POWER DISTRIBUTION SYSTEMS

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DESCRIPTION AND OPERATION

POWER DISTRIBUTION SYSTEM

DESCRIPTION

This group covers the various standard and optional power distribution components used on this model. The power distribution system for this vehicle consists of the following components:

- Power Distribution Center (PDC)
- Junction Block (JB)
- Rear Power Outlet.

The power distribution system also incorporates various types of circuit control and protection features, including:

- Automatic resetting circuit breakers
- Blade-type fuses
- Bus bars
- Cartridge fuses
- Circuit splice blocks
- Flashers
- Fusible links
- Relays.

Following are general descriptions of the major components in the power distribution system. See the owner's manual in the vehicle glove box for more information on the features and use of all of the power distribution system components. Refer to the index in this service manual for the location of complete circuit diagrams for the various power distribution system components.

OPERATION

The power distribution system for this vehicle is designed to provide safe, reliable, and centralized distribution points for the electrical current required to operate all of the many standard and optional factory-installed electrical and electronic powertrain, chassis, safety, security, comfort and convenience systems. At the same time, the power distribution system was designed to provide ready access to these electrical distribution points for the vehicle technician to use when conducting diagnosis and repair of faulty circuits. The power distribution system can also prove useful for the sourcing of additional electrical circuits that may be required to provide the electrical current needed to operate many accessories that the vehicle owner may choose to have installed in the aftermarket.

POWER DISTRIBUTION CENTER

DESCRIPTION

All of the electrical current distributed throughout this vehicle is directed through the standard equipment Power Distribution Center (PDC) (Fig. 1). The molded plastic PDC housing is located in the right front corner of the engine compartment, between the battery and the right front inner fender shield. The PDC houses up to fifteen maxi-type cartridge fuses, which replace all in-line fusible links. The PDC also houses up to thirteen blade-type mini fuses, and up to ten International Standards Organization (ISO) relays (two standard-type and eight micro-type).

DESCRIPTION AND OPERATION (Continued)

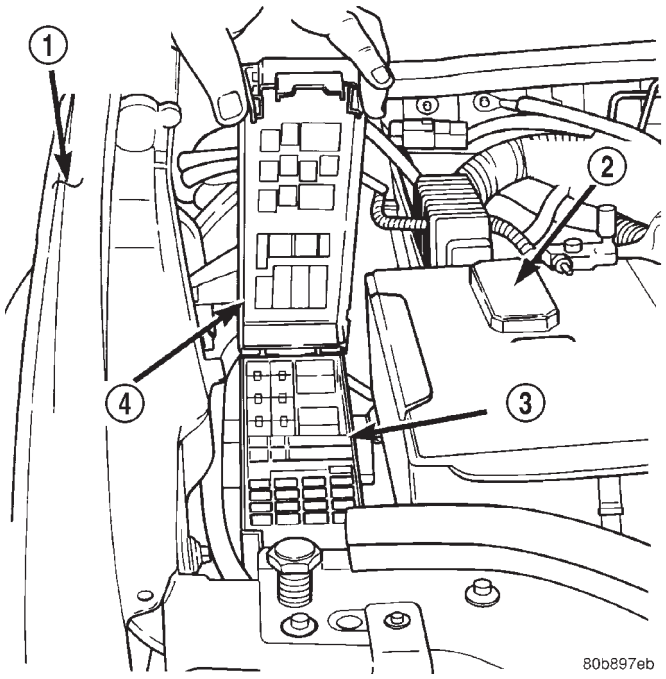


Fig. 1 Power Distribution Center Location

1 – RIGHT FENDER
2 – BATTERY
3 – POWER DISTRIBUTION CENTER
4 – COVER

The PDC housing is secured in the engine compartment at three points. Integral mounts on both sides of the PDC housing engage and latch to stanchions that are integral to the molded plastic battery support. The PDC is integral to the right headlamp and dash wire harness, which exits from the bottom of the PDC housing. The PDC housing has a molded plastic cover that includes two integral latches at the front and pivot hooks at the back that snap over a hinge pin on the rear of the PDC housing. The PDC cover is easily opened or removed for service access and has a convenient fuse and relay layout map integral to the inside surface of the cover to ensure proper component identification. A fuse puller is also stored on the inside of the PDC cover.

The PDC cover, the PDC housing lower cover, the PDC relay wedges, the PDC relay cassettes and the PDC B(+) terminal stud module are available for service replacement. The PDC main housing unit, the fuse wedges and the bus bars cannot be repaired and are only serviced as a unit with the right headlamp and dash wire harness. If the PDC main housing unit, fuse wedges or the bus bars are faulty or damaged, the right headlamp and dash wire harness unit must be replaced.

OPERATION

All of the current from the battery and the generator output enters the PDC through two cables and a single two-holed eyelet that is secured with nuts to the two PDC B(+) terminal studs just inside the front end of the PDC housing. The PDC cover is unlatched and opened to access the battery and generator output connection B(+) terminal studs, the fuses or the relays. Internal connection of all of the PDC circuits is accomplished by an intricate combination of hard wiring and bus bars. Refer to **Power Distribution** in the index of this service manual for the location of complete PDC circuit diagrams.

IGNITION-OFF DRAW FUSE

DESCRIPTION

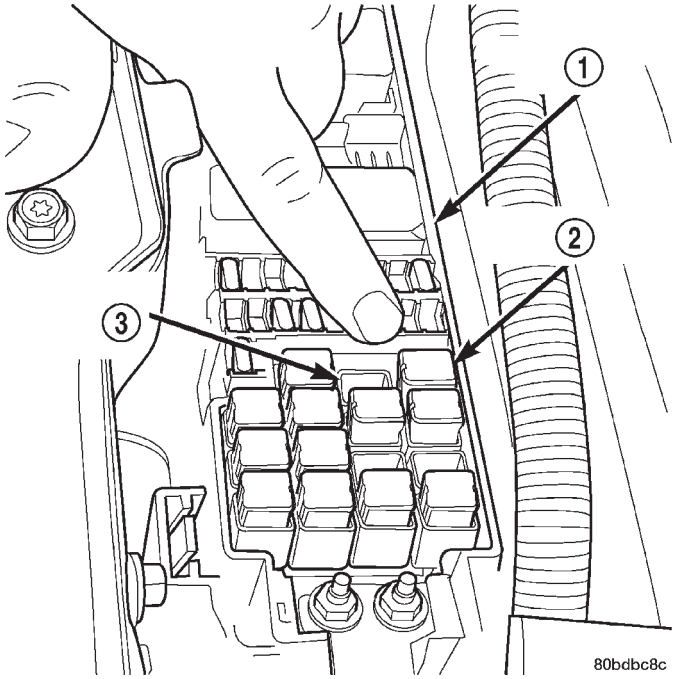


Fig. 2 Ignition-Off Draw Fuse

1 – POWER DISTRIBUTION CENTER
2 – IGNITION-OFF DRAW FUSE
3 – IOD FUSE STORAGE CAVITY

All vehicles are equipped with an Ignition-Off Draw (IOD) fuse (Fig. 2) that is removed from its cavity in the Power Distribution Center (PDC) when the vehicle is shipped from the factory. Dealer personnel are to remove the IOD fuse from the storage location and install it into PDC fuse cavity 15 as part of the preparation procedures performed just prior to new vehicle delivery.

DESCRIPTION AND OPERATION (Continued)

The PDC has a molded plastic cover that can be removed to provide service access to all of the fuses and relays in the PDC. An integral latch and hinges are molded into the PDC cover for easy removal. A fuse layout map is integral to the underside of the PDC cover to ensure proper fuse and relay identification. The IOD fuse is a 50 ampere maxi-type cartridge fuse and, when removed, it is stored in a spare fuse cavity within the PDC.

