

# AUDIO SYSTEMS

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## GENERAL INFORMATION

### INTRODUCTION

An audio system is standard factory-installed equipment on this model, unless the vehicle is ordered with an available radio delete option. Refer to 8W-47 Audio System in Group 8W - Wiring Diagrams for complete circuit descriptions and diagrams.

### AUDIO SYSTEM

Several combinations of radio receivers and speaker systems are offered on this model. The standard equipment audio system includes an AM/FM/cassette (RAS sales code) receiver, and speakers in four locations.

Following are general descriptions of the major components in the standard and optional factory-installed audio systems. Refer to the owner's manual in the vehicle glove box for more information on the features, use and operation of each of the available audio systems.

## DESCRIPTION AND OPERATION

### RADIO

Available factory-installed radio receivers for this model include an AM/FM/cassette (RAS sales code), or an AM/FM/CD/cassette/3-band graphic equalizer (RAZ sales code). All factory-installed receivers are stereo Electronically Tuned Radios (ETR) and include an electronic digital clock function.

The radio can only be serviced by an authorized radio repair station. Refer to the latest Warranty Pol-

icies and Procedures manual for a current listing of authorized radio repair stations.

For more information on radio features, setting procedures, and control functions refer to the owner's manual in the vehicle glove box.

### IGNITION-OFF DRAW FUSE

All vehicles are equipped with an Ignition-Off Draw (IOD) fuse that is removed when the vehicle is shipped from the factory. This fuse feeds various accessories that require battery current when the ignition switch is in the Off position, including the clock. The fuse is removed to prevent battery discharge during vehicle storage.

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 removed and replaced. Removing and replacing the IOD fuse again, with the ignition switch in the Off position, will correct the scrambled display condition.

The IOD fuse should be checked if the radio or clock displays are inoperative. The IOD fuse is located in the junction block. Refer to the label on the back of the junction block fuse access panel for IOD fuse identification and location.

### SPEAKER

The standard equipment speaker system includes speakers in four locations. One full-range 16.5 centimeter (6.50 inch) diameter speaker is located in each front door, and one full-range 16.5 centimeter (6.50 inch) speaker is also located in each rear door.

## DESCRIPTION AND OPERATION (Continued)

The optional premium speaker system features eight Infinity model speakers in six locations, and includes a 100 watt amplifier. Each front door has two separate Infinity speakers, a 16.5 centimeter (6.50 inch) diameter woofer mounted low in the door, and a 6.9 centimeter (2.75 inch) diameter dome tweeter mounted high in the inside door trim panel. Infinity 16.5 centimeter (6.50 inch) diameter coaxial speakers are mounted in the rear doors.

The Infinity amplifier is mounted to the right inner cowl side panel, below the right outboard end of the instrument panel. The amplifier is accessed for service by removing the right inner cowl side trim panel.

**ANTENNA**

All models use a fixed-length stainless steel rod-type antenna mast, installed at the right front fender of the vehicle. The antenna mast is painted black for an enhanced appearance, and has a spiral groove cut down its length to reduce wind noise.

The antenna mast is connected to the center wire of the coaxial antenna cable, and is not grounded to any part of the vehicle. To eliminate static, the antenna base must have a good ground. The coaxial antenna cable shield (the outer wire mesh of the cable) is grounded to the antenna base and the radio chassis.

The antenna coaxial cable has an additional disconnect, located near the inboard side of the glove box opening on the back of the instrument panel. This additional disconnect allows the instrument panel assembly to be removed and installed without removing the radio.

The factory-installed Electronically Tuned Radios (ETRs) automatically compensate for radio antenna trim. Therefore, no antenna trimmer adjustment is required or possible when replacing the receiver or the antenna.

**RADIO NOISE SUPPRESSION**

Radio Frequency Interference (RFI) and Electro-Magnetic Interference (EMI) noise suppression is accomplished primarily through circuitry internal to the radio receivers. These internal suppression devices are only serviced as part of the radio receiver.

External suppression devices that are serviced, and should be checked in the case of RFI or EMI noise complaints, include the following:

- Radio antenna base ground
- Radio chassis ground wire, strap, or bracket
- Engine-to-body ground strap (if the vehicle is so equipped)
- Cab-to-bed ground strap (if the vehicle is so equipped)

- Heater core ground strap (if the vehicle is so equipped)
- Resistor-type spark plugs
- Radio suppression-type secondary ignition wiring.

In addition, if the source of RFI or EMI noise is identified as a component on the vehicle (i.e., generator, blower motor, etc.), the ground path for that component should be checked. If excessive resistance is found in that circuit, repair that circuit as required before considering any component replacement.

If the source of the noise is identified as two-way mobile radio or telephone equipment, check the equipment installation for the following:

- Power connections should be made directly to the battery, and fused as closely to the battery as possible.
- The antenna should be mounted on the roof or toward the rear of the vehicle. Remember that magnetic antenna mounts on the roof panel can adversely affect the operation of an overhead console compass, if the vehicle is so equipped.
- The antenna cable should be fully shielded coaxial cable, should be as short as is practical, and should be routed away from the factory-installed vehicle wire harnesses whenever possible.
- The antenna and cable must be carefully matched to ensure a low Standing Wave Ratio (SWR).

Fleet vehicles are available with an extra-cost RFI-suppressed Powertrain Control Module (PCM). This unit reduces interference generated by the PCM on some radio frequencies used in two-way radio communications. However, this unit will not resolve complaints of RFI in the commercial AM or FM radio frequency ranges.

