2007 ACCESSORIES AND EQUIPMENT

Audio/Video - Service Information - Nitro

AUDIO/VIDEO-SERVICE INFORMATION

DESCRIPTION

AUDIO

Several combinations of radio receivers and speaker systems are offered on this model. The audio system uses an ignition switched source of battery current so that the system will only operate when the ignition switch is in the RUN or ACCESSORY positions.

The audio system includes the following components:

- Antenna
- Power amplifier
- Radio noise suppression components
- Radio receiver
- Remote radio switches (if equipped)
- Speakers
- Subwoofer

Certain functions and features of the audio system rely upon resources shared with other electronic modules in the vehicle over the Controlled Area Network (CAN). The data bus network allows the sharing of sensor information. For diagnosis of these electronic modules or of the data bus network, the use of a scan tool and the proper Diagnostic Procedures information is recommended.

OPERATION

OPERATION

The audio system components are designed to provide audio entertainment and information through the reception, tuning and amplification of locally broadcast radio signals in both the Amplitude Modulating (AM) and Frequency Modulating (FM) commercial frequency ranges.

The audio system components operate on battery current received through a fuse in the Totally Integrated Power Module (TIPM) on a fused ignition switch output (RUN-ACC) circuit so that the system will only operate when the ignition switch is in the Run or Accessory positions.

On vehicles that are equipped with the optional remote radio switches, the Cab Compartment Node (CCN) receives hard wired resistor multiplexed inputs from the remote radio switches. The programming in the CCN allows it to process those inputs and send the proper messages to the radio receiver over the Controlled Area Network (CAN) to control the radio volume up or down, station seek up or down, preset station advance, and

mode advance functions.

Refer to the owner's manual for more information on the features, use and operation of each of the available audio systems.

DIAGNOSIS AND TESTING

AUDIO

AUDIO SYSTEM

Any diagnosis of the Audio system should begin with the use of scan tool. For information on the use of the scan tool, refer to the appropriate Diagnostic information.

Refer to the appropriate wiring information.

WARNING: Disable the airbag system before attempting any steering wheel, steering column, seat belt tensioner, side airbag, 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.

AUDIO SYSTEM DIAGNOSIS TABLE

CONDITION	POSSIBLE CAUSES	CORRECTION
NO AUDIO	1. Fuse faulty.	1. Check radio fuse and Ignition-Off Draw (IOD) fuse in Totally Integrated Power Module (TIPM). Replace fuses, if required.
-	2. Radio connector faulty.	2. Check for loose or corroded radio connector. Repair, if required.
-	3. Wiring faulty.	3. Check for shorted or open wires. Repair wiring, if required.
-	4. Radio ground faulty.	4. Check for continuity between radio chassis and a known good ground. There should be continuity. Repair ground, if required.
-	5. Speakers faulty.	5. Replace speaker as necessary.
-	6. Radio faulty.	6. Refer to appropriate Diagnostic Service Information.
NO RADIO DISPLAY	1. Fuse faulty.	1. Check radio fuse and Ignition-Off Draw (IOD) fuse in Junction Block (JB). Replace fuses, if required.
-	2. Radio connector faulty.	2. Check for loose or corroded radio connector. Repair, if required.
-	3. Wiring faulty.	3. Check for battery voltage at radio

		connector. Repair wiring, if required.
-	4. Radio ground faulty.	4. Check for continuity between radio chassis and a known good ground. There should be continuity. Repair ground, if required.
-	5. Radio faulty.	5. Refer to appropriate Diagnostic Service Information.
POOR RADIO RECEPTION	1. Antenna faulty.	1. See **DIAGNOSIS AND TESTING**.
	2. Radio ground faulty.	2. Check for continuity between radio chassis and a known good ground. There should be continuity. Repair ground, if required.
	3. Radio noise suppression faulty.	3. Repair or replace ground strap as necessary.
	4. Radio faulty.	4. Refer to appropriate Diagnostic Service Information.
SOUND DISTORTION (VIBRATION FROM SPEAKER AREA, BUZZING - HUMMING)	1. Door trim panel loose or missing fasteners.	1. Inspect door trim panel and correct as necessary. Replace any missing fasteners.
-	2. Water shield loose or misaligned.	2. Inspect water shield and adjust as required.
-	3. Items placed in door trim panel map pockets vibrating or moving from side to side.	3. Remove items from door trim panel. Ensure that vibration is no longer present.
NO COMPACT DISC/DVD OPERATION	1. Faulty CD/DVD.	1. Insert known good CD/DVD and test operation.
	2. Foreign material on CD/DVD.	2. Clean CD/DVD and test operation.
	3. Condensation on CD/DVD or optics.	3. Allow temperature of vehicle interior to stabilize and test operation.
	4. Faulty CD/DVD player.	4. Refer to appropriate Diagnostic Service Information.