OPERATION

The term ignition-off draw identifies a normal condition where power is being drained from the battery with the ignition switch in the Off position. The IOD fuse feeds the memory and sleep mode functions for some of the electronic modules in the vehicle as well as various other accessories that require battery current when the ignition switch is in the Off position, including the clock. The only reason the IOD fuse is removed is to reduce the normal IOD of the vehicle electrical system during new vehicle transportation and pre-delivery storage to reduce battery depletion, while still allowing vehicle operation so that the vehicle can be loaded, unloaded and moved as needed by both vehicle transportation company and dealer personnel.

The IOD fuse is removed from PDC fuse cavity 15 when the vehicle is shipped from the assembly plant. Dealer personnel must install the IOD fuse when the vehicle is being prepared for delivery in order to restore full electrical system operation. Once the vehicle is prepared for delivery, the IOD function of this fuse becomes transparent and the fuse that has been assigned the IOD designation becomes only another Fused B(+) circuit fuse. The IOD fuse serves no useful purpose to the dealer technician in the service or diagnosis of any vehicle system or condition, other than the same purpose as that of any other standard circuit protection device.

The IOD fuse can be used by the vehicle owner as a convenient means of reducing battery depletion when a vehicle is to be stored for periods not to exceed about thirty days. However, it must be remembered that removing the IOD fuse will not eliminate IOD, but only reduce this normal condition. If a vehicle will be stored for more than about thirty days, the battery negative cable should be disconnected to eliminate normal IOD; and, the battery should be tested and recharged at regular intervals during the vehicle storage period to prevent the battery from becoming discharged or damaged. Refer to **Battery** in the index of this service manual for the location of additional service information covering the battery.

JUNCTION BLOCK

DESCRIPTION

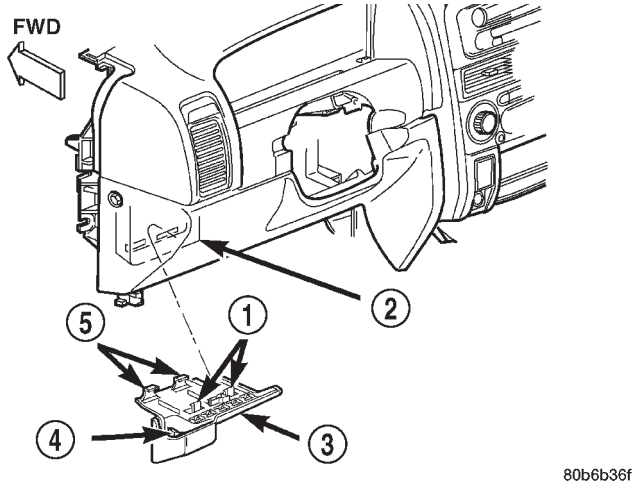


Fig. 3 Junction Block Location

1 – REAR LATCHES
2 – JUNCTION BLOCK AND BODY CONTROL MODULE UNIT
3 – INSTRUMENT PANEL FUSE COVER
4 – SIDE LATCH
5 – FRONT LATCHES

An electrical Junction Block (JB) is concealed beneath the driver side of the instrument panel in the passenger compartment of the vehicle (Fig. 3). The JB combines the functions previously provided by a separate fuseblock module and relay center. The JB serves to simplify and centralize numerous electrical components, as well as to distribute electrical current to many of the accessory systems in the vehicle. It also eliminates the need for numerous splice connections. The JB houses up to thirty-three blade-type mini fuses, up to two blade-type automatic resetting circuit breakers, the electronic combination flasher, the Daytime Running Lamp (DRL) module (Canada only) and up to twelve International Standards Organization (ISO) relays (three standard-type and nine micro-type). The JB also incorporates an integral connector and mounting for the Body Control Module (BCM). The BCM is secured with four screws directly to the dash panel side of the JB. Refer to **Body Control Module** in the index of this service manual for the location of more information covering the BCM.

The molded plastic JB housing has integral mounts that are secured with two screws and two snap retainers to the instrument panel steering column support bracket behind the instrument panel steering column opening cover. The JB is concealed above the molded plastic instrument panel fuse cover. Integral latches molded into the fuse cover secure it the JB, the BCM and the 16-way data link connector tab

DESCRIPTION AND OPERATION (Continued)

of the instrument panel steering column support bracket. The fuse cover can be pulled downward to disengage the latches and provide service access to all of the fuses, relays and wire harness connectors of the JB. The fuse cover has a fuse puller and spare fuses secured to its upper surface. Refer to **Instrument Panel Fuse Cover** in the index of this service manual for the location of additional service information covering the fuse cover.

The JB unit cannot be repaired and is only serviced as an assembly. If any internal circuit or the JB housing is faulty or damaged, the entire JB unit must be replaced. The BCM is available for separate service replacement.

OPERATION

All of the circuits entering and leaving the JB do so through up to five wire harness connectors, which are connected to the JB through integral connector receptacles molded into the JB housing. Internal connection of all of the JB circuits is accomplished by a printed circuit board. There are also two separate wire harness connections to connector receptacles that are integral to the BCM. Refer to **Junction Block** in the index of this service manual for the location of complete JB circuit diagrams.

IGNITION-OFF DRAW CONNECTOR

DESCRIPTION

All vehicles are equipped with an Ignition-Off Draw (IOD) connector that is located in a molded connector receptacle on the lower rear surface of the Junction Block (JB) housing (Fig. 4). The JB is concealed above the molded plastic instrument panel fuse cover. Integral latches molded into the fuse cover secure it the JB, the Body Control Module (BCM) and the 16-way data link connector tab of the instrument panel steering column support bracket. The fuse cover can be pulled downward to disengage the latches and provide service access to all of the fuses, relays and wire harness connectors of the JB. Refer to **Instrument Panel Fuse Cover** in the index of this service manual for the location of additional service information covering the fuse cover.

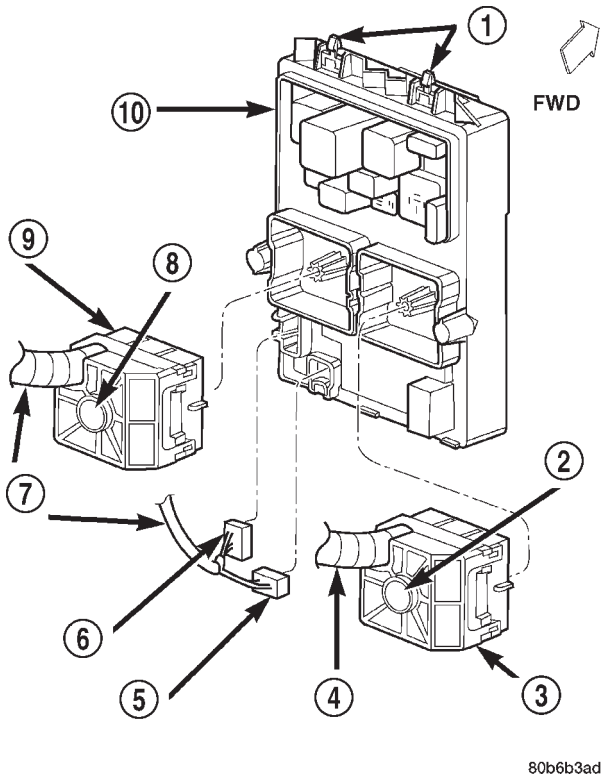


Fig. 4 Ignition-Off Draw Connector

1 – SNAP CLIPS
2 – SCREW
3 – BULKHEAD CONNECTOR
4 – LEFT BODY WIRE HARNESS
5 – IOD CONNECTOR
6 – FUSED B+ CONNECTOR
7 – RIGHT BODY WIRE HARNESS
8 – SCREW
9 – BULKHEAD CONNECTOR
10 – JUNCTION BLOCK

OPERATION

The term ignition-off draw identifies a normal condition where power is being drained from the battery with the ignition switch in the Off position. The IOD connector feeds the memory and sleep mode functions for some of the electronic modules in the vehicle as well as various other accessories that require battery current when the ignition switch is in the Off position, including the clock.

