

RESTRAINTS

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RESTRAINTS

DESCRIPTION

An occupant restraint system is standard factory-installed safety equipment on this model. Available occupant restraints for this model include both active and passive types. Active restraints are those which require the vehicle occupants to take some action to employ, such as fastening a seat belt; while passive restraints require no action by the vehicle occupants to be employed (Fig. 1).

ACTIVE RESTRAINTS

The active restraints for this model include:

- **Front Seat Belts** - Both outboard front seating positions are equipped with three-point seat belt systems employing a lower B-pillar mounted inertia latch-type emergency locking retractor, height-adjustable upper B-pillar mounted turning loops, a fixed lower seat belt anchor secured to the lower B-pillar (standard cab) or floor panel adjacent to the B-pillar (quad cab), and a traveling end-release seat belt buckle secured to the inboard seat track. The driver side retractor for standard cab models includes an electrically actuated seat belt tension reducer. The passenger side front seat retractor for all models is also switchable from an emergency locking retractor to an automatic locking retractor. The front seat belt buckle for the driver side of all models includes an integral seat belt switch that detects whether its seat belt has been fastened. The center front seating position for standard cab models is also equipped with a three-point seat belt employing a floor panel mounted inertia latch-type retractor, a routing bracket and bezel near the top of the cab back panel, and two fixed end-release buckles secured to the center seat cushion frame. The center front seating position for quad cab models is equipped with a fixed lap belt and an end-release buckle secured to the center seat cushion frame.

- **Rear Seat Belts** - All three rear seating positions are equipped with three-point seat belt systems. The outboard seating position belts employ a lower C-pillar mounted inertia latch-type emergency locking retractor, a fixed position upper C-pillar mounted turning loop, and a fixed lower seat belt

anchor secured to the lower C-pillar. The rear seat center seating position belt has a rear floor panel mounted inertia latch-type emergency locking retractor and a routing bracket and bezel on the top of the cab back panel. The end-release buckle units for the right outboard seating position and the center seating position lower anchor are integral to the center retractor mounting bracket on the rear floor panel. The end-release buckle units for the center and left outboard seating positions are individually secured to the rear floor panel on models with the standard equipment rear bench seat, or secured with the rear seat mounting hardware on models with the optional 60/40 split rear bench seat.

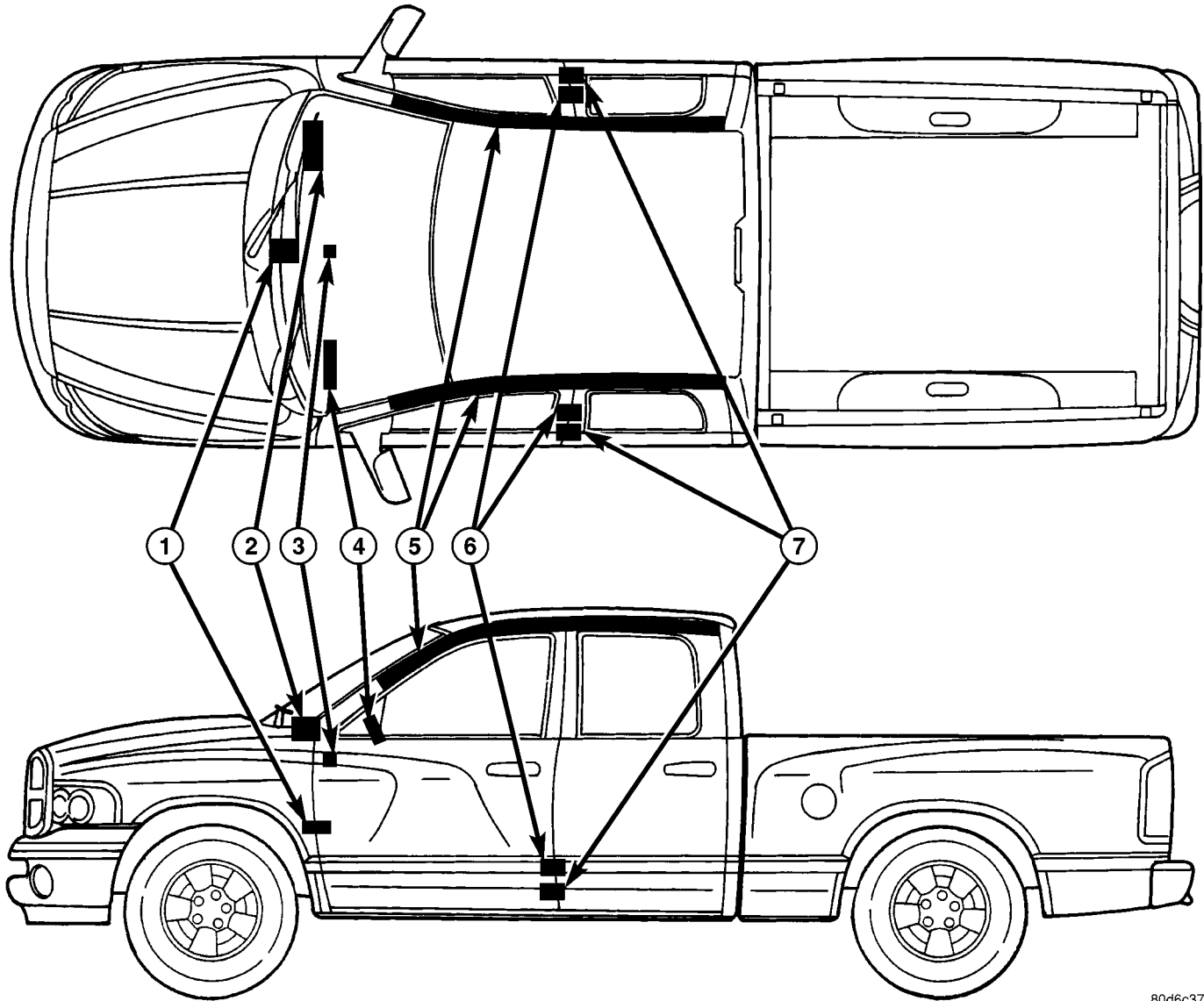
- **Child Restraint Anchors** - All standard cab models are equipped with two, fixed-position, child seat upper tether anchors that are integral to the upper cab back panel reinforcement and concealed behind individual trim cover and bezel units that are integral to the cab back trim panel. All quad cab models are equipped with three child seat upper tether anchor straps that are secured to the upper cab back panel reinforcement, behind the upright rear seat back. Two lower anchors are also provided for the front outboard seating position of standard cab models, and for each rear outboard seating position on quad cab models. These lower anchors are accessed from the front of the seat where the seat back meets the seat cushion. The child seat tether and lower anchors for the front seat are deleted on quad cab models.

PASSIVE RESTRAINTS

The passive restraints available for this model include the following:

- **Dual Front Airbags** - Next Generation driver and front passenger airbags are available for this model. This airbag system is a passive, inflatable, Supplemental Restraint System (SRS) and vehicles with this equipment can be readily identified by the "SRS - AIRBAG" logo molded into the driver airbag trim cover in the center of the steering wheel and also into the passenger airbag door on the instrument panel above the glove box (Fig. 2). Vehicles with the airbag system can also be identified by the airbag indicator, which will illuminate in the instru-

RESTRAINTS (Continued)



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Fig. 1 Supplemental Restraint System

- 1 - AIRBAG CONTROL MODULE
- 2 - PASSENGER AIRBAG
- 3 - PASSENGER AIRBAG ON/OFF SWITCH (STD CAB ONLY)
- 4 - DRIVER AIRBAG

- 5 - SIDE CURTAIN AIRBAG
- 6 - SIDE IMPACT AIRBAG CONTROL MODULE
- 7 - SEAT BELT TENSIONER

ment cluster for about six seconds as a bulb test each time the ignition switch is turned to the On position. A pyrotechnic-type seat belt tensioner is integral to the front outboard seat belt retractors mounted on each lower B-pillar of all models equipped with dual front airbags.

- **Side Curtain Airbags** - Optional side curtain airbags are available for this model when it is also equipped with dual front airbags. This airbag system is a passive, inflatable, Supplemental Restraint System (SRS) and vehicles with this equipment can be readily identified by a molded identification trim but-

ton with the "SRS - AIRBAG" logo located on the headliner above each B-pillar (Fig. 2).

The supplemental restraint system includes the following major components, which are described in further detail elsewhere in this service information:

- **Airbag Control Module** - The Airbag Control Module (ACM) is located on a mount on the floor panel transmission tunnel, below the center of the instrument panel.

- **Airbag Indicator** - The airbag indicator is integral to the ElectroMechanical Instrument Cluster (EMIC), which is located on the instrument panel in front of the driver.

RESTRAINTS (Continued)



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Fig. 2 SRS Logo

• **Clockspring** - The clockspring is located near the top of the steering column, directly beneath the steering wheel.

• **Driver Airbag** - The driver airbag is located in the center of the steering wheel, beneath the driver airbag trim cover.

• **Driver Knee Blocker** - The driver knee blocker is a structural unit secured to the back side of and integral to the instrument panel steering column opening cover.

• **Passenger Airbag** - The passenger airbag is located on the instrument panel, beneath the passenger airbag door on the instrument panel above the glove box on the passenger side of the vehicle.

• **Passenger Airbag On/Off Switch** - Standard cab models without a rear seat are equipped with a passenger airbag on/off switch, which is located on the right side of the instrument panel center bezel.

• **Passenger Knee Blocker** - The passenger knee blocker is a structural reinforcement that is integral to and concealed within the glove box door.

• **Seat Belt Tensioner** - The seat belt tensioner is integral to the front outboard seat belt retractor units on vehicles equipped with dual front airbags.

• **Side Impact Airbag Control Module** - Two Side Impact Airbag Control Modules (SIACM) are used on vehicles with the optional side curtain airbags, one left side and one right side. One SIACM is located behind the B-pillar trim above the outboard front seat belt retractor within each B-pillar.

• **Side Curtain Airbag** - In vehicles equipped with this option, a side curtain airbag is located on each inside roof side rail above the headliner, and extends from the A-pillar to the B-pillar on standard cab models, and from the A-pillar to the C-pillar on quad cab models.

The ACM, both SIACMs, and the EMIC each contain a central processing unit and programming that allow them to communicate with each other using

the Programmable Communications Interface (PCI) data bus network. This method of communication is used by the ACM for control of the airbag indicator on all models equipped with dual front airbags. (Refer to 8 - ELECTRICAL/ELECTRONIC CONTROL MODULES/COMMUNICATION - DESCRIPTION).

Hard wired circuitry connects the supplemental restraint system components to each other through the electrical system of the vehicle. These hard wired circuits are integral to several wire harnesses, which are routed throughout the vehicle and retained by many different methods. These circuits may be connected to each other, to the vehicle electrical system, and to the supplemental restraint system components through the use of a combination of soldered splices, splice block connectors, and many different types of wire harness terminal connectors and insulators. Refer to the appropriate wiring information. The wiring information includes wiring diagrams, proper wire and connector repair procedures, further details on wire harness routing and retention, as well as pin-out and location views for the various wire harness connectors, splices and grounds.

OPERATION

ACTIVE RESTRAINTS

The primary passenger restraints in this or any other vehicle are the standard equipment factory-installed seat belts and child restraint anchors. Seat belts and child restraint anchors are referred to as an active restraint because the vehicle occupants are required to physically fasten and properly adjust these restraints in order to benefit from them. See the owner's manual in the vehicle glove box for more information on the features, use and operation of all of the factory-installed active restraints.

PASSIVE RESTRAINTS

The passive restraints are referred to as a supplemental restraint system because they were designed and are intended to enhance the protection for the occupants of the vehicle **only** when used in conjunction with the seat belts. They are referred to as passive restraints because the vehicle occupants are not required to do anything to make them operate; however, the vehicle occupants must be wearing their seat belts in order to obtain the maximum safety benefit from the factory-installed supplemental restraint system.

The supplemental restraint system electrical circuits are continuously monitored and controlled by a microprocessor and software contained within the Airbag Control Module (ACM) and, on vehicles equipped with the side curtain airbags, both Side

RESTRAINTS (Continued)

Impact Airbag Control Modules (SIACM). An airbag indicator in the ElectroMechanical Instrument Cluster (EMIC) illuminates for about six seconds as a bulb test each time the ignition switch is turned to the On or Start positions. Following the bulb test, the airbag indicator is turned on or off by the ACM to indicate the status of the supplemental restraint system. If the airbag indicator comes on at any time other than during the bulb test, it indicates that there is a problem in the supplemental restraint system electrical circuits. Such a problem may cause airbags not to deploy when required, or to deploy when not required.

Deployment of the supplemental restraints depends upon the angle and severity of an impact. Deployment is not based upon vehicle speed; rather, deployment is based upon the rate of deceleration as measured by the forces of gravity (G force) upon the impact sensors. When an impact is severe enough, the microprocessor in the ACM or the SIACM signals the inflator of the appropriate airbag units to deploy their airbag cushions. The outboard front seat belt tensioners are provided with a deployment signal by the ACM in conjunction with the driver and passenger airbags. During a frontal vehicle impact, the knee blockers work in concert with properly fastened and adjusted seat belts to restrain both the driver and the front seat passenger in the proper position for an airbag deployment. The knee blockers also absorb and distribute the crash energy from the driver and the front seat passenger to the structure of the instrument panel. The seat belt tensioner removes the slack from the outboard front seat belts to provide further assurance that the driver and front seat passenger are properly positioned and restrained for an airbag deployment.

Typically, the vehicle occupants recall more about the events preceding and following a collision than they do of an airbag deployment itself. This is because the airbag deployment and deflation occur so rapidly. In a typical 48 kilometer-per-hour (30 mile-per-hour) barrier impact, from the moment of impact until the airbags are fully inflated takes about 40 milliseconds. Within one to two seconds from the moment of impact, the airbags are almost entirely deflated. The times cited for these events are approximations, which apply only to a barrier impact at the given speed. Actual times will vary somewhat, depending upon the vehicle speed, impact angle, severity of the impact, and the type of collision.

When the ACM monitors a problem in any of the dual front airbag system circuits or components, including the seat belt tensioners, it stores a fault code or Diagnostic Trouble Code (DTC) in its memory circuit and sends an electronic message to the EMIC to turn on the airbag indicator. When the SIACM monitors a problem in any of the side curtain airbag system circuits or component, it stores a fault code or DTC in its memory circuit and sends an electronic message to the ACM, and the ACM sends an electronic message to the EMIC to turn on the airbag indicator. Proper testing of the supplemental restraint system components, the Programmable Communications Interface (PCI) data bus, the electronic message inputs to and outputs from the EMIC, the SIACM, or the ACM, as well as the retrieval or erasure of a DTC from the ACM, SIACM, or EMIC requires the use of a DRBIII® scan tool. Refer to the appropriate diagnostic information.

See the owner's manual in the vehicle glove box for more information on the features, use and operation of all of the factory-installed passive restraints.

WARNING

WARNINGS - RESTRAINT SYSTEM

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

RESTRAINTS (Continued)

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: AN AIRBAG INFLATOR UNIT MAY CONTAIN 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. AN AIRBAG INFLATOR UNIT MAY ALSO CONTAIN A GAS CANISTER PRESSURIZED TO OVER 2500 PSI. DO NOT ATTEMPT TO DISMANTLE AN AIRBAG UNIT 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).

WARNING: WHEN HANDLING A SEAT BELT TENSIONER RETRACTOR, PROPER CARE SHOULD BE EXERCISED TO KEEP FINGERS OUT FROM UNDER THE RETRACTOR COVER AND AWAY FROM THE SEAT BELT WEBBING WHERE IT EXITS FROM THE RETRACTOR COVER.

WARNING: REPLACE ALL RESTRAINT SYSTEM COMPONENTS ONLY WITH PARTS SPECIFIED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG. SUBSTITUTE PARTS MAY APPEAR INTERCHANGEABLE, BUT INTERNAL DIFFERENCES MAY RESULT IN INFERIOR OCCUPANT PROTECTION.

WARNING: THE FASTENERS, SCREWS, AND BOLTS ORIGINALLY USED FOR THE RESTRAINT SYSTEM COMPONENTS HAVE SPECIAL COATINGS AND ARE SPECIFICALLY DESIGNED FOR THE RESTRAINT 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 DAIMLERCHRYSLER MOPAR PARTS CATALOG.

WARNING: WHEN A STEERING COLUMN HAS AN AIRBAG UNIT ATTACHED, NEVER PLACE THE COLUMN ON THE FLOOR OR ANY OTHER SURFACE WITH THE STEERING WHEEL OR AIRBAG UNIT FACE DOWN.

DIAGNOSIS AND TESTING - SUPPLEMENTAL RESTRAINT SYSTEM

Proper diagnosis and testing of the supplemental restraint system components, the Programmable Communications Interface (PCI) data bus, the data bus electronic message inputs to and outputs from the ElectroMechanical Instrument Cluster (EMIC), the Airbag Control Module (ACM), or the Side Impact Airbag Control Module (SIACM) as well as the retrieval or erasure of a Diagnostic Trouble Code (DTC) from the ACM or SIACM requires the use of a DRBIII® scan tool. Refer to the appropriate diagnostic information.

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

STANDARD PROCEDURE

STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS

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

RESTRAINTS (Continued)

ment in the event of an accidental deployment. When handling a non-deployed seat belt tensioner, take proper care to keep fingers out from under the retractor cover and away from the seat belt webbing where it exits from the retractor cover. In addition, the supplemental restraint system should be disarmed whenever any steering wheel, steering column, seat belt tensioner, driver airbag, passenger airbag, side curtain airbag, or instrument panel components require diagnosis or service. Failure to observe this warning could result in accidental airbag deployment and possible personal injury.

All damaged, faulty or non-deployed airbags and seat belt tensioners which are replaced on vehicles are to be handled and disposed of properly. If an airbag or seat belt tensioner unit is faulty or damaged and non-deployed, refer to the Hazardous Substance Control System for proper disposal. Dispose of all non-deployed and deployed airbags and seat belt tensioners in a manner consistent with state, provincial, local and federal regulations.

SUPPLEMENTAL RESTRAINT STORAGE

Airbags and seat belt tensioners must be stored in their original, special container until they are used for service. Also, they must be stored in a clean, dry environment; away from sources of extreme heat, sparks, and high electrical energy. Always place or store any airbag on a surface with its trim cover or airbag cushion side facing up, to minimize movement in case of an accidental deployment.

STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT

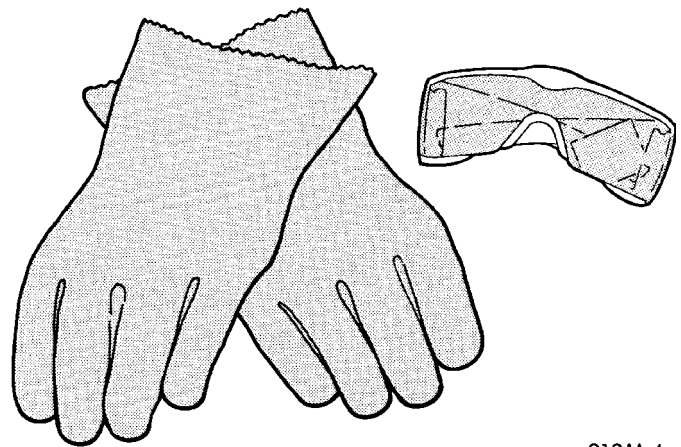
Any vehicle which is to be returned to use following a supplemental restraint deployment, must have the deployed restraints replaced. In addition, if the driver airbag has been deployed, the clockspring must be replaced. If the passenger airbag is deployed, the passenger airbag door must be replaced. The seat belt tensioners are deployed by the same signal that deploys the driver and passenger airbags and must also be replaced if either front airbag has been deployed. If a side curtain airbag has been deployed, the complete airbag unit, the headliner, as well as the upper A, B, and C-pillar trim must be replaced. These components are not intended for reuse and will be damaged or weakened as a result of a supplemental restraint deployment, which may or may not be obvious during a visual inspection.

It is also critical that the mounting surfaces and/or mounting brackets for the Airbag Control Module (ACM) and Side Impact Airbag Control Module (SIACM) be closely inspected and restored to their original conditions following any vehicle impact dam-

age. Because the ACM and SIACM each contain impact sensors that are used by the supplemental restraint system to monitor or confirm the direction and severity of a vehicle impact, improper orientation or insecure fastening of these components may cause airbags not to deploy when required, or to deploy when not required. All other vehicle components should be closely inspected following any supplemental restraint deployment, but are to be replaced only as required by the extent of the visible damage incurred.

CLEANUP PROCEDURE

Following a supplemental restraint deployment, the vehicle interior will contain a powdery residue. This residue consists primarily of harmless particulate by-products of the small pyrotechnic charge that initiates the propellant used to deploy a supplemental restraint. However, this residue may also contain traces of sodium hydroxide powder, a chemical by-product of the propellant material that is used to generate the inert gas that inflates the airbag. Since sodium hydroxide powder can irritate the skin, eyes, nose, or throat, be certain to wear safety glasses, rubber gloves, and a long-sleeved shirt during cleanup (Fig. 3).



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Fig. 3 Wear Safety Glasses and Rubber Gloves - Typical

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.

(1) Begin the cleanup by using a vacuum cleaner to remove any residual powder from the vehicle interior. Clean from outside the vehicle and work your

RESTRAINTS (Continued)

way inside, so that you avoid kneeling or sitting on a non-cleaned area.

(2) Be certain to vacuum the heater and air conditioning outlets as well (Fig. 4). Run the heater and air conditioner blower on the lowest speed setting and vacuum any powder expelled from the outlets.

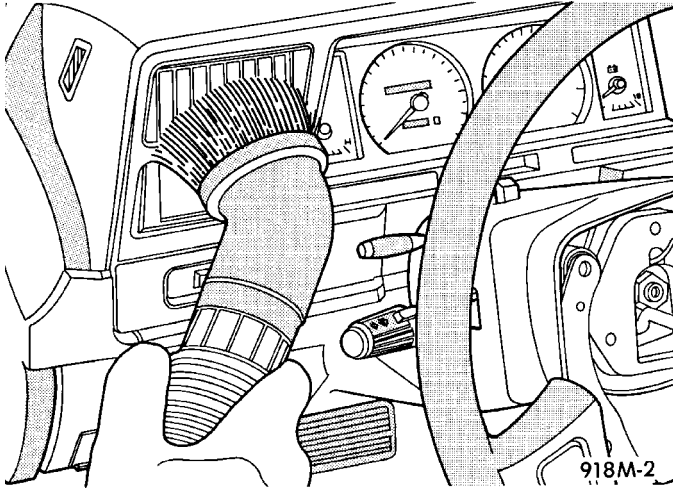


Fig. 4 Vacuum Heater and A/C Outlets - Typical

CAUTION: All damaged, faulty, or non-deployed supplemental restraints which are replaced on vehicles are to be handled and disposed of properly. If an airbag unit or seat belt tensioner unit is faulty or damaged and non-deployed, refer to the Hazardous Substance Control System for proper disposal. Be certain to dispose of all non-deployed and deployed supplemental restraints in a manner consistent with state, provincial, local and federal regulations.

(3) Next, remove the deployed supplemental restraints from the vehicle. Refer to the appropriate service removal procedures.

(4) You may need to vacuum the interior of the vehicle a second time to recover all of the powder.

STANDARD PROCEDURE - VERIFICATION TEST

The following procedure should be performed using a DRBIII® scan tool to verify proper supplemental restraint system operation following the service or replacement of any supplemental restraint system component.

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE

PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) During the following test, the battery negative cable remains disconnected and isolated, as it was during the supplemental restraint system component removal and installation procedures.

(2) Be certain that the DRBIII® scan tool contains the latest version of the proper DRBIII® software. Connect the DRBIII® to the 16-way Data Link Connector (DLC). The DLC is located on the driver side lower edge of the instrument panel, outboard of the steering column (Fig. 5).

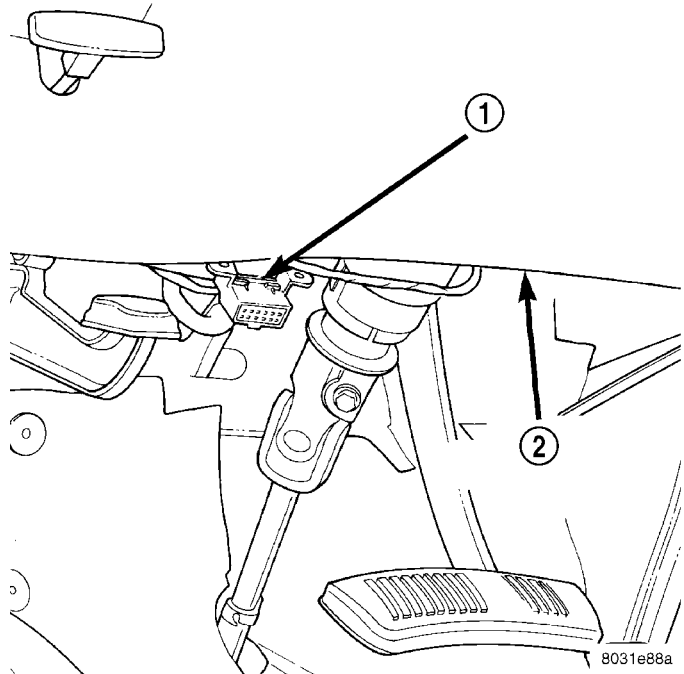


Fig. 5 16-Way Data Link Connector - Typical

- 1 - 16-WAY DATA LINK CONNECTOR
- 2 - BOTTOM OF INSTRUMENT PANEL

(3) Turn the ignition switch to the On position and exit the vehicle with the DRBIII® scan tool.

(4) Check to be certain that nobody is in the vehicle, then reconnect the battery negative cable.

(5) Using the DRBIII®, read and record the active (current) Diagnostic Trouble Code (DTC) data.

(6) Next, use the DRBIII® to read and record any stored (historical) DTC data.

(7) If any DTC is found in Step 5 or Step 6, refer to the appropriate diagnostic information.