MANUAL DISC EJECT-NAVIGATION RADIO

1. Ensure all fuses are installed in the vehicle to operate accessories.
2. Turn ignition to ACC and power on radio.
3. Press OPEN/CLOSE button on radio and verify that disc will not eject automatically.
4. If disc will not eject automatically, use the following combination of buttons to manually eject disc:
   - With display open press and hold NAV button on right side.
   - Press SEEK UP and SEEK DOWN at the same time on left side.
5. Remove the disc from the radio.

AMPLIFIER

REMOVAL

REMOVAL

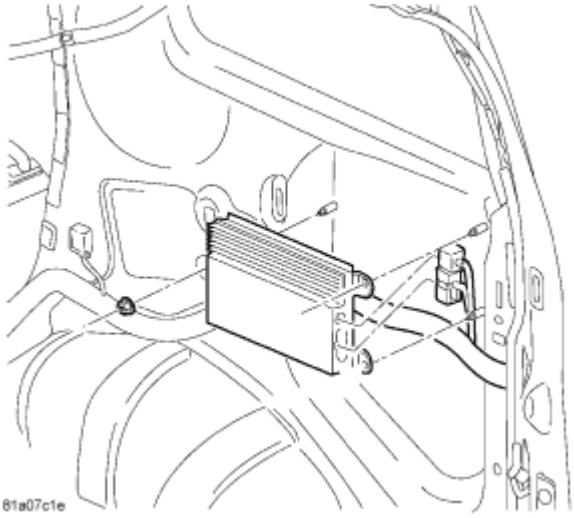

Fig. 1: Removing Amplifier
Courtesy of CHRYSLER LLC

1. Disconnect and isolate the battery negative cable.
2. Remove the rear quarter trim panel. Refer to **REMOVAL** .
3. Remove the mounting fasteners.
4. Disconnect the electrical connectors and remove the amplifier.

INSTALLATION

INSTALLATION

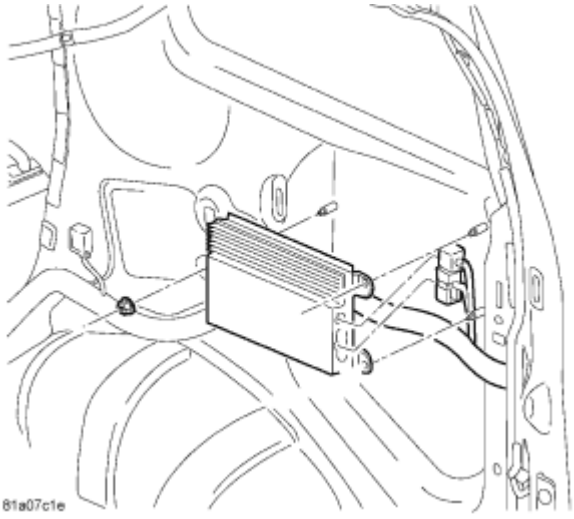

Fig. 2: Installing Amplifier
Courtesy of CHRYSLER LLC

1. Connect the electrical connectors and install the amplifier.
2. Install the amplifier mounting fasteners.
3. Install the rear quarter trim panel. Refer to **INSTALLATION** .
4. Connect the battery negative cable.

ANTENNA BODY & CABLE

DESCRIPTION

ANTENNA BODY AND CABLE

DOMESTIC

All models feature a roof-mounted active mast antenna. This is a combination antenna that receives both AM/FM and satellite digital audio. The antenna cables are routed along the left side of the under the headliner, down the A-pillar to the instrument panel. For antenna removal. See **REMOVAL**. For antenna installation . See **INSTALLATION**.

OPERATION

ANTENNA BODY AND CABLE

The antenna body and cable connects the antenna mast to the radio. The radio antenna is an electromagnetic circuit component used to capture radio frequency signals that are broadcast by local commercial radio stations in both the Amplitude Modulating (AM) and Frequency Modulating (FM) frequency ranges. These electromagnetic radio frequency signals induce small electrical modulations into the antenna as they move past the mast. The antenna body transfers the weak electromagnetic radio waves induced into the antenna into the center conductor of the flexible primary antenna coaxial cable. The braided outer shield of the antenna coaxial cable is grounded through both the antenna body and the radio chassis, effectively shielding the radio waves as they are conducted to the radio. The radio then tunes and amplifies the weak radio signals into stronger electrical signals in order to operate the audio system speakers.