DESCRIPTION AND OPERATION (Continued)

The IOD connector can be used by the vehicle owner as a convenient means of reducing battery depletion when a vehicle is to be stored for periods not to exceed about twenty days (short-term storage). Simply disconnect the IOD connector from the JB receptacle. However, it must be remembered that disconnecting the IOD connector will not eliminate IOD, but only reduce this normal condition. When a vehicle will not be used for more than twenty days, but less than thirty days, remove the IOD fuse from the Power Distribution Center (PDC). If a vehicle will be stored for more than about thirty days, the battery negative cable should be disconnected to eliminate normal IOD; and, the battery should be tested and recharged at regular intervals during the vehicle storage period to prevent the battery from becoming discharged or damaged. Refer to **Ignition-Off Draw Fuse** and **Battery** in the index in this service manual for the location of additional service information covering the ignition-off draw fuse and the battery.

REAR POWER OUTLET

DESCRIPTION

A rear accessory power outlet is optional equipment on this model. The rear power outlet is installed in the lower right quarter trim panel near the right liftgate opening pillar in the cargo area of the vehicle. The power outlet base and mount are secured by a snap fit within the quarter trim panel. A plastic protective cap snaps into the power outlet base when the power outlet is not being used, and hangs from the power outlet base mount by an integral bail strap while the power outlet is in use. While the power outlet is very similar to a cigar lighter base unit, it does not include the two small spring-clip retainers inside the bottom of the receptacle shell that are used to secure the cigar lighter heating element to the insulated contact.

The power outlet receptacle unit and the accessory power outlet protective cap are available for service. The power outlet receptacle cannot be repaired and, if faulty or damaged, it must be replaced.

OPERATION

The power outlet base or receptacle shell is connected to ground, and an insulated contact in the bottom of the shell is connected to battery current. The power outlet receives battery voltage from a fuse in the Power Distribution Center (PDC) through a fuse in the Junction Block (JB) at all times. Refer to **Horn/Cigar Lighter/Power Outlet** in the index of this service manual for the location of complete rear power outlet circuit diagrams.

DIAGNOSIS AND TESTING

REAR POWER OUTLET

Refer to **Horn/Cigar Lighter/Power Outlet** in the index of this service manaul for the location of complete rear power outlet circuit diagrams.

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

(1) Check the fused B(+) fuse in the Junction Block (JB). If OK, go to Step 2. If not OK, repair the shorted circuit or component as required and replace the faulty fuse.

(2) Check for battery voltage at the fused B(+) fuse in the JB. If OK, go to Step 3. If not OK, repair the open fused B(+) circuit to the Power Distribution Center (PDC) as required.

(3) Remove the plastic protective cap from the rear power outlet receptacle. Check for continuity between the inside circumference of the rear power outlet receptacle and a good ground. There should be continuity. If OK, go to Step 4. If not OK, go to Step 5.

(4) Check for battery voltage at the insulated contact located at the back of the rear power outlet receptacle. If not OK, go to Step 5.

(5) Disconnect and isolate the battery negative cable. Remove the rear power outlet from the right quarter trim panel. Check for continuity between the ground circuit cavity of the rear power outlet wire harness connector and a good ground. There should be continuity. If OK, go to Step 6. If not OK, repair the open ground circuit to ground as required.

(6) Connect the battery negative cable. Check for battery voltage at the fused B(+) circuit cavity of the rear power outlet wire harness connector. If OK, replace the faulty rear power outlet receptacle base. If not OK, repair the open fused B(+) circuit to the JB fuse as required.

REMOVAL AND INSTALLATION

POWER DISTRIBUTION CENTER

The Power Distribution Center (PDC) main housing unit, the PDC fuse wedges and the PDC bus bars cannot be repaired and are only serviced as a unit with the right headlamp and dash wire harness. If the PDC main housing unit, the fuse wedges or the bus bars are faulty or damaged, the entire PDC and right headlamp and dash wire harness unit must be replaced.

REMOVAL

(1) Disconnect and isolate the battery negative cable.

(2) Disconnect each of the right headlamp and dash wire harness connectors. Refer to **Connector Locations** in the index of this service manual for the location of more information on the right headlamp and dash wire harness connector locations.

(3) Remove all of the fasteners that secure each of the right headlamp and dash wire harness ground eyelets to the vehicle body and chassis components. Refer to **Connector Locations** in the index of this service manual for the location of more information on the ground eyelet locations.

(4) Disengage each of the retainers that secure the right headlamp and dash wire harness to the vehicle body and chassis components. Refer to **Connector Locations** in the index of this service manual for the location of more information on the right headlamp and dash wire harness retainer locations.

(5) Unlatch and open the PDC cover.

(6) Remove the two nuts that secure the two-holed eyelet of the battery wire harness PDC take outs to the PDC B(+) terminal studs (Fig. 5).

(7) Remove the battery wire harness PDC take out eyelet from the B(+) terminal studs.

(8) Disengage the latches on the PDC housing mounts from the tabs on the PDC mounting stanchions of the battery support, and pull the PDC housing upward to disengage the mounts from the stanchions (Fig. 6).

(9) Remove the PDC and the right headlamp and dash wire harness from the engine compartment as a unit.

INSTALLATION

(1) Position the PDC and the right headlamp and dash wire harness unit in the engine compartment.

(2) Engage the PDC housing mounts with the stanchions of the battery support and push the unit downward until the mount latches fully engage the mounting tabs on the stanchions.

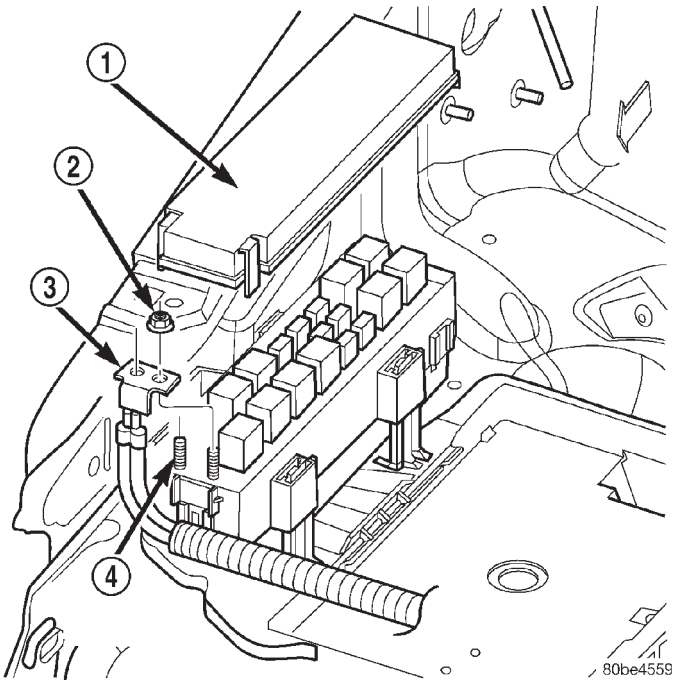


Fig. 5 Power Distribution Center Connections

1 – PDC COVER
2 – NUT (2)
3 – EYELET
4 – B(+) TERMINAL STUDS

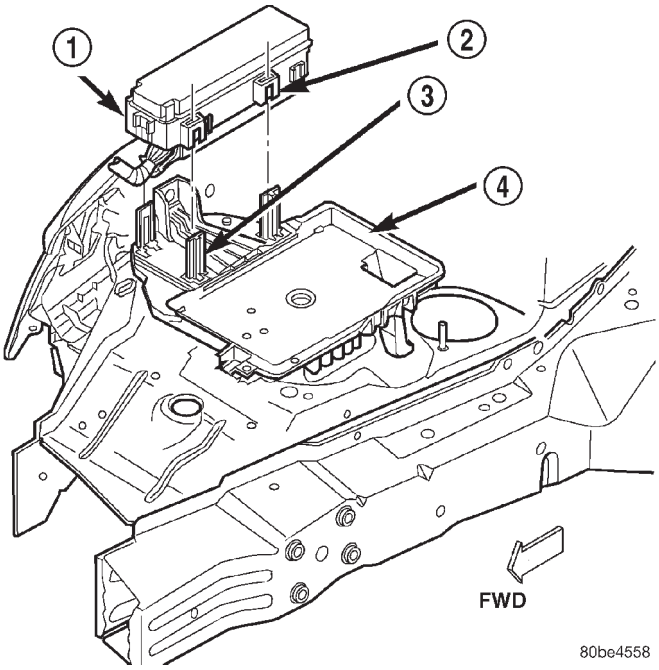


Fig. 6 Power Distribution Center Remove/Install

1 – POWER DISTRIBUTION CENTER
2 – MOUNTS
3 – STANCHIONS (3)
4 – BATTERY SUPPORT

REMOVAL AND INSTALLATION (Continued)

(3) Install the two-holed eyelet of the battery wire harness PDC take outs onto the two PDC B(+) terminal studs.