(8) Use the DRBIII® to erase the stored DTC data. If any problems remain, the stored DTC data will not erase. Refer to the appropriate diagnostic information to diagnose any stored DTC that will not erase.

RESTRAINTS (Continued)

If the stored DTC information is successfully erased, go to Step 9.

(9) Turn the ignition switch to the Off position for about fifteen seconds, and then back to the On position. Observe the airbag indicator in the instrument cluster. It should illuminate for six to eight seconds, and then go out. This indicates that the supplemental restraint system is functioning normally and that the repairs are complete. If the airbag indicator fails to light, or lights and stays on, there is still an active supplemental restraint system fault or malfunction. Refer to the appropriate diagnostic information to diagnose the problem.

ACM COVER

REMOVAL

The Airbag Control Module (ACM) cover is used only on models with an automatic transmission. Models with a manual transmission require that the floor console be removed to access the ACM for service. (Refer to 23 - BODY/INTERIOR/FLOOR CONSOLE - REMOVAL).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Disconnect and isolate the battery negative cable. Wait two minutes for the system capacitor to discharge before further service.

(2) Using a trim stick or another suitable wide flat-bladed tool, gently pry each side of the ACM cover away from the instrument panel at each side of the center bracket on the floor panel transmission tunnel far enough to disengage the two snap clip retainers from the instrument panel receptacles (Fig. 6).

(3) Remove the ACM cover from the instrument panel.

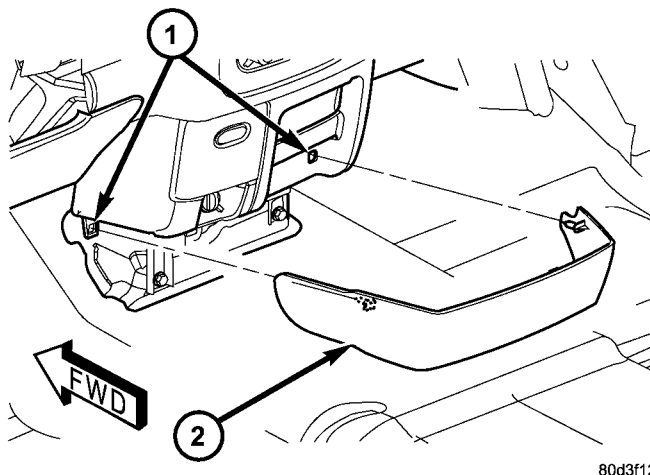


Fig. 6 ACM Cover Remove/Install

- 1 - INSTRUMENT PANEL RECEPTACLE (2)
2 - ACM COVER

INSTALLATION

The Airbag Control Module (ACM) cover is used only on models with an automatic transmission. Models with a manual transmission require that the floor console be reinstalled following ACM service. (Refer to 23 - BODY/INTERIOR/FLOOR CONSOLE - INSTALLATION).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Position the ACM cover to the instrument panel (Fig. 6).

(2) Align the snap clip retainer on each side of the ACM cover with the instrument panel receptacle at each side of the center bracket on the floor panel transmission tunnel.

(3) Using hand pressure, press firmly and evenly on the outside of the ACM cover over each snap clip retainer location until each retainer is fully engaged in its instrument panel receptacle.

(4) Reconnect the battery negative cable.

AIRBAG CONTROL MODULE

DESCRIPTION

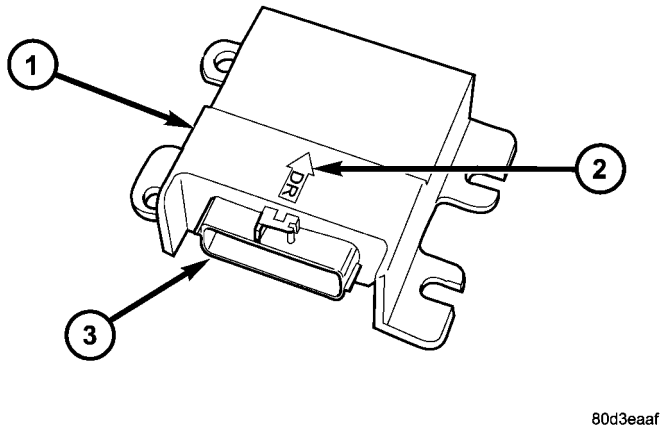


Fig. 7 Airbag Control Module

- 1 - AIRBAG CONTROL MODULE
- 2 - ORIENTATION ARROW
- 3 - CONNECTOR RECEPTACLE

The Airbag Control Module (ACM) is secured with four screws to the top mounting surface of a stamped steel bracket welded onto the top of the floor panel transmission tunnel forward of the instrument panel center support bracket and below the instrument panel center stack in the passenger compartment of the vehicle (Fig. 7). Concealed within a hollow in the center of the die cast aluminum ACM housing is the electronic circuitry of the ACM which includes a microprocessor, an electronic impact sensor, an electromechanical safing sensor, and an energy storage capacitor. A stamped metal cover plate is secured to the bottom of the ACM housing with four screws to enclose and protect the internal electronic circuitry and components.

The ACM housing has integral mounting flanges on each side. Two of the mounting flanges, one on each side, have an integral locating pin on their lower surface. The left flanges have round mounting holes, while the flanges on the right side have slotted mounting holes. An arrow cast into the top of the ACM housing near the rear provides a visual verification of the proper orientation of the unit, and should always be pointed toward the front of the vehicle. A molded plastic electrical connector receptacle containing twenty-three terminal pins exits the rearward facing side of the ACM housing. These terminal pins connect the ACM to the vehicle electrical system through a dedicated take out and connector of the instrument panel wire harness.

The impact sensor and safing sensor internal to the ACM are calibrated for the specific vehicle, and

are only serviced as a unit with the ACM. The ACM cannot be repaired or adjusted and, if damaged or faulty, it must be replaced.

OPERATION

The microprocessor in the Airbag Control Module (ACM) contains the front supplemental restraint system logic circuits and controls all of the front supplemental restraint system components. The ACM uses On-Board Diagnostics (OBD) and can communicate with other electronic modules in the vehicle as well as with the DRBIII® scan tool using the Programmable Communications Interface (PCI) data bus network. This method of communication is used for control of the airbag indicator in the ElectroMechanical Instrument Cluster (EMIC) and for supplemental restraint system diagnosis and testing through the 16-way data link connector located on the driver side lower edge of the instrument panel. (Refer to 8 - ELECTRICAL/INSTRUMENT CLUSTER/AIRBAG INDICATOR - OPERATION).

The ACM microprocessor continuously monitors all of the front supplemental restraint system electrical circuits to determine the system readiness. If the ACM detects a monitored system fault, it sets an active and stored Diagnostic Trouble Code (DTC) and sends electronic messages to the EMIC over the PCI data bus to turn on the airbag indicator. An active fault only remains for the duration of the fault, or in some cases, the duration of the current ignition switch cycle, while a stored fault causes a DTC to be stored in memory by the ACM. For some DTCs, if a fault does not recur for a number of ignition cycles, the ACM will automatically erase the stored DTC. For other internal faults, the stored DTC is latched forever.

In standard cab models, the ACM also monitors a resistor multiplexed input from the passenger airbag on/off switch and provides a control output for the Off indicator in the switch through a passenger airbag indicator driver circuit. If the passenger airbag on/off switch is set to the Off position, the ACM turns on the passenger airbag on/off switch Off indicator and will internally disable the passenger airbag from being deployed if an impact is detected that is sufficient for an airbag deployment. The ACM also turns on the on/off switch Off indicator for about seven seconds each time the ignition switch is turned to the On position as a bulb test. Following the bulb test, the ACM controls the status of the Off indicator based upon the resistance of the input from the on/off switch. The ACM will also set and/or store a DTC for faults it detects in the passenger airbag on/off switch circuits, and will turn on the airbag indicator in the EMIC if a fault has been detected.

AIRBAG CONTROL MODULE (Continued)

On models equipped with optional side curtain airbags, the ACM communicates with both the left and right Side Impact Airbag Control Modules (SIACM) over the PCI data bus. The SIACM notifies the ACM when it has detected a monitored system fault and stored a DTC in memory for its respective side curtain airbag system, and the ACM sets a DTC and controls the airbag indicator operation accordingly.

The ACM receives battery current through two circuits; a fused ignition switch output (run) circuit through a fuse in the Integrated Power Module (IPM), and a fused ignition switch output (run-start) circuit through a second fuse in the IPM. The ACM receives ground through a ground circuit and take out of the instrument panel wire harness. This take out has a single eyelet terminal connector that is secured by a ground screw to the instrument panel support structure. These connections allow the ACM to be operational whenever the ignition switch is in the Start or On positions. The ACM also contains an energy-storage capacitor. When the ignition switch is in the Start or On positions, this capacitor is continually being charged with enough electrical energy to deploy the front supplemental restraint components for up to one second following a battery disconnect or failure. The purpose of the capacitor is to provide backup supplemental restraint system protection in case there is a loss of battery current supply to the ACM during an impact.

Two sensors are contained within the ACM; an electronic impact sensor, and a safing sensor. The electronic impact sensor is an accelerometer that senses the rate of vehicle deceleration, which provides verification of the direction and severity of an impact. The safing sensor is an electromechanical sensor within the ACM that provides an additional logic input to the ACM microprocessor. The safing sensor is a normally open switch that is used to verify the need for a front supplemental restraint deployment by detecting impact energy of a lesser magnitude than that of the electronic impact sensor, and must be closed in order for the front airbags or seat belt tensioners to deploy. A pre-programmed decision algorithm in the ACM microprocessor determines when the deceleration rate as signaled by the impact sensor and the safing sensor indicate an impact that is severe enough to require front supplemental restraint system protection and, based upon the status of the passenger airbag on/off switch input and the severity of the monitored impact, determines what combination of seat belt tensioner and front airbag deployment is required for each front seating position. When the programmed conditions are met, the ACM sends the proper electrical signals to deploy the seat belt tensioners and dual front airbags.

The hard wired inputs and outputs for the ACM may be diagnosed and tested using conventional diagnostic tools and procedures. However, conventional diagnostic methods will not prove conclusive in the diagnosis of the ACM, the PCI data bus network, or the electronic message inputs to and outputs from the ACM. The most reliable, efficient, and accurate means to diagnose the ACM, the PCI data bus network, and the electronic message inputs to and outputs from the ACM requires the use of a DRBIII® scan tool. Refer to the appropriate diagnostic information.

REMOVAL

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: THE AIRBAG CONTROL MODULE CONTAINS THE IMPACT SENSOR, WHICH ENABLES THE SYSTEM TO DEPLOY THE FRONT SUPPLEMENTAL RESTRAINTS. NEVER STRIKE OR DROP 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. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER FRONT SUPPLEMENTAL RESTRAINT DEPLOYMENT AND POSSIBLE OCCUPANT INJURIES.

(1) Disconnect and isolate the battery negative cable. Wait two minutes for the system capacitor to discharge before further service.

(2) On models with a manual transmission, remove the floor console from the top of the floor panel transmission tunnel. (Refer to 23 - BODY/INTERIOR/FLOOR CONSOLE - REMOVAL).

(3) On models with an automatic transmission, remove the ACM cover from the instrument panel.

AIRBAG CONTROL MODULE (Continued)

(Refer to 8 - ELECTRICAL/RESTRAINTS/ACM COVER - REMOVAL).

(4) Reach through the rearward facing opening below the instrument panel center stack support bracket on the top of the floor panel transmission tunnel to access and disconnect the instrument panel wire harness connector for the Airbag Control Module (ACM) from the ACM connector receptacle located on the rearward facing side of the module (Fig. 8). To disconnect the instrument panel wire harness connector from the ACM:

(a) Slide the red Connector Position Assurance (CPA) lock on the top of the connector toward the side of the connector.

(b) Depress the connector latch tab and pull the connector straight away from the ACM connector receptacle.

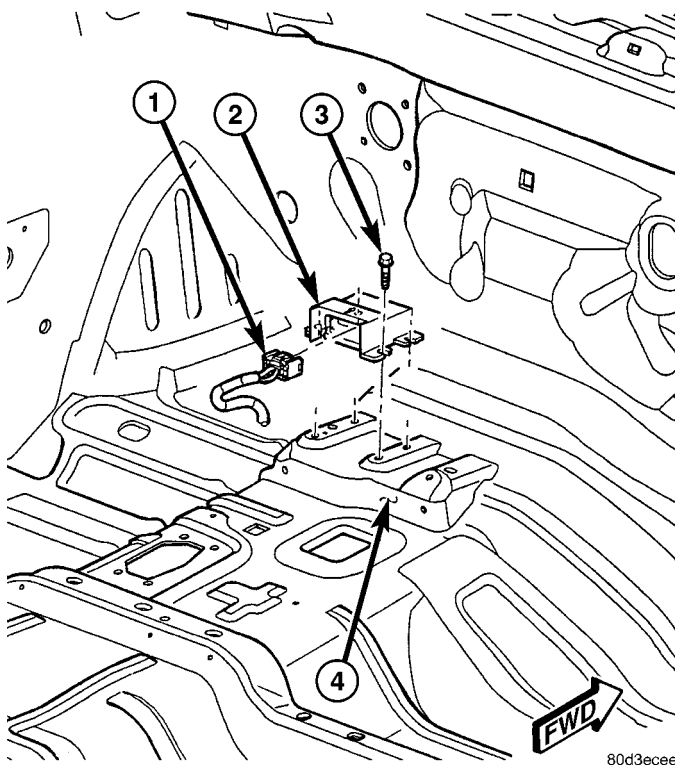


Fig. 8 Airbag Control Module Remove/Install

- 1 - WIRE HARNESS CONNECTOR
- 2 - AIRBAG CONTROL MODULE
- 3 - SCREW (4)
- 4 - FLOOR PANEL TRANSMISSION TUNNEL

(5) From the right side of the floor panel transmission tunnel, loosen each of the two screws that secure the right side of the ACM to the bracket on the floor panel transmission tunnel about 7 millimeters (0.25 inch).

(6) From the left side of the floor panel transmission tunnel, remove the two screws that secure the left side of the ACM to the bracket on the floor panel transmission tunnel.

(7) Still working from the left side of the floor panel transmission tunnel, lift the ACM upward far enough to disengage the locating pins on the bottom of the ACM mounting flanges from the locating holes in the mounting bracket, then slide the ACM toward the left far enough to disengage the slotted holes in the right ACM mounting flanges from under the heads of the two previously loosened right mounting screws.

(8) Remove the ACM from the left side of the floor panel transmission tunnel.

INSTALLATION

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: THE AIRBAG CONTROL MODULE CONTAINS THE IMPACT SENSOR, WHICH ENABLES THE SYSTEM TO DEPLOY THE FRONT SUPPLEMENTAL RESTRAINTS. NEVER STRIKE OR DROP 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. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER FRONT SUPPLEMENTAL RESTRAINT DEPLOYMENT AND POSSIBLE OCCUPANT INJURIES.

(1) Position the Airbag Control Module (ACM) to the left side of the floor panel transmission tunnel near the ACM bracket (Fig. 8). When the ACM is correctly positioned, the arrow on the ACM housing will be pointed forward in the vehicle.

(2) From the left side of the floor panel transmission tunnel, slide the ACM toward the right far enough to engage the slotted holes in the right ACM mounting flanges under the heads of the two previously loosened right mounting screws, then engage

AIRBAG CONTROL MODULE (Continued)

the locating pins on the bottom of the ACM mounting flanges into the locating holes in the bracket.

(3) Still working from the left side of the floor panel transmission tunnel, install and tighten the two screws that secure the left ACM mounting flanges to the bracket that is welded onto the floor panel transmission tunnel. Tighten the screws to 14 N·m (10 ft. lbs.).

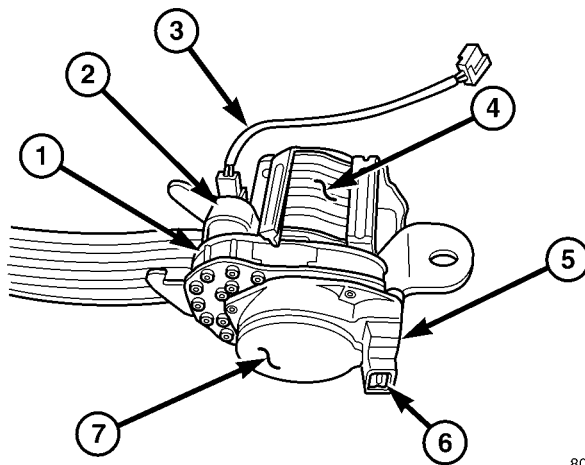
(4) From the right side of the floor panel transmission tunnel, tighten each of the two screws that secure the right side of the ACM to the bracket on the floor panel transmission tunnel. Tighten the screws to 14 N·m (10 ft. lbs.).

(5) Reach through the rearward facing opening below the instrument panel center stack support bracket on the top of the floor panel transmission tunnel to access and reconnect the instrument panel wire harness connector for the ACM to the ACM connector receptacle located on the rearward facing side of the module. Be certain that the latch and the red Connector Position Assurance (CPA) lock on the connector are each fully engaged.

(6) On models with an automatic transmission, reinstall the ACM cover onto the instrument panel. (Refer to 8 - ELECTRICAL/RESTRAINTS/ACM COVER - INSTALLATION).

(7) On models with a manual transmission, reinstall the floor console onto the top of the floor panel transmission tunnel. (Refer to 23 - BODY/INTERIOR/FLOOR CONSOLE - INSTALLATION).

(8) Do not reconnect the battery negative cable at this time. The supplemental restraint system verification test procedure should be performed following service of any supplemental restraint system component. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - VERIFICATION TEST).

AUTOMATIC LOCKING RETRACTOR**DESCRIPTION**

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Fig. 9 Automatic Locking Retractor

- 1 - TENSIONER HOUSING OR CHAMBER
- 2 - GAS GENERATOR
- 3 - TENSIONER PIGTAIL WIRE
- 4 - SPOOL
- 5 - TENSION REDUCER (DRIVER SIDE ON STANDARD CAB ONLY)
- 6 - REDUCER CONNECTOR RECEPTACLE
- 7 - RETRACTOR LOCKING MECHANISM COVER

The seat belt retractors used in all seating positions include an inertia-type, emergency locking mechanism as standard equipment (Fig. 9). However, the retractor locking mechanism for the passenger side front seating position is mechanically switchable from an emergency locking retractor to an automatic locking retractor. The primary function of this feature is to securely accommodate a child seat in the passenger side front seating position of the vehicle without the need for a self-cinching seat belt tip half latch plate unit or another supplemental device that would be required to prevent the seat belt webbing from unwinding freely from the retractor spool of an inertia-type emergency locking retractor mechanism.

The automatic locking mechanism is integral to the passenger side front seat belt and retractor unit and is concealed beneath a molded plastic cover located on the same side of the retractor spool as the seat belt tensioner housing. The retractor is secured to the inner B-pillar on the right side of the vehicle and is concealed beneath the molded plastic inner B-pillar trim. The automatic locking mechanism cannot be adjusted or repaired and, if faulty or damaged, the entire passenger side front seat belt and retractor unit must be replaced.

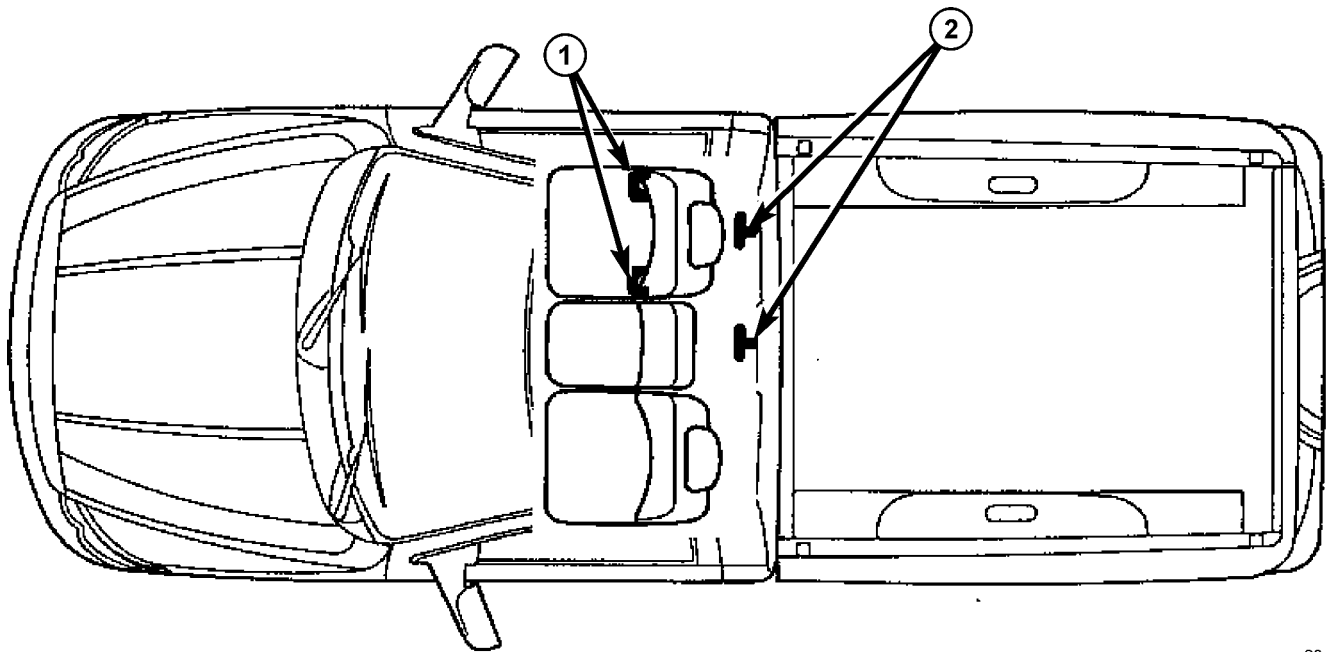
AUTOMATIC LOCKING RETRACTOR (Continued)

OPERATION

The automatic locking mode of the retractor is engaged and the retractor is switched from operating as a standard inertia-type emergency locking retractor by first buckling the combination lap and shoulder belt buckle. Then grasp the shoulder belt and pull all of the webbing out of the retractor. Once all of the belt webbing is extracted from the spool, the retractor will automatically become engaged in the pre-locked automatic locking mode and will make an audible clicking or ratcheting sound as the shoulder belt is allowed to retract to confirm that the automatic locking mode is now engaged. Once the automatic locking mode is engaged, the retractor will remain locked and the belt will remain tight around whatever it is restraining.

The retractor is returned to standard emergency locking mode by unbuckling the combination lap and shoulder belt buckle and allowing the belt webbing to be almost fully retracted onto the retractor spool. The emergency locking mode is confirmed by the absence of the audible clicking or ratcheting sound as the belt webbing retracts. This mode will allow the belt to unwind from and wind onto the retractor spool freely unless and until a predetermined inertia load is sensed, or until the retractor is again switched to the automatic locking mode.

CHILD RESTRAINT ANCHOR

DESCRIPTION

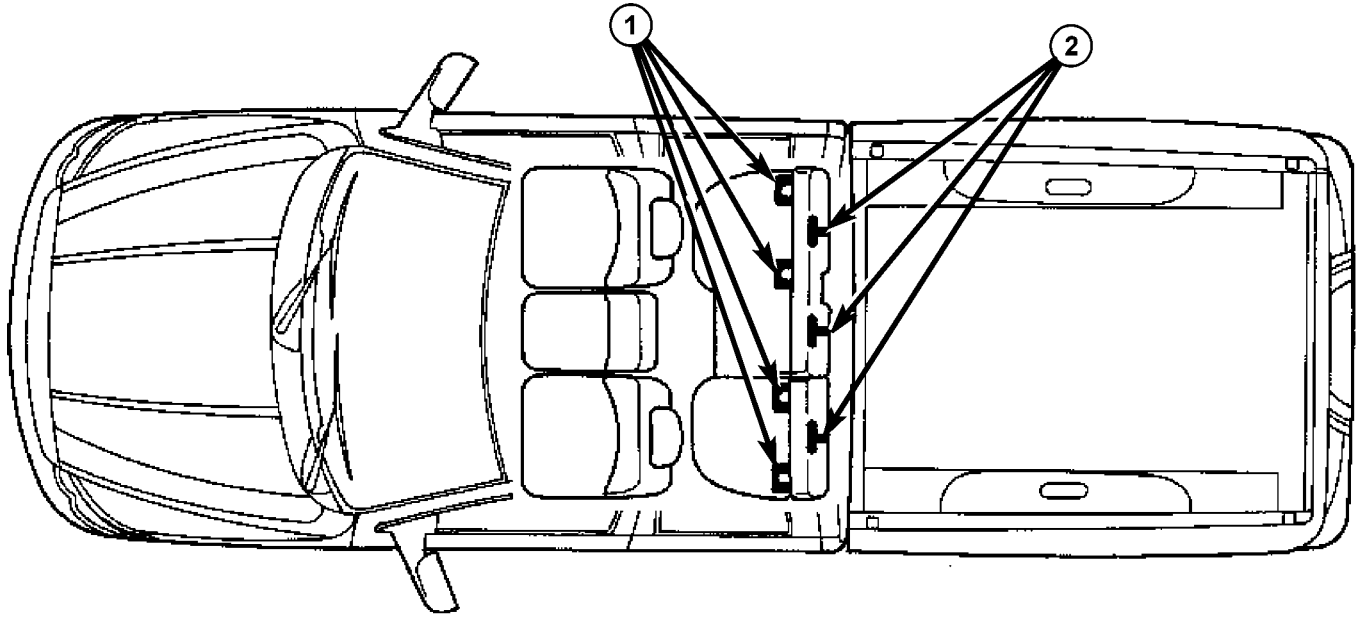
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Fig. 10 Child Restraint Anchor Location - Standard Cab

1 - LOWER ANCHOR (PROVIDED FOR OUTBOARD SEATING POSITION ONLY)

2 - TETHER ANCHOR (PROVIDED FOR CENTER AND OUTBOARD SEATING POSITIONS)

CHILD RESTRAINT ANCHOR (Continued)



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Fig. 11 Child Restraint Anchor Location - Quad Cab

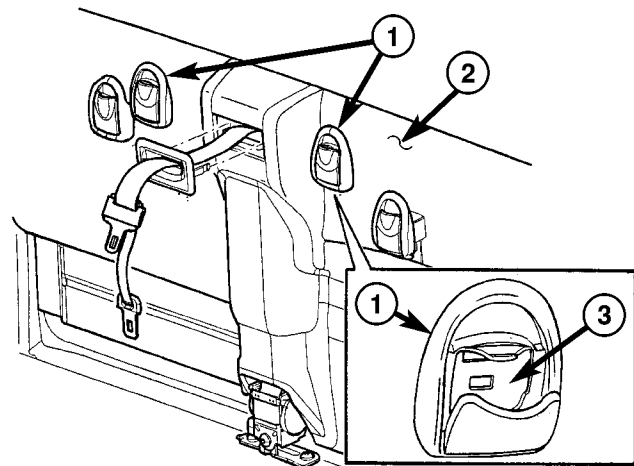
1 - LOWER ANCHOR (PROVIDED FOR REAR OUTBOARD SEATING POSITIONS ONLY)

2 - TETHER ANCHOR (PROVIDED FOR REAR CENTER AND OUTBOARD SEATING POSITIONS)

This model is equipped with a Lower Anchors and Tether for Children, or LATCH child restraint anchorage system (Fig. 10) or (Fig. 11). The LATCH system provides for the installation of suitable child restraints in certain seating positions without using the standard equipment seat belt provided for that seating position. Standard cab models are equipped with a fixed-position child restraint upper tether anchor for the front center and outboard seating positions, and child restraint lower anchors for the front outboard seating position. Quad cab models are equipped with a fixed-position child restraint upper tether anchor strap for the rear center and both rear outboard seating positions, and child restraint lower anchors for both rear outboard seating positions. All front seat child restraint anchors are deleted on quad cab models.