DIAGNOSIS AND TESTING

ANTENNA BODY AND CABLE

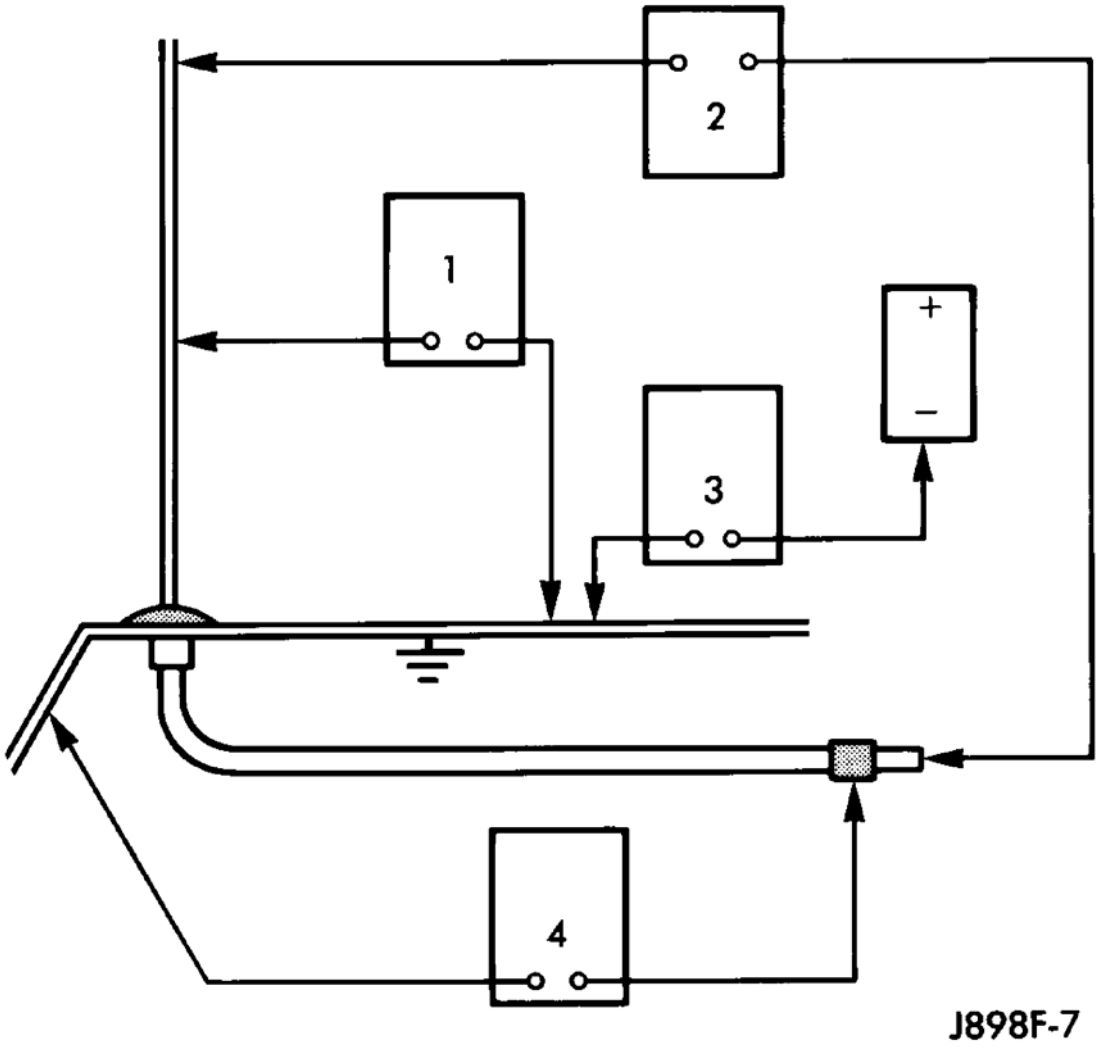

Fig. 3: Antenna Diagnose Tests
Courtesy of CHRYSLER LLC

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 antenna coaxial cable shield test.

WARNING: Disable the airbag system before attempting any steering wheel, steering column, seat belt tensioner, side airbag, 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.

The ohmmeter test lead connections for each test are shown in the illustration.

NOTE: This model has a two-piece antenna coaxial cable. Tests 2 and 4 must be conducted in two steps to isolate an antenna cable problem. First, test the primary antenna cable (integral to the antenna body and cable) from the coaxial cable connector behind the right side kick panel to the antenna body. Then, test the secondary antenna cable (instrument panel antenna cable) from the coaxial cable connector behind the right side kick panel to the coaxial cable connector at the radio.

TEST 1

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

1. Disconnect and isolate the antenna coaxial cable connector behind the right side kick panel.
2. Touch one ohmmeter test lead to the tip of the antenna mast. Touch the other test lead to known ground. Check the ohmmeter reading for continuity.
3. There should be no continuity. If OK, go to Test 2. If not OK, replace the faulty antenna body and cable.