(4) Install and tighten the nuts that secure the eyelet of the battery wire harness PDC take outs to the B(+) terminal studs. Tighten the nuts to 11.3 N·m (100 in. lbs.).

(5) Engage each of the retainers that secure the right headlamp and dash wire harness to the vehicle body and chassis components. Refer to **Connector Locations** in the index of this service manual for the location of more information on the right headlamp and dash wire harness retainer locations.

(6) Install all of the fasteners that secure each of the right headlamp and dash wire harness ground eyelets to the vehicle body and chassis components. Refer to **Connector Locations** in the index of this service manual for the location of more information on the ground eyelet locations.

(7) Reconnect each of the right headlamp and dash wire harness connectors. Refer to **Connector Locations** in the index of this service manual for the location of more information on the right headlamp and dash wire harness connector locations. For connectors secured with screws, tighten the screws to 4.3 N·m (38 in. lbs.).

(8) Reconnect the battery negative cable.

IGNITION-OFF DRAW FUSE

The Ignition-Off Draw (IOD) fuse is removed from Power Distribution Center (PDC) fuse cavity 15 (Fig. 7) when the vehicle is shipped from the assembly plant. Dealer personnel must install the IOD fuse when the vehicle is being prepared for delivery in order to restore full electrical system operation.

NOTE: When removing or installing the IOD fuse, it is important that the ignition switch be in the Off position. Failure to place the ignition switch in the Off position can cause the radio display to become scrambled when the IOD fuse is installed. Removing and installing the IOD fuse again with the ignition switch in the Off position will usually correct the scrambled radio display condition.

REMOVAL

(1) Turn the ignition switch to the Off position.

(2) Unlatch and open the cover of the PDC.

(3) Remove the IOD fuse from fuse cavity 15 of the PDC.

(4) Store the removed IOD fuse by installing it in the unused fuse storage cavity 11 of the PDC.

(5) Close and latch the PDC cover.

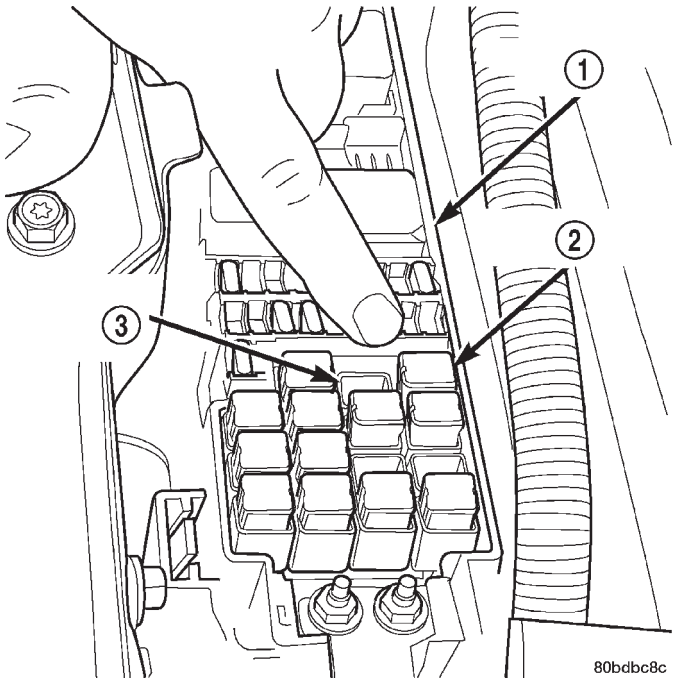


Fig. 7 Ignition-Off Draw Fuse

1 – POWER DISTRIBUTION CENTER
2 – IGNITION-OFF DRAW FUSE
3 – IOD FUSE STORAGE CAVITY

INSTALLATION

(1) Turn the ignition switch to the Off position.

(2) Unlatch and open the cover of the PDC.

(3) Remove the stored IOD fuse from fuse storage cavity 11 of the PDC.

(4) Align the terminal receptacles of the IOD fuse with the terminal blades in fuse cavity 15 of the PDC.

(5) Use a thumb to press the IOD fuse firmly down into PDC fuse cavity 15.

(6) Close and latch the PDC cover.

JUNCTION BLOCK

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

REMOVAL AND INSTALLATION (Continued)

REMOVAL

(1) Disconnect and isolate the battery negative cable.

(2) Remove the fuse cover from the bottom of the Junction Block (JB). Refer to **Instrument Panel Fuse Cover** in the index of this service manual for the location of the fuse cover removal procedures.

(3) Remove the steering column opening cover from the instrument panel. Refer to **Steering Column Opening Cover** in the index of this service manual for the location of steering column opening cover removal procedures.

(4) Reach behind the JB to disconnect the two instrument panel wire harness connectors from the Body Control Module (BCM) connector receptacles located near the bottom of the JB (Fig. 8).

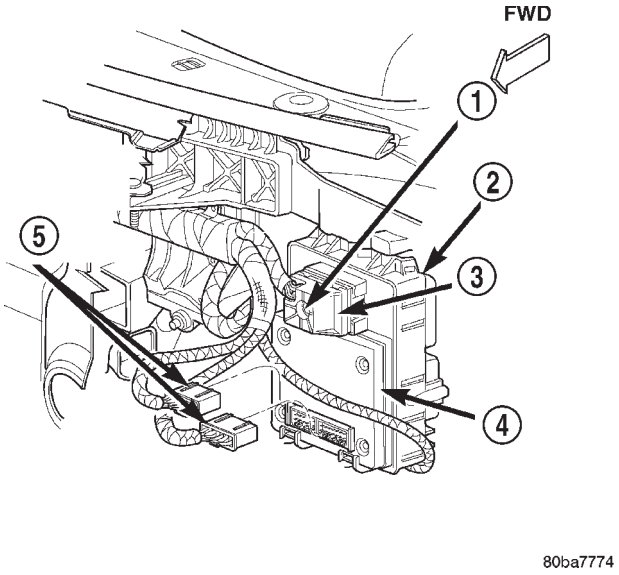


Fig. 8 Junction Block Connections

1 – SCREW
2 – JUNCTION BLOCK
3 – BULKHEAD CONNECTOR
4 – BODY CONTROL MODULE
5 – INSTRUMENT PANEL WIRE HARNESS CONNECTORS

(5) Reach behind the JB to remove the screw that secures the instrument panel wire harness bulkhead connector to the connector receptacle located near the top of the JB and disconnect the connector.

(6) Disconnect the fused B(+) and the IOD wire harness connectors from the connector receptacles located near the bottom of the JB (Fig. 9).

(7) Remove the screws that secure the right and left body wire harness bulkhead connectors to the connector receptacles located near the center of the JB and disconnect the connectors.