The two upper tether anchors for standard cab models are integral to the upper cab back panel reinforcement and are concealed behind individual trim cover and bezel units that are integral to the cab back trim panel (Fig. 12). These upper tether anchors cannot be adjusted or repaired and, if faulty or damaged, they must be replaced as a unit with the upper cab back panel reinforcement. The upper tether anchor trim covers and bezels are serviced as a unit with the cab back trim panel.

The three upper tether anchor straps for quad cab models are secured to the upper cab back panel reinforcement with screws (Fig. 13). These anchor straps are concealed behind the upright rear seat back. The



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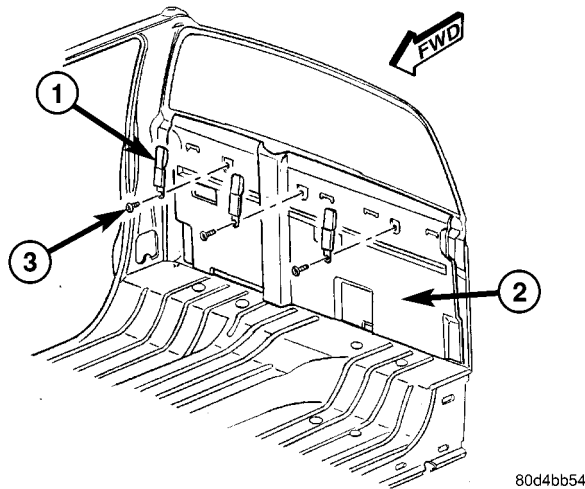
Fig. 12 Child Tether Anchor - Standard Cab

- 1 - COVER & BEZEL (2)
- 2 - CAB BACK TRIM PANEL
- 3 - ANCHOR (2)

upper tether anchor straps are available for individual service replacement.

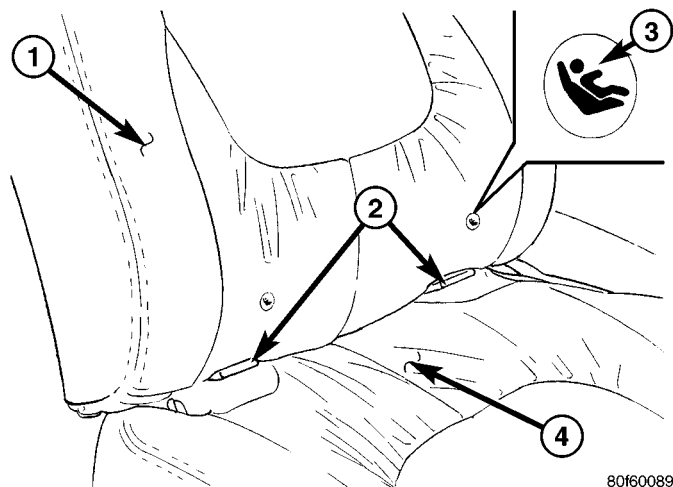
The lower anchors for all models are integral to their respective front or rear seat cushion frame (Fig. 14) or (Fig. 15). Round markers with an imprinted child seat icon on the standard cab front seat back trim cover helps identify the anchor locations for that application because they may be otherwise difficult to see with the seat back in the upright position. These lower anchors are each constructed from round steel

CHILD RESTRAINT ANCHOR (Continued)

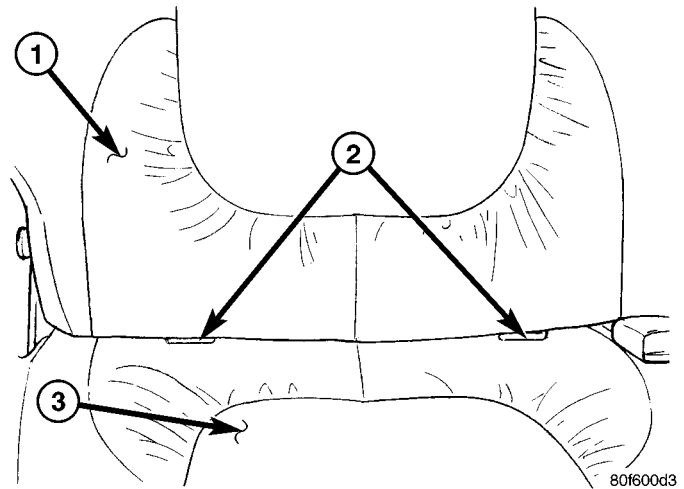
**Fig. 13 Child Tether Strap - Quad Cab**

- 1 - TETHER STRAP (3)
- 2 - CAB BACK PANEL
- 3 - SCREW (3)

bar stock that is formed into a U-shape, then securely welded at each end to the seat cushion frame. They are each accessed from the front of their respective seats, at each side where the seat back meets the seat cushion. These lower anchors cannot be adjusted or repaired and, if faulty or damaged, they must be replaced as a unit with the seat cushion frame. On quad cab models, if the lower anchors have been bent or broken as a result of a vehicle collision, the latch for the affected rear seat cushion frame unit must also be replaced.

**Fig. 14 Child Restraint Lower Anchor - Standard Cab Front Seat**

- 1 - FRONT SEAT BACK
- 2 - LOWER ANCHOR (2) - PASSENGER SIDE OUTBOARD SEATING POSITION ONLY
- 3 - LOWER ANCHOR MARKER (2)
- 4 - FRONT SEAT CUSHION

**Fig. 15 Child Restraint Lower Anchor - Quad Cab Rear Seat**

- 1 - REAR SEAT BACK
- 2 - LOWER ANCHOR (2 PER OUTBOARD REAR SEATING POSITION)
- 3 - REAR SEAT CUSHION

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

OPERATION

See the owner's manual in the vehicle glove box for more information on the proper use of all of the factory-installed child restraint anchors.

REMOVAL

The following procedure applies only to the rear seat upper child tether straps used on quad cab models. The child restraint anchors used in other models and locations are integral to other components and cannot be serviced separately.

CHILD RESTRAINT ANCHOR (Continued)

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Remove the rear seat from the vehicle. (Refer to 23 - BODY/SEATS/SEAT - REAR - REMOVAL).

(2) Remove the screw that secures the child tether strap to the upper cab back panel reinforcement (Fig. 16).

(3) Remove the child tether strap from the upper cab back panel reinforcement.

INSTALLATION

The following procedure applies only to the rear seat upper child tether straps used on quad cab models. The child restraint anchors used in other models and locations are integral to other components and cannot be serviced separately.

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN.

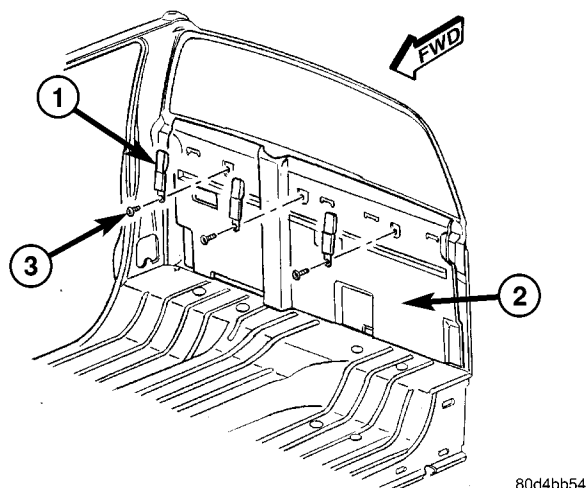


Fig. 16 Child Tether Strap - Quad Cab

- 1 - TETHER STRAP (3)
- 2 - CAB BACK PANEL
- 3 - SCREW (3)

STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Position the child tether strap onto the upper cab back panel reinforcement (Fig. 16).

(2) Install and tighten the screw that secures the child tether strap to the upper cab back panel reinforcement. Tighten the screw to 14 N·m (10 ft. lbs.).

(3) Reinstall the rear seat into the vehicle. (Refer to 23 - BODY/SEATS/SEAT - REAR - INSTALLATION).

CLOCKSPRING

DESCRIPTION

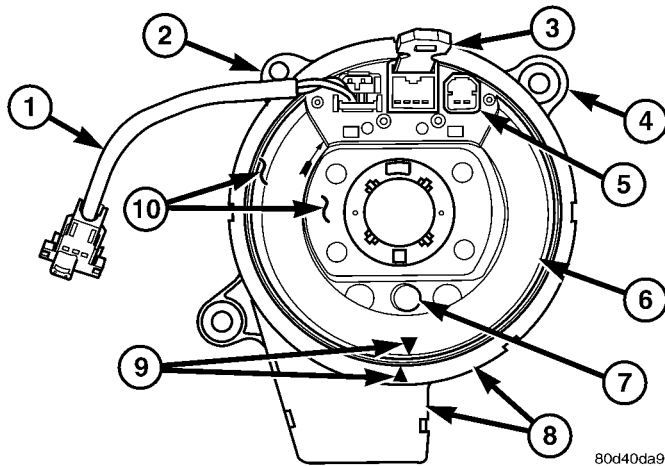


Fig. 17 Clockspring

- 1 - PIGTAIL WIRE
- 2 - LOCATING TAB
- 3 - LOCKING PIN
- 4 - MOUNTING TAB (2)
- 5 - UPPER CONNECTOR RECEPTACLE (2)
- 6 - LABEL
- 7 - ENGAGEMENT DOWEL & BOOT
- 8 - CASE
- 9 - CENTERING ARROWS
- 10 - ROTOR

The clockspring assembly is secured with two screws onto the multi-function switch mounting housing near the top of the steering column behind the steering wheel (Fig. 17). The clockspring consists of a flat, round molded plastic case with a stubby tail that hangs below the steering column (Fig. 18). The tail contains two connector receptacles that face toward the instrument panel. Within the plastic case is a spool-like molded plastic rotor with a large exposed hub. The upper surface of the rotor hub has a large center hole, two large flats, an engagement dowel with a yellow rubber boot, a short pigtail wire with connector, and two connector receptacles that face toward the steering wheel.

The lower surface of the rotor hub has a molded plastic turn signal cancel cam with two lobes that is keyed to the rotor and is secured there with four integral snap features. Within the plastic case and wound around the rotor spool is a long ribbon-like tape that consists of several thin copper wire leads sandwiched between two thin plastic membranes. The outer end of the tape terminates at the connector receptacles that face the instrument panel, while the inner end of the tape terminates at the pigtail wire and connector receptacles on the hub of the clockspring rotor that face the steering wheel.

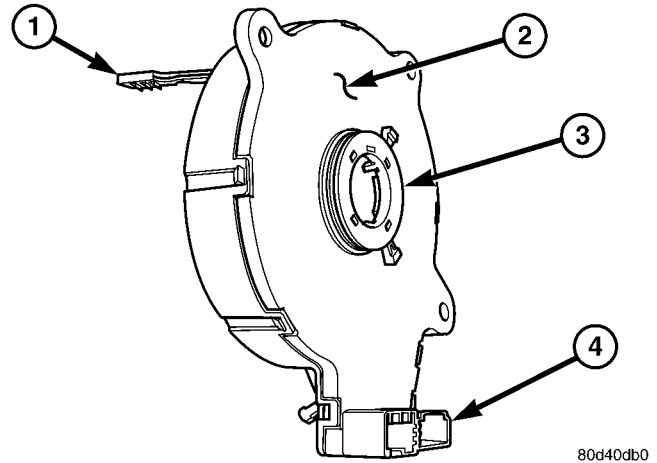


Fig. 18 Turn Signal Cancel Cam

- 1 - LOCKING PIN
- 2 - CLOCKSPRING CASE
- 3 - CANCEL CAM
- 4 - LOWER CONNECTOR RECEPTACLE (2)

Service replacement clocksprings are shipped pre-centered and with a molded plastic locking pin that snaps into a receptacle on the rotor and is engaged between two tabs on the upper surface of the rotor case. The locking pin secures the centered clockspring rotor to the clockspring case during shipment, but the locking pin must be removed from the clockspring after it is installed on the steering column. (Refer to 8 - ELECTRICAL/RESTRAINTS/CLOCKSPRING - STANDARD PROCEDURE - CLOCKSPRING CENTERING).

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

OPERATION

The clockspring is a mechanical electrical circuit component that is used to provide continuous electrical continuity between the fixed instrument panel wire harness and the electrical components mounted on or in the rotating steering wheel. On this model the rotating electrical components include the driver airbag, the horn switch, the speed control switches, and the remote radio switches, if the vehicle is so equipped. The clockspring case is positioned and secured to the multi-function switch mounting housing near the top of the steering column. The connector receptacles on the tail of the fixed clockspring case connect the clockspring to the vehicle electrical system through two take outs with connectors from the instrument panel wire harness.

The clockspring rotor is movable and is keyed by an engagement dowel that is molded onto the rotor hub between two fins that are cast into the lower surface of the steering wheel armature. A yellow rub-

CLOCKSPRING (Continued)

ber boot is installed over the engagement dowel to eliminate contact noise between the dowel and the steering wheel. The two lobes on the turn signal cancel cam on the lower surface of the clockspring rotor hub contact a turn signal cancel actuator of the multi-function switch to provide automatic turn signal cancellation. The yellow sleeved pigtail wires on the upper surface of the clockspring rotor connect the clockspring to the driver airbag, while a steering wheel wire harness connects the two connector receptacles on the upper surface of the clockspring rotor to the horn switch feed pigtail wire connector and, if the vehicle is so equipped, to the optional speed control and remote radio switches on the steering wheel.

Like the clockspring in a timepiece, the clockspring tape has travel limits and can be damaged by being wound too tightly during full stop-to-stop steering wheel rotation. To prevent this from occurring, the clockspring is centered when it is installed on the steering column. Centering the clockspring indexes the clockspring tape to the movable steering components so that the tape can operate within its designed travel limits. However, if the clockspring is removed from the steering column or if the steering shaft is disconnected from the steering gear, the clockspring spool can change position relative to the movable steering components. The clockspring must be re-centered following completion of this service or the tape may be damaged.

Service replacement clocksprings are shipped pre-centered and with a plastic locking pin installed. This locking pin should not be disengaged until the clockspring has been installed on the steering column. If the locking pin is removed or damaged before the clockspring is installed on a steering column, the clockspring centering procedure must be performed. (Refer to 8 - ELECTRICAL/RESTRAINTS/CLOCKSPRING - STANDARD PROCEDURE - CLOCKSPRING CENTERING).

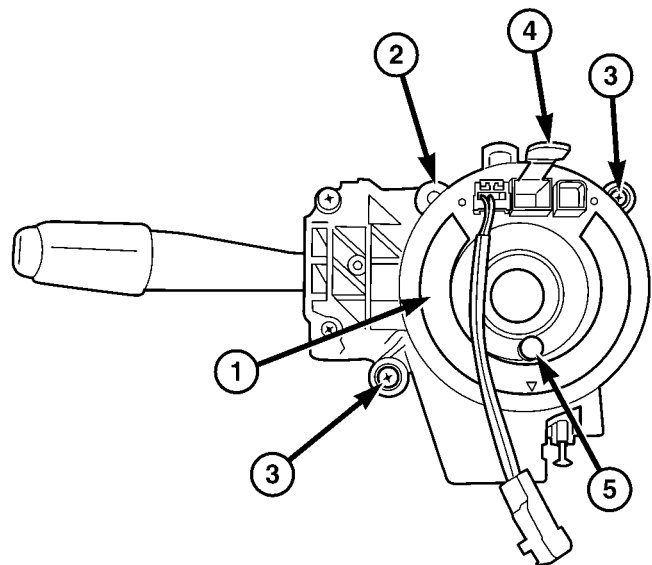
STANDARD PROCEDURE - CLOCKSPRING CENTERING

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. Centering the clockspring indexes the clockspring tape to other steering components so that it can operate within its designed travel limits. The rotor of a centered clockspring can be rotated two and one-half turns in either direction from the centered position, without damaging the clockspring tape.

However, if the clockspring is removed for service or if the steering column is disconnected from the steering gear, the clockspring tape can change posi-

tion relative to the other steering components. The clockspring must then be re-centered following completion of such service or the clockspring tape may be damaged. Service replacement clocksprings are shipped pre-centered, with a plastic locking pin installed (Fig. 19). This locking pin should not be removed until the clockspring has been installed on the steering column. If the locking pin is removed before the clockspring is installed on a steering column, the clockspring centering procedure must be performed.

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.



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Fig. 19 Clockspring and Multi-Function Switch

- 1 - CLOCKSPRING
- 2 - LOCATING PIN
- 3 - SCREW (2)
- 4 - LOCKING PIN
- 5 - ENGAGEMENT DOWEL BOOT

CLOCKSPRING (Continued)

NOTE: Before starting this procedure, be certain to turn the steering wheel until the front wheels are in the straight-ahead position.

(1) Place the front wheels in the straight-ahead position.

(2) Remove the clockspring from the steering column. (Refer to 8 - ELECTRICAL/RESTRAINTS/CLOCKSPRING - REMOVAL).

(3) Rotate the clockspring rotor clockwise to the end of its travel. **Do not apply excessive torque.**

(4) From the end of the clockwise travel, rotate the rotor about two and one-half turns counterclockwise. The engagement dowel and yellow rubber boot should end up at the bottom, and the arrows on the clockspring rotor and case should be in alignment. The clockspring is now centered.

(5) The front wheels should still be in the straight-ahead position. Reinstall the clockspring onto the steering column. (Refer to 8 - ELECTRICAL/RESTRAINTS/CLOCKSPRING - INSTALLATION).

REMOVAL

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

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

NOTE: Before starting this procedure, be certain to turn the steering wheel until the front wheels are in the straight-ahead position.

(1) Place the front wheels in the straight ahead position.

(2) Remove the driver airbag from the steering wheel. (Refer to 8 - ELECTRICAL/RESTRAINTS/DRIVER AIRBAG - REMOVAL).

(3) Disconnect the steering wheel wire harness connectors from the upper clockspring connector receptacles.

CAUTION: Be certain that the screws that secure the steering wheel puller to the steering wheel are fully engaged in the steering wheel armature without passing through the steering wheel and damaging the clockspring.

(4) Remove the steering wheel from the steering column. (Refer to 19 - STEERING/COLUMN/STEERING WHEEL - REMOVAL).

(5) Remove the steering column opening cover from the instrument panel. (Refer to 23 - BODY/INSTRUMENT PANEL/STEERING COLUMN OPENING COVER - REMOVAL).

(6) If the vehicle is so equipped, grasp the steering column tilt knob firmly and pull it straight rearward to remove it from the tilt adjuster mechanism lever located on the left side of the column just below the multi-function switch control stalk.

(7) From below the steering column, remove the two outboard screws that secure the upper shroud to the lower shroud.

(8) Using hand pressure, push gently inward on both sides of the upper shroud near the parting line between the upper and lower shrouds to release the snap features that secure it to the lower shroud.

(9) Remove the upper shroud from the lower shroud.

(10) From below the steering column, remove the one center screw that secures the lower shroud to the steering column lock housing.

(11) Remove the lower shroud from the steering column.

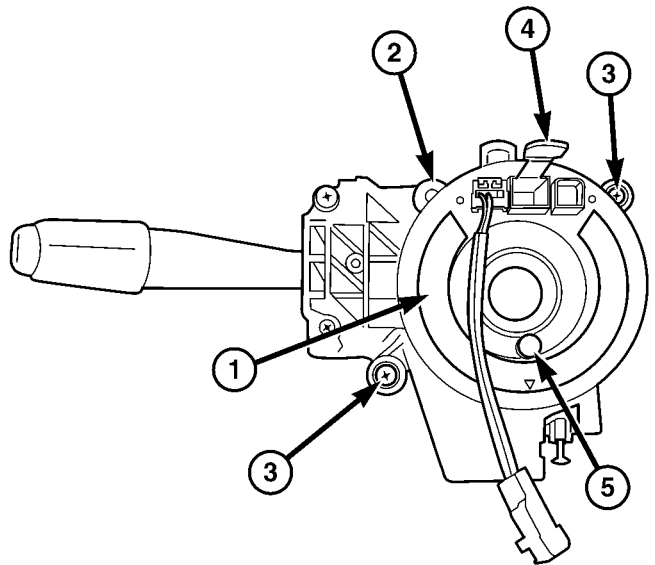
(12) Disconnect the two instrument panel wire harness connectors for the clockspring from the two connector receptacles below the steering column on the back of the clockspring housing.

(13) Remove the two screws that secure the clockspring to the multi-function switch mounting housing (Fig. 20).

(14) Remove the clockspring from the multi-function switch mounting housing. The clockspring cannot be repaired. It must be replaced if faulty or damaged, or if the driver airbag has been deployed.

(15) If the removed clockspring is to be reused, be certain to secure the clockspring rotor to the clockspring case to maintain clockspring centering until it is reinstalled on the steering column. If clockspring centering is not maintained, the clockspring must be centered again before it is reinstalled. (Refer to 8 - ELECTRICAL/RESTRAINTS/CLOCKSPRING - STANDARD PROCEDURE - CLOCKSPRING CENTERING).

CLOCKSPRING (Continued)



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Fig. 20 Clockspring and Multi-Function Switch

- 1 - CLOCKSPRING
- 2 - LOCATING PIN
- 3 - SCREW (2)
- 4 - LOCKING PIN
- 5 - ENGAGEMENT DOWEL BOOT

INSTALLATION

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

If the clockspring is not properly centered in relation to the steering wheel, steering shaft and steering gear, it may be damaged. (Refer to 8 - ELECTRICAL/RESTRAINTS/CLOCKSPRING - STANDARD PROCEDURE - CLOCKSPRING CENTERING). Service replacement clocksprings are shipped pre-centered, with a plastic locking pin installed. This locking pin should not be removed until the clockspring has been installed on the steering column. If the locking pin is removed before the clockspring is installed on a steering column, the clockspring centering procedure must be performed.

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE.

THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

NOTE: Before starting this procedure, be certain that the front wheels are still in the straight-ahead position.

(1) Carefully slide the centered clockspring down over the steering column upper shaft until the hole in the locating tab at the eleven o'clock position on the clockspring case is engaged over the locating pin on the multi-function switch mounting housing (Fig. 20).

(2) Install and tighten the two screws that secure the clockspring to the multi-function switch mounting housing. Tighten the screws to 2 N·m (20 in. lbs.).

(3) Reconnect the two instrument panel wire harness connectors for the clockspring to the two connector receptacles below the steering column on the back of the clockspring housing.

(4) Position the lower shroud onto the steering column.

(5) From below the steering column, install and tighten the one center screw that secures the lower shroud to the steering column lock housing. Tighten the screw to 2 N·m (20 in. lbs.).

(6) Position the upper shroud onto the steering column. If the vehicle is equipped with an automatic transmission, be certain to engage the gearshift lever gap hider into the openings in the right side of the upper and lower shrouds.

(7) Align the snap features on the upper shroud with the receptacles on the lower shroud and apply hand pressure to snap them together.

(8) From below the steering column, install and tighten the two screws that secure the upper shroud to the lower shroud. Tighten the screws to 2 N·m (20 in. lbs.).

(9) If the vehicle is equipped with the optional tilt steering column, align the steering column tilt knob with the tilt adjuster mechanism lever located on the left side of the column just below the multi-function switch control stalk and, using hand pressure, push the knob firmly onto the lever.

(10) Reinstall the steering column opening cover onto the instrument panel. (Refer to 23 - BODY/INSTRUMENT PANEL/STEERING COLUMN OPENING COVER - INSTALLATION).

(11) If a new clockspring has been installed, remove the locking pin that is securing the clockspring rotor to the clockspring case to maintain clockspring centering.

CLOCKSPRING (Continued)

NOTE: When reinstalling the steering wheel, be certain to index the yellow rubber booted engagement dowel on the upper surface of the clockspring rotor between the two fins cast into the lower surface of the steering wheel armature hub.