TEST 2

Test 2 checks the antenna conductor components for an open circuit. This test should be performed first on the entire antenna circuit, from the antenna mast to the center conductor of the coaxial cable connector at the radio. If an open circuit is detected, each of the three antenna conductor components (antenna mast, antenna body and cable, instrument panel antenna cable) should be isolated and tested individually to locate the exact component that is the source of the open circuit. To begin this test, proceed as follows:

1. Disconnect the instrument panel antenna cable coaxial connector from the back of the radio.
2. Touch one ohmmeter test lead to the tip of the antenna mast. Touch the other test lead to the center conductor pin of the instrument panel antenna cable coaxial connector for the radio. Check the ohmmeter reading for continuity.
3. There should be continuity. The ohmmeter should register only a fraction of an ohm resistance. High or infinite resistance indicates a damaged or open antenna conductor. If OK, go to Test 3. If not OK, isolate and test each of the individual antenna conductor components. Replace only the faulty antenna conductor component.

TEST 3

Test 3 checks the condition of the vehicle body ground connection. To begin this test, proceed as follows:

1. This test must be performed with the battery positive cable disconnected from the battery. Disconnect and isolate both battery cables, negative cable first.
2. Reconnect the battery negative cable.

3. Touch one ohmmeter test lead to a good clean ground point on the vehicle fender. Touch the other test lead to the battery negative terminal post. Check the ohmmeter reading for continuity.
4. There should be continuity. The ohmmeter should register less than one ohm resistance. High or infinite resistance indicates a loose, corroded, or damaged connection between the battery negative terminal and the vehicle body. If OK, go to Test 4. If not OK, check the battery negative cable connection to the vehicle body and the radio noise suppression ground strap connections to the engine and the vehicle body for being loose or corroded. Clean or tighten these connections as required.

TEST 4

Test 4 checks the condition of the connection between the antenna coaxial cable shield and the vehicle body ground as follows:

1. Disconnect and isolate the antenna coaxial cable connector behind the right side kick panel.
2. Touch one ohmmeter test lead to a good clean ground point on the vehicle fender. Touch the other test lead to the outer crimp on the antenna coaxial cable connector. Check the ohmmeter reading for continuity.
3. There should be continuity. The ohmmeter should register less than one ohm resistance. High or infinite resistance indicates a loose, corroded, or damaged connection between the antenna body and the vehicle body or between the antenna body and the antenna coaxial cable shield. If not OK, clean the antenna body to fender mating surfaces and tighten the antenna cap nut to specifications.
4. Check the resistance again with an ohmmeter. If the resistance is still more then one ohm, replace the faulty antenna body and cable.

REMOVAL

ANTENNA BODY AND CABLE

1. Disconnect the battery negative cable.
2. Remove the headliner. Refer to **REMOVAL** .
3. Disconnect the electrical connectors.
4. Remove the routing clips and remove the cable.

INSTALLATION

ANTENNA BODY AND CABLE

1. Install the cable and routing clips.
2. Connect the electrical connectors.
3. Install the headliner. Refer to **INSTALLATION** .
4. Connect the battery negative cable.

ANTENNA-SATELLITE

OPERATION

ANTENNA - SATELLITE RADIO

The satellite receiver is housed within the radio and is no longer a separate module. The satellite radio antenna receives signals from orbiting satellites and sends these signals to the radio. The satellite radio antenna must have open space in which to operate. Items carried on the roof, parking inside etc. can have an effect on the antenna's ability to receive signals.

REMOVAL

ANTENNA BODY AND CABLE

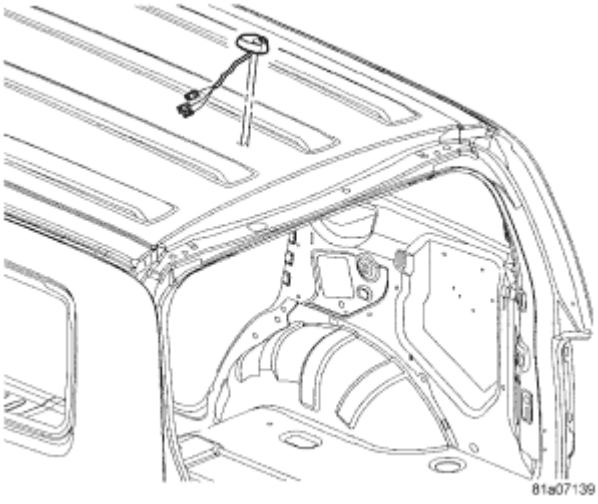

Fig. 4: Removing Antenna
Courtesy of CHRYSLER LLC

1. Disconnect the battery negative cable.
2. Lower the rear section of the headliner to gain access the antenna, ensuring that the headliner does not crease. Refer to **REMOVAL** .
3. Remove the mounting fastener.
4. Disconnect the electrical connectors and remove the antenna.