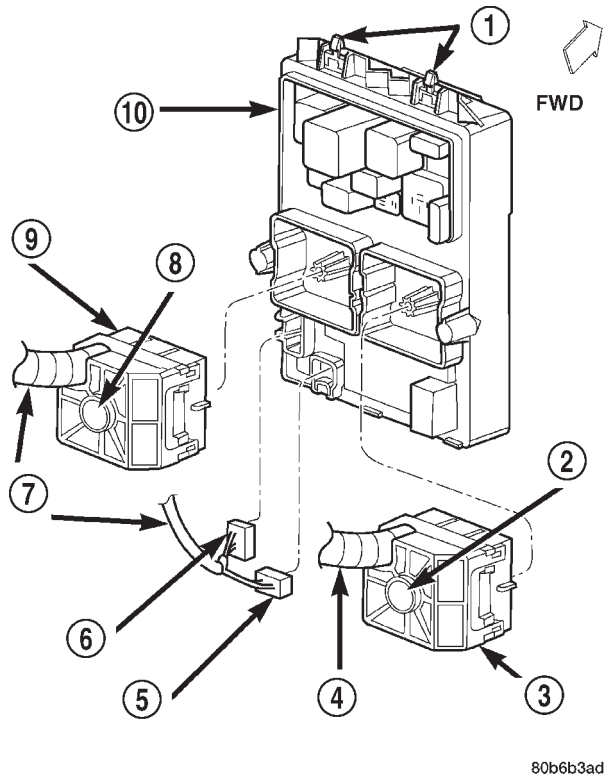


Fig. 9 Junction Block Connections

1 – SNAP CLIPS
2 – SCREW
3 – BULKHEAD CONNECTOR
4 – LEFT BODY WIRE HARNESS
5 – IOD CONNECTOR
6 – FUSED B+ CONNECTOR
7 – RIGHT BODY WIRE HARNESS
8 – SCREW
9 – BULKHEAD CONNECTOR
10 – JUNCTION BLOCK

(8) Remove the two screws that secure the JB to the instrument panel steering column support bracket (Fig. 10).

(9) To disengage the two snap clips that secure the top of the JB to the instrument panel steering column support bracket, grasp the bottom of the junction block firmly with both hands and pull it downward sharply.

(10) Remove the JB from the instrument panel steering column support bracket.

REMOVAL AND INSTALLATION (Continued)

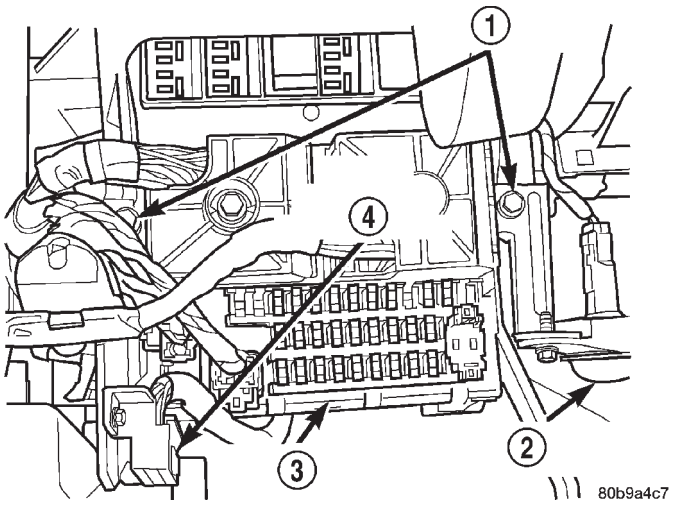


Fig. 10 Junction Block Remove/Install

1 – SCREW (2)
2 – DRIVER SIDE COURTESY LAMP
3 – JUNCTION BLOCK
4 – 16 WAY DATA LINK CONNECTOR

INSTALLATION

NOTE: If the Junction Block (JB) is being replaced with a new unit, be certain to transfer each of the optional fuses, circuit breakers and relays from the faulty JB to the proper cavities of the replacement JB. Refer to Junction Block in the index of this service manual for the location of complete circuit diagrams and cavity assignments for the JB. The Body Control Module (BCM) must also be transferred to the new JB. Refer to Body Control Module in the index of this service manual for the location of the BCM removal and installation procedures.

(1) Position the JB into its mounting location on the instrument panel steering column support bracket.

(2) Align the snap clips at the top of the JB with the mounting holes in the instrument panel steering column support bracket.

(3) Grasp the bottom of the JB firmly with both hands and push it upward sharply to engage the two snap clips that secure the top of the JB to the instrument panel steering column support bracket.

(4) Install and tighten the two screws that secure the JB to the instrument panel steering column support bracket. Tighten the screws to 2.2 N·m (20 in. lbs.).

(5) Reconnect the right and left body wire harness bulkhead connectors to the connector receptacles located near the center of the JB.

(6) Install and tighten the screws that secure the right and left body wire harness bulkhead connectors to the connector receptacles located near the center of the JB. Tighten the screws to 2.2 N·m (20 in. lbs.).

(7) Reconnect the fused B(+) and the IOD wire harness connectors to the connector receptacles located near the bottom of the JB.

(8) Reach behind the JB to reconnect the instrument panel wire harness bulkhead connector to the connector receptacle located near the top of the JB.

(9) Install and tighten the screw that secures the instrument panel wire harness bulkhead connector to the connector receptacle located near the top of the JB. Tighten the screw to 2.2 N·m (20 in. lbs.).

(10) Reach behind the JB to reconnect the two instrument panel wire harness connectors to the BCM connector receptacles located near the bottom of the JB.

(11) Install the steering column opening cover onto the instrument panel. Refer to **Steering Column Opening Cover** in the index of this service manual for the location of the steering column opening cover installation procedures.

(12) Install the fuse cover onto the bottom of the JB. Refer to **Instrument Panel Fuse Cover** in the index of this service manual for the location of the fuse cover installation procedures.

(13) Reconnect the battery negative cable.

REAR POWER OUTLET

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

REMOVAL

(1) Disconnect and isolate the battery negative cable.

(2) Pull the protective cap out of the rear power outlet receptacle base (Fig. 11).

(3) Look inside the rear power outlet receptacle base and note the position of the rectangular retaining bosses of the mount that secures the receptacle base to the right quarter trim panel (Fig. 12).

REMOVAL AND INSTALLATION (Continued)

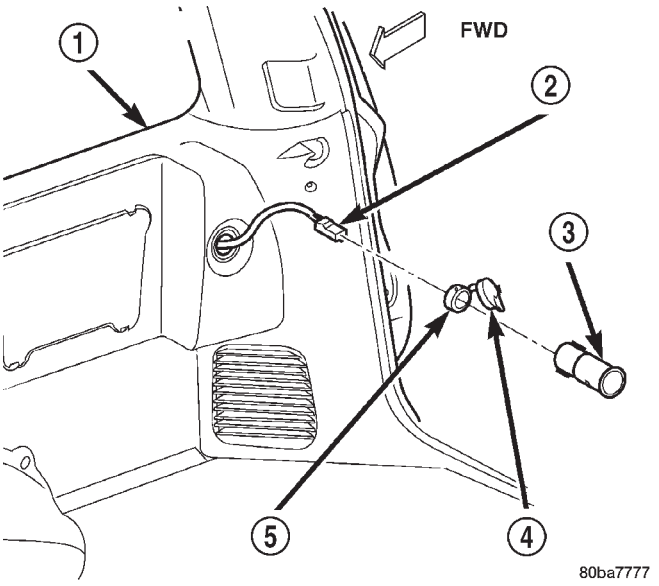


Fig. 11 Rear Power Outlet Remove/Install

1 – RIGHT QUARTER TRIM PANEL
2 – RIGHT BODY WIRE HARNESS CONNECTOR
3 – RECEPTACLE BASE
4 – PROTECTIVE CAP
5 – MOUNT

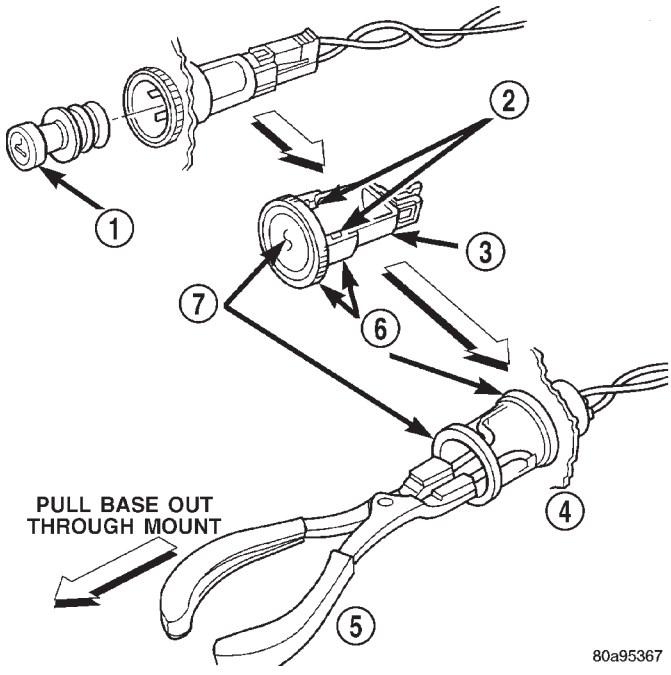


Fig. 12 Power Outlet Remove/Install - Typical

1 – KNOB AND ELEMENT
2 – RETAINING BOSSES-ENGAGE PLIERS HERE
3 – BASE
4 – PARTIALLY REMOVED
5 – EXTERNAL SNAP-RING PLIERS
6 – MOUNT
7 – BASE