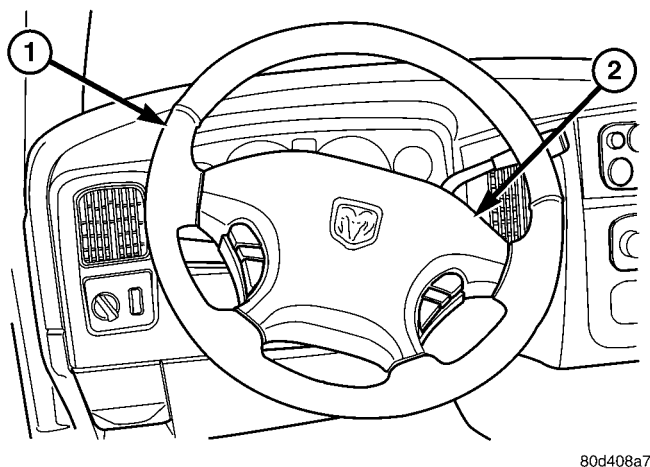
(12) Reinstall the steering wheel onto the steering column. (Refer to 19 - STEERING/COLUMN/STEERING WHEEL - INSTALLATION).

(13) Reconnect the steering wheel wire harness connectors to the upper clockspring connector receptacles. Be certain that the steering wheel wire harness is routed between the steering wheel back trim cover and the steering wheel armature.

(14) Reinstall the driver airbag onto the steering wheel. (Refer to 8 - ELECTRICAL/RESTRAINTS/DRIVER AIRBAG - INSTALLATION).

DRIVER AIRBAG

DESCRIPTION



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Fig. 21 Driver Airbag Trim Cover

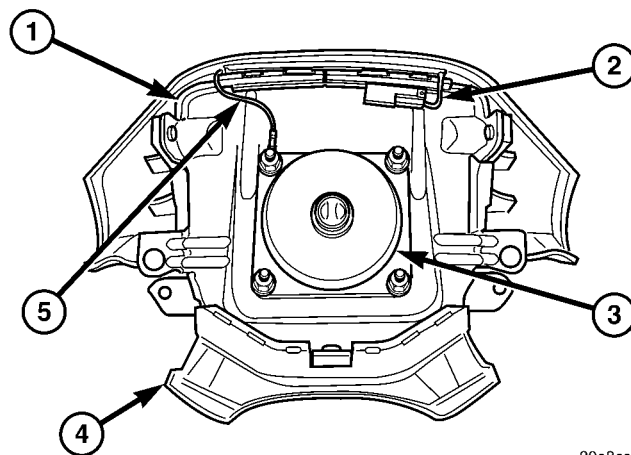
- 1 - STEERING WHEEL
- 2 - TRIM COVER

The color-keyed, injection molded, thermoplastic driver airbag protective trim cover is the most visible part of the driver airbag (Fig. 21). The driver airbag is located in the center of the steering wheel, where it is secured with two screws to the armature of the four-spoke steering wheel. All models have a Dodge Ram logo embossed in the center of the trim cover. Concealed beneath the driver airbag trim cover are the horn switch, the folded airbag cushion, the airbag cushion retainer, the airbag housing, the airbag inflator, and the retainers that secure the inflator to the airbag housing.

The airbag cushion, housing, and inflator are secured within an integral receptacle molded into the

back of the trim cover. The stamped metal airbag housing is secured by integral tabs that engage slotted locking blocks at the top and bottom of the trim cover receptacle, an integral metal hook inserted through a window in the vertical wall of the trim cover receptacle at each side, and by three aluminum blind rivets. This combination of fasteners locks the trim cover securely in place on the airbag housing.

The resistive membrane-type horn switch is secured with heat stakes to the inside surface of the driver airbag trim cover, between the trim cover and the folded airbag cushion. The horn switch ground pigtail wire has an eyelet terminal connector that is captured beneath a flanged nut on the upper right inflator mounting stud on the back of the housing (Fig. 22). The horn switch feed pigtail wire has a black, molded plastic insulator that is secured by an integral retainer in a locator hole near the upper left corner of the airbag housing and is connected to the vehicle electrical system through a dedicated take out of the steering wheel wire harness. Both horn switch wires are routed through integral routing slots in the upper locking block of the trim cover receptacle.



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Fig. 22 Driver Airbag Housing

- 1 - HOUSING
- 2 - HORN SWITCH FEED WIRE
- 3 - INFLATOR
- 4 - TRIM COVER RECEPTACLE
- 5 - HORN SWITCH GROUND WIRE

The airbag used in this model is a Next Generation-type that complies with revised federal airbag standards to deploy with less force than those used in some prior models. A 71.1 centimeter (28 inch) diameter, radial deploying fabric cushion with internal tethers is used. The airbag inflator is a non-azide, pyrotechnic-type unit and is secured by four flanged hex nuts to four studs on the airbag cushion retainer ring to the back of the stamped metal airbag housing. A connector receptacle on the driver airbag

DRIVER AIRBAG (Continued)

inflator connects the inflator initiator to the vehicle electrical system through a yellow-jacketed, two-wire pigtail harness of the clockspring.

The driver airbag cannot be repaired, and must be replaced if deployed or in any way damaged.

OPERATION

The driver airbag is deployed by electrical signals generated by the Airbag Control Module (ACM) through the driver airbag squib circuit to the initiator in the airbag inflator. When the ACM sends the proper electrical signal to the initiator the electrical energy generates enough heat to initiate a small pyrotechnic charge which, in turn ignites chemical pellets within the inflator. Once ignited, these chemical pellets burn rapidly and produce a large quantity of inert gas. The inflator is sealed to the back of the airbag housing and a diffuser in the inflator directs all of the inert gas into the airbag cushion, causing the cushion to inflate. As the cushion inflates, the driver airbag trim cover will split at predetermined breakout lines, then fold back out of the way along with the horn switch unit. Following an airbag deployment, the airbag cushion quickly deflates by venting the inert gas towards the instrument panel through vent holes within the fabric used to construct the back (steering wheel side) panel of the airbag cushion.

Some of the chemicals used to create the inert gas may be considered hazardous while in their solid state before they are burned, but they are securely sealed within the airbag inflator. Typically, all potentially hazardous chemicals are burned during an airbag deployment event. The inert gas that is produced when the chemicals are burned is harmless. However, a small amount of residue from the burned chemicals may cause some temporary discomfort if it contacts the skin, eyes, or breathing passages. If skin or eye irritation is noted, rinse the affected area with plenty of cool, clean water. If breathing passages are irritated, move to another area where there is plenty of clean, fresh air to breathe. If the irritation is not alleviated by these actions, contact a physician.

REMOVAL

The following procedure is for replacement of a faulty or damaged driver airbag. If the airbag is faulty or damaged, but not deployed, review the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS). If the driver airbag has been

deployed, review the recommended procedures for service after a supplemental restraint deployment before removing the airbag from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

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

(1) Disconnect and isolate the battery negative cable. 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 two trim covers or speed control switches to each side of the driver airbag trim cover.

(3) From the top of the steering wheel, remove the two trim covers or speed control switches from the pockets on each side of the driver airbag trim cover to access the driver airbag mounting screws.

(4) Remove the two screws that secure the driver airbag to the steering wheel armature (Fig. 23).

(5) Pull the driver airbag away from the steering wheel far enough to access the two electrical connections at the back of the airbag housing.

(6) Disconnect the steering wheel wire harness horn switch feed take out connector from the horn switch feed pigtail wire connector insulator located on the back of the driver airbag housing.

DRIVER AIRBAG (Continued)

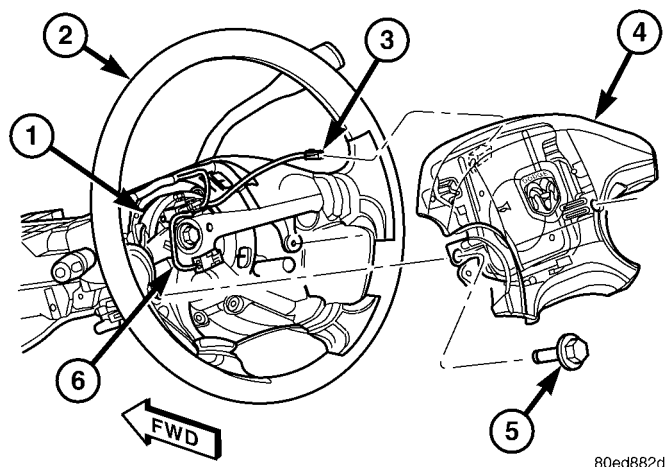


Fig. 23 Driver Airbag Remove/Install

- 1 - CLOCKSPrING
- 2 - STEERING WHEEL
- 3 - HORN SWITCH FEED TAKE OUT
- 4 - DRIVER AIRBAG
- 5 - SCREW (2)
- 6 - CLOCKSPrING PIGTAIL WIRE

CAUTION: Do not pull on the clockspring pigtail wires or pry on the connector insulator to disengage the connector from the driver airbag inflator connector receptacle. Improper removal of these pigtail wires and their connector insulators can result in damage to the airbag circuits or connector insulators.

(7) The clockspring driver airbag pigtail wire connector is secured by integral latches to the airbag inflator connector receptacle, which is located on the back of the driver airbag housing. Depress the latches on each side of the connector insulator and pull the insulator straight out from the airbag inflator to disconnect it from the connector receptacle.

(8) Remove the driver airbag from the steering wheel.

(9) If the driver airbag has been deployed, the clockspring must be replaced. (Refer to 8 - ELECTRICAL/RESTRAINTS/CLOCKSPrING - REMOVAL).

INSTALLATION

The following procedure is for replacement of a faulty or damaged driver airbag. If the airbag is faulty or damaged, but not deployed, review the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS). If the driver airbag has been deployed, review the recommended procedures for service after a supplemental restraint deployment before removing the airbag from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PRO-

CEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

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

WARNING: THE DRIVER AIRBAG TRIM COVER MUST NEVER BE PAINTED. REPLACEMENT AIRBAGS ARE SERVICED WITH TRIM COVERS IN THE ORIGINAL COLORS. PAINT MAY CHANGE THE WAY IN WHICH THE MATERIAL OF THE TRIM COVER RESPONDS TO AN AIRBAG DEPLOYMENT. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN OCCUPANT INJURIES UPON AIRBAG DEPLOYMENT.

(1) Position the driver airbag close enough to the steering wheel to reconnect the two electrical connections at the back of the airbag housing.

(2) When installing the driver airbag, reconnect the clockspring driver airbag pigtail wire connector to the airbag inflator connector receptacle by pressing straight in on the connector (Fig. 23). You can be certain that the connector is fully engaged in its receptacle by listening carefully for a distinct, audible click as the connector latches snap into place.

(3) Reconnect the steering wheel wire harness horn switch feed take out connector to the horn switch feed pigtail wire connector insulator located on the back of the driver airbag housing.

(4) Carefully position the driver airbag in the steering wheel. Be certain that the clockspring pigtail wire and the steering wheel wire harness in the

DRIVER AIRBAG (Continued)

steering wheel hub area are not pinched between the driver airbag and the steering wheel armature.

(5) Install and tighten the two screws that secure the driver airbag to the steering wheel armature. Tighten the screws to 14 N·m (120 in. lbs.).

(6) From the top of the steering wheel, position the two trim covers or speed control switches into the pockets on each side of the driver airbag trim cover.

(7) From the underside of the steering wheel, install and tighten the two screws that secure the two trim covers or speed control switches to each side of the driver airbag trim cover. Tighten the screws to 2 N·m (15 in. lbs.).

(8) Do not reconnect the battery negative cable at this time. The supplemental restraint system verification test procedure should be performed following service of any supplemental restraint system component. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - VERIFICATION TEST).

FRONT CENTER SEAT BELT & RETRACTOR

REMOVAL

A front center seat belt and retractor is used only on standard cab models. Quad cab models have a lap belt in the front center seating position. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT CENTER SEAT BELT BUCKLE - REMOVAL).

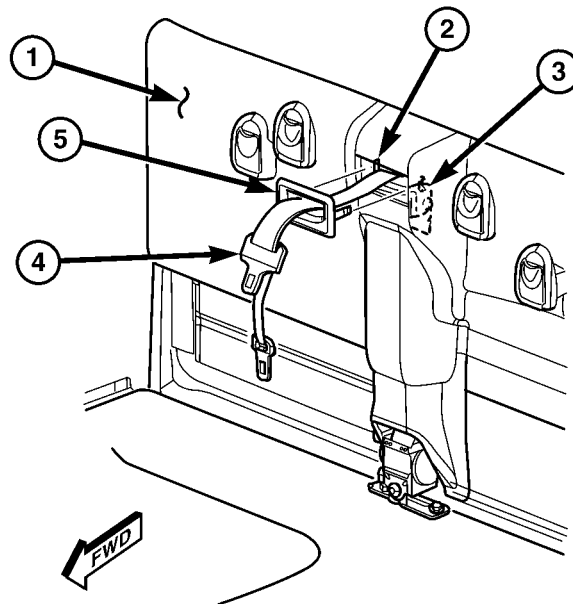
WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Reach between the center of the front seat cushion and front seat back to access and unbuckle

the front center seat belt lower anchor latch plate from the unique black, keyed lower anchor buckle. Use an ignition key or a small screwdriver to depress the small white release button on the anchor buckle.

(2) Move the front seat to its most forward position for easiest access to the front center seat belt and retractor unit.

(3) Using a trim stick or another suitable wide flat-bladed tool, gently pry at each side of the front center seat belt bezel on the cab back trim panel to release the snap features that secure the bezel to the panel (Fig. 24).



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Fig. 24 Front Center Seat Belt Bezel

- 1 - TRIM PANEL
- 2 - BODY BRACKET
- 3 - SEAT BELT BRACKET
- 4 - SEAT BELT
- 5 - BEZEL

(4) Remove the bezel from the webbing of the front center seat belt.

(5) Remove the trim from the cab back panel. (Refer to 23 - BODY/INTERIOR/REAR CAB BACK PANEL TRIM - REMOVAL).

(6) Remove the two screws that secure the belt bracket of the front center seat belt to the body bracket on the upper cab back panel reinforcement (Fig. 25).

(7) Remove the belt bracket of the front center seat belt from the body bracket on the upper cab back panel reinforcement.

(8) Remove the two screws that secure the front center seat belt retractor bracket to the floor panel near the base of the cab back panel.

FRONT CENTER SEAT BELT & RETRACTOR (Continued)

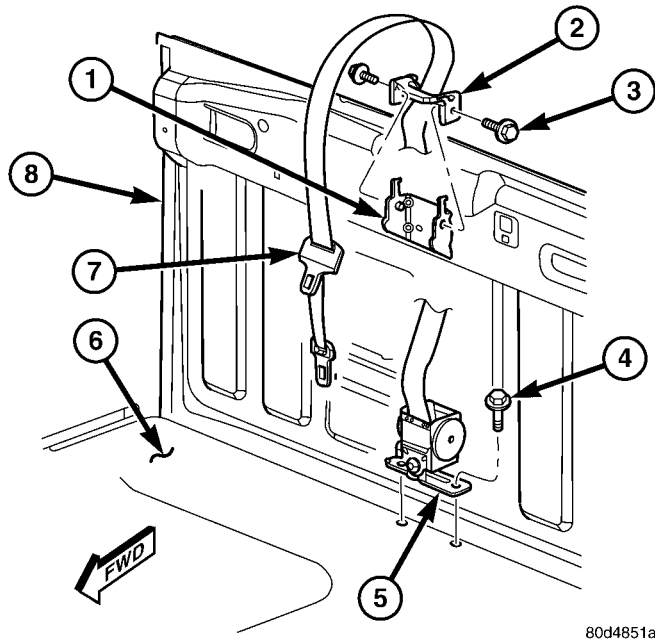


Fig. 25 Front Center Seat Belt & Retractor Remove/Install

- 1 - BODY BRACKET
- 2 - BELT BRACKET
- 3 - SCREW (2)
- 4 - SCREW (2)
- 5 - RETRACTOR
- 6 - FLOOR PANEL
- 7 - SEAT BELT
- 8 - CAB BACK PANEL

(9) Remove the front center seat belt and retractor unit from the floor panel.

INSTALLATION

A front center seat belt and retractor is used only on standard cab models. Quad cab models have a lap belt in the front center seating position. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT CENTER SEAT BELT BUCKLE - INSTALLATION).

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR

DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Position the front center seat belt and retractor unit to the floor panel at the base of the cab back panel to the right of center (Fig. 25).

(2) Install and tighten the two screws that secure the front center seat belt retractor bracket to the floor panel near the base of the cab back panel. Tighten the screws to 40 N·m (29 ft. lbs.).

(3) Position the belt bracket of the front center seat belt to the body bracket on the upper cab back panel reinforcement.

(4) Install and tighten the two screws that secure the belt bracket of the front center seat belt to the body bracket on the upper cab back panel reinforcement. Tighten the screws to 20 N·m (15 ft. lbs.).

(5) Reinstall the trim onto the cab back panel. (Refer to 23 - BODY/INTERIOR/REAR CAB BACK PANEL TRIM - INSTALLATION).

(6) Route the webbing of the front center seat belt through the bezel and position the bezel to the belt opening near the top of the cab back trim panel (Fig. 24).

(7) Using hand pressure, press firmly and evenly on each side of the front center seat belt bezel until it snaps into place on the cab back trim panel.

(8) Move the front seat back to its rearward position.

(9) Reach between the center of the front seat cushion and front seat back to access and buckle the front center seat belt lower anchor latch plate to the unique black, keyed lower anchor buckle.

FRONT CENTER SEAT BELT

REMOVAL

A fixed position front center seat belt buckle is located on the left side of the front center seat section (20 percent) used on all models. Standard cab models also have a unique fixed position black, keyed front center seat belt lower anchor buckle for the three-point center seat belt lower anchor located on the right side of the front center seat section. The following procedure also applies to the fixed position front center seat lap belt located on the right side of the front center seat section of all quad cab models. The three-point front center seat belt and retractor unit is only used on standard cab models. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT CENTER SEAT BELT & RETRACTOR - REMOVAL).

FRONT CENTER SEAT BELT (Continued)

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Move the adjacent right or left front outboard seat section (40 percent) to its most forward position for easiest access to the front center seat belt buckle, lap belt lower anchor, or unique black, keyed front center seat belt lower anchor buckle (Fig. 26).

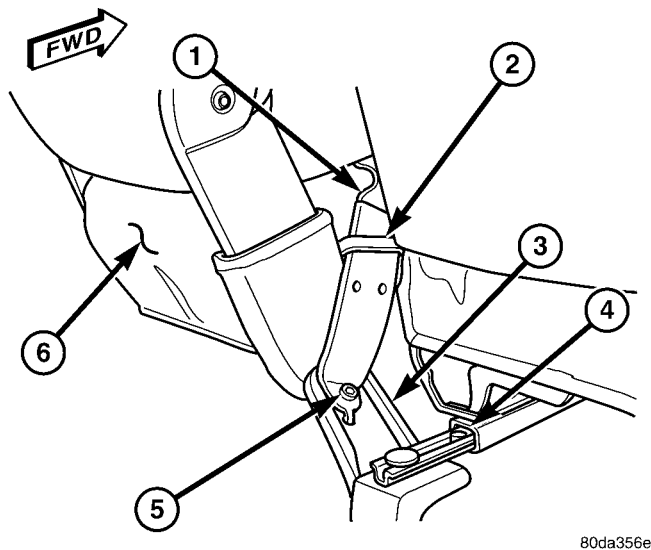


Fig. 26 Front Center Seat Belt Remove/Install

- 1 - FRONT CENTER SEAT BELT
- 2 - ELASTIC STRAP
- 3 - CENTER SEAT SUPPORT BRACKET
- 4 - INBOARD FRONT SEAT TRACK
- 5 - SCREW
- 6 - CENTER SEAT SECTION

(2) From behind the front seat, remove the screw that secures the front center seat belt buckle, lap belt

lower anchor, or unique black, keyed front center seat belt lower anchor buckle to the center seat support bracket.

(3) From the front of the front seat, reach between the center seat cushion and the adjacent right or left front outboard seat cushion to access and remove the front center seat belt buckle, lap belt unit, or unique black, keyed front center seat belt lower anchor buckle through the elastic strap on the side of the center seat cushion.

(4) Remove the front center seat belt buckle, lap belt unit, or unique black, keyed front center seat belt lower anchor buckle from the front seat.

INSTALLATION

A fixed position front center seat belt buckle is located on the left side of the front center seat section (20 percent) used on all models. Standard cab models also have a unique fixed position black, keyed front center seat belt lower anchor buckle for the three-point center seat belt lower anchor located on the right side of the front center seat section. The following procedure also applies to the fixed position front center seat lap belt located on the right side of the front center seat section of all quad cab models. The three-point front center seat belt and retractor unit is only used on standard cab models. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT CENTER SEAT BELT & RETRACTOR - INSTALLATION).

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) From the front of the front seat, position the front center seat belt buckle, lap belt unit, or unique black, keyed front center seat belt lower anchor

FRONT CENTER SEAT BELT (Continued)

buckle between the center seat cushion and the adjacent right or left front outboard seat cushion.

(2) From the front of the front seat, reach between the center seat cushion and the adjacent right or left front outboard seat cushion to route the front center seat belt buckle, lap belt unit lower anchor, or unique black, keyed front center seat belt lower anchor buckle through the elastic strap on the side of the center seat cushion (Fig. 26).

(3) From behind the front seat, position the front center seat belt buckle, lap belt lower anchor, or unique black, keyed front center seat belt lower anchor buckle to the center seat support bracket.

(4) Install and tighten the screw that secures the front center seat belt buckle, lap belt lower anchor, or unique black, keyed front center seat belt lower anchor buckle to the center seat support bracket. Tighten the screw to 40 N·m (29 ft. lbs.).

(5) Move the adjacent right or left front outboard seat section (40 percent) back to its rearward position.

FRONT OUTBOARD SEAT BELT & RETRACTOR

REMOVAL

REMOVAL - STANDARD CAB

The following procedure is for replacement of a faulty or damaged front outboard seat belt and retractor unit, which includes a seat belt tensioner for this model. (Refer to 8 - ELECTRICAL/RESTRAINTS/SEAT BELT TENSIONER - DESCRIPTION). The only component of this seat belt and retractor unit that is available for individual service replacement is the plastic web stop button that prevents the latch plate from falling to the floor while in the stored position. Refer to the instructions supplied with the service kit for the proper web stop button replacement procedures.

The seat belt retractor on the driver's side of standard cab models only also includes a tension reducer. (Refer to 8 - ELECTRICAL/RESTRAINTS/TENSION REDUCER - DESCRIPTION). The seat belt retractor on the passenger's side of all models includes a switchable automatic locking mechanism. (Refer to 8 - ELECTRICAL/RESTRAINTS/AUTOMATIC LOCKING RETRACTOR - DESCRIPTION).

If the seat belt or retractor is faulty or damaged, but the seat belt tensioner is not deployed, review the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL

RESTRAINTS). If the seat belt tensioner has been deployed, review the recommended procedures for service after a supplemental restraint deployment before removing the front outboard seat belt and retractor from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Move the front seat to its most forward position for easiest access to the lower seat belt anchor and the B-pillar trim.

(2) Disconnect and isolate the battery negative cable. Wait two minutes for the system capacitor to discharge before further service.

FRONT OUTBOARD SEAT BELT & RETRACTOR (Continued)

(3) Remove the screw that secures the lower seat belt anchor to the lower inner B-pillar (Fig. 27).

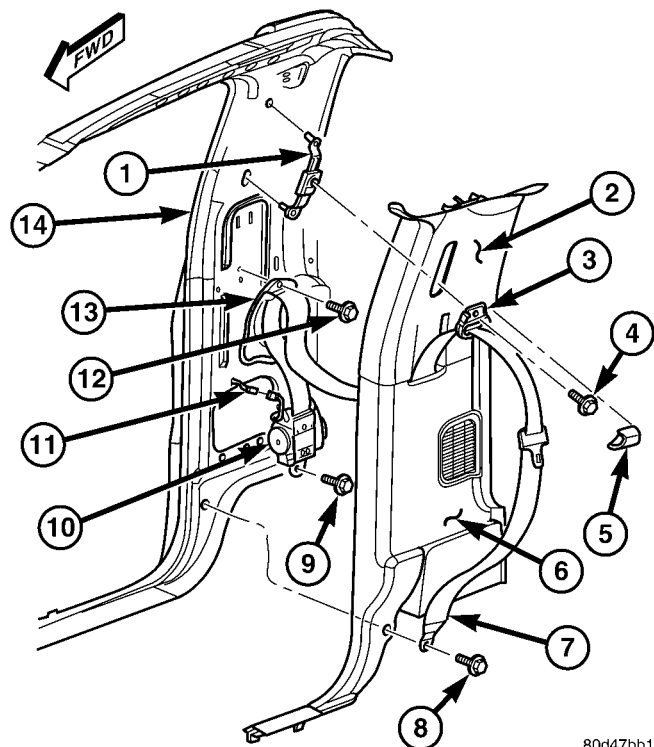


**Fig. 27 Front Outboard Seat Belt & Retractor
Remove/Install - Standard Cab**

- 1 - ADJUSTER
- 2 - UPPER TRIM PANEL
- 3 - TURNING LOOP
- 4 - SCREW
- 5 - TRIM COVER
- 6 - LOWER TRIM PANEL
- 7 - LOWER ANCHOR
- 8 - SCREW
- 9 - SCREW
- 10 - RETRACTOR
- 11 - WIRE HARNESS CONNECTOR
- 12 - SCREW
- 13 - WEB GUIDE
- 14 - B-PILLAR

(4) Remove the lower seat belt anchor from the lower inner B-pillar.

(5) Unsnap and remove the trim cover from the front outboard seat belt turning loop to access the screw that secures the turning loop to the height adjuster on the upper inner B-pillar. Discard the removed turning loop trim cover as it is not intended for reuse.

(6) Remove the screw that secures the seat belt turning loop to the height adjuster.

(7) Remove the seat belt turning loop from the height adjuster.

(8) Remove the upper and lower trim from the inner B-pillar. (Refer to 23 - BODY/INTERIOR/B-PILLAR UPPER TRIM - REMOVAL) and (Refer to 23 - BODY/INTERIOR/B-PILLAR LOWER TRIM - REMOVAL).