INSTALLATION

ANTENNA BODY AND CABLE

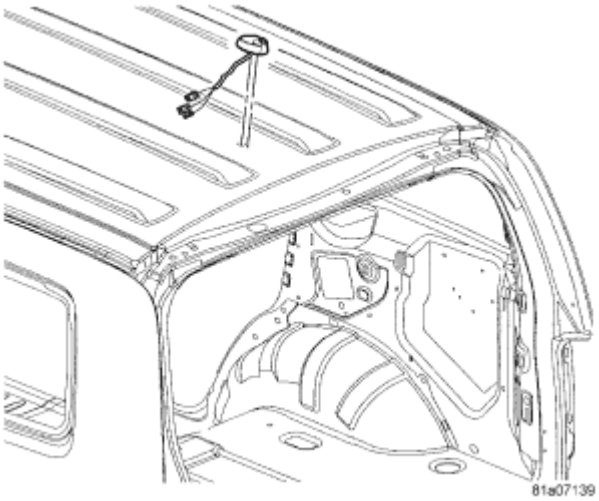

Fig. 5: Installing Antenna
Courtesy of CHRYSLER LLC

1. Connect the electrical connectors.
2. Install the antenna and mounting fastener.
3. Install the headliner. Refer to **INSTALLATION** .
4. Connect the battery negative cable.

CABLE-INSTRUMENT PANEL ANTENNA

REMOVAL

INSTRUMENT PANEL ANTENNA CABLE

WARNING: Disable the airbag system before attempting any steering wheel, steering column, seat belt tensioner, side airbag, 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. Disconnect and isolate the battery negative cable.
2. Remove the instrument panel. Refer to **REMOVAL** .

CAUTION: Pulling the antenna cable straight out of the radio without pulling on the locking antenna connector could damage the cable or radio.

3. Disconnect the antenna cable from radio by pulling the locking antenna connector (2) away from radio.
4. Disengage each of the retainers that secure the cable to the instrument panel.

5. Remove the cable from the instrument panel.

INSTALLATION

INSTRUMENT PANEL ANTENNA CABLE

WARNING: Disable the airbag system before attempting any steering wheel, steering column, seat belt tensioner, side airbag, 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. Position the instrument panel antenna cable onto the instrument panel.
2. Engage each of the retainers that secure the cable to the back side of the instrument panel.
3. Connect cable to radio.
4. Install instrument panel. Refer to **INSTALLATION** .
5. Connect the battery negative cable.

RADIO

DESCRIPTION

RADIO

NOTE: The USB protective door can be serviced separately and does not require the replacement of the entire radio assembly.

RADIO

Available radios include:

- AM/FM Stereo Radio w/CD/MP3 Audio player and AUX jack with and without Satellite Radio (RES).
- AM/FM Stereo Radio w/6-CD/DVD player and AUX jack with and without Satellite Radio (REQ).
- 6.5" Integrated Touch Screen AM/FM Stereo Radio, Satellite Radio, Single Disc CD/DVD player. (CD/DVD/MP3/WMA Audio, DVD Video) w/ Full Map Navigation with GPS Antenna and Real Time Traffic (RER).

All radio receivers can communicate on the Controlled Area Network (CAN).

OPERATION

RADIO

The radio receiver operates only when the ignition switch is in the ON or ACCESSORY positions.

For complete circuit diagrams, refer to the appropriate wiring information.

STANDARD PROCEDURE

RADIO BACKUP

The radio hard drive (HDD) can be backed up to save customer data in the event that a radio replacement is required. This procedure can only be done with all radios with a hard disk drive. All other radios do not have a HDD.

1. Turn the ignition to RUN, engine OFF.
2. Power on the external HDD.
3. Connect the external HDD to the radio using the USB (Universal Serial Bus) cable. The radio display will change to the "Manage My Files" screen.
4. Connect the scan tool and preform the following steps to place the radio into "Dealership Mode":
   ECU View
   Radio
   Misc. Functions
   Service Mode
   Start
   Next
5. Follow the on screen instructions on the radio to back up the radio HDD.

REMOVAL

RADIO

NOTE: The USB protective door can be serviced separately and does not require the replacement of the entire radio assembly.

NOTE: REQ and RET radios only must be put into "Transportation Mode" before removal. With Ignition in RUN or ACCESSORY, press SET and SCAN simultaneously until the radio displays "TRANSPORTATION" on the display or for 5 seconds.

1. Disconnect and isolate the battery negative cable.
2. Remove the instrument panel center trim panel.
3. Remove the radio mounting fasteners.

CAUTION: Pulling the antenna cable straight out of the radio without pulling on the locking antenna connector could damage the cable or radio.