(4) Insert a pair of external snap ring pliers into the rear power outlet receptacle base and engage the tips of the pliers with the retaining bosses of the mount.

(5) Squeeze the pliers to disengage the mount retaining bosses from the receptacle base and, using a gentle rocking motion, pull the pliers and the receptacle base out of the mount.

(6) Pull the rear power outlet receptacle base away from the right quarter trim panel far enough to access the wire harness connector.

(7) Disconnect the right body wire harness connector from the rear power outlet receptacle base connector receptacle.

(8) Remove the rear power outlet mount from the right quarter trim panel.

INSTALLATION

(1) Align the splines on the outside of the rear power outlet receptacle base connector receptacle with the grooves on the inside of the mount.

(2) Insert the rear power outlet receptacle base about half way through the mount.

(3) Reconnect the right body wire harness connector to the rear power outlet receptacle base connector receptacle.

(4) Insert the rear power outlet receptacle base and mount into the right quarter trim panel as a unit until the mount is seated flush against the trim panel.

(5) Press firmly on the rear power outlet receptacle base until the retaining bosses of the mount are fully engaged in their receptacles.

(6) Install the protective cap into the rear power outlet receptacle base.

(7) Reconnect the battery negative cable.

DISASSEMBLY AND ASSEMBLY

POWER DISTRIBUTION CENTER

The Power Distribution Center (PDC) cover, the PDC housing lower cover, the PDC relay wedges, the PDC relay cassettes and the PDC B(+) terminal stud module are available for service replacement (Fig. 13). The PDC cover can be simply unlatched and removed from the PDC housing without the PDC being removed or disassembled. Service of the remaining PDC components requires that the PDC be removed from its mounting and disassembled. Refer to **Wiring Repair** in the index of this service manual for the location of the wiring repair procedures.

DISASSEMBLY AND ASSEMBLY (Continued)

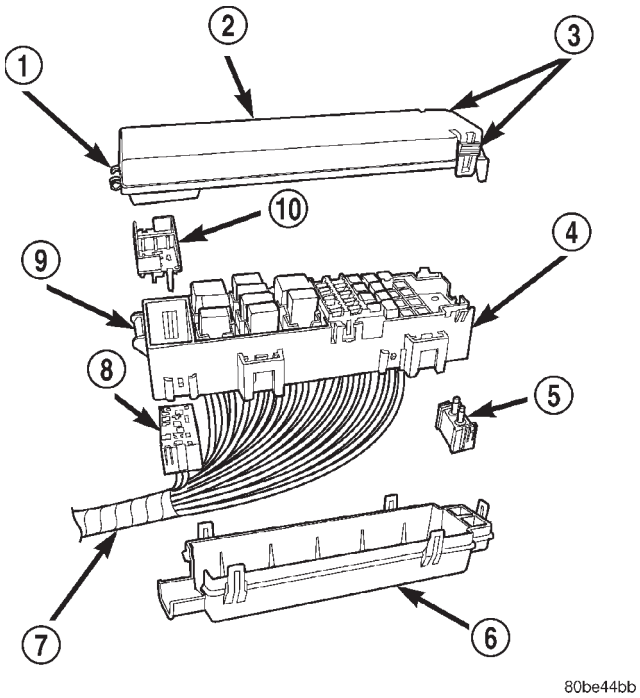


Fig. 13 Power Distribution Center Components

1 – PIVOT HOOKS
2 – COVER
3 – LATCHES
4 – PDC HOUSING
5 – B(+) TERMINAL STUD MODULE
6 – HOUSING LOWER COVER
7 – WIRE HARNESS
8 – RELAY CASSETTE (TYPICAL)
9 – HINGE PIN
10 – RELAY WEDGE (TYPICAL)

DISASSEMBLY

PDC HOUSING LOWER COVER

(1) Remove the battery from the battery support. Refer to **Battery** in the index of this service manual for the location of the battery removal procedures.

(2) Unlatch and remove the cover from the PDC.

(3) Remove the two nuts that secure the two-holed eyelet of the battery wire harness PDC take out to the B(+) terminal studs near the front of the PDC.

(4) Remove the battery wire harness PDC take out eyelet from the two PDC B(+) terminal studs.

(5) Disengage the latches on the PDC housing mounts from the tabs on the PDC mounting stanchions on the battery support, and pull the PDC housing upward to disengage the mounts from the stanchions.

(6) Where the right headlamp and dash wire harness exits the PDC, remove the tape that secures the wire harness to the trough formation on the PDC housing lower cover.

(7) Using a trim stick or another suitable wide flat-bladed tool, gently pry the latches on each side and the front of the PDC housing that secure the housing lower cover to the PDC and remove the housing lower cover (Fig. 14).

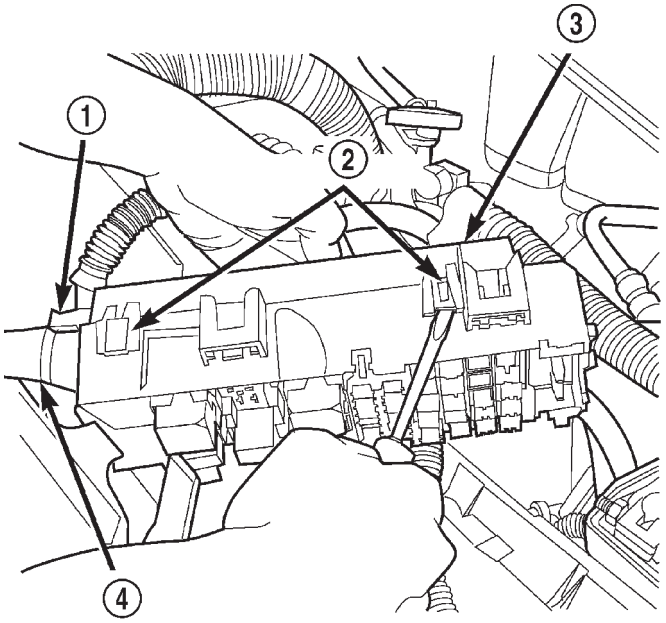


Fig. 14 PDC Housing Lower Cover Remove/Install

1 – TROUGH FORMATION
2 – LATCHES (5)
3 – PDC HOUSING LOWER COVER
4 – WIRE HARNESS

DISASSEMBLY AND ASSEMBLY (Continued)

PDC B(+) TERMINAL MODULE

(1) Remove the PDC housing lower cover.

(2) From the top of the PDC housing, use a small screwdriver or a terminal pick tool (Special Tool Kit 6680) to release the two latches that secure the B(+) terminal module in the PDC (Fig. 15).