(9) Remove the screw that secures the seat belt web guide to the inner B-pillar near the belt line.

(10) Remove the seat belt web guide from the inner B-pillar.

(11) On the driver side only, disconnect the body wire harness take out and white connector from the connector receptacle for the seat belt tension reducer located near the bottom of the retractor.

(12) Disengage the seat belt tensioner pigtail wire retainer from the hole in the inner B-pillar sheet metal.

(13) Disconnect the yellow seat belt tensioner pigtail wire connector from the body wire harness take out and connector for the tensioner.

(14) Remove the screw that secures the lower retractor bracket to the lower inner B-pillar below the retractor mounting hole.

(15) Disengage the hooks on the upper retractor bracket from the slots in the lower inner B-pillar above the retractor mounting hole.

(16) Remove the front outboard seat belt and retractor from the retractor mounting hole in the lower inner B-pillar.

REMOVAL - QUAD CAB

The following procedure is for replacement of a faulty or damaged front outboard seat belt and retractor unit, which includes a seat belt tensioner for this model. (Refer to 8 - ELECTRICAL/RESTRAINTS/SEAT BELT TENSIONER - DESCRIPTION). The only component of this seat belt and retractor unit that is available for individual service replacement is the plastic web stop button that prevents the latch plate from falling to the floor while in the stored position. Refer to the instructions supplied with the service kit for the proper web stop button replacement procedures.

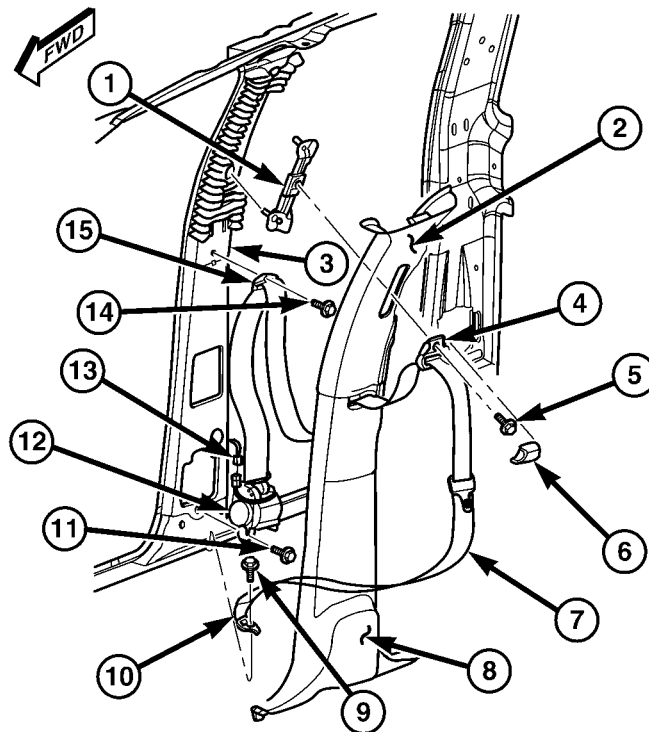
The seat belt retractor on the passenger's side of all models includes a switchable automatic locking mechanism. (Refer to 8 - ELECTRICAL/RESTRAINTS/AUTOMATIC LOCKING RETRACTOR - DESCRIPTION).

If the seat belt or retractor is faulty or damaged, but the seat belt tensioner is not deployed, review the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS). If the seat belt tensioner has been deployed, review the recommended procedures for service after a supplemental restraint deployment before removing the front outboard seat belt and retractor from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

FRONT OUTBOARD SEAT BELT & RETRACTOR (Continued)

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.



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**Fig. 28 Front Outboard Seat Belt & Retractor
Remove/Install - Quad Cab**

- 1 - ADJUSTER
- 2 - UPPER TRIM PANEL
- 3 - B-PILLAR
- 4 - TURNING LOOP
- 5 - SCREW
- 6 - TRIM COVER
- 7 - SEAT BELT
- 8 - LOWER TRIM PANEL
- 9 - SCREW
- 10 - LOWER ANCHOR
- 11 - SCREW
- 12 - RETRACTOR
- 13 - WIRE HARNESS CONNECTOR
- 14 - SCREW
- 15 - WEB GUIDE

(1) Move the front seat to its most forward position for easiest access to the lower seat belt anchor and the B-pillar trim.

(2) Disconnect and isolate the battery negative cable. Wait two minutes for the system capacitor to discharge before further service.

(3) Remove the screw that secures the lower seat belt anchor to the floor panel near the base of the inner B-pillar (Fig. 28).

(4) Remove the lower seat belt anchor from the floor panel near the base of the inner B-pillar.

(5) Unsnap and remove the trim cover from the front outboard seat belt turning loop to access the screw that secures the turning loop to the height adjuster on the upper inner B-pillar. Discard the

removed turning loop trim cover as it is not intended for reuse.

(6) Remove the screw that secures the seat belt turning loop to the height adjuster.

(7) Remove the seat belt turning loop from the height adjuster.

(8) Remove the upper and lower trim from the inner B-pillar. (Refer to 23 - BODY/INTERIOR/B-PILLAR UPPER TRIM - REMOVAL) and (Refer to 23 - BODY/INTERIOR/B-PILLAR LOWER TRIM - REMOVAL).

(9) Remove the screw that secures the seat belt web guide to the inner B-pillar near the belt line.

(10) Remove the seat belt web guide from the inner B-pillar.

FRONT OUTBOARD SEAT BELT & RETRACTOR (Continued)

(11) Disengage the seat belt tensioner pigtail wire retainer from the hole in the inner B-pillar sheet metal.

(12) Disconnect the yellow seat belt tensioner pigtail wire connector from the body wire harness take out and connector for the tensioner.

(13) Remove the screw that secures the lower retractor bracket to the lower inner B-pillar below the retractor mounting hole.

(14) Disengage the hooks on the upper retractor bracket from the slots in the lower inner B-pillar above the retractor mounting hole.

(15) Remove the front outboard seat belt and retractor from the retractor mounting hole in the lower inner B-pillar.

INSTALLATION**INSTALLATION - STANDARD CAB**

The following procedure is for replacement of a faulty or damaged front outboard seat belt and retractor unit, which includes a seat belt tensioner for this model. (Refer to 8 - ELECTRICAL/RESTRAINTS/SEAT BELT TENSIONER - DESCRIPTION). The only component of this seat belt and retractor unit that is available for individual service replacement is the plastic web stop button that prevents the latch plate from falling to the floor while in the stored position. Refer to the instructions supplied with the service kit for the proper web stop button replacement procedures.

The seat belt retractor on the driver's side of standard cab models only also includes a tension reducer. (Refer to 8 - ELECTRICAL/RESTRAINTS/TENSION REDUCER - DESCRIPTION). The seat belt retractor on the passenger's side of all models includes a switchable automatic locking mechanism. (Refer to 8 - ELECTRICAL/RESTRAINTS/AUTOMATIC LOCKING RETRACTOR - DESCRIPTION).

If the seat belt or retractor is faulty or damaged, but the seat belt tensioner is not deployed, review the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS). If the seat belt tensioner has been deployed, review the recommended procedures for service after a supplemental restraint deployment before removing the front outboard seat belt and retractor from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT

SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Position the front outboard seat belt and retractor to the retractor mounting hole in the lower inner B-pillar (Fig. 27).

(2) Engage the hooks on the upper retractor bracket into the slots in the lower inner B-pillar above the retractor mounting hole.

(3) Install and tighten the screw that secures the lower retractor bracket to the lower inner B-pillar below the retractor mounting hole. Tighten the screw to 40 N·m (29 ft. lbs.).

(4) Reconnect the yellow seat belt tensioner pigtail wire connector to the body wire harness take out and connector for the tensioner.

(5) Engage the seat belt tensioner pigtail wire retainer into the hole in the inner B-pillar sheet metal.

(6) On the driver side only, reconnect the body wire harness take out and white connector to the

FRONT OUTBOARD SEAT BELT & RETRACTOR (Continued)

seat belt tension reducer connector receptacle near the bottom of the retractor.

(7) Position the seat belt web guide to its mounting location on the inner B-pillar near the belt line.

(8) Install and tighten the screw that secures the seat belt web guide to the inner B-pillar. Tighten the screw to 2 N·m (20 in. lbs.).

(9) Reinstall the upper and lower trim onto the inner B-pillar. (Refer to 23 - BODY/INTERIOR/B-PILLAR UPPER TRIM - INSTALLATION) and (Refer to 23 - BODY/INTERIOR/B-PILLAR LOWER TRIM - INSTALLATION).

(10) Position the seat belt turning loop onto the height adjuster on the upper inner B-pillar.

(11) Install and tighten the screw that secures the seat belt turning loop to the height adjuster. Tighten the screw to 40 N·m (29 ft. lbs.).

(12) Engage the lower snap features of the new trim cover over the front outboard seat belt turning loop and, using hand pressure, press firmly and evenly on the top of the trim cover until it snaps into place.

(13) Position the lower seat belt anchor to the lower inner B-pillar.

(14) Install and tighten the screw that secures the lower seat belt anchor to the B-pillar. Tighten the screw to 40 N·m (29 ft. lbs.).

(15) Do not reconnect the battery negative cable at this time. The supplemental restraint system verification test procedure should be performed following service of any supplemental restraint system component. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - VERIFICATION TEST).

(16) Move the front seat back to its rearward position.

INSTALLATION - QUAD CAB

The following procedure is for replacement of a faulty or damaged front outboard seat belt and retractor unit, which includes a seat belt tensioner for this model. (Refer to 8 - ELECTRICAL/RESTRAINTS/SEAT BELT TENSIONER - DESCRIPTION). The only component of this seat belt and retractor unit that is available for individual service replacement is the plastic web stop button that prevents the latch plate from falling to the floor while in the stored position. Refer to the instructions supplied with the service kit for the proper web stop button replacement procedures.

The seat belt retractor on the passenger's side of all models includes a switchable automatic locking mechanism. (Refer to 8 - ELECTRICAL/RESTRAINTS/AUTOMATIC LOCKING RETRACTOR - DESCRIPTION).

If the seat belt or retractor is faulty or damaged, but the seat belt tensioner is not deployed, review

the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS). If the seat belt tensioner has been deployed, review the recommended procedures for service after a supplemental restraint deployment before removing the front outboard seat belt and retractor from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Position the front outboard seat belt and retractor to the retractor mounting hole in the lower inner B-pillar (Fig. 28).

FRONT OUTBOARD SEAT BELT & RETRACTOR (Continued)

(2) Engage the hooks on the upper retractor bracket into the slots in the lower inner B-pillar above the retractor mounting hole.

(3) Install and tighten the screw that secures the lower retractor bracket to the lower inner B-pillar below the retractor mounting hole. Tighten the screw to 40 N·m (29 ft. lbs.).

(4) Reconnect the yellow seat belt tensioner pigtail wire connector to the body wire harness take out and connector for the tensioner.

(5) Engage the seat belt tensioner pigtail wire retainer into the hole in the inner B-pillar sheet metal.

(6) Position the seat belt web guide to its mounting location on the inner B-pillar near the belt line.

(7) Install and tighten the screw that secures the seat belt web guide to the inner B-pillar. Tighten the screw to 2 N·m (20 in. lbs.).

(8) Reinstall the upper and lower trim onto the inner B-pillar. (Refer to 23 - BODY/INTERIOR/B-PILLAR UPPER TRIM - INSTALLATION) and (Refer to 23 - BODY/INTERIOR/B-PILLAR LOWER TRIM - INSTALLATION).

(9) Position the seat belt turning loop onto the height adjuster on the upper inner B-pillar.

(10) Install and tighten the screw that secures the seat belt turning loop to the height adjuster. Tighten the screw to 40 N·m (29 ft. lbs.).

(11) Engage the lower snap features of the new trim cover over the front outboard seat belt turning loop and, using hand pressure, press firmly and evenly on the top of the trim cover until it snaps into place.

(12) Position the lower seat belt anchor to the floor panel near the base of the inner B-pillar.

(13) Install and tighten the screw that secures the lower seat belt anchor to the floor panel near the base of the inner B-pillar. Tighten the screw to 40 N·m (29 ft. lbs.).

(14) Do not reconnect the battery negative cable at this time. The supplemental restraint system verification test procedure should be performed following service of any supplemental restraint system component. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - VERIFICATION TEST).

(15) Move the front seat back to its rearward position.

belt buckle on the driver's side front seat for all models also includes a seat belt switch. (Refer to 8 - ELECTRICAL/RESTRAINTS/SEAT BELT SWITCH - DESCRIPTION).

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Move the right or left front outboard seat section (40 percent) to its most rearward position and tilt the seat back forward for easiest access to the front outboard seat belt buckle lower anchor.

(2) For easiest access to the front outboard seat belt buckle lower anchor on standard cab models, also move the outboard seat section (40 percent) opposite the side from which the buckle is to be removed to its most forward position and tilt the seat back forward.

(3) On standard cab models only, remove the stowage tray from the rear floor panel behind the seat. (Refer to 23 - BODY/INTERIOR/REAR FLOOR STOWAGE TRAY - REMOVAL).

(4) From behind the front seat on the driver side only, disconnect the seat belt switch pigtail wire connector from the seat wire harness take out and connector for the switch located below the inboard edge of the driver side inboard seat track just forward of the buckle lower anchor (Fig. 29).

(5) From behind the front seat, remove the screw that secures the front outboard seat belt buckle lower anchor to the bracket on the inboard seat track.

(6) From the front of the front seat, reach between the center seat cushion and the adjacent right or left front outboard seat cushion to access and remove the front outboard seat belt buckle from the seat.

FRONT OUTBOARD SEAT BELT BUCKLE**REMOVAL**

A traveling front outboard seat belt buckle is located on the inboard side of each front outboard seat section (40 percent) used on all models. The seat

FRONT OUTBOARD SEAT BELT BUCKLE (Continued)

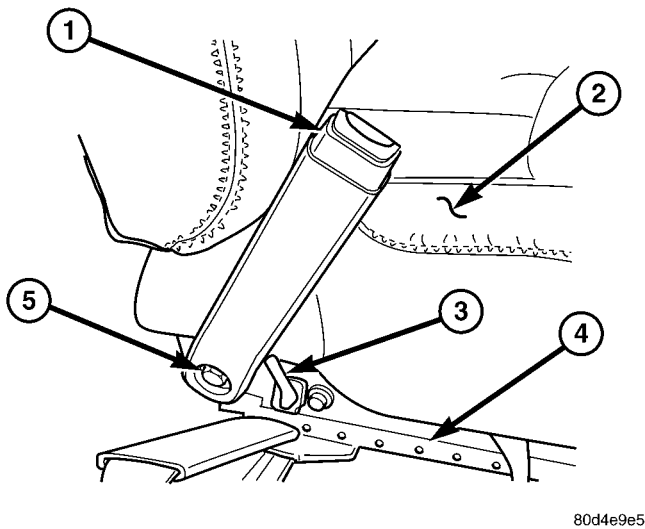


Fig. 29 Front Outboard Seat Belt Buckle Remove/Install

- 1 - DRIVER SIDE FRONT OUTBOARD SEAT BELT BUCKLE
- 2 - SEAT CUSHION
- 3 - PIGTAIL WIRE
- 4 - INBOARD SEAT TRACK
- 5 - SCREW

INSTALLATION

A traveling front outboard seat belt buckle is located on the inboard side of each front outboard seat section (40 percent) used on all models. The seat belt buckle on the driver's side front seat for all models also includes a seat belt switch. (Refer to 8 - ELECTRICAL/RESTRAINTS/SEAT BELT SWITCH - DESCRIPTION).

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT

PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) From the front of the front seat, reach between the center seat cushion and the adjacent right or left front outboard seat cushion to position the front outboard seat belt buckle to the seat (Fig. 29).

(2) From behind the front seat, install and tighten the screw that secures the front outboard seat belt buckle lower anchor to the bracket on the inboard seat track. Tighten the screw to 25 N·m (18 ft. lbs.).

(3) From behind the front seat on the driver side only, reconnect the seat belt switch pigtail wire connector to the seat wire harness take out and connector for the switch located below the inboard edge of the driver side inboard seat track just forward of the buckle lower anchor.

(4) On standard cab models only, reinstall the stowage tray onto the rear floor panel behind the seat. (Refer to 23 - BODY/INTERIOR/REAR FLOOR STOWAGE TRAY - INSTALLATION).

(5) On standard cab models, move the outboard seat section (40 percent) opposite the side from which the buckle was replaced to its most rearward position and tilt the seat back to its upright position.

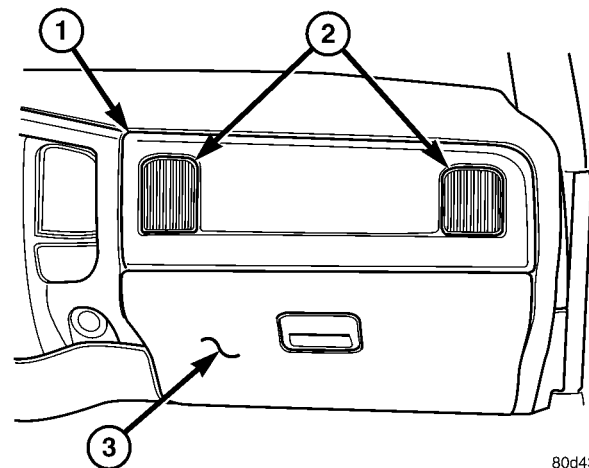
PASSENGER AIRBAG**DESCRIPTION**

Fig. 30 Passenger Airbag Door

- 1 - PASSENGER AIRBAG DOOR
- 2 - PANEL OUTLET (2)
- 3 - GLOVE BOX DOOR

The rearward facing surface of the injection molded, thermoplastic passenger airbag door is the most visible part of the passenger airbag (Fig. 30). The passenger airbag door is located above the glove box opening on the instrument panel in front of the front seat passenger seating position. The upper and outboard edges of the airbag door are secured with

PASSENGER AIRBAG (Continued)

seven integral snap features to the instrument panel base trim, while two screws secure the integral inboard mounting flange to the base trim, and four screws secure the lower mounting flange to the upper glove box opening reinforcement integral to the instrument panel structural support. The passenger airbag door includes two air conditioning panel outlets and their housings. Each of the panel outlet housings feature four snap features that secure them to the back of the airbag door and two mounting tabs that are also secured with one screw each to the upper glove box opening reinforcement.

Located behind the passenger airbag door within the instrument panel is the passenger airbag unit (Fig. 31). The passenger airbag housing fits into a molded receptacle on the back of the airbag door, where six stamped hook formations on the upper and lower edges of the airbag housing are engaged in six small window openings on the upper and lower flanges of the receptacle to secure the airbag door to the airbag housing. The inboard airbag door fasteners and mounting flange are concealed beneath the instrument panel center bezel, while the lower fasteners and mounting flange are concealed beneath the instrument panel lower surround. The passenger airbag unit is secured by four screws through four brackets (two front and two rear) that are integral to the base of the airbag housing to the instrument panel structural support.

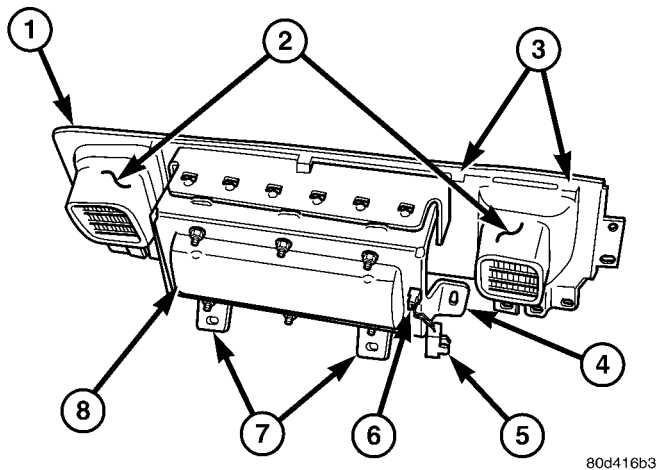


Fig. 31 Passenger Airbag Unit

- 1 - DOOR
- 2 - PANEL OUTLET HOUSING (2)
- 3 - SNAP FEATURE (7)
- 4 - REAR BRACKET (2)
- 5 - PIGTAIL WIRE CONNECTOR
- 6 - INFLATOR
- 7 - FRONT BRACKET (2)
- 8 - HOUSING

The passenger airbag unit used in this model is a Next Generation-type that complies with revised federal airbag standards to deploy with less force than

those used in some prior models. The passenger airbag unit consists of a stamped and welded metal housing, the airbag cushion, the airbag inflator, and a stamped metal airbag and inflator retainer plate that is secured to the airbag housing with six studs and nuts. The airbag housing contains the airbag inflator and the folded airbag cushion. An approximately 80 centimeter (31.5 inch) wide by 90 centimeter (35.5 inch) high rectangular fabric cushion is used. The airbag inflator is a non-azide, pyrotechnic-type unit that is secured to and sealed within the airbag housing. The inflator initiator is connected to the vehicle electrical system through a dedicated take out and connector of the instrument panel wire harness.

The passenger airbag includes the airbag door and the two panel outlet housings. This unit cannot be repaired, and must be replaced if deployed, faulty, or in any way damaged.

OPERATION

The passenger airbag is deployed by an electrical signal generated by the Airbag Control Module (ACM) through the passenger airbag squib circuits to the initiator in the airbag inflator. The hybrid-type inflator assembly includes a small canister of highly compressed inert gas. When the ACM sends the proper electrical signal to the airbag inflator, the initiator converts the electrical energy into chemical energy. This chemical energy produces the pressure necessary to rupture a burst disk in the inert gas canister.

The inflator is sealed to the airbag cushion so that all of the released inert gas is directed into the airbag cushion, causing the cushion to inflate. As the cushion inflates, the passenger airbag door will split at predetermined tear seam lines concealed on the inside surface of the door, then the door will pivot up over the top of the instrument panel and out of the way. Following a passenger airbag deployment, the airbag cushion quickly deflates by venting the inert gas through vent holes within the fabric used to construct the back (instrument panel side) of the airbag cushion.

REMOVAL

The following procedure is for replacement of a faulty or damaged passenger airbag. If the airbag is faulty or damaged, but not deployed, review the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS). If the passenger airbag has been deployed, review the recommended procedures for service after a supplemental restraint deployment

PASSENGER AIRBAG (Continued)

before removing the airbag from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

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

(1) Disconnect and isolate the battery negative cable. Wait two minutes for the system capacitor to discharge before further service.

(2) Remove the lower surround from the instrument panel. (Refer to 23 - BODY/INSTRUMENT PANEL/LOWER SURROUND - REMOVAL).

(3) Remove the two screws that secure the mounting tabs of the two panel outlet housings to the upper glove box opening reinforcement (Fig. 32).

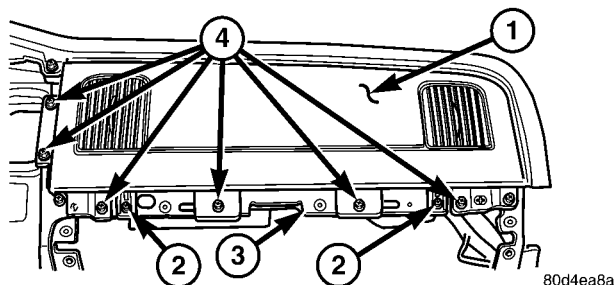


Fig. 32 Passenger Airbag Door Screws

- 1 - PASSENGER AIRBAG DOOR
- 2 - PANEL OUTLET SCREW (2)
- 3 - GLOVE BOX OPENING UPPER REINFORCEMENT
- 4 - DOOR SCREW (6)

(4) Remove the six screws that secure the inboard and lower flanges of the passenger airbag door to the instrument panel.

(5) Reach through and above the glove box opening to access and remove the two screws that secure the passenger airbag rear brackets to the upper glove box opening reinforcement (Fig. 33).

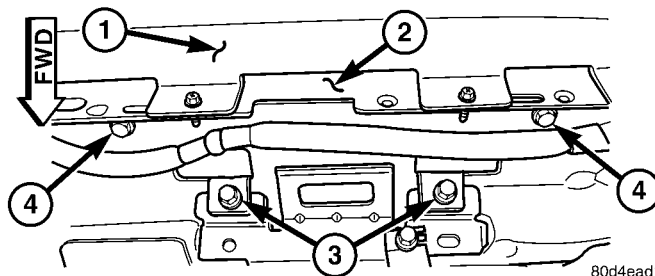


Fig. 33 Passenger Airbag Remove/Install

- 1 - PASSENGER AIRBAG DOOR
- 2 - UPPER GLOVE BOX OPENING REINFORCEMENT
- 3 - FRONT BRACKET SCREW (2)
- 4 - REAR BRACKET SCREW (2)

(6) Reach through and above the glove box opening to access and remove the two screws that secure the passenger airbag front brackets to the instrument panel structural support.

(7) Using a trim stick or another suitable wide flat-bladed tool, gently pry the upper and outboard edges of the passenger airbag door away from the instrument panel far enough to disengage the seven snap features on the door from the receptacles in the instrument panel base trim (Fig. 34).

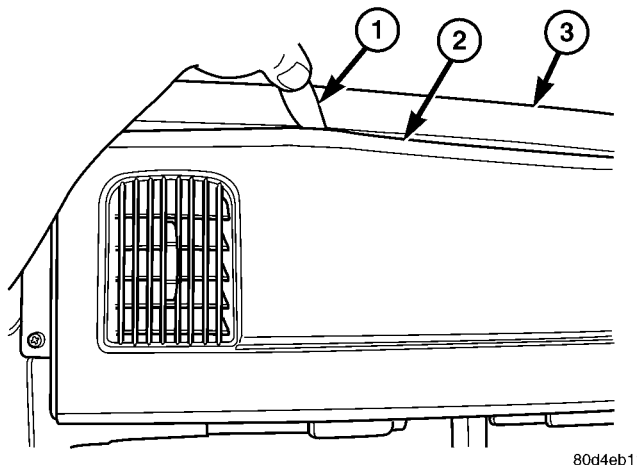


Fig. 34 Passenger Airbag Door Disengage

- 1 - TRIM STICK
- 2 - PASSENGER AIRBAG DOOR
- 3 - INSTRUMENT PANEL

(8) Pull the passenger airbag housing and door unit straight back from the instrument panel far enough to access the instrument panel wire harness

PASSENGER AIRBAG (Continued)

take out and connector for the airbag inflator located on the inboard side of the housing.