4. Disconnect the antenna cable by pulling the locking antenna connector away from the radio.
5. Disconnect the electrical harness connector(s).
6. Remove radio from instrument panel.

INSTALLATION

RADIO

1. Connect the wire harness connector(s).
2. Connect the antenna cable.
3. Install the radio to the instrument panel.
4. Install and tighten the radio mounting fasteners.
5. Install the instrument panel center trim panel.
6. Connect the battery negative cable.

RADIO NOISE SUPPRESSION COMPONENTS

DESCRIPTION

RADIO NOISE SUPPRESSION COMPONENTS

Radio Frequency Interference (RFI) and Electro Magnetic Interference (EMI) can be produced by any on-board or external source of electromagnetic energy. These electromagnetic energy sources can radiate electromagnetic signals through the air, or conduct them through the vehicle electrical system.

When the audio system converts RFI or EMI to an audible acoustic wave form, it is referred to as radio noise. This undesirable radio noise is generally manifested in the form of "buzzing," "hissing," "popping," "clicking," "crackling," and/or "whirring" sounds. In most cases, RFI and EMI radio noise can be suppressed using a combination of vehicle and component grounding, filtering and shielding techniques. This vehicle is equipped with factory-installed radio noise suppression devices that were designed to minimize exposure to typical sources of RFI and EMI; thereby, minimizing radio noise complaints.

Radio noise suppression is accomplished primarily through circuitry or devices that are integral to the factory-installed radios, audio power amplifiers and other on-board electrical components such as generators, wiper motors, blower motors, and fuel pumps that have been found to be potential sources of RFI or EMI. External radio noise suppression devices that are used on this vehicle to control RFI or EMI, and can be serviced, include the following:

- **Engine-to-body ground strap** - This length of braided ground strap has an eyelet terminal connector crimped to each end. One end is secured to the engine cylinder head(s). The other is secured to the plenum.
- **Resistor-type spark plugs** - This type of spark plug has an internal resistor connected in series between the spark plug terminal and the center electrode to help reduce the production of electromagnetic radiation that can result in radio noise.

OPERATION

RADIO NOISE SUPPRESSION COMPONENTS

There are two common strategies that can be used to suppress Radio Frequency Interference (RFI) and Electro Magnetic Interference (EMI) radio noise. The first suppression strategy involves preventing the production of RFI and EMI electromagnetic signals at their sources. The second suppression strategy involves preventing the reception of RFI and EMI electromagnetic signals by the audio system components.

The use of braided ground straps in key locations is part of the RFI and EMI prevention strategy. These ground straps ensure adequate ground paths, particularly for high current components such as many of those found in the starting, charging, ignition, engine control and transmission control systems. An insufficient ground path for any of these high current components may result in radio noise caused by induced voltages created as the high current seeks alternative ground paths through components or circuits intended for use by, or in close proximity to the audio system components or circuits.

Preventing the reception of RFI and EMI is accomplished by ensuring that the audio system components are correctly installed in the vehicle. Loose, corroded or improperly soldered wire harness connections, improperly routed wiring and inadequate audio system component grounding can all contribute to the reception of RFI and EMI. A properly grounded antenna body and radio chassis, as well as a shielded antenna coaxial cable with clean and tight connections will each help reduce the potential for reception of RFI and EMI.

REMOVAL

RADIO NOISE SUPPRESSION COMPONENTS

1. Disconnect and isolate the battery negative cable.
2. Remove the retaining bolt from the transmission bell housing.
3. Remove the retaining nut from the plenum.

INSTALLATION

RADIO NOISE SUPPRESSION COMPONENTS

1. Install the retaining nut and ground strap to the plenum.
2. Install retaining bolt to the transmission bell housing.
3. Connect the battery negative cable.

REMOTE SWITCHES

DESCRIPTION

REMOTE SWITCHES

Radio controls are mounted on the back of the steering wheel. The controls provide convenient no-look operation and operate the following functions:

Right side

A rocker switch that increases or decreases the volume

A push button that selects modes. Repeatedly pressing the button selects from among AM radio, FM radio and CD changer. If the vehicle is equipped with Satellite Digital Audio Radio (SDAR) or the Video Entertainment System™, these are also included in the selection.

Left side

A rocker switch with functions that vary depending on the mode: in a radio mode, the frequency increases or decreases; if a CD is playing, the player skips to the next or previous track; if SDAR is playing the tuner skips to the next or previous channel.

A push button that steps through preset selections: if the radio is playing, pressing the button selects the next preset frequency; if a CD is playing, the changer selects the next disc; if SDAR is playing the next preset channel is selected.