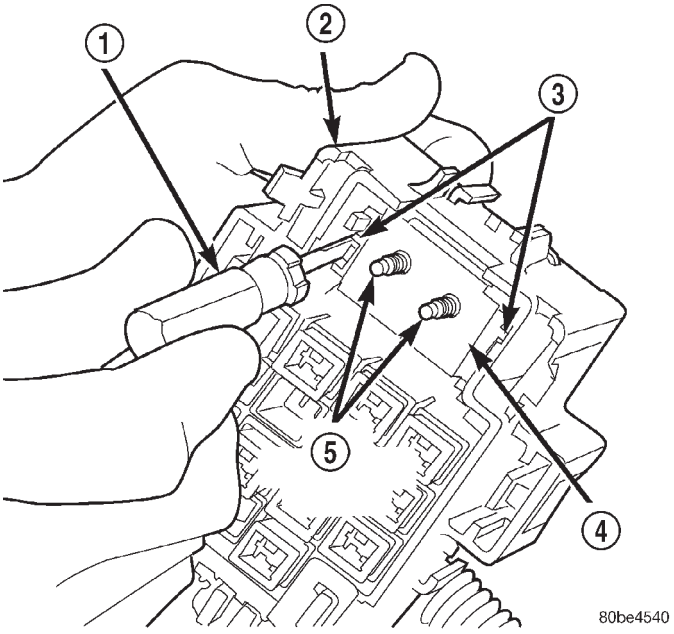


Fig. 15 PDC B(+) Terminal Module Latches

1 – FROM SPECIAL TOOL KIT 6680
2 – PDC HOUSING
3 – LATCHES
4 – BUS BAR
5 – B(+) TERMINAL STUDS

(3) Gently and evenly press the two B(+) terminal studs down through the bus bar in the PDC.

(4) From the bottom of the PDC housing, remove the B(+) terminal module from the PDC (Fig. 16).

PDC RELAY WEDGE

(1) Remove the PDC housing lower cover.

(2) Remove each of the relays from the PDC relay wedge to be removed.

(3) From the bottom of the PDC housing, use a small screwdriver or a terminal pick tool (Special Tool Kit 6680) to release the two latches (yellow) that secure the relay wedge to the PDC relay cassette.

(4) From the top of the PDC housing, remove the relay wedge from the PDC relay cassette (Fig. 17).

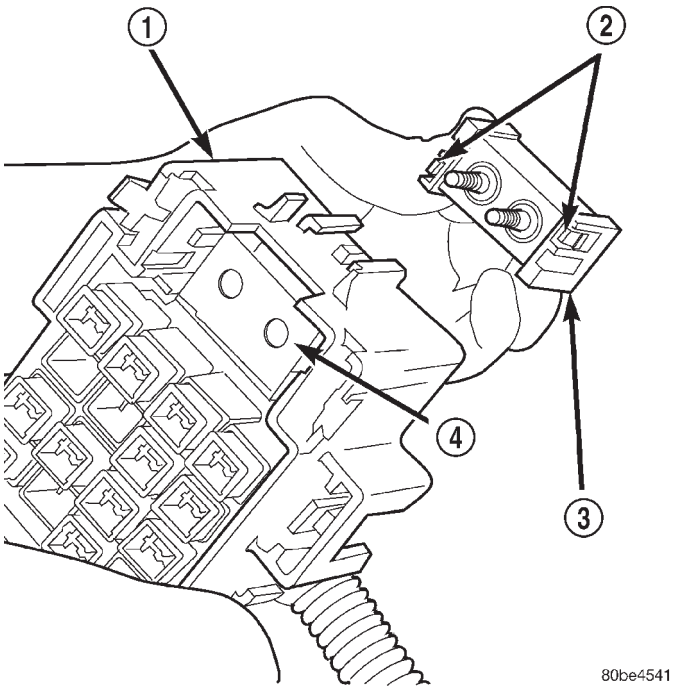


Fig. 16 PDC B(+) Terminal Module Remove/Install

1 – PDC HOUSING
2 – LATCHES
3 – B(+) TERMINAL MODULE
4 – BUS BAR

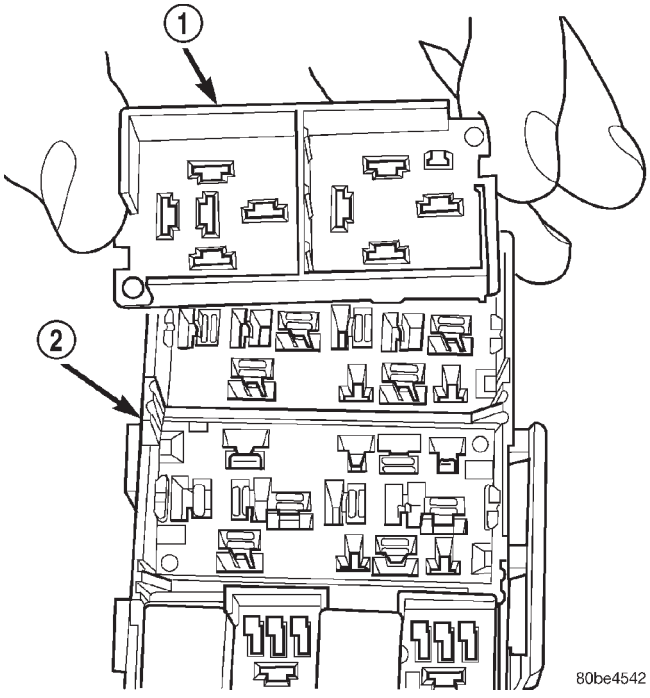


Fig. 17 PDC Relay Wedge Remove/Install

1 – RELAY WEDGE (TYPICAL)
2 – PDC HOUSING

DISASSEMBLY AND ASSEMBLY (Continued)

PDC RELAY CASSETTE

(1) Remove the relay wedge from the PDC relay cassette to be removed.

NOTE: It may be necessary to remove relay cassettes that are not being serviced from the PDC housing in order to obtain sufficient clearance to access the faulty relay cassette. The same service procedure is repeated as necessary to remove each of the interfering relay wedges and relay cassettes from the PDC housing.

(2) From the top of the PDC housing, use a small screwdriver or a terminal pick tool (Special Tool Kit 6680) to release the two latches that secure the relay cassette in the PDC (Fig. 18).

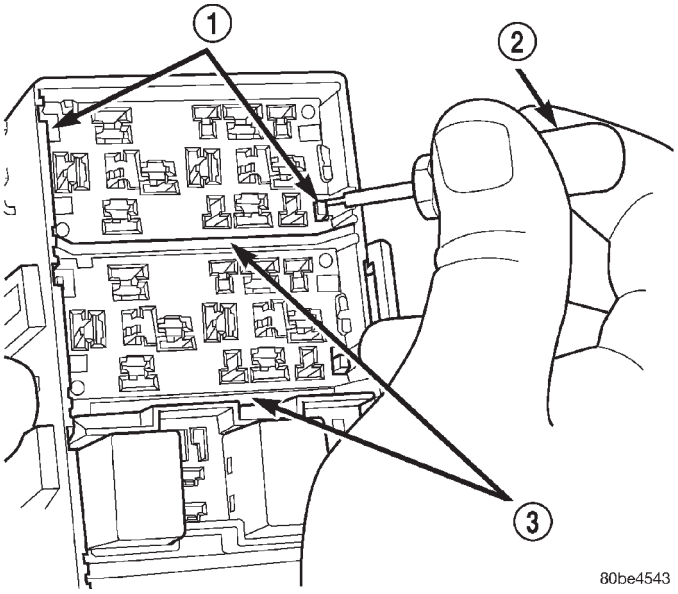


Fig. 18 PDC Relay Cassette Latches

1 – LATCHES
2 – FROM SPECIAL TOOL KIT 6680
3 – PDC RELAY CASSETTES (TYPICAL)

(3) Gently and evenly press the relay cassette down through the PDC housing.

(4) From the bottom of the PDC housing, remove the relay cassette from the PDC (Fig. 19).

CAUTION: Do not remove the wiring and terminals from the terminal cavities of the faulty PDC relay cassette at this time. Refer to the Assembly procedure that follows for the proper procedures for transferring the wiring and terminals to the replacement PDC relay cassette.

