module from steering wheel.

(4) Disconnect wire connectors from back of airbag module.

(5) Remove steering wheel.

(6) Depress the two plastic locking pins to disengage lock mechanism (Fig. 10).

(7) With lock mechanism disengaged, rotate the clockspring rotor clockwise until the rotor stops. Do not apply excessive force.

(8) From the end of travel, rotate the rotor three turns counterclockwise. The wires should end up at the top. Release locking pins to engage clockspring lock mechanism.

(9) Install steering wheel and airbag.

(10) Do not connect battery negative cable. Refer to Diagnosis and Testing for Airbag System Test procedures.