OPERATION

REMOTE SWITCHES

The six switches in the two remote radio switch units are normally open, resistor multiplexed momentary switches that are hard wired to the Cab Compartment Node (CCN) through the clockspring. The CCN sends a five volt reference signal to both switch units on one circuit, and senses the status of all of the switches by reading the voltage drop on a second circuit.

When the CCN senses an input (voltage drop) from any one of the remote radio switches, it sends the proper switch status messages on the Controlled Area Network (CAN) to the radio receiver. The electronic circuitry within the radio receiver is programmed to respond to these remote radio switch status messages by adjusting the radio settings as requested. For diagnosis of the CCN or the CAN data bus, the use of a scan tool and the proper Diagnostic article are recommended.

DIAGNOSIS AND TESTING

REMOTE SWITCHES

Any diagnosis of the Audio system should begin with the use of scan tool. For information on the use of the scan tool, refer to the appropriate Diagnostic information.

For complete circuit diagrams, refer to the appropriate wiring information.

WARNING: Disable the airbag system before attempting any steering wheel, steering column, seat belt tensioner, side airbag, 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. Disconnect and isolate the battery negative cable. Remove the remote radio switch(es) from the steering wheel. See **REMOVAL**.
2. Use an ohmmeter to check the switch resistances as shown in the Remote Radio Switch Test chart. If the remote radio switch resistances check OK, go to step 3. If not OK, replace the faulty switch.

REMOTE RADIO SWITCH TEST TABLE

Switch	Switch Position	Resistance
Right (White)	Volume Up	1.210 Kilohms ± 1%
Right (White)	Volume Down	3.010 Kilohms ± 1%
Right (White)	Mode Advance	0.0511 Kilohms ± 1%
Left (Black)	Seek Up	0.261 Kilohms ± 1%
Left (Black)	Seek Down	0.681 Kilohms ± 1%
Left (Black)	Pre-Set Station Advance	0.162 Kilohms ± 1%

3. Reconnect the battery negative cable. Turn the ignition switch to the On position. Check for 5 volts at the radio control mux circuit cavities of the steering wheel wire harness connectors for both remote radio switches. If OK, go to step 4. If not OK, repair the open or shorted radio control mux circuit as required.
4. Disconnect and isolate the battery negative cable. Disconnect the 22-way instrument panel wire harness connector from the CCN. Check for continuity between the remote radio switch ground circuit cavities of the steering wheel wire harness connectors for both remote radio switches and a good ground. There should be no continuity. If not OK, repair the shorted remote radio switch ground circuit as required.

REMOVAL

REMOTE SWITCHES

WARNING: Disable the airbag system before attempting any steering wheel, steering column, seat belt tensioner, side airbag, 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. Disconnect and isolate the battery negative cable.
2. Remove the driver side airbag from the vehicle. Refer to **REMOVAL** .
3. Remove the speed control switches.
4. Unplug the wire harness connector from the remote radio switch.
5. Depress the tabs on each side of each switch and push the switch through the rear steering wheel cover.

INSTALLATION

REMOTE SWITCHES

WARNING: Disable the airbag system before attempting any steering wheel, steering column, seat belt tensioner, side airbag, 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. Install remote radio switch to the steering wheel.
2. Connect the wire harness to the remote radio switch.
3. Install the speed control switches.
4. Install the driver side airbag. Refer to **INSTALLATION** .
5. Connect the battery negative cable.

SPEAKER

DESCRIPTION

SPEAKER

STANDARD

The standard equipment speaker system includes speakers in six locations. One 6.4 centimeter (2.50 inch) diameter speaker is installed on each end of the instrument panel top pad. One 16.5 centimeter (6.5 inch) full-range speaker is located in each front door. There is also one full-range 16.5 centimeter (6.5 inch) diameter full-range speaker located in each rear door.

PREMIUM

The optional premium speaker system features nine Premium model speakers. Each of the standard speakers are replaced with Premium model speakers. One 6.4 centimeter (2.50 inch) diameter speaker is installed on each end of the instrument panel top pad. One 16.5 centimeter (6.5 inch) Premium woofer is located in each front door. There is also one full-range 16.5 centimeter (6.5 inch) diameter Premium full-range speaker located in each rear door as well as one 1.9 centimeter (.75 inch) tweeter in each rear door. A 20.3 centimeter (8 inch) subwoofer is located in the rear cargo area. The premium speaker system also includes a power amplifier rated at 368 watts.

OPERATION

SPEAKER

Two wires connected to each speaker, one feed circuit (+) and one return circuit (-), allow the audio output signal electrical current to flow through the voice coil. For complete circuit diagrams, 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.

DIAGNOSIS AND TESTING

SPEAKER

Any diagnosis of the Audio system should begin with the use of scan tool. For information on the use of the scan tool, refer to the appropriate Diagnostic information.