**DIAGNOSIS AND TESTING****AUDIO SYSTEM**

**WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.**

## DIAGNOSIS AND TESTING (Continued)

Audio System Diagnosis		
CONDITION	POSSIBLE CAUSE	CORRECTION
NO AUDIO.	<ol style="list-style-type: none"> <li>1. Fuse faulty.</li> <li>2. Radio connector faulty.</li> <li>3. Wiring faulty.</li> <li>4. Ground faulty.</li> <li>5. Radio faulty.</li> <li>6. Speakers faulty.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check radio fuses in junction block. Replace fuses, if required.</li> <li>2. Check for loose or corroded radio connector. Repair, if required.</li> <li>3. Check for battery voltage at radio connector. Repair wiring, if required.</li> <li>4. Check for continuity between radio chassis and a known good ground. There should be continuity. Repair ground, if required.</li> <li>5. See Radio in the Diagnosis and Testing section of this group.</li> <li>6. See Speaker in the Diagnosis and Testing section of this group.</li> </ol>
NO DISPLAY.	<ol style="list-style-type: none"> <li>1. Fuse faulty.</li> <li>2. Radio connector faulty.</li> <li>3. Wiring faulty.</li> <li>4. Ground faulty.</li> <li>5. Radio faulty.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check radio fuses in junction block. Replace fuses, if required.</li> <li>2. Check for loose or corroded radio connector. Repair, if required.</li> <li>3. Check for battery voltage at radio connector. Repair wiring, if required.</li> <li>4. Check for continuity between radio chassis and a known good ground. There should be continuity. Repair ground, if required.</li> <li>5. See Radio in the Diagnosis and Testing section of this group.</li> </ol>
CLOCK WILL NOT KEEP SET TIME.	<ol style="list-style-type: none"> <li>1. Fuse faulty.</li> <li>2. Radio connector faulty.</li> <li>3. Wiring faulty.</li> <li>4. Ground faulty.</li> <li>5. Radio faulty.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check ignition-off draw fuse. Replace fuse, if required.</li> <li>2. Check for loose or corroded radio connector. Repair, if required.</li> <li>3. Check for battery voltage at radio connector. Repair wiring, if required.</li> <li>4. Check for continuity between radio chassis and a known good ground. There should be continuity. Repair ground, if required.</li> <li>5. See Radio in the Diagnosis and Testing section of this group.</li> </ol>
POOR RADIO RECEPTION.	<ol style="list-style-type: none"> <li>1. Antenna faulty.</li> <li>2. Ground faulty.</li> <li>3. Radio faulty.</li> </ol>	<ol style="list-style-type: none"> <li>1. See Antenna in the Diagnosis and Testing section of this group.</li> <li>2. Check for continuity between radio chassis and a known good ground. There should be continuity. Repair ground, if required.</li> <li>3. See Radio in the Diagnosis and Testing section of this group.</li> </ol>
NO/POOR TAPE OPERATION.	<ol style="list-style-type: none"> <li>1. Faulty tape.</li> <li>2. Foreign objects behind tape door.</li> <li>3. Dirty cassette tape head.</li> <li>4. Faulty tape deck.</li> </ol>	<ol style="list-style-type: none"> <li>1. Insert known good tape and test operation.</li> <li>2. Remove foreign objects and test operation.</li> <li>3. Clean head with Mopar Cassette Head Cleaner.</li> <li>4. Exchange or replace radio, if required.</li> </ol>
NO COMPACT DISC OPERATION	<ol style="list-style-type: none"> <li>1. Faulty CD.</li> <li>2. Foreign material on CD.</li> <li>3. Condensation on CD or optics.</li> <li>4. Faulty CD player.</li> </ol>	<ol style="list-style-type: none"> <li>1. Insert known good CD and test operation.</li> <li>2. Clean CD and test operation.</li> <li>3. Allow temperature of vehicle interior to stabilize and test operation.</li> <li>4. Exchange or replace radio, if required.</li> </ol>

## DIAGNOSIS AND TESTING (Continued)

**RADIO**

For circuit descriptions and diagrams, refer to 8W-47 - Audio System in Group 8W - Wiring Diagrams.

**WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.**

**CAUTION: The speaker output of the radio is a "floating ground" system. Do not allow any speaker lead to short to ground, as damage to the radio may result.**

(1) Check the fuse(s) in the junction block and the Power Distribution Center (PDC). If OK, go to Step 2. If not OK, repair the shorted circuit or component as required and replace the faulty fuse(s).

(2) Check for battery voltage at the fuse in the PDC. If OK, go to Step 3. If not OK, repair the open circuit to the battery as required.

(3) Turn the ignition switch to the On position. Check for battery voltage at the fuse in the junction block. If OK, go to Step 4. If not OK, repair the open circuit to the ignition switch as required.

(4) Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. Remove the radio, but do not unplug the radio wire harness connectors. Check for continuity between the radio chassis and a good ground. There should be continuity. If OK, go to Step 5. If not OK, repair the open radio chassis ground circuit as required.

(5) Connect the battery negative cable. Turn the ignition switch to the On position. Check for battery voltage at the fused ignition switch output (accessory/run) circuit cavity of the left (gray) radio wire harness connector. If OK, go to Step 6. If not OK, repair the open circuit as required.

(6) Turn the ignition switch to the Off position. Check for battery voltage at the fused B(+) circuit cavity of the left (gray) radio wire harness connector. If OK, replace the faulty radio. If not OK, repair the open circuit to the Ignition-Off Draw (IOD) fuse as required.

**SPEAKER**

For circuit descriptions and diagrams, refer to 8W-47 - Audio System in Group 8W - Wiring Diagrams.