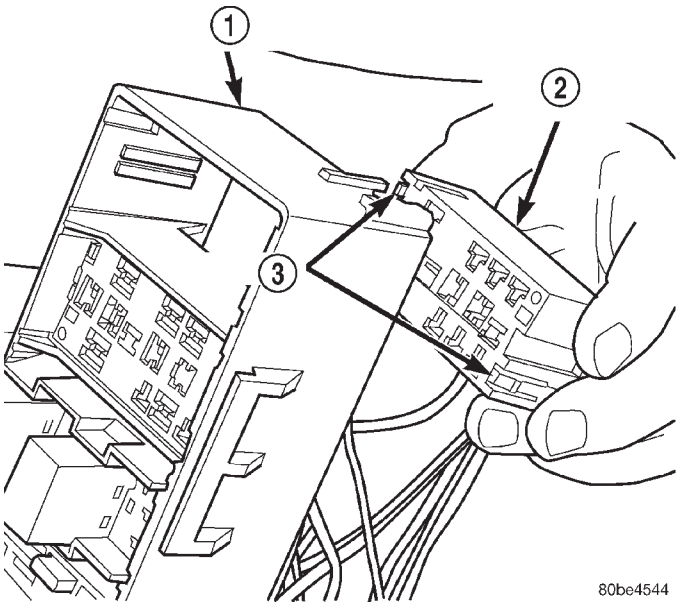


Fig. 19 PDC Relay Cassette Remove/Install

1 – PDC HOUSING
2 – PDC RELAY CASSETTE (TYPICAL)
3 – LATCHES

ASSEMBLY

PDC RELAY CASSETTE

(1) Move the faulty PDC relay cassette with its wiring away from the bottom of the PDC housing far enough to allow the replacement relay cassette to be installed into the PDC.

(2) Using the faulty relay cassette as a guide, be certain that the replacement relay cassette is correctly oriented before installing it into the PDC housing.

(3) From the bottom of the PDC housing, align and insert the replacement relay cassette into the PDC. Press the relay cassette up into the PDC until both of the latches are fully engaged.

CAUTION: Proper care must be taken to be certain that the wiring and terminals from the faulty PDC relay cassette are installed in the correct terminal cavities of the replacement relay cassette. To prevent mistakes it is recommended that the wiring and terminals be removed from the faulty relay cassette one cavity at a time, repaired or spliced as necessary, then installed securely into the correct cavity of the replacement relay cassette. If you are not absolutely certain into which cavity a terminal should be installed, refer to Power Distribution in the index of this service manual for the location of complete circuit diagrams covering the PDC.

DISASSEMBLY AND ASSEMBLY (Continued)

(4) While pulling gently on the wire from the bottom of the faulty PDC relay cassette, use a terminal pick tool (Special Tool Kit 6680) from the top of the relay cassette to release the latch that secures the terminal in the relay cassette terminal cavity (Fig. 20).

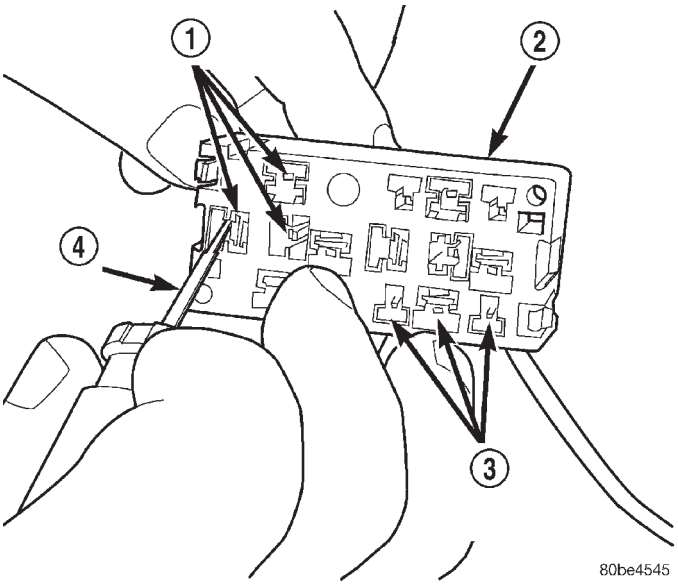


Fig. 20 PDC Relay Cassette Terminal Remove/Install

1 – TERMINAL CAVITIES (TYPICAL)
2 – PDC RELAY CASSETTE (TYPICAL)
3 – TERMINAL LATCHES (TYPICAL)
4 – FROM SPECIAL TOOL KIT 6680

(5) From the bottom of the faulty PDC relay cassette, remove the wire and terminal from the relay cassette terminal cavity.

(6) Make all necessary repairs and splices to the wire for the removed terminal. Refer to **Wiring Repair** in the index of this service manual for the location of the wiring repair procedures.

(7) From the bottom of the PDC housing, align and insert the removed wire and terminal into the correct terminal cavity of the replacement relay cassette. Push the wire and terminal up into the relay cassette terminal cavity until it is fully engaged by the latch.

(8) Repeat Step 4, Step 5, Step 6 and Step 7 one wire and terminal at a time until each of the wires and terminals have been transferred from the faulty PDC relay cassette into the replacement relay cassette.

(9) Install the PDC relay wedge into the replacement PDC relay cassette.

PDC RELAY WEDGE

(1) From the top of the PDC housing, align and insert the PDC relay wedge latch arms into the correct cavities in the relay cassette.

(2) Gently and evenly press the PDC relay wedge down into the relay cassette until both of the latches are fully engaged.

(3) Install each of the removed relays into the proper cavities of the PDC relay wedge.

(4) Install the PDC housing lower cover.

PDC B(+) TERMINAL MODULE

(1) From the bottom of the PDC housing, align and insert the B(+) terminal module into the PDC.

(2) From the bottom of the PDC housing, align and insert the two studs of the PDC B(+) terminal module through the bus bar in the PDC.

(3) From the bottom of the PDC housing, press the B(+) terminal module gently and evenly into the PDC until both of the latches are fully engaged.

(4) Install the PDC housing lower cover.

PDC HOUSING LOWER COVER

(1) Align the PDC housing lower cover to the bottom of the PDC.

(2) Press the PDC housing lower cover gently and evenly onto the PDC until each of the latches that secure the cover to the PDC is fully engaged.

(3) Where the right headlamp and dash wire harness enters the PDC, tape the wire harness securely to the trough formation on the PDC housing lower cover.

(4) Align the PDC housing mounts with the tabs on the PDC mounting stanchions of the battery support, and push the PDC housing downward until the latches in the PDC mounts are fully engaged on the stanchions.

(5) Install the battery wire harness PDC take out eyelet over the two PDC B(+) terminal studs.

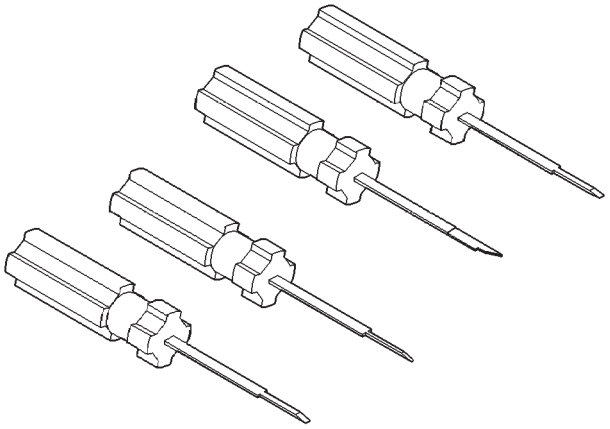
(6) Install and tighten the two nuts that secure the two-holed eyelet of the battery wire harness PDC take outs to the B(+) terminal studs near the front of the PDC. Tighten the nuts to 11.3 N·m (100 in. lbs.).

(7) Install the battery onto the battery support. Refer to **Battery** in the index of this service manual for the location of the battery installation procedures.

(8) Install the cover onto the PDC.

SPECIAL TOOLS

POWER DISTRIBUTION SYSTEMS



Terminal Pick Kit 6680