(9) Disconnect the instrument panel wire harness connector for the passenger airbag from the connector receptacle on the airbag inflator.

(10) Remove the passenger airbag and airbag door from the instrument panel as a unit.

INSTALLATION

The following procedure is for replacement of a faulty or damaged passenger airbag. If the airbag is faulty or damaged, but not deployed, review the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS). If the passenger airbag has been deployed, review the recommended procedures for service after a supplemental restraint deployment before removing the airbag from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

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

WARNING: USE EXTREME CARE TO PREVENT ANY FOREIGN MATERIAL FROM ENTERING THE PASSENGER AIRBAG, OR BECOMING ENTRAPPED BETWEEN THE PASSENGER AIRBAG CUSHION AND THE PASSENGER AIRBAG DOOR. FAILURE TO

OBSERVE THIS WARNING COULD RESULT IN OCCUPANT INJURIES UPON AIRBAG DEPLOYMENT.

WARNING: THE PASSENGER AIRBAG DOOR MUST NEVER BE PAINTED. REPLACEMENT PASSENGER AIRBAG UNITS ARE SERVICED WITH DOORS IN THE ORIGINAL COLORS. PAINT MAY CHANGE THE WAY IN WHICH THE MATERIAL OF THE AIRBAG DOOR RESPONDS TO AN AIRBAG DEPLOYMENT. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN OCCUPANT INJURIES UPON AIRBAG DEPLOYMENT.

(1) Carefully position the passenger airbag and airbag door to the instrument panel as a unit.

(2) Reconnect the instrument panel wire harness connector for the passenger airbag to the connector receptacle on the airbag inflator. Be certain that the connector latches are fully engaged.

(3) Position the passenger airbag housing and door unit into the instrument panel.

(4) Using hand pressure, press firmly and evenly over each of the seven snap features on the upper and outboard edges of the passenger airbag door until they snap into their receptacles in the instrument panel base trim.

(5) Reach through and above the glove box opening to install and tighten the two screws that secure the passenger airbag front brackets to the instrument panel structural support (Fig. 33). Tighten the screws to 6 N·m (55 in. lbs.).

(6) Reach through and above the glove box opening to install and tighten the two screws that secure the passenger airbag rear brackets to the upper glove box opening reinforcement. Tighten the screws to 6 N·m (55 in. lbs.).

(7) Install and tighten the six screws that secure the inboard and lower flanges of the passenger airbag door to the instrument panel (Fig. 32). Tighten the screws to 2 N·m (20 in. lbs.).

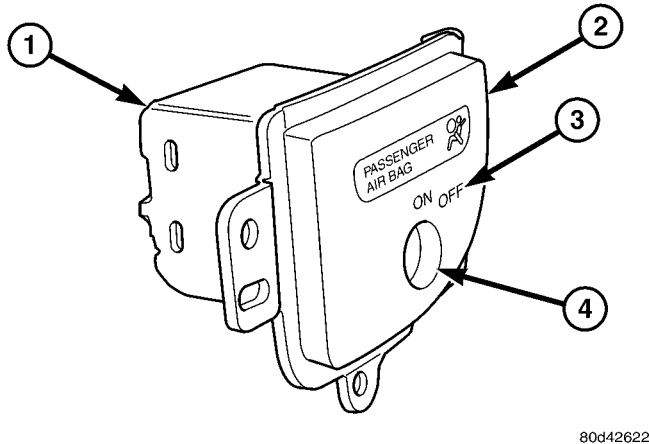
(8) Install and tighten the two screws that secure the mounting tabs of the two panel outlet housings to the upper glove box opening reinforcement. Tighten the screws to 2 N·m (20 in. lbs.).

(9) Reinstall the lower surround onto the instrument panel. (Refer to 23 - BODY/INSTRUMENT PANEL/LOWER SURROUND - INSTALLATION).

(10) Do not reconnect the battery negative cable at this time. The supplemental restraint system verification test procedure should be performed following service of any supplemental restraint system component. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - VERIFICATION TEST).

PASSENGER AIRBAG ON/OFF SWITCH

DESCRIPTION



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Fig. 35 Passenger Airbag On/Off Switch

- 1 - SWITCH
- 2 - FACE PLATE
- 3 - OFF INDICATOR
- 4 - KEY CYLINDER ACTUATOR

The passenger airbag on/off switch is standard equipment on all standard cab versions of this model when they are equipped with the dual front airbag system (Fig. 35). This switch is a two-position, resistor multiplexed switch with a single integral red Light-Emitting Diode (LED), and a non-coded key cylinder-type actuator. The switch is located in the lower right corner of instrument panel center bezel, near the center of instrument panel to make the Off indicator visible to all front seat occupants. When the switch is in its installed position, the only components visible through the dedicated opening of the cluster bezel are the switch face plate and nomenclature, and the key cylinder actuator. The "Off" position of the switch is illuminated when this switch position is selected, while the "On" position of the switch is designated by text imprinted upon the face plate of the switch, but is not illuminated. The remainder of the switch is concealed behind the switch face plate and the instrument panel center bezel.

The passenger airbag on/off switch housing is constructed of molded plastic and has three integral mounting tabs. These mounting tabs are used to secure the switch to the back of the molded plastic switch face plate with three small screws. The molded plastic face plate also has three integral mounting tabs that are used to secure the switch and face plate unit to the instrument panel center bezel with three additional screws. A molded plastic connector receptacle on the back of the switch housing

connects the switch to the vehicle electrical system through a dedicated take out and connector of the instrument panel wire harness. The molded plastic harness connector insulator is keyed and latched to ensure proper and secure switch electrical connections. The passenger airbag on/off switch cannot be adjusted or repaired and, if faulty or damaged, the switch must be replaced.

OPERATION

The passenger airbag on/off switch allows the customer to turn the passenger airbag function On or Off to accommodate certain uses of the right front seating position where airbag protection may not be desired. See the owner's manual in the vehicle glove box for specific recommendations on when to enable or disable the passenger airbag. The Off indicator of the switch will be illuminated whenever the switch is turned to the Off position and the ignition switch is in the On position.

The ignition key is the only key or object that should ever be inserted into the key cylinder actuator of the switch. The on/off switch requires only a partial key insertion to fully depress a spring-loaded locking plunger. The spring-loaded locking plunger prevents the user from leaving the key in the switch. The key will be automatically ejected when force is not applied. To actuate the passenger airbag on/off switch, insert the ignition key into the switch key actuator far enough to fully depress the plunger, then rotate the actuator to the desired switch position. When the switch key actuator is rotated to its clockwise stop (the key actuator slot will be aligned with the Off indicator), the Off indicator is illuminated and the passenger airbag is disabled. When the switch is rotated to its counterclockwise stop (the key actuator slot will be in a vertical position), the Off indicator will be extinguished and the passenger airbag is enabled.

The passenger airbag on/off switch connects one of two internal resistors in series between the passenger airbag mux switch sense and passenger airbag mux switch return circuits of the Airbag Control Module (ACM). The ACM continually monitors the resistance in these circuits to determine the switch position that has been selected. When the switch is in the Off position, the ACM provides a ground input to the switch through the passenger airbag indicator driver circuit, which energizes the Light-Emitting Diode (LED) that illuminates the Off indicator of the switch.

The ACM will also illuminate the Off indicator of the switch for about seven seconds each time the ignition switch is turned to the On position as a bulb test. The ACM will store a Diagnostic Trouble Code (DTC) for any fault it detects in the passenger airbag

PASSENGER AIRBAG ON/OFF SWITCH (Continued)

on/off switch or Off indicator circuits, and will illuminate the airbag indicator in the instrument cluster if a fault is detected. For proper diagnosis of the passenger airbag on/off switch or the ACM, a DRBIII® scan tool is required. Refer to the appropriate diagnostic information.

REMOVAL

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Disconnect and isolate the battery negative cable. Wait two minutes for the system capacitor to discharge before further service.

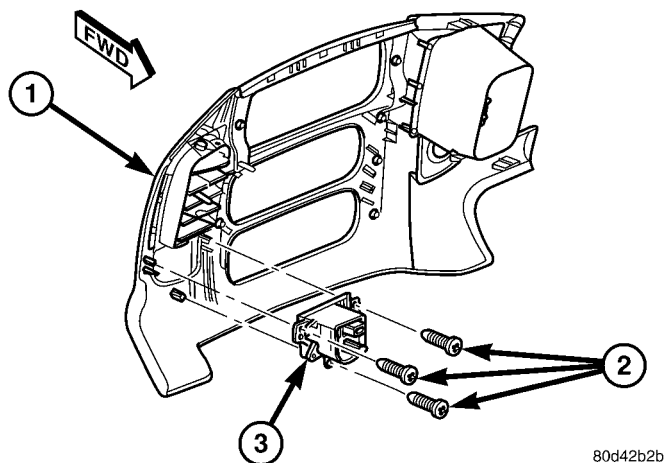
(2) Remove the center bezel from the instrument panel. (Refer to 23 - BODY/INSTRUMENT PANEL/INSTRUMENT PANEL CENTER BEZEL - REMOVAL).

(3) From the back of the center bezel, remove the three screws that secure the passenger airbag on/off switch and face plate unit to the back of the bezel (Fig. 36).

(4) Remove the passenger airbag on/off switch and face plate from the center bezel as a unit.

INSTALLATION

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD



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Fig. 36 Passenger Airbag On/Off Switch Remove/Install

- 1 - CENTER BEZEL
- 2 - SCREW (3)
- 3 - SWITCH & PLATE UNIT

RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Position the passenger airbag on/off switch and face plate unit to the back of the center bezel (Fig. 36).

(2) Install and tighten the three screws that secure the passenger airbag on/off switch face plate to the back of the center bezel. Tighten the screws to 2 N·m (17 in. lbs.).

(3) Reinstall the center bezel onto the instrument panel. (Refer to 23 - BODY/INSTRUMENT PANEL/INSTRUMENT PANEL CENTER BEZEL - INSTALLATION).

(4) Do not reconnect the battery negative cable at this time. The supplemental restraint system verification test procedure should be performed following service of any supplemental restraint system component. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - VERIFICATION TEST).

REAR CENTER SEAT BELT & RETRACTOR**REMOVAL**

The rear center seat belt retractor is secured with a single screw to a mounting bracket that includes the unique black, keyed center seat belt lower anchor buckle and the right outboard occupant buckle, but can be removed from the mounting bracket and is serviced separately from the two buckles. The center anchor buckle and the right outboard occupant buckle are serviced as a unit with their mounting bracket. (Refer to 8 - ELECTRICAL/RESTRAINTS/

REAR CENTER SEAT BELT & RETRACTOR (Continued)

REAR SEAT BELT BUCKLE - REMOVAL - CENTER ANCHOR & RIGHT OUTBOARD).

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Reach between the rear seat cushion and the rear seat back to access and unbuckle the center seat belt lower anchor latch plate from the unique black, keyed lower anchor buckle. Use an ignition key or a small screwdriver to depress the small white release button on the anchor buckle.

(2) Remove the rear seat from the vehicle. On models with the optional 60/40 split rear bench, only the 60 percent section (right side) of the rear seat must be removed. (Refer to 23 - BODY/SEATS/SEAT - REAR - REMOVAL).

(3) Lift upward on the forward edge of the rear center seat belt bezel at the top of the cab back panel to release the snap features that secure the bezel to the belt bracket (Fig. 37).

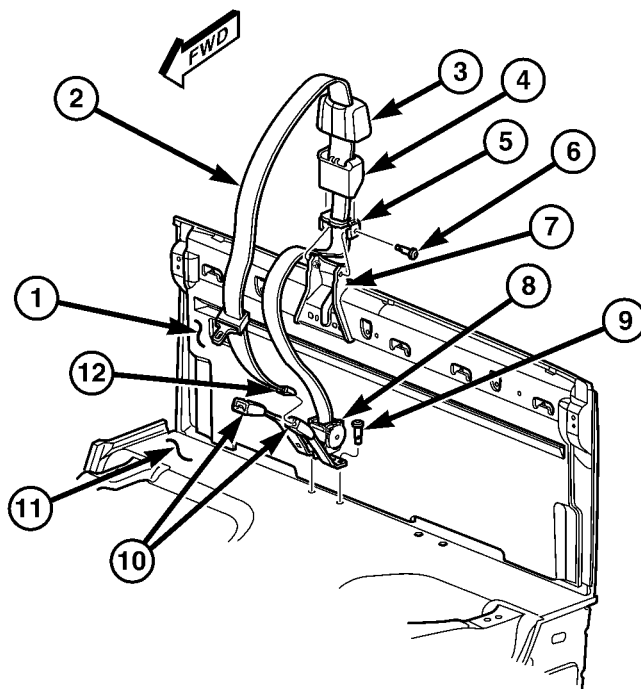
(4) Remove the bezel from the webbing of the rear center seat belt.

(5) Lift the rear center seat belt cover off of the belt bracket at the top of the cab back panel and remove the cover from the webbing of the rear center seat belt.

(6) Remove the two screws that secure the belt bracket of the rear center seat belt to the body bracket on the upper cab back panel reinforcement.

(7) Remove the belt bracket of the rear center seat belt from the body bracket.

(8) Remove the screw that secures the rear center seat belt retractor to the center anchor/right outboard occupant buckle and mounting bracket unit on the rear floor panel near the cab back panel (Fig. 38).



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Fig. 37 Rear Center Seat Belt & Retractor Remove/Install

- 1 - CAB BACK PANEL
- 2 - CENTER SEAT BELT
- 3 - BEZEL
- 4 - COVER
- 5 - BELT BRACKET
- 6 - SCREW (2)
- 7 - BODY BRACKET
- 8 - RETRACTOR
- 9 - SCREW (2)
- 10 - CENTER ANCHOR/RIGHT OUTBOARD OCCUPANT BUCKLE & BRACKET UNIT
- 11 - REAR FLOOR PANEL
- 12 - LOWER ANCHOR LATCH PLATE

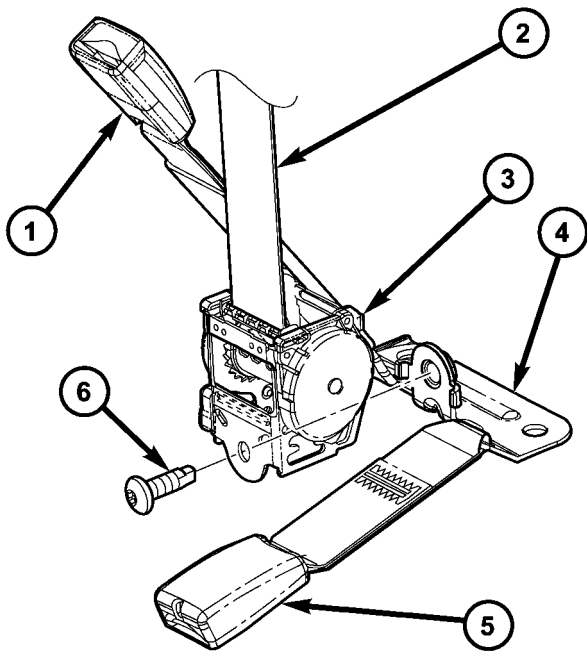
(9) Remove the rear center seat belt retractor from the center anchor/right outboard occupant buckle and mounting bracket unit.

(10) Remove the rear center seat belt and retractor unit from the vehicle.

INSTALLATION

The rear center seat belt retractor is secured with a single screw to a mounting bracket that includes the unique black, keyed center seat belt lower anchor buckle and the right outboard occupant buckle, but can be removed from the mounting bracket and is serviced separately from the two buckles. The center anchor buckle and the right outboard occupant buckle are serviced as a unit with their mounting bracket. (Refer to 8 - ELECTRICAL/RESTRAINTS/REAR SEAT BELT BUCKLE - INSTALLATION - CENTER ANCHOR & RIGHT OUTBOARD).

REAR CENTER SEAT BELT & RETRACTOR (Continued)



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Fig. 38 Rear Center Retractor & Mounting Bracket

- 1 - RIGHT OUTBOARD OCCUPANT BUCKLE
- 2 - REAR CENTER SEAT BELT
- 3 - REAR CENTER SEAT BELT RETRACTOR
- 4 - MOUNTING BRACKET
- 5 - CENTER ANCHOR BUCKLE
- 6 - SCREW (1)

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Position the rear center seat belt and retractor unit onto the center anchor/right outboard occupant buckle and mounting bracket unit on the rear floor panel near the base of the cab back panel (Fig. 38).

(2) Install and tighten the screw that secures the rear center seat belt retractor bracket to the center anchor/right outboard occupant buckle and mounting bracket unit. Tighten the screw to 40 N·m (29 ft. lbs.).

(3) Position the belt bracket of the rear center seat belt onto the body bracket on the upper cab back panel reinforcement (Fig. 37).

(4) Install and tighten the two screws that secure the belt bracket of the rear center seat belt to the body bracket. Tighten the screws to 20 N·m (15 ft. lbs.).

(5) Lift the webbing of the rear center seat belt and slide the cover over the belt bracket at the top of the cab back panel until it is fully seated.

(6) Route the rear center seat belt bezel over the webbing of the rear center seat belt.

(7) Position the rear center seat belt bezel over the cover and belt bracket at the top of the cab back panel and engage the rearward snap features of the bezel with the belt bracket. Using hand pressure, press firmly and evenly downward on the front of the bezel until it snaps into place over the cover and belt bracket.

(8) Reinstall the rear seat into the vehicle. On models with the optional 60/40 split rear bench, only the 60 percent section (right side) of the rear seat must be reinstalled. (Refer to 23 - BODY/SEATS/SEAT - REAR - INSTALLATION).

(9) Reach between the rear seat cushion and the rear seat back to buckle the rear center seat belt lower anchor latch plate to the unique black, keyed lower anchor buckle.

REAR OUTBOARD SEAT BELT & RETRACTOR

REMOVAL

The only component of this seat belt and retractor unit that is available for individual service replacement is the plastic web stop button that prevents the latch plate from falling to the floor while in the stored position. Refer to the instructions supplied with the service kit for the proper web stop button replacement procedures.

REAR OUTBOARD SEAT BELT & RETRACTOR (Continued)

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Remove the rear seat from the vehicle. (Refer to 23 - BODY/SEATS/SEAT - REAR - REMOVAL).

(2) Remove the screw that secures the lower seat belt anchor to the base of the inner C-pillar (Fig. 39).

(3) Remove the lower seat belt anchor from the base of the inner C-pillar.

(4) Unsnap and remove the trim cover from the rear outboard seat belt turning loop to access the screw that secures the turning loop to the upper inner C-pillar. Discard the removed turning loop trim cover as it is not intended for reuse.

(5) Remove the screw that secures the seat belt turning loop to the C-pillar.

(6) Remove the seat belt turning loop from the upper inner C-pillar.

(7) Remove the upper and lower trim from the inner C-pillar. (Refer to 23 - BODY/INTERIOR/C-PILLAR UPPER TRIM - REMOVAL) and (Refer to 23 - BODY/INTERIOR/C-PILLAR LOWER TRIM - REMOVAL).

(8) Remove the screw that secures the seat belt web guide to the inner C-pillar near the belt line.

(9) Remove the seat belt web guide from the inner C-pillar.

(10) Remove the screw that secures the lower retractor bracket to the lower inner C-pillar below the retractor mounting hole.

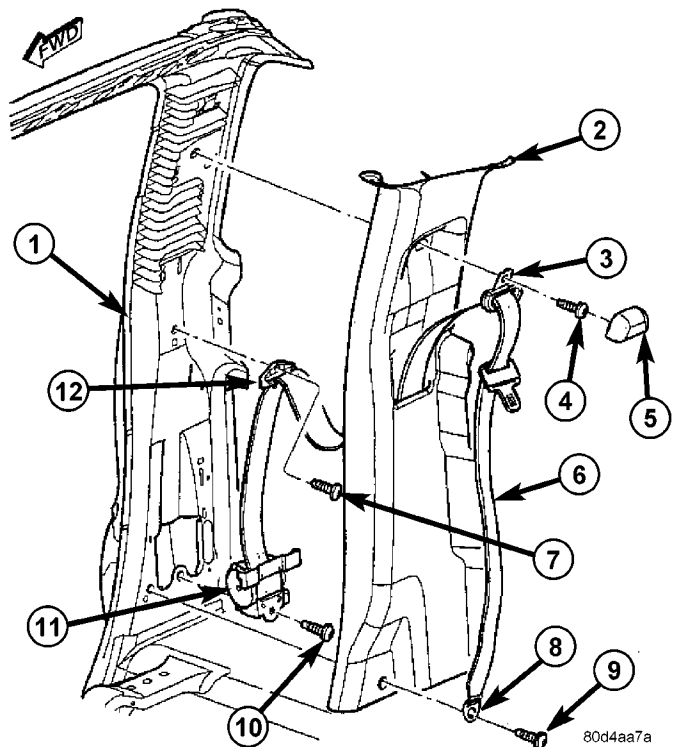


Fig. 39 Rear Outboard Seat Belt & Retractor Remove/Install

- 1 - C-PILLAR
- 2 - TRIM PANEL
- 3 - TURNING LOOP
- 4 - SCREW
- 5 - TRIM COVER
- 6 - SEAT BELT
- 7 - SCREW
- 8 - LOWER ANCHOR
- 9 - SCREW
- 10 - SCREW
- 11 - RETRACTOR
- 12 - WEB GUIDE

(11) Disengage the hook on the upper retractor bracket from the slot in the lower inner C-pillar above the retractor mounting hole.

(12) Remove the rear outboard seat belt and retractor from the retractor mounting hole in the lower inner C-pillar.

INSTALLATION

The only component of this seat belt and retractor unit that is available for individual service replacement is the plastic web stop button that prevents the latch plate from falling to the floor while in the stored position. Refer to the instructions supplied with the service kit for the proper web stop button replacement procedures.

REAR OUTBOARD SEAT BELT & RETRACTOR (Continued)

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Position the rear outboard seat belt and retractor to the retractor mounting hole in the lower inner C-pillar (Fig. 39).

(2) Engage the hook on the upper retractor bracket into the slot in the lower inner C-pillar above the retractor mounting hole.

(3) Install and tighten the screw that secures the lower retractor bracket to the lower inner C-pillar below the retractor mounting hole. Tighten the screw to 40 N·m (29 ft. lbs.).

(4) Position the seat belt web guide to the inner C-pillar near the belt line.

(5) Install and tighten the screw that secures the seat belt web guide to the inner C-pillar. Tighten the screw to 2 N·m (20 in. lbs.).

(6) Reinstall the upper and lower trim onto the inner C-pillar. (Refer to 23 - BODY/INTERIOR/C-PILLAR UPPER TRIM - INSTALLATION) and (Refer to 23 - BODY/INTERIOR/C-PILLAR LOWER TRIM - INSTALLATION).

(7) Position the seat belt turning loop onto the upper inner C-pillar.

(8) Install and tighten the screw that secures the seat belt turning loop to the C-pillar. Tighten the screw to 40 N·m (29 ft. lbs.).

(9) Engage the lower snap features of the new trim cover over the rear outboard seat belt turning loop and, using hand pressure, press firmly and evenly on the top of the trim cover until it snaps into place.

(10) Position the lower seat belt anchor to the base of the inner C-pillar.

(11) Install and tighten the screw that secures the lower seat belt anchor to the base of the inner C-pillar. Tighten the screw to 40 N·m (29 ft. lbs.).

(12) Reinstall the rear seat into the vehicle. (Refer to 23 - BODY/SEATS/SEAT - REAR - INSTALLATION).

REAR SEAT BELT BUCKLE**REMOVAL****REMOVAL - CENTER & LEFT OUTBOARD**

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Lift up the rear seat cushion into its stowed position against the rear seat back.

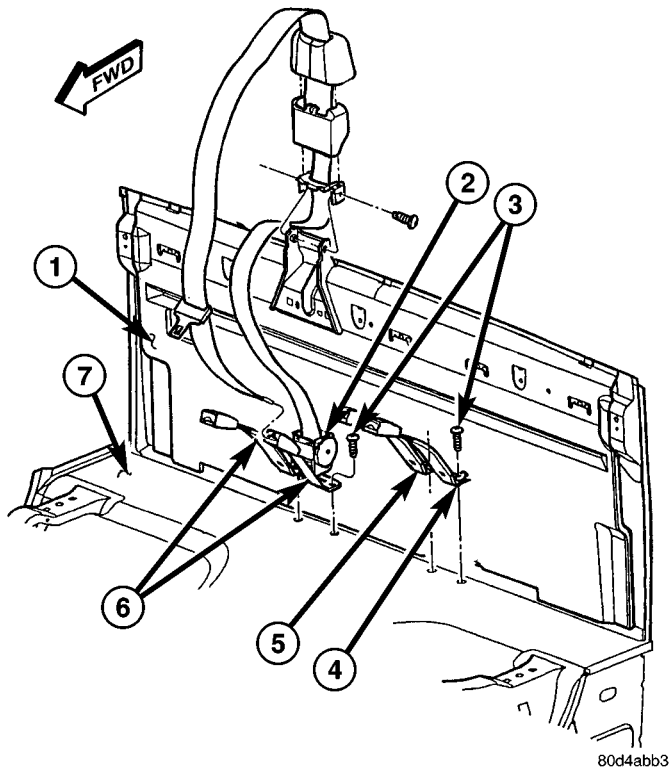
(2) Remove the screw that secures either the center or the left outboard occupant buckle unit to the rear floor panel near the base of the cab back panel (Fig. 40). On models with the optional 60/40 split rear bench, the screw that secures the buckle unit also secures one of the rear seat mounting brackets to the rear floor panel.