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**CAUTION: The speaker output of the radio is a "floating ground" system. Do not allow any speaker lead to short to ground, as damage to the radio may result.**

(1) Turn the ignition switch to the On position. Turn the radio on. Adjust the balance and fader controls to check the performance of each individual speaker. Note the speaker locations that are not performing correctly. Go to Step 2.

(2) Turn the radio off. Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. Remove the radio from the instrument panel. If the vehicle is equipped with the Infinity speaker package, also unplug the wire harness connectors at the amplifier. Check both the speaker feed (+) circuit and return (-) circuit cavities for the inoperative speaker location(s) at the radio wire harness connectors for continuity to ground. In each case, there should be no continuity. If OK, go to Step 3. If not OK, repair the shorted speaker circuit(s) as required.

(3) If the vehicle is equipped with the Infinity speaker package, go to Step 6. If the vehicle is equipped with the standard speaker system, check the resistance between the speaker feed (+) circuit and return (-) circuit cavities of the radio wire harness connectors for the inoperative speaker location(s). The meter should read between 2 and 12 ohms (speaker resistance). If OK, go to Step 4. If not OK, go to Step 5.

(4) Install a known good radio. Connect the battery negative cable. Turn the ignition switch to the On position. Turn on the radio and test the speaker operation. If OK, replace the faulty radio. If not OK, turn the radio off, turn the ignition switch to the Off position, disconnect and isolate the battery negative cable, remove the test radio, and go to Step 5.

(5) Unplug the speaker wire harness connector at the inoperative speaker. Check for continuity between the speaker feed (+) circuit cavities of the radio wire harness connector and the speaker wire harness connector. Repeat the check between the speaker return (-) circuit cavities of the radio wire harness connector and the speaker wire harness connector. In each case, there should be continuity. If



## DIAGNOSIS AND TESTING (Continued)

OK, replace the faulty speaker. If not OK, repair the open circuit(s) as required.

(6) For each inoperative speaker location, check for continuity between the speaker feed (+) circuit cavities of the radio wire harness connectors and the amplifier wire harness connectors. Repeat the check for each inoperative speaker location between the speaker return (-) circuit cavities of the radio wire harness connectors and the amplifier wire harness connectors. In each case, there should be continuity. If OK, go to Step 7. If not OK, repair the open circuit as required.

(7) Check for continuity between the two ground circuit cavities of the amplifier wire harness connector and a good ground. There should be continuity. If OK, go to Step 8. If not OK, repair the open circuit(s) as required.

(8) Check the amplifier fuse in the junction block. If OK, go to Step 9. If not OK, repair the shorted circuit or component as required and replace the faulty fuse.

(9) Install the radio. Connect the battery negative cable. Check for battery voltage at the amplifier fuse in the junction block. If OK, go to Step 10. If not OK, repair the open circuit to the PDC as required.

(10) Check for battery voltage at the two fused B(+) circuit cavities of the amplifier wire harness connector. If OK, go to Step 11. If not OK, repair the open circuit to the fuse in the junction block as required.

(11) Turn the ignition switch to the On position. Turn the radio on. Check for battery voltage at the radio 12 volt output circuit cavity of the amplifier wire harness connector. If OK, go to Step 12. If not OK, repair the open circuit to the radio as required.

(12) Turn the radio off. Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. For each inoperative speaker location, check both the amplified feed (+) circuit and the amplified return (-) circuit cavities of the amplifier wire harness connectors for continuity to ground. In each case there should be no continuity. If OK, go to Step 13. If not OK, repair the short circuit as required.

(13) For each inoperative speaker location, check the resistance between the amplified feed (+) circuit and the amplified return (-) circuit cavities of the amplifier wire harness connectors. The meter should read between 2 and 12 ohms (speaker resistance). If OK, replace the faulty amplifier. If not OK, go to Step 14.

(14) Unplug the speaker wire harness connector at the inoperative speaker. Check for continuity between the amplified feed (+) circuit cavities of the speaker wire harness connector and the amplifier wire harness connector. Repeat the check between

the amplified return (-) circuit cavities of the speaker wire harness connector and the amplifier wire harness connector. In each case there should be continuity. If OK, replace the faulty speaker. If not OK, repair the open circuit as required.

## ANTENNA

**WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.**

The following four tests are used to diagnose the antenna with an ohmmeter:

- **Test 1** - Mast to ground test
- **Test 2** - Tip-of-mast to tip-of-conductor test
- **Test 3** - Body ground to battery ground test
- **Test 4** - Body ground to coaxial shield test.

The ohmmeter test lead connections for each test are shown in Antenna Tests (Fig. 1).

**NOTE: This model has a special coating on the antenna mast which is not electrically conductive. Remove the antenna mast from the antenna base before attempting to perform Tests 1 and 2.**

**NOTE: This model has a two-piece antenna coaxial cable. Tests 2 and 4 must be conducted in two steps to isolate a coaxial cable problem; from the coaxial cable connection under the right end of the instrument panel near the inboard side of the glove box opening to the antenna base, and then from the coaxial cable connection to the radio chassis connection.**