Refer to the appropriate wiring information.

WARNING: Disable the airbag system before attempting any steering wheel, steering column, seat belt tensioner, side airbag, 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.

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.

NOTE: If poor sound quality is noted in the audio system, check the Cabin Equalization curve programmed in the TIPM. Make sure a base speaker system has the Base Cabin Equalization Curve programmed to the vehicle. If the vehicle has a premium speaker system, make sure the Premium Cabin Equalization Curve is programmed to the vehicle

1. If all speakers are inoperative, check the fuses in the Totally Integrated Power Module (TIPM). If OK, go to Step 2. If not OK, repair the shorted circuit or component as required and replace the faulty fuse.
2. Turn the ignition switch to the ON position. Turn the radio receiver ON. Adjust the balance and fader control controls to check the performance of each individual speaker. Note the speaker locations that are not performing correctly. Go to Step 3.
3. Turn the radio receiver OFF. Turn the ignition OFF. Disconnect and isolate the battery negative cable. If vehicle is **not** equipped with an amplifier, remove the radio receiver. If vehicle is equipped with an amplifier, disconnect wire harness connector at output side of amplifier. Go to Step 4.
4. Check both the speaker feed (+) circuit and return (-) circuit cavities for the inoperative speaker at the radio receiver wire harness connector for continuity to ground. There should be no continuity. If OK, go to Step 5. If not OK, repair the shorted speaker feed (+) and/or return (-) circuits(s) to the speaker as required.
5. Disconnect wire harness connector at the inoperative speaker. Check for continuity between the speaker feed (+) circuit cavities of the radio receiver wire harness connector and the speaker wire harness connector. Repeat the check between the speaker return (-) circuit cavities of the radio receiver wire harness connector and the speaker wire harness connector. In each case, there should be continuity. If OK, replace the faulty speaker. If not OK, repair the open speaker feed (+) and/or return (-) circuits(s) as required.

REMOVAL

SPEAKER

FRONT DOOR	Refer to step **FRONT DOOR** removal procedure.
INSTRUMENT PANEL	Refer to step **INSTRUMENT PANEL** removal procedure.
REAR DOOR	Refer to step **REAR DOOR** removal procedure.
SUBWOOFER	Refer to step **SUBWOOFER** removal procedure.

SPEAKER

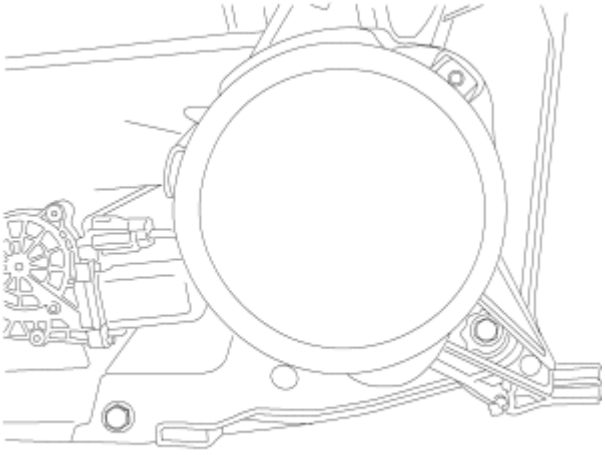

Fig. 6: Removing Speaker
Courtesy of CHRYSLER LLC

1. Disconnect and isolate the battery negative cable.
2. Remove the front door trim panel. Refer to **REMOVAL** .
3. Remove the speaker mounting fasteners.
4. Remove the speaker from the door and disconnect the wire harness connector.

INSTRUMENT PANEL

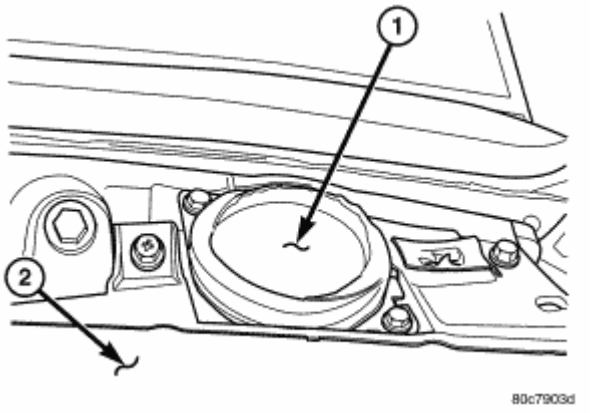

Fig. 7: Removing Speaker In Instrument Panel
Courtesy of CHRYSLER LLC

1. Disconnect and isolate the battery negative cable.
2. Remove the air outlet. Refer to **REMOVAL** .
3. Remove speaker mounting fasteners.
4. Remove speaker (1) and disconnect the wire harness connector.

REAR DOOR