(3) Remove the center or the left outboard occupant buckle unit from the rear floor panel or from the rear seat mounting bracket.

REMOVAL - CENTER ANCHOR & RIGHT OUTBOARD

The unique black, keyed center seat belt lower anchor buckle and the right outboard occupant buckle are serviced as a unit with their mounting bracket. The rear center seat belt retractor is also secured to the mounting bracket with these two buckles, but can be removed from the mounting bracket and is serviced separately from the two buck-

REAR SEAT BELT BUCKLE (Continued)

**Fig. 40 Rear Seat Belt Buckle Remove/Install**

- 1 - CAB BACK PANEL
- 2 - CENTER SEAT BELT RETRACTOR
- 3 - SCREW (4)
- 4 - LEFT OUTBOARD OCCUPANT BUCKLE UNIT
- 5 - CENTER OCCUPANT BUCKLE UNIT
- 6 - CENTER ANCHOR/RIGHT OUTBOARD OCCUPANT BUCKLE & BRACKET UNIT
- 7 - REAR FLOOR PANEL

les. (Refer to 8 - ELECTRICAL/RESTRAINTS/REAR CENTER SEAT BELT & RETRACTOR - REMOVAL).

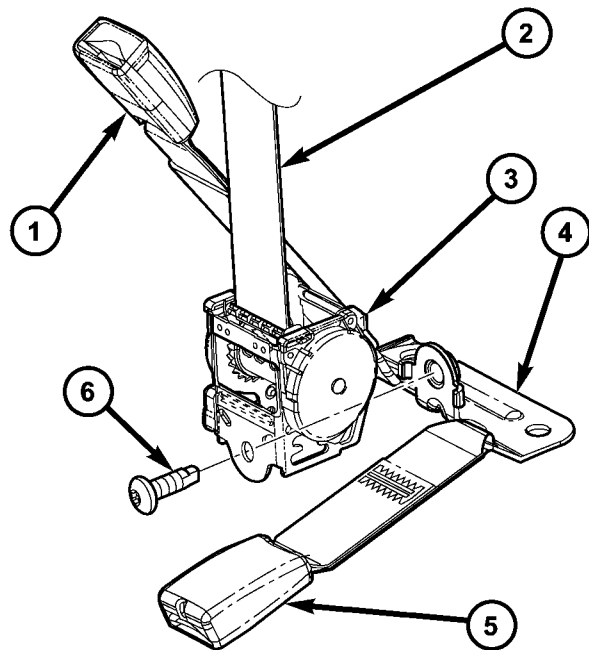
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PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Reach between the rear seat cushion and the rear seat back to access and unbuckle the rear center seat belt lower anchor latch plate from the unique black, keyed lower anchor buckle. Use an ignition key or a small screwdriver to depress the small white release button on the anchor buckle.

(2) Remove the rear seat from the vehicle. On models with the optional 60/40 split rear bench, only the 60 percent section (right side) of the rear seat must be removed. (Refer to 23 - BODY/SEATS/SEAT - REAR - REMOVAL).

(3) Remove the screw that secures the rear center seat belt retractor to the center anchor/right outboard occupant buckle and mounting bracket unit on the rear floor panel near the cab back panel (Fig. 41).

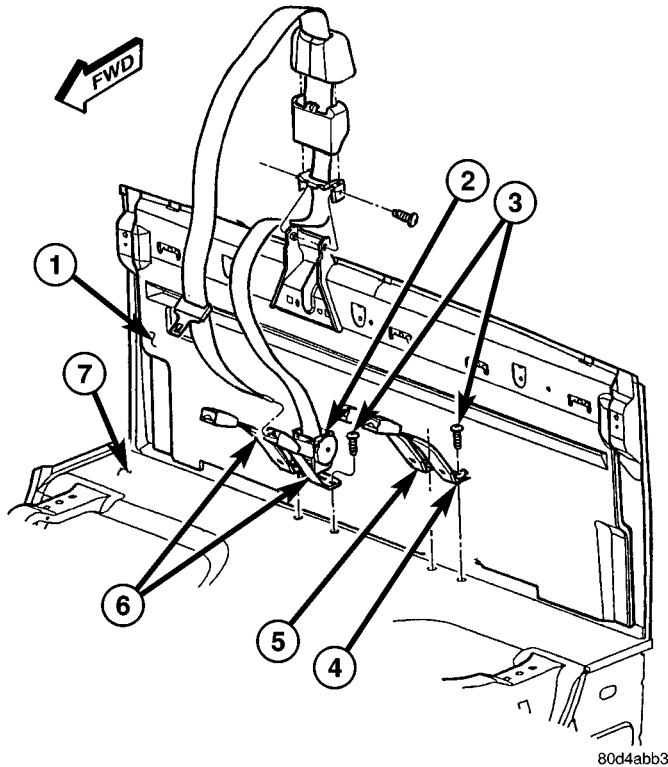
**Fig. 41 Rear Center Retractor & Mounting Bracket**

- 1 - RIGHT OUTBOARD OCCUPANT BUCKLE
- 2 - REAR CENTER SEAT BELT
- 3 - REAR CENTER SEAT BELT RETRACTOR
- 4 - MOUNTING BRACKET
- 5 - CENTER ANCHOR BUCKLE
- 6 - SCREW (1)

(4) Remove the rear center seat belt retractor from the center anchor/right outboard occupant buckle and mounting bracket unit.

(5) Remove the two screws that secure the center anchor/right outboard occupant buckle and mounting bracket unit to the rear floor panel near the base of the cab back panel (Fig. 42).

REAR SEAT BELT BUCKLE (Continued)

**Fig. 42 Rear Seat Belt Buckle Remove/Install**

- 1 - CAB BACK PANEL
- 2 - CENTER SEAT BELT RETRACTOR
- 3 - SCREW (4)
- 4 - LEFT OUTBOARD OCCUPANT BUCKLE UNIT
- 5 - CENTER OCCUPANT BUCKLE UNIT
- 6 - CENTER ANCHOR/RIGHT OUTBOARD OCCUPANT BUCKLE & BRACKET UNIT
- 7 - REAR FLOOR PANEL

(6) Remove the center anchor/right outboard occupant buckle and mounting bracket unit from the rear floor panel.

INSTALLATION**INSTALLATION - CENTER & LEFT OUTBOARD**

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER

STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Position the center or the left outboard occupant buckle unit onto the rear floor panel or onto the rear seat mounting bracket near the base of the cab back panel (Fig. 40). On models with the optional 60/40 split rear bench, the screw that secures the buckle unit also secures one of the rear seat mounting brackets to the rear floor panel.

(2) Install and tighten the screw that secures the center or the left outboard occupant buckle unit to the rear floor panel. Tighten the screw to 40 N·m (29 ft. lbs.).

(3) Lower the rear seat cushion back to its normal seating position.

INSTALLATION - CENTER ANCHOR & RIGHT OUTBOARD

The unique black, keyed center seat belt lower anchor buckle and the right outboard occupant buckle are serviced as a unit with their mounting bracket. The rear center seat belt retractor is also secured to the mounting bracket with these two buckles, but can be removed from the mounting bracket and is serviced separately from the two buckles. (Refer to 8 - ELECTRICAL/RESTRAINTS/REAR CENTER SEAT BELT & RETRACTOR - INSTALLATION).

REAR SEAT BELT BUCKLE (Continued)

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Position the center anchor/right outboard occupant buckle and mounting bracket unit onto the rear floor panel near the base of the cab back panel (Fig. 42).

(2) Install and tighten the two screws that secure the center anchor/right outboard occupant buckle and mounting bracket unit to the rear floor panel. Tighten the screws to 40 N·m (29 ft. lbs.).

(3) Position the rear center seat belt retractor onto the center anchor/right outboard occupant buckle and mounting bracket unit (Fig. 41).

(4) Install and tighten the screw that secures the rear center seat belt retractor to the center anchor/right outboard occupant buckle and mounting bracket unit. Tighten the screw to 40 N·m (29 ft. lbs.).

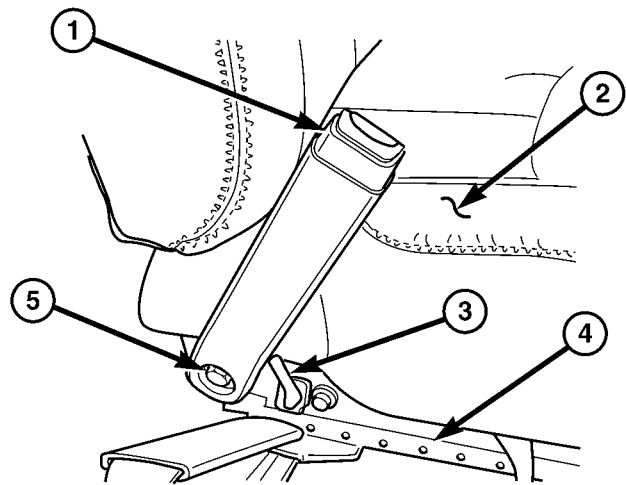
(5) Reinstall the rear seat into the vehicle. On models with the optional 60/40 split rear bench, only the 60 percent section (right side) of the rear seat must be reinstalled. (Refer to 23 - BODY/SEATS/SEAT - REAR - INSTALLATION).

(6) Reach between the rear seat cushion and the rear seat back to access and buckle the rear center seat belt lower anchor latch plate to the unique black, keyed lower anchor buckle.

SEAT BELT SWITCH

DESCRIPTION

The seat belt switch is a small, normally open, single pole, single throw, leaf contact, momentary switch. Only one seat belt switch is installed in the vehicle, and it is integral to the buckle of the driver side front seat belt buckle-half, located on the



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Fig. 43 Seat Belt Switch

- 1 - DRIVER SIDE FRONT OUTBOARD SEAT BELT BUCKLE
- 2 - SEAT CUSHION
- 3 - PIGTAIL WIRE
- 4 - INBOARD SEAT TRACK
- 5 - SCREW

inboard side of the driver side front seat track (Fig. 43). The seat belt switch is connected to the vehicle electrical system through a two-wire pigtail wire and connector on the seat belt buckle-half, which is connected to a wire harness connector and take out of the seat wire harness routed beneath the driver side front seat cushion in the passenger compartment.

The seat belt switch cannot be adjusted or repaired and, if faulty or damaged, the entire driver side front seat belt buckle-half unit must be replaced.

OPERATION

The seat belt switch is designed to control a path to ground for the seat belt switch sense input of the ElectroMechanical Instrument Cluster (EMIC). When the driver side front seat belt tip-half is inserted into the seat belt buckle, the switch closes the path to ground; and, when the driver side front seat belt tip-half is removed from the seat belt buckle, the switch opens the ground path. The switch is actuated by the latch mechanism within the seat belt buckle.

The seat belt switch is connected in series between ground and the seat belt switch sense input of the instrument cluster. The seat belt switch receives ground at all times through its pigtail wire connection to the seat wire harness from a take out of the body wire harness. An eyelet terminal connector on the body wire harness ground take out is secured beneath a ground screw on the left cowl side inner panel, beneath the instrument panel. The seat belt switch may be diagnosed using conventional diagnostic tools and methods.

SEAT BELT SWITCH (Continued)

DIAGNOSIS AND TESTING - SEAT BELT SWITCH

Refer to the appropriate wiring information. The wiring information includes wiring diagrams, proper wire and connector repair procedures, details of wire harness routing and retention, connector pin-out information and location views for the various wire harness connectors, splices and grounds.

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

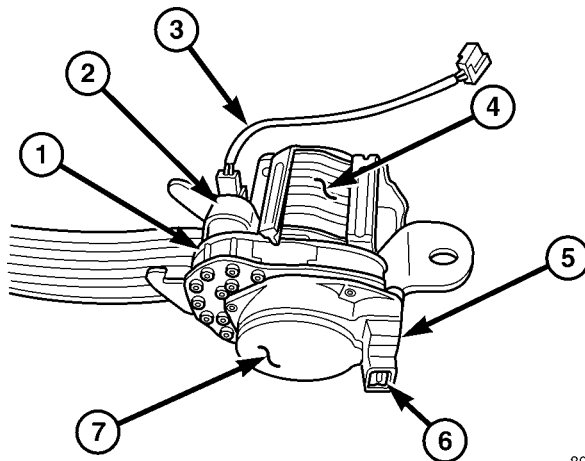
(1) Disconnect and isolate the battery negative cable. Disconnect the seat belt switch pigtail wire connector from the seat wire harness connector for the seat belt switch on the inboard side of the driver side front seat forward of the seat belt buckle-half anchor. Check for continuity between the seat belt switch sense circuit and the ground circuit cavities of the seat belt switch pigtail wire connector. There should be continuity with the seat belt buckled, and no continuity with the seat belt unbuckled. If OK, go to Step 2. If not OK, replace the faulty front seat belt buckle-half assembly.

(2) Check for continuity between the ground circuit cavity in the seat wire harness connector for the seat belt switch and a good ground. There should be continuity. If OK, go to Step 3. If not OK, repair the open ground circuit to ground (G301) as required.

(3) Remove the instrument cluster from the instrument panel. Check for continuity between the seat belt switch sense circuit cavity of the seat wire harness connector for the seat belt switch and a good ground. There should be no continuity. If OK, go to Step 4. If not OK, repair the shorted seat belt switch sense circuit between the seat belt switch and the instrument cluster as required.

(4) Check for continuity between the seat belt switch sense circuit cavities of the seat wire harness connector for the seat belt switch and the instrument panel wire harness connector (Connector C2) for the instrument cluster. There should be continuity. If

OK, test and replace the faulty instrument cluster as required. (Refer to 8 - ELECTRICAL/INSTRUMENT CLUSTER - DIAGNOSIS AND TESTING). If not OK, repair the open seat belt switch sense circuit between the seat belt switch and the instrument cluster as required.

SEAT BELT TENSIONER**DESCRIPTION**

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Fig. 44 Seat Belt Tensioner

- 1 - TENSIONER HOUSING OR CHAMBER
- 2 - GAS GENERATOR
- 3 - TENSIONER PIGTAIL WIRE
- 4 - SPOOL
- 5 - TENSION REDUCER (DRIVER SIDE ON STANDARD CAB ONLY)
- 6 - REDUCER CONNECTOR RECEPTACLE
- 7 - RETRACTOR LOCKING MECHANISM COVER

Front outboard seating position seat belt tensioners supplement the driver and passenger airbags for all versions of this model (Fig. 44). The seat belt tensioner is integral to the front outboard seat belt and retractor unit, which is secured to the inner B-pillar on the right and left sides of the vehicle. The retractor is concealed beneath the molded plastic inner B-pillar trim. The seat belt tensioner consists primarily of a die cast aluminum tensioner housing or chamber, a mechanical clutch unit, a tape-like metal strip, a pair of cutters, a pyrotechnically activated gas generator, and a short pigtail wire. All of these components are located on one side of the retractor spool on the outside of the retractor housing. The seat belt tensioner is controlled by the Airbag Control Module (ACM) and is connected to the vehicle electrical system through a dedicated take out of the body wire harness by a keyed and latching molded plastic connector insulator to ensure a secure connection.

SEAT BELT TENSIONER (Continued)

The seat belt tensioner cannot be repaired and, if faulty or damaged, the entire outboard front seat belt and retractor unit must be replaced. If the front airbags have been deployed, the seat belt tensioners have also been deployed. The seat belt tensioner is not intended for reuse and must be replaced following a deployment. A locked retractor that will not allow the seat belt webbing to be retracted or extracted is a sure indication that the seat belt tensioner has been deployed and requires replacement. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT OUTBOARD SEAT BELT & RETRACTOR - REMOVAL).

OPERATION

The seat belt tensioners are deployed by a signal generated by the Airbag Control Module (ACM) through the driver and passenger seat belt tensioner line 1 and line 2 (or squib) circuits. When the ACM sends the proper electrical signal to the tensioners, the electrical energy generates enough heat to initiate a small pyrotechnic gas generator. The gas generator is installed at the top of the tensioner housing which contains a long metal tape that is routed through two chambers within the housing. Each end of the tape is wound around the outer sleeve of a mechanical clutch mechanism secured to one end of the torsion bar upon which the retractor spool is secured. As the gas expands, it is directed against the metal tape within the two chambers of the housing causing the tape to unwind from the clutch sleeve. As the clutch rotates it engages the torsion bar, which drives the seat belt retractor spool causing the slack to be removed from the seat belt.

Once a seat belt tensioning sequence has been completed, the forward momentum of the occupant results in deformation of the torsion bar. As the torsion bar deforms it allows the seat belt webbing to unwind from the retractor spool, which causes the metal tape to be wound back onto the clutch sleeve until it is pulled tight against two cutter blades within the housing, which immediately cut the metal tape.

Removing excess slack from the seat belt not only keeps the occupant properly positioned for an airbag deployment following a frontal impact of the vehicle, but also helps to reduce injuries that the occupant might experience in these situations as a result of a harmful contact with the steering wheel, steering column, instrument panel and/or windshield. The torsion bar is designed to deform in order to control the loading being applied to the occupant by the seat belt during a frontal impact, further reducing the potential for occupant injuries.

The ACM monitors the condition of the seat belt tensioners through circuit resistance. The ACM will

illuminate the airbag indicator in the ElectroMechanical Instrument Cluster (EMIC) and store a Diagnostic Trouble Code (DTC) for any fault that is detected. For proper diagnosis of the seat belt tensioners, a DRBIII® scan tool is required. Refer to the appropriate diagnostic information.

SEAT BELT TENSION REDUCER

DESCRIPTION

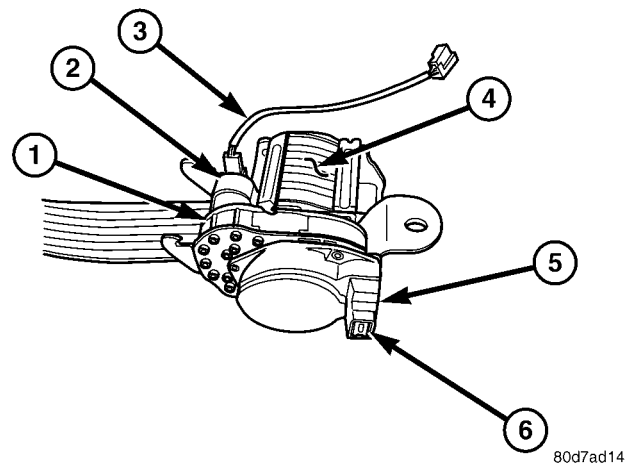


Fig. 45 Seat Belt Tension Reducer

- 1 - TENSIONER HOUSING OR CHAMBER
- 2 - GAS GENERATOR
- 3 - TENSIONER PIGTAIL WIRE
- 4 - SPOOL
- 5 - TENSION REDUCER (DRIVER SIDE ON STANDARD CAB ONLY)
- 6 - REDUCER CONNECTOR RECEPTACLE

A seat belt tension reducer is standard equipment for the driver side front outboard seat belt on standard cab versions of this model (Fig. 45). The tension reducer is integral to the driver side front outboard seat belt and retractor unit, which is secured to the inner B-pillar on the left side of the vehicle. The retractor is concealed beneath the molded plastic inner B-pillar trim. The seat belt tension reducer consists primarily of a 12-volt Direct Current (DC) solenoid and an integral connector receptacle that is located on the forward facing end housing of the retractor. The seat belt tension reducer is controlled by a battery current output of the ignition switch and a ground path provided by the seat belt switch, and is connected to the vehicle electrical system through a dedicated take out of the body wire harness by a keyed and latching molded plastic connector insulator to ensure a secure connection.

The seat belt tension reducer cannot be repaired and, if faulty or damaged, the entire driver side front

SEAT BELT TENSION REDUCER (Continued)

outboard seat belt and retractor unit must be replaced. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT OUTBOARD SEAT BELT & RETRACTOR - REMOVAL).

OPERATION

The seat belt tension reducer is controlled by a ground signal received from the seat belt switch on the seat belt switch sense circuit and a battery current signal received from the ignition switch on the fused ignition switch output (run-accessory) circuit. When the seat belt switch is closed (the driver side front seat belt is fastened) and the ignition switch is in the On or Accessory positions, the seat belt tension reducer solenoid is energized. When the solenoid is energized, it actuates a mechanism within the driver side front outboard seat belt retractor to reduce the normal recoil spring tension exerted by the retractor spool, which is designed to reel in the seat belt webbing onto the spool. When the driver side seat belt is unbuckled or if the ignition switch is turned to any position except On or Accessory, the tension reducer solenoid is de-energized and the normal recoil spring tension of the retractor is restored.

The action of the seat belt tension reducer results in improved seat belt comfort for the driver. Reducing the seat belt retractor recoil spring tension is desirable on standard cab models of this vehicle and not on the quad cab model due to the different mounting position required for the seat belt turning loop on the B-pillar relative to the driver's seat position on the standard cab model. The seat belt tension reducer may be diagnosed using conventional diagnostic tools and methods.

DIAGNOSIS AND TESTING - SEAT BELT TENSION REDUCER

Refer to the appropriate wiring information. The wiring information includes wiring diagrams, proper wire and connector repair procedures, details of wire harness routing and retention, connector pin-out information and location views for the various wire harness connectors, splices and grounds.

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT

SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Disconnect and isolate the battery negative cable. Disconnect the body wire harness connector for the seat belt tension reducer from the tension reducer connector receptacle on the driver side front outboard seat belt and retractor unit. Using an ohmmeter, measure the resistance between the seat belt switch sense circuit terminal pin and the fused ignition switch output (run-accessory) circuit terminal pin in the tension reducer connector receptacle on the retractor. Resistance through the tension reducer solenoid coil should be 53 ohms at 20° C (68° F). If OK, go to Step 2. If not OK, replace the faulty driver side front outboard seat belt and retractor unit.

(2) Check for continuity between the seat belt switch sense circuit cavity of the body wire harness connector for the seat belt tension reducer and a good ground. There should be continuity with the driver side front seat belt buckled, and no continuity with the driver side front seat belt unbuckled. If OK, go to Step 3. If not OK, repair the shorted or open seat belt switch sense circuit between the tension reducer and the seat belt switch as required.

(3) Reconnect the battery negative cable. Check for battery current at the fused ignition switch output (run-accessory) circuit of the body wire harness connector for the seat belt tension reducer. There should be battery current with the ignition switch in the On or Accessory positions, and no battery current with the ignition switch in any other position. If not OK, repair the shorted or open fused ignition switch output (run-accessory) circuit between the tension reducer and the ignition switch as required.

SEAT BELT TURNING LOOP ADJUSTER

REMOVAL

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLATION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Unsnap and remove the trim cover from the front outboard seat belt turning loop to access the screw that secures the turning loop to the height adjuster on the upper inner B-pillar. Discard the removed turning loop trim cover as it is not intended for reuse.

(2) Remove the screw that secures the seat belt turning loop to the height adjuster.

(3) Remove the front seat belt turning loop from the height adjuster.

(4) Remove the upper trim from the inner B-pillar. (Refer to 23 - BODY/INTERIOR/B-PILLAR UPPER TRIM - REMOVAL).

(5) Loosen the two screws that secure the seat belt turning loop height adjuster far enough to remove the adjuster from the upper B-pillar (Fig. 46).

(6) Disengage the tab near the lower end of the seat belt turning loop height adjuster from the slot in the sheet metal and remove the adjuster from the inner B-pillar.

INSTALLATION

WARNING: DURING AND FOLLOWING ANY SEAT BELT OR CHILD RESTRAINT ANCHOR SERVICE, CAREFULLY INSPECT ALL SEAT BELTS, BUCKLES, MOUNTING HARDWARE, RETRACTORS, TETHER STRAPS, AND ANCHORS FOR PROPER INSTALLA-

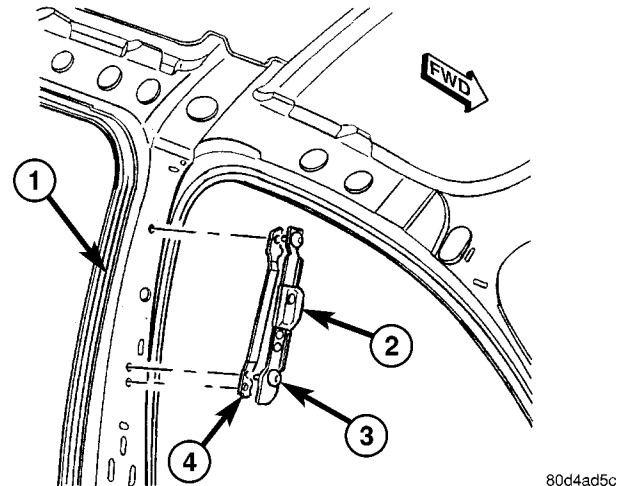


Fig. 46 Seat Belt Turning Loop Adjuster Remove/Install

- 1 - B-PILLAR
- 2 - ADJUSTER
- 3 - SCREW (2)
- 4 - GRAB HANDLE BRACKET (QUAD CAB ONLY)

TION, OPERATION, OR DAMAGE. REPLACE ANY BELT THAT IS CUT, FRAYED, OR TORN. STRAIGHTEN ANY BELT THAT IS TWISTED. TIGHTEN ANY LOOSE FASTENERS. REPLACE ANY BELT THAT HAS A DAMAGED OR INOPERATIVE BUCKLE OR RETRACTOR. REPLACE ANY BELT THAT HAS A BENT OR DAMAGED LATCH PLATE OR ANCHOR PLATE. REPLACE ANY CHILD RESTRAINT ANCHOR OR THE UNIT TO WHICH THE ANCHOR IS INTEGRAL THAT HAS BEEN BENT OR DAMAGED. NEVER ATTEMPT TO REPAIR A SEAT BELT OR CHILD RESTRAINT COMPONENT. ALWAYS REPLACE DAMAGED OR FAULTY SEAT BELT AND CHILD RESTRAINT COMPONENTS WITH THE CORRECT, NEW AND UNUSED REPLACEMENT PARTS LISTED IN THE DAIMLERCHRYSLER MOPAR PARTS CATALOG.