## TEST 1

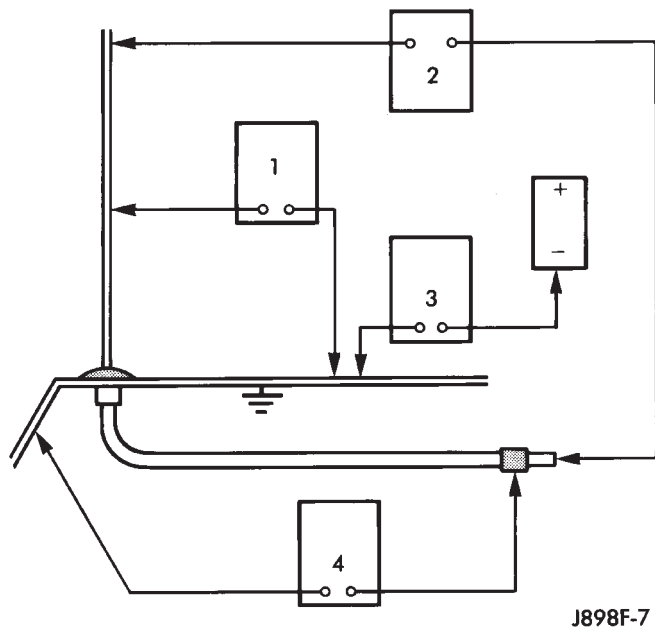
Test 1 determines if the antenna mast is insulated from the base. Proceed as follows:

(1) Unplug the antenna coaxial cable connector from the radio chassis and isolate. Remove the antenna mast from the antenna base.

(2) Insert one ohmmeter test lead into the socket for the antenna mast in the center of the antenna base. Connect the other test lead to the perimeter of the antenna base. Check for continuity.

(3) There should be no continuity. If continuity is found, replace the faulty or damaged antenna base and cable assembly.

## DIAGNOSIS AND TESTING (Continued)

**Fig. 1 Antenna Tests****TEST 2**

Test 2 checks the antenna for an open circuit as follows:

(1) Unplug the antenna coaxial cable connector from the radio chassis. Remove the antenna mast from the antenna base.

(2) Insert one ohmmeter test lead into the socket for the antenna mast in the center of the antenna base. Connect the other test lead to the center pin of the antenna coaxial cable connector.

(3) Continuity should exist (the ohmmeter should only register a fraction of an ohm). High or infinite resistance indicates damage to the base and cable assembly. Replace the faulty base and cable, if required.

**TEST 3**

Test 3 checks the condition of the vehicle body ground connection. This test should be performed with the battery positive cable removed from the battery. Disconnect both battery cables, the negative cable first. Reconnect the battery negative cable and perform the test as follows:

(1) Connect one ohmmeter test lead to the vehicle fender. Connect the other test lead to the battery negative post.

(2) The resistance should be less than one ohm.

(3) If the resistance is more than one ohm, check the braided ground strap connected to the engine and the vehicle body for being loose, corroded, or damaged. Repair the ground strap connection, if required.

**TEST 4**

Test 4 checks the condition of the ground between the antenna base and the vehicle body as follows:

(1) Connect one ohmmeter test lead to the vehicle fender. Connect the other test lead to the outer crimp on the antenna coaxial cable connector.

(2) The resistance should be less than one ohm.

(3) If the resistance is more than one ohm, clean and/or tighten the antenna base to fender mounting hardware.

**RADIO FREQUENCY INTERFERENCE**

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Inspect the ground connections at the following:

- Blower motor
- Electric fuel pump
- Generator
- Ignition module
- Wiper motor
- Antenna coaxial ground
- Radio ground
- Body-to-engine braided ground strap (if the vehicle is so equipped).

Clean, tighten, or repair the connections as required.

Also inspect the following secondary ignition system components, as described in Group 8D - Ignition Systems:

- Spark plug wire routing and condition
- Distributor cap and rotor
- Ignition coil
- Spark plugs.

Reroute the spark plug wires or replace the faulty components as required.

**REMOVAL AND INSTALLATION****RADIO**

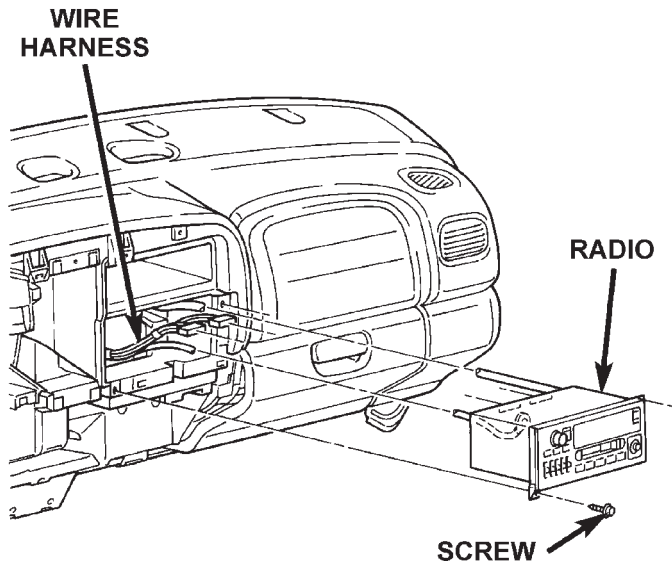
**WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.**

## REMOVAL AND INSTALLATION (Continued)

(1) Disconnect and isolate the battery negative cable.