(1) Position the front seat belt turning loop adjuster to the inner B-pillar (Fig. 46).

(2) Engage the tab near the lower end of the seat belt turning loop height adjuster into the slot in the sheet metal of the inner B-pillar.

(3) Hand tighten the lower of the two screws that secure the seat belt turning loop height adjuster to the upper B-pillar far enough to keep the tab on the lower end of the adjuster engaged in the B-pillar slot.

(4) Install the upper screw that secures the seat belt turning loop height adjuster to the upper B-pillar, then tighten both the upper and lower screws to 40 N·m (29 ft. lbs.).

(5) Reinstall the upper trim onto the inside of the B-pillar. (Refer to 23 - BODY/INTERIOR/B-PILLAR UPPER TRIM - INSTALLATION).

SEAT BELT TURNING LOOP ADJUSTER (Continued)

(6) Position the seat belt turning loop onto the height adjuster on the upper inner B-pillar.

(7) Install and tighten the screw that secures the seat belt turning loop to the height adjuster. Tighten the screw to 40 N·m (29 ft. lbs.).

(8) Engage the lower snap features of the new trim cover over the front outboard seat belt turning loop and, using hand pressure, press firmly and evenly on the top of the trim cover until it snaps into place.

SIDE CURTAIN AIRBAG

DESCRIPTION

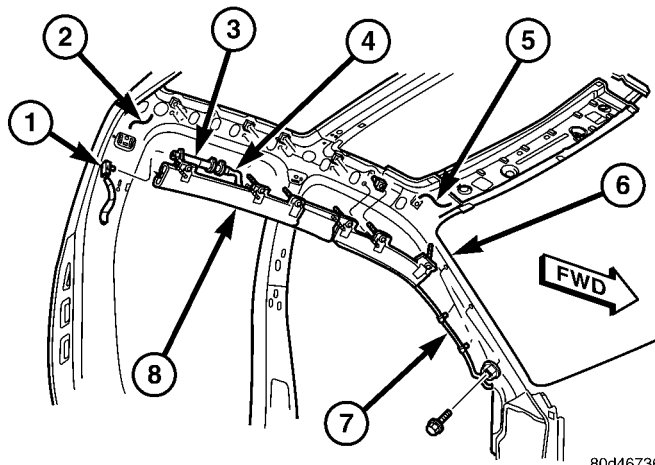


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Fig. 47 SRS Logo

Optional side curtain airbags are available for this model when it is also equipped with dual front airbags. These airbags are passive, inflatable, Supplemental Restraint System (SRS) components, and vehicles with this equipment can be readily identified by a molded identification trim button with the "SRS - AIRBAG" logo located on the headliner above each A-pillar, and above each B-pillar on quad cab models (Fig. 47). This system is designed to reduce injuries to the vehicle occupants in the event of a side impact collision.

Vehicles equipped with side curtain airbags have two individually controlled curtain airbag units. These airbag units are concealed and mounted above the headliner where they are each secured to one of the roof side rails (Fig. 48). Each folded airbag cushion is contained within a long extruded plastic channel that extends along the roof rail from the A-pillar at the front of the vehicle to just behind the B-pillar on standard cab models, and to just behind the C-pillar on quad cab models. A tether extends down the A-pillar from the front of the airbag cushion, where it is retained to the pillar with plastic push-in routing clips and it is secured to the base of the A-pillar near the belt line with a screw.



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Fig. 48 Side Curtain Airbag

- 1 - WIRE HARNESS CONNECTOR
- 2 - B-PILLAR (STD CAB) OR C-PILLAR (QUAD CAB)
- 3 - INFLATOR
- 4 - MANIFOLD
- 5 - ROOF SIDE RAIL
- 6 - A-PILLAR
- 7 - TETHER
- 8 - CHANNEL

The hybrid-type inflator for each airbag is secured to the roof rail at the rear of the airbag unit behind the B-pillar (standard cab) or C-pillar (quad cab), and is connected to the airbag cushion by a long tubular manifold. The inflator bracket and the airbag cushion channel are located with plastic push-in fasteners to the roof rail, then secured with screws to spring nuts located in the roof rail. A two-wire take out of the body wire harness with a keyed and latched connector insulator connects directly to an integral receptacle on the inflator initiator.

The side curtain airbag unit cannot be adjusted or repaired and must be replaced if deployed, faulty, or in any way damaged. Once a side curtain airbag has been deployed, the complete airbag unit, the headliner, the upper A, B, and C-pillar trim, and all other visibly damaged components must be replaced.

OPERATION

Each side curtain airbag is deployed individually by an electrical signal generated by the left or right Side Impact Airbag Control Module (SIACM) to which it is connected through left or right curtain airbag line 1 and line 2 (or squib) circuits. The hybrid-type inflator assembly for each airbag contains a small canister of highly compressed inert gas. When the SIACM sends the proper electrical signal to the airbag inflator, the electrical energy creates enough heat to ignite chemical pellets within the inflator. Once ignited, these chemicals burn rapidly and produce the pressure necessary to rupture a containment disk in the inert gas canister. The inflator

SIDE CURTAIN AIRBAG (Continued)

and inert gas canister are sealed and connected to a tubular manifold so that all of the released gas is directed into the folded curtain airbag cushion, causing the cushion to inflate.

As the airbag cushion inflates it will drop down from the roof rail between the edge of the headliner and the side glass/body pillars to form a curtain-like cushion to protect the vehicle occupants during a side impact collision. The front tether keeps the front portion of the bag taut, thus ensuring that the bag will deploy in the proper position. Following the airbag deployment, the airbag cushion quickly deflates by venting the inert gas through the loose weave of the cushion fabric, and the deflated cushion hangs down loosely from the roof rail.

REMOVAL

The following procedure is for replacement of a faulty or damaged side curtain airbag. If the airbag is faulty or damaged, but not deployed, review the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS). If the side curtain airbag has been deployed, review the recommended procedures for service after a supplemental restraint deployment before removing the airbag from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

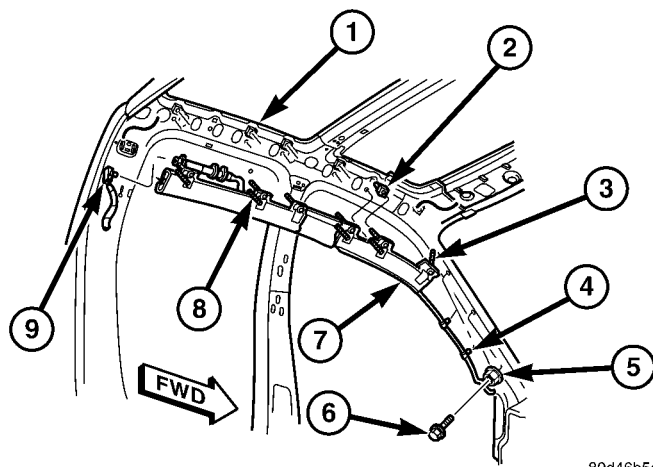
WARNING: WHEN REMOVING A DEPLOYED AIRBAG, RUBBER GLOVES, EYE PROTECTION, AND A LONG-SLEEVED SHIRT SHOULD BE WORN. THERE MAY BE DEPOSITS ON THE AIRBAG UNIT AND OTHER INTERIOR SURFACES. IN LARGE DOSES, THESE DEPOSITS MAY CAUSE IRRITATION TO THE SKIN AND EYES.

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

(1) Disconnect and isolate the battery negative cable. Wait two minutes for the system capacitor to discharge before further service.

(2) Remove the headliner from the vehicle. (Refer to 23 - BODY/INTERIOR/HEADLINER - REMOVAL).

(3) Remove the screw that secures the side curtain airbag tether retainer to the base of the A-pillar near the belt line (Fig. 49).



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Fig. 49 Side Curtain Airbag Remove/Install - Typical

- 1 - ROOF SIDE RAIL
- 2 - SPRING NUT (4 - STD CAB/6 - QUAD CAB)
- 3 - SCREW (4 - STD CAB/6 - QUAD CAB)
- 4 - CLIP (2)
- 5 - RIVET NUT
- 6 - SCREW
- 7 - SIDE CURTAIN AIRBAG
- 8 - RETAINER (3 - STD CAB/5 - QUAD CAB)
- 9 - WIRE HARNESS CONNECTOR

(4) Disengage the two side curtain airbag tether plastic retainer clips from the A-pillar.

(5) Disconnect the body wire harness connector for the side curtain airbag from the connector receptacle at the back of the airbag inflator.

(6) Remove the four screws (standard cab) or six screws (quad cab) that secure the side curtain airbag inflator and manifold tube brackets to the nuts in the roof rail.

(7) Grasp the extruded plastic side curtain airbag channel firmly and pull it straight away from the roof rail far enough to disengage all three (standard cab) or five (quad cab) plastic push-in fasteners that secure it.

SIDE CURTAIN AIRBAG (Continued)

(8) Remove the side curtain airbag from the vehicle as a unit.

INSTALLATION

The following procedure is for replacement of a faulty or damaged side curtain airbag. If the airbag is faulty or damaged, but not deployed, review the recommended procedures for handling non-deployed supplemental restraints. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - HANDLING NON-DEPLOYED SUPPLEMENTAL RESTRAINTS). If the side curtain airbag has been deployed, review the recommended procedures for service after a supplemental restraint deployment before removing the airbag from the vehicle. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - SERVICE AFTER A SUPPLEMENTAL RESTRAINT DEPLOYMENT).

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

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

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

(1) Position the side curtain airbag into the vehicle as a unit.

(2) Align all three (standard cab) or five (quad cab) plastic push-in fasteners that secure the extruded

plastic side curtain airbag channel with their holes in the roof side rail and push them straight into the roof rail until they are fully seated (Fig. 49).

(3) Working from the rear of the vehicle to the front, install and tighten the four screws (standard cab) or six screws (quad cab) that secure the side curtain airbag inflator and manifold tube brackets to the nuts in the roof rail. Tighten the screws to 5 N·m (40 in. lbs.).

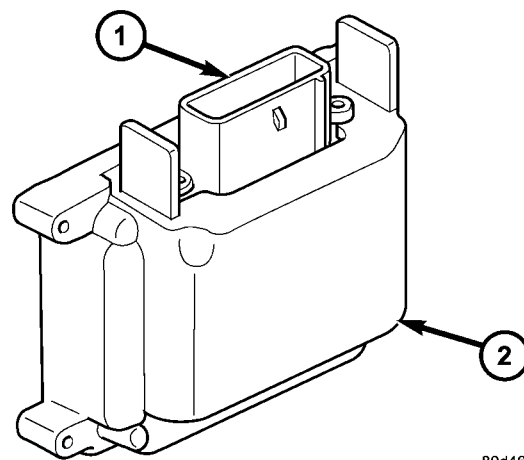
(4) Reconnect the body wire harness connector for the side curtain airbag to the connector receptacle at the back of the airbag inflator. Be certain the connector is fully engaged and latched.

(5) Engage the two side curtain airbag tether plastic retainer clips into the A-pillar.

(6) Install and tighten the screw that secures the side curtain airbag tether retainer to the base of the A-pillar near the belt line. Tighten the screw to 6 N·m (55 in. lbs.).

(7) Reinstall the headliner into the vehicle. (Refer to 23 - BODY/INTERIOR/HEADLINER - INSTALLATION).

(8) Do not reconnect the battery negative cable at this time. The supplemental restraint system verification test procedure should be performed following service of any supplemental restraint system component. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - VERIFICATION TEST).

SIDE IMPACT AIRBAG CONTROL MODULE**DESCRIPTION**

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Fig. 50 Side Impact Airbag Control Module

- 1 - CONNECTOR RECEPTACLE
2 - SIACM

On vehicles equipped with the optional side curtain airbags, a Side Impact Airbag Control Module

SIDE IMPACT AIRBAG CONTROL MODULE (Continued)

(SIACM) and its mounting bracket are secured with four screws to the inside of each B-pillar behind (standard cab) or above (quad cab) the front outboard seat belt retractor, and concealed behind the B-pillar trim (Fig. 50). Concealed within a hollow in the center of the die cast aluminum SIACM housing is the electronic circuitry of the SIACM which includes a microprocessor and an electronic impact sensor.

The SIACM housing is secured to a die cast (standard cab) or stamped steel (quad cab) mounting bracket, which is unique for the right or left side application of this component. The SIACM should never be removed from its mounting bracket. The housing also receives a case ground through this mounting bracket when it is secured to the vehicle. A molded plastic electrical connector receptacle that exits the top of the SIACM housing connects the unit to the vehicle electrical system through a dedicated take out and connector of the body wire harness. Both the SIACM housing and its electrical connection are sealed to protect the internal electronic circuitry and components against moisture intrusion.

The impact sensor internal to the SIACM is calibrated for the specific vehicle, and is only serviced as a unit with the SIACM. The SIACM cannot be repaired or adjusted and, if damaged or faulty, it must be replaced.

OPERATION

The microprocessor in the Side Impact Airbag Control Module (SIACM) contains the side curtain airbag system logic circuits and controls all of the features of only the side curtain airbag mounted on the same side of the vehicle as the SIACM. The SIACM uses On-Board Diagnostics (OBD) and can communicate with other electronic modules in the vehicle as well as with the DRBIII® scan tool using the Programmable Communications Interface (PCI) data bus network. This method of communication is used by the SIACM to communicate with the Airbag Control Module (ACM) and for supplemental restraint system diagnosis and testing through the 16-way data link connector located on the driver side lower edge of the instrument panel. The ACM communicates with both the left and right SIACM over the PCI data bus.

The SIACM microprocessor continuously monitors all of the side curtain airbag electrical circuits to determine the system readiness. If the SIACM detects a monitored system fault, it sets an active

and stored Diagnostic Trouble Code (DTC) and sends electronic messages to the ACM over the PCI data bus. The ACM will respond by sending an electronic message to the EMIC to turn on the airbag indicator, and by storing a DTC that will indicate whether the left or the right SIACM has stored the DTC that initiated the airbag indicator illumination. An active fault only remains for the current ignition switch cycle, while a stored fault causes a DTC to be stored in memory by the SIACM. For some DTCs, if a fault does not recur for a number of ignition cycles, the SIACM will automatically erase the stored DTC. For other internal faults, the stored DTC is latched forever.

The SIACM receives battery current on a fused ignition switch output (run-start) circuit through a fuse in the Integrated Power Module (IPM). The SIACM has a case ground through its mounting bracket and also receives a power ground through a ground circuit and take out of the body wire harness. This take out has a single eyelet terminal connector that is secured by a ground screw to the body sheet metal. These connections allow the SIACM to be operational whenever the ignition switch is in the Start or On positions. An electronic impact sensor is contained within the SIACM. The electronic impact sensor is an accelerometer that senses the rate of vehicle deceleration, which provides verification of the direction and severity of an impact. A pre-programmed decision algorithm in the SIACM microprocessor determines when the deceleration rate as signaled by the impact sensor indicates a side impact that is severe enough to require side curtain airbag protection. When the programmed conditions are met, the SIACM sends the proper electrical signals to deploy the side curtain airbag.

The hard wired inputs and outputs for the SIACM may be diagnosed and tested using conventional diagnostic tools and procedures. However, conventional diagnostic methods will not prove conclusive in the diagnosis of the SIACM, the PCI data bus network, or the electronic message inputs to and outputs from the SIACM. The most reliable, efficient, and accurate means to diagnose the SIACM, the PCI data bus network, and the electronic message inputs to and outputs from the SIACM requires the use of a DRBIII® scan tool. Refer to the appropriate diagnostic information.

SIDE IMPACT AIRBAG CONTROL MODULE (Continued)

REMOVAL

REMOVAL

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: THE SIDE IMPACT AIRBAG CONTROL MODULE CONTAINS THE IMPACT SENSOR, WHICH ENABLES THE SYSTEM TO DEPLOY THE SIDE CURTAIN AIRBAGS. NEVER STRIKE OR DROP THE SIDE IMPACT AIRBAG CONTROL MODULE, AS IT CAN DAMAGE THE IMPACT SENSOR OR AFFECT ITS CALIBRATION. IF A SIDE IMPACT AIRBAG CONTROL MODULE IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER SIDE CURTAIN AIRBAG DEPLOYMENT AND POSSIBLE OCCUPANT INJURIES.

(1) Adjust the front seat to its most forward position for easiest access to the lower B-pillar trim.

(2) Disconnect and isolate the battery negative cable. Wait two minutes for the system capacitor to discharge before further service.

(3) Remove the front outboard seat belt and retractor from the inside of the B-pillar. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT OUTBOARD SEAT BELT & RETRACTOR - REMOVAL - STANDARD CAB).

(4) Remove the four screws that secure the Side Impact Airbag Control Module (SIACM) mounting bracket to the inside of the B-pillar (Fig. 51).

(5) Reach through the retractor mounting hole in the inner B-pillar to access and disengage the two plastic push-in fasteners that secure the SIACM to the inside of the B-pillar.

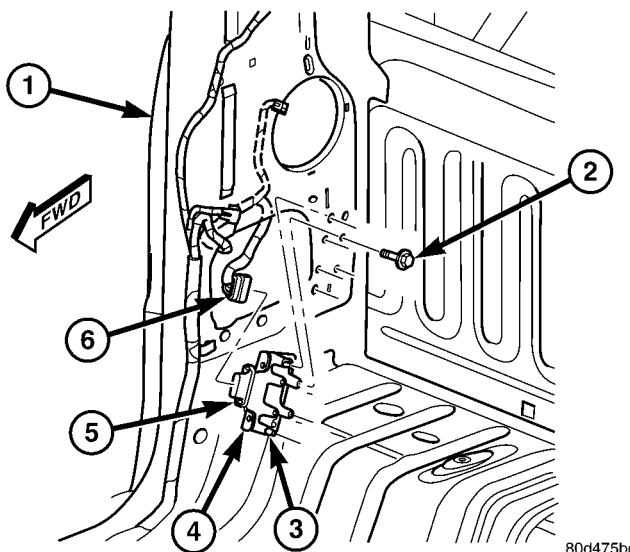


Fig. 51 Side Impact Airbag Control Module Remove/Install - Std Cab

- 1 - B-PILLAR
- 2 - SCREW (4)
- 3 - FASTENER (2)
- 4 - BRACKET
- 5 - SIACM
- 6 - WIRE HARNESS CONNECTOR

(6) Pull the SIACM and mounting bracket out through the retractor mounting hole far enough to access and disconnect the body wire harness connector for the SIACM from the module connector receptacle.

(7) Remove the SIACM and its mounting bracket from the B-pillar as a unit.

REMOVAL

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

SIDE IMPACT AIRBAG CONTROL MODULE (Continued)

WARNING: THE SIDE IMPACT AIRBAG CONTROL MODULE CONTAINS THE IMPACT SENSOR, WHICH ENABLES THE SYSTEM TO DEPLOY THE SIDE CURTAIN AIRBAGS. NEVER STRIKE OR DROP THE SIDE IMPACT AIRBAG CONTROL MODULE, AS IT CAN DAMAGE THE IMPACT SENSOR OR AFFECT ITS CALIBRATION. IF A SIDE IMPACT AIRBAG CONTROL MODULE IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER SIDE CURTAIN AIRBAG DEPLOYMENT AND POSSIBLE OCCUPANT INJURIES.

(1) Adjust the front seat to its most forward position for easiest access to the lower B-pillar trim.

(2) Disconnect and isolate the battery negative cable. Wait two minutes for the system capacitor to discharge before further service.

(3) Remove the front outboard seat belt and retractor from the inside of the B-pillar. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT OUTBOARD SEAT BELT & RETRACTOR - REMOVAL - QUAD CAB).

(4) Remove the four screws that secure the Side Impact Airbag Control Module (SIACM) mounting bracket to the inside of the B-pillar (Fig. 52).

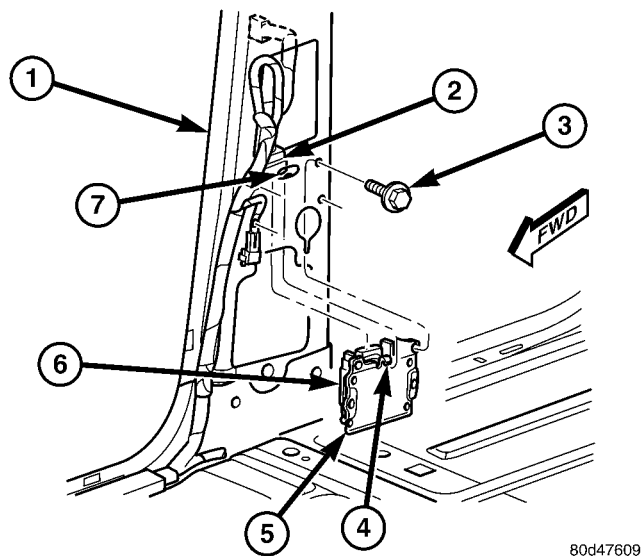


Fig. 52 Side Impact Airbag Control Module Remove/Install - Quad Cab

- 1 - B-PILLAR
- 2 - WIRE HARNESS CONNECTOR
- 3 - SCREW (4)
- 4 - HOOK
- 5 - BRACKET
- 6 - SIACM
- 7 - SLOT

(5) Reach through the retractor mounting hole in the inner B-pillar to access the SIACM and lift it upward far enough to disengage the hook on the mounting bracket from the slot on the inner B-pillar.

(6) Pull the SIACM and mounting bracket out through the retractor mounting hole far enough to access and disconnect the body wire harness connector for the SIACM from the module connector receptacle.

(7) Remove the SIACM and its mounting bracket from the B-pillar as a unit.

INSTALLATION

INSTALLATION

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: THE SIDE IMPACT AIRBAG CONTROL MODULE CONTAINS THE IMPACT SENSOR, WHICH ENABLES THE SYSTEM TO DEPLOY THE SIDE CURTAIN AIRBAGS. NEVER STRIKE OR DROP THE SIDE IMPACT AIRBAG CONTROL MODULE, AS IT CAN DAMAGE THE IMPACT SENSOR OR AFFECT ITS CALIBRATION. IF A SIDE IMPACT AIRBAG CONTROL MODULE IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER SIDE CURTAIN AIRBAG DEPLOYMENT AND POSSIBLE OCCUPANT INJURIES.

(1) Position the Side Impact Airbag Control Module (SIACM) and its mounting bracket to the B-pillar as a unit (Fig. 51).

(2) Reconnect the body wire harness connector for the SIACM to the module connector receptacle.

(3) Reach through the retractor mounting hole in the inner B-pillar to position and engage the two

SIDE IMPACT AIRBAG CONTROL MODULE (Continued)

plastic push-in fasteners that secure the SIACM to the inside of the B-pillar.

(4) Loosely install the four screws that secure the SIACM mounting bracket to the base of the B-pillar.

(5) Tighten the four screws that secure the SIACM mounting bracket to the B-pillar in the following sequence: upper left, lower right, lower left, upper right. Tighten the screws to 12 N·m (105 in. lbs.).

(6) Reinstall the front outboard seat belt and retractor to the inside of the B-pillar. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT OUTBOARD SEAT BELT & RETRACTOR - INSTALLATION - STANDARD CAB).

(7) Do not reconnect the battery negative cable at this time. The supplemental restraint system verification test procedure should be performed following service of any supplemental restraint system component. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - VERIFICATION TEST).

INSTALLATION

WARNING: ON VEHICLES EQUIPPED WITH AIRBAGS, DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, DRIVER AIRBAG, PASSENGER AIRBAG, SEAT BELT TENSIONER, SIDE CURTAIN AIRBAG, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. DISCONNECT AND ISOLATE THE BATTERY NEGATIVE (GROUND) CABLE, THEN WAIT TWO MINUTES FOR THE SYSTEM CAPACITOR TO DISCHARGE BEFORE PERFORMING FURTHER DIAGNOSIS OR SERVICE. THIS IS THE ONLY SURE WAY TO DISABLE THE SUPPLEMENTAL RESTRAINT SYSTEM. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIRBAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

WARNING: THE SIDE IMPACT AIRBAG CONTROL MODULE CONTAINS THE IMPACT SENSOR, WHICH

ENABLES THE SYSTEM TO DEPLOY THE SIDE CURTAIN AIRBAGS. NEVER STRIKE OR DROP THE SIDE IMPACT AIRBAG CONTROL MODULE, AS IT CAN DAMAGE THE IMPACT SENSOR OR AFFECT ITS CALIBRATION. IF A SIDE IMPACT AIRBAG CONTROL MODULE IS ACCIDENTALLY DROPPED DURING SERVICE, THE MODULE MUST BE SCRAPPED AND REPLACED WITH A NEW UNIT. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN ACCIDENTAL, INCOMPLETE, OR IMPROPER SIDE CURTAIN AIRBAG DEPLOYMENT AND POSSIBLE OCCUPANT INJURIES.

(1) Position the Side Impact Airbag Control Module (SIACM) and its mounting bracket to the B-pillar as a unit (Fig. 52).

(2) Reconnect the body wire harness connector for the SIACM to the module connector receptacle.

(3) Reach through the retractor mounting hole in the inner B-pillar to position and engage the hook on the SIACM mounting bracket in the slot of the inner B-pillar.

(4) Loosely install the four screws that secure the SIACM mounting bracket to the inner B-pillar.

(5) Tighten the four screws that secure the SIACM mounting bracket to the B-pillar in the following sequence: upper left, lower right, lower left, upper right. Tighten the screws to 12 N·m (105 in. lbs.).

(6) Reinstall the front outboard seat belt and retractor to the inside of the B-pillar. (Refer to 8 - ELECTRICAL/RESTRAINTS/FRONT OUTBOARD SEAT BELT & RETRACTOR - INSTALLATION - QUAD CAB).

(7) Do not reconnect the battery negative cable at this time. The supplemental restraint system verification test procedure should be performed following service of any supplemental restraint system component. (Refer to 8 - ELECTRICAL/RESTRAINTS - STANDARD PROCEDURE - VERIFICATION TEST).