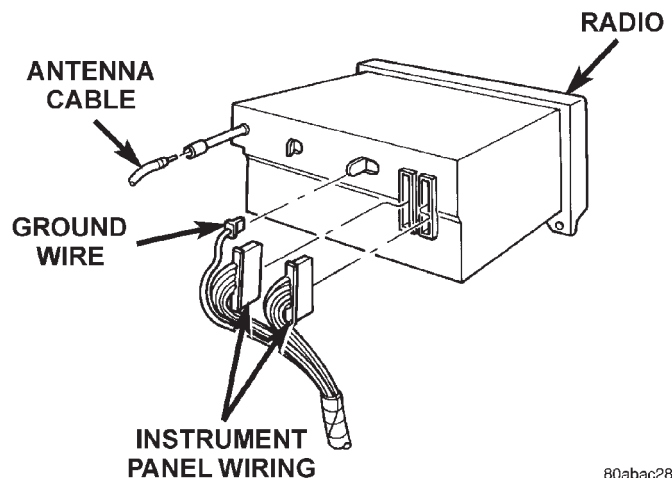
(2) Remove the cluster bezel from the instrument panel. Refer to Cluster Bezel in the Removal and Installation section of Group 8E - Instrument Panel Systems for the procedures.

(3) Remove the two screws that secure the radio to the instrument panel (Fig. 2).



**Fig. 2 Radio Remove/Install**

(4) Pull the radio out from the instrument panel far enough to access the wire harness connectors and the antenna coaxial cable connector (Fig. 3).



**Fig. 3 Radio Connections - Typical**

(5) Unplug the wire harness connectors and the antenna coaxial cable connector from the rear of the radio.

(6) Remove the radio from the instrument panel.

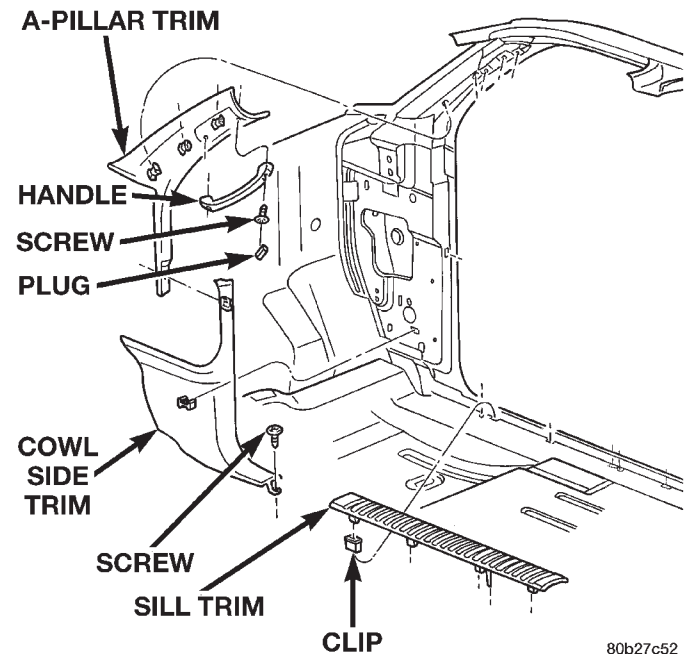
(7) Reverse the removal procedures to install. Tighten the radio mounting screws to 5 N·m (45 in. lbs.).

## AMPLIFIER

**WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.**

(1) Disconnect and isolate the battery negative cable.

(2) Using a trim stick or another suitable wide flat-bladed tool, gently pry along the edges of the passenger side front door sill trim to release the clips that secure it to the sill (Fig. 4). Carefully disengage the ends of the sill trim from the inner cowl side trim panel at the front, and from the lower B-pillar trim at the rear, then remove the sill trim from the sill.



**Fig. 4 Cowl Side Trim Panel Remove/Install**

(3) Remove the screw that secures the rear tab on the inner cowl side trim panel to the sill.

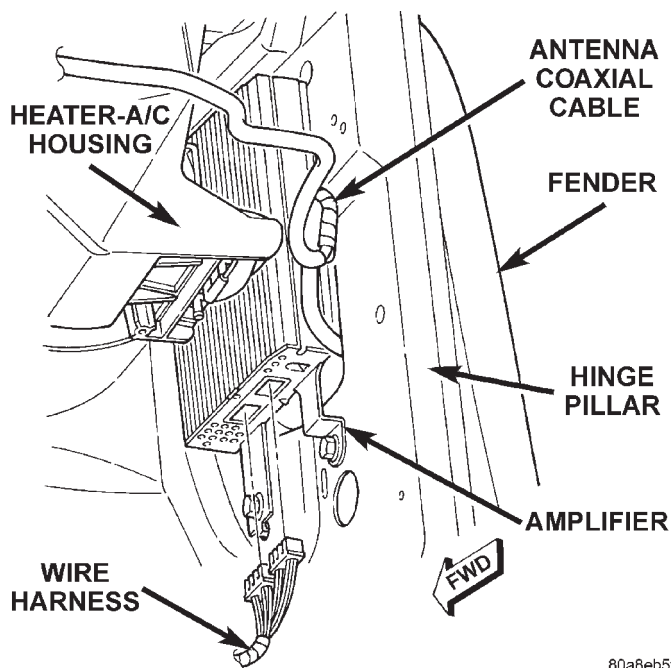
(4) Grasp the forward edge of the trim panel and pull it inboard far enough to disengage the clip that secures it to the cowl side.

(5) Using a trim stick or another suitable wide flat-bladed tool, gently pry the inner cowl side trim

## REMOVAL AND INSTALLATION (Continued)

panel to release the clip that secures it to the A-pillar trim and the front door hinge pillar.

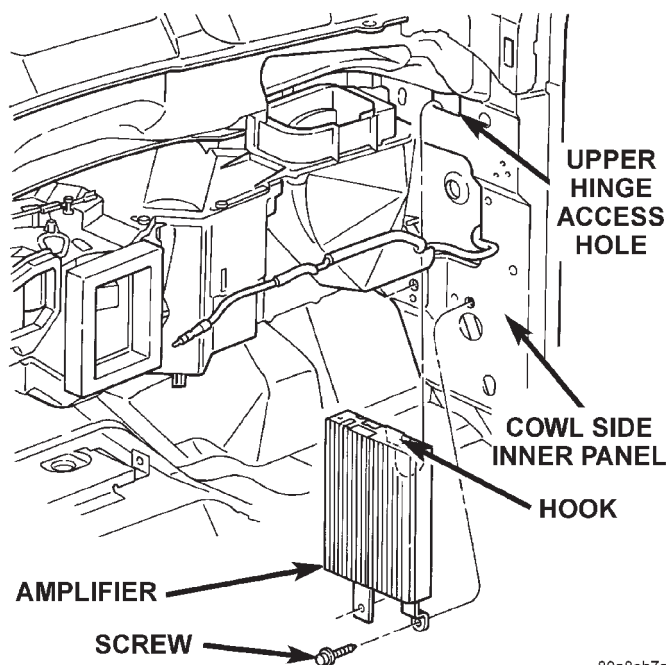
(6) Unplug the two wire harness connectors from the amplifier (Fig. 5).



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**Fig. 5 Amplifier Connections Remove/Install**

(7) Remove the two screws that secure the amplifier to the right cowl side inner panel (Fig. 6).



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**Fig. 6 Amplifier Remove/Install**

(8) To disengage the upper hook bracket of the amplifier from the upper hinge access hole in the cowl side inner panel:

(a) Raise the amplifier upwards about 5 centimeters (2 inches).

(b) Tilt the top of the amplifier inwards, towards the instrument panel.

(c) Keep the top of the amplifier tilted towards the instrument panel while lowering the unit from between the cowl side inner panel and the heater-A/C housing.

(9) Reverse the removal procedures to install. Tighten the amplifier mounting screws to 2 N·m (17 in. lbs.). Tighten the inner cowl side trim panel mounting screw to 2.2 N·m (20 in. lbs.).

## SPEAKER

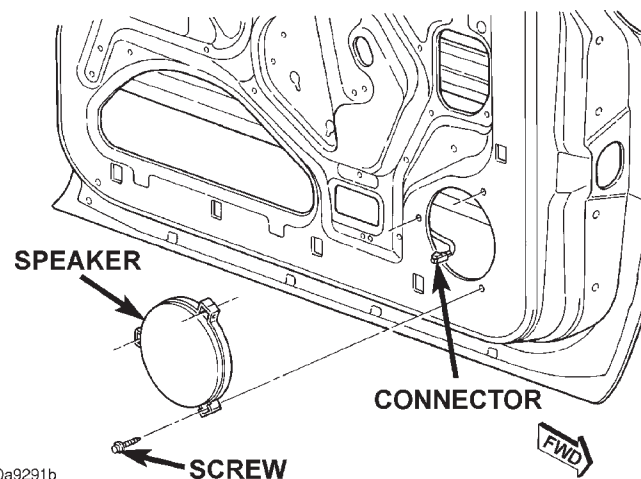
## FRONT DOOR

## LOWER

(1) Disconnect and isolate the battery negative cable.

(2) Remove the inside trim panel from the front door. Refer to Group 23 - Body for the procedures.

(3) Remove the three screws that secure the speaker to the lower front corner of the front door inner panel (Fig. 7).



80a9291b

**Fig. 7 Front Door Lower Speaker Remove/Install**

(4) Pull the speaker away from the front door inner panel far enough to access and unplug the speaker wire harness connector.

(5) Remove the speaker from the front door.

(6) Reverse the removal procedures to install. Tighten the speaker mounting screws to 2 N·m (17 in. lbs.).

## UPPER

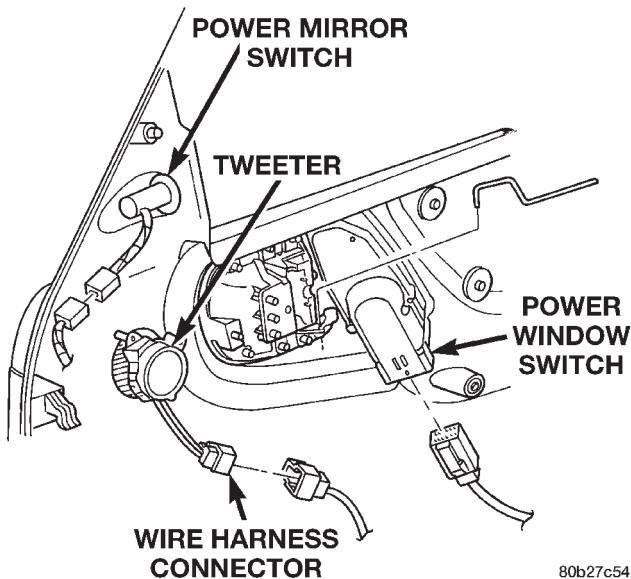
(1) Disconnect and isolate the battery negative cable.

(2) Remove the inside trim panel from the front door. Refer to Group 23 - Body for the procedures.



## REMOVAL AND INSTALLATION (Continued)

(3) Remove the screws that secure the speaker to the back of the front door inside trim panel (Fig. 8).



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**Fig. 8 Front Door Upper Speaker Remove/Install**

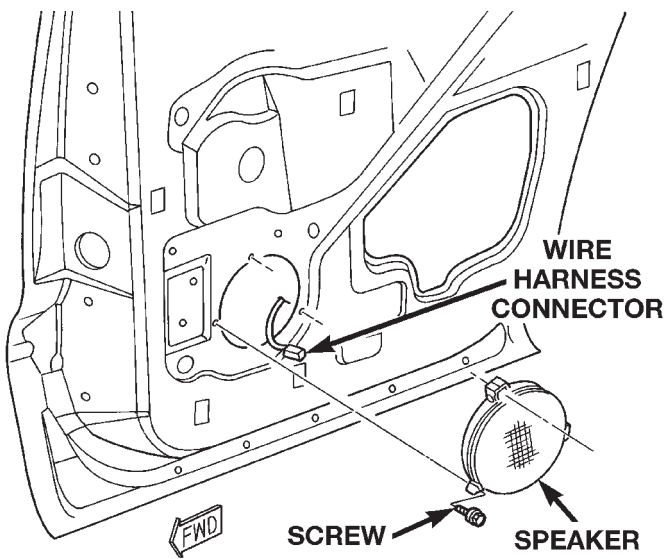
(4) Reverse the removal procedures to install. Tighten the speaker mounting screws to 2 N·m (17 in. lbs.).

### REAR DOOR

(1) Disconnect and isolate the battery negative cable.

(2) Remove the inside trim panel from the rear door. Refer to Group 23 - Body for the procedures.

(3) Remove the three screws that secure the speaker to the lower front corner of the rear door inner panel (Fig. 9).



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**Fig. 9 Rear Door Speaker Remove/Install**

(4) Pull the speaker away from the rear door inner panel far enough to access and unplug the speaker wire harness connector.

(5) Remove the speaker from the rear door.

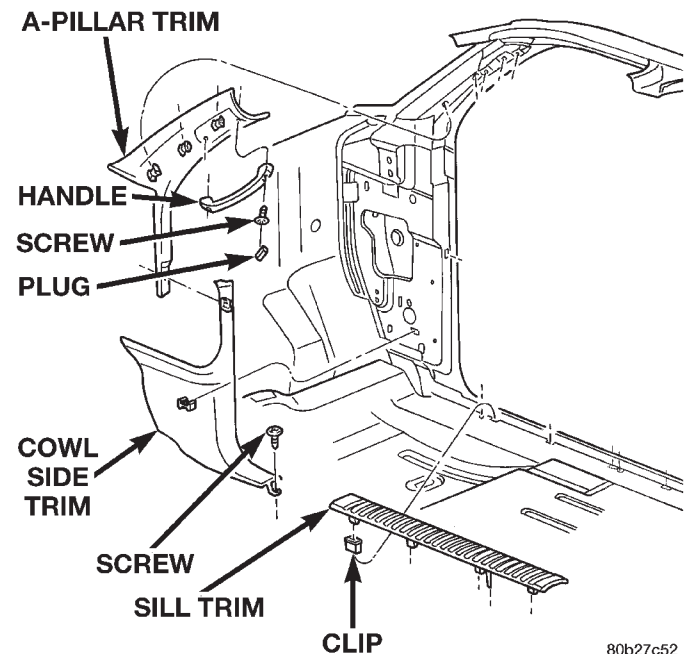
(6) Reverse the removal procedures to install. Tighten the speaker mounting screws to 2 N·m (17 in. lbs.).

### ANTENNA

**WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.**

(1) Disconnect and isolate the battery negative cable.

(2) Using a trim stick or another suitable wide flat-bladed tool, gently pry along the edges of the passenger side front door sill trim to release the clips that secure it to the sill (Fig. 10). Carefully disengage the ends of the sill trim from the inner cowl side trim panel at the front, and from the lower B-pillar trim at the rear, then remove the sill trim from the sill.



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**Fig. 10 Cowl Side Trim Remove/Install**

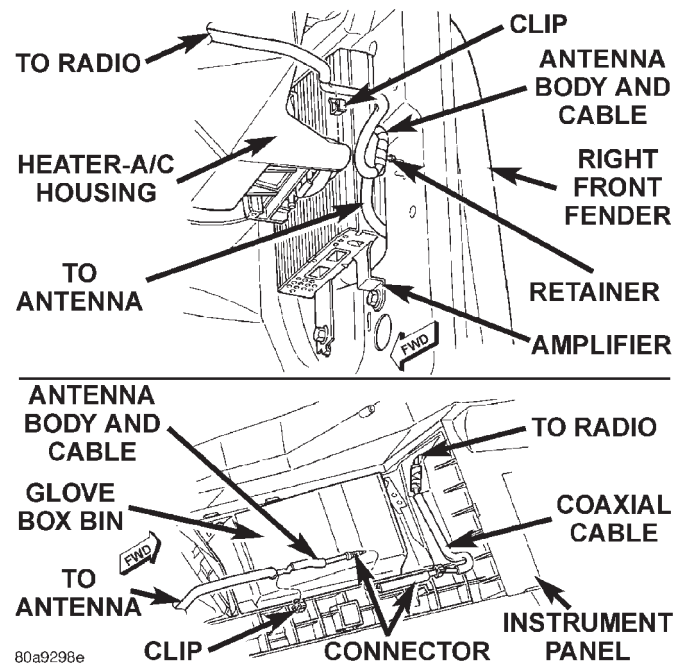
(3) Remove the screw that secures the rear tab on the inner cowl side trim panel to the sill.

## REMOVAL AND INSTALLATION (Continued)

(4) Grasp the forward edge of the trim panel and pull it inboard far enough to disengage the clip that secures it to the cowl side.

(5) Using a trim stick or another suitable wide flat-bladed tool, gently pry the inner cowl side trim panel to release the clip that secures it to the A-pillar trim and the front door hinge pillar.

(6) Reach under the instrument panel below the glove box to unplug the coaxial cable connector (Fig. 11). Unplug the connector by pulling it apart while twisting the metal connector halves. Do not pull on the cable.



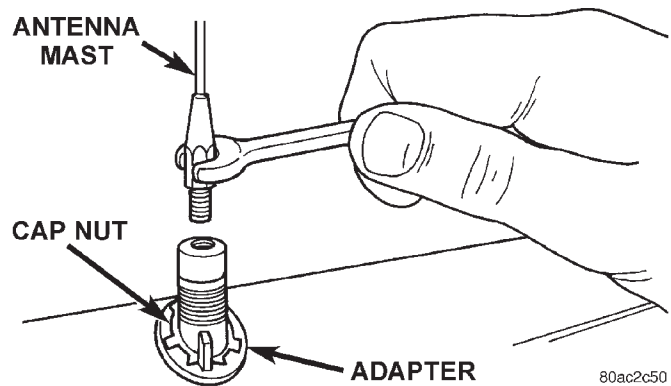
**Fig. 11 Antenna Cable Routing**

(7) Disengage the coaxial cable from the retainer clips on the lower instrument panel reinforcement and the heater-A/C housing.

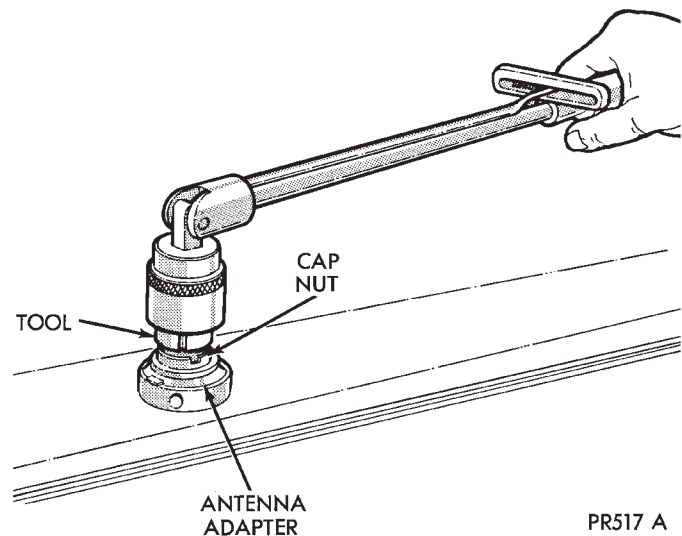
(8) Disengage the coaxial cable retainers at the right cowl side inner panel and inside the right front fender.

(9) Unscrew the antenna mast from the antenna body (Fig. 12).

(10) Remove the antenna cap nut and adapter using an antenna nut wrench (Special Tool C-4816) (Fig. 13).



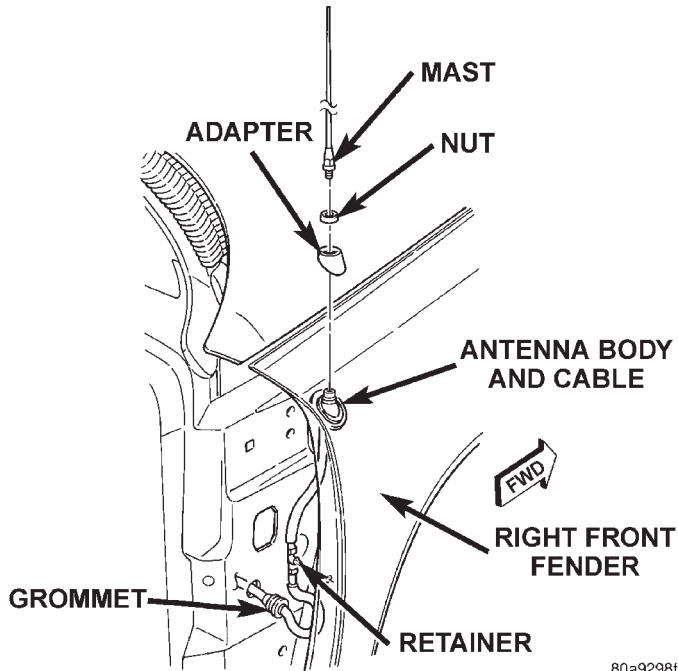
**Fig. 12 Antenna Mast Remove/Install - Typical**



**Fig. 13 Antenna Cap Nut and Adapter Remove/Install - Typical**

## REMOVAL AND INSTALLATION (Continued)

(11) Lower the antenna body and cable assembly through the top of the fender far enough to access the antenna body by reaching between the right cowl side outer panel and the fender through the front door opening (Fig. 14).



**Fig. 14 Antenna Mounting**

(12) Disengage the coaxial cable grommet from the hole in the right cowl side outer panel.

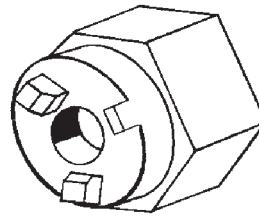
(13) Pull the coaxial cable out through the right cowl side outer panel.

(14) Remove the antenna body and cable from the vehicle.

(15) Reverse the removal procedures to install. Tighten the antenna cap nut to 8 N·m (70 in. lbs.). Tighten the antenna mast to 3.3 N·m (30 in. lbs.). Tighten the inner cowl side trim panel mounting screw to 2.2 N·m (20 in. lbs.).

## SPECIAL TOOLS

### ANTENNA



**Antenna Nut Wrench C-4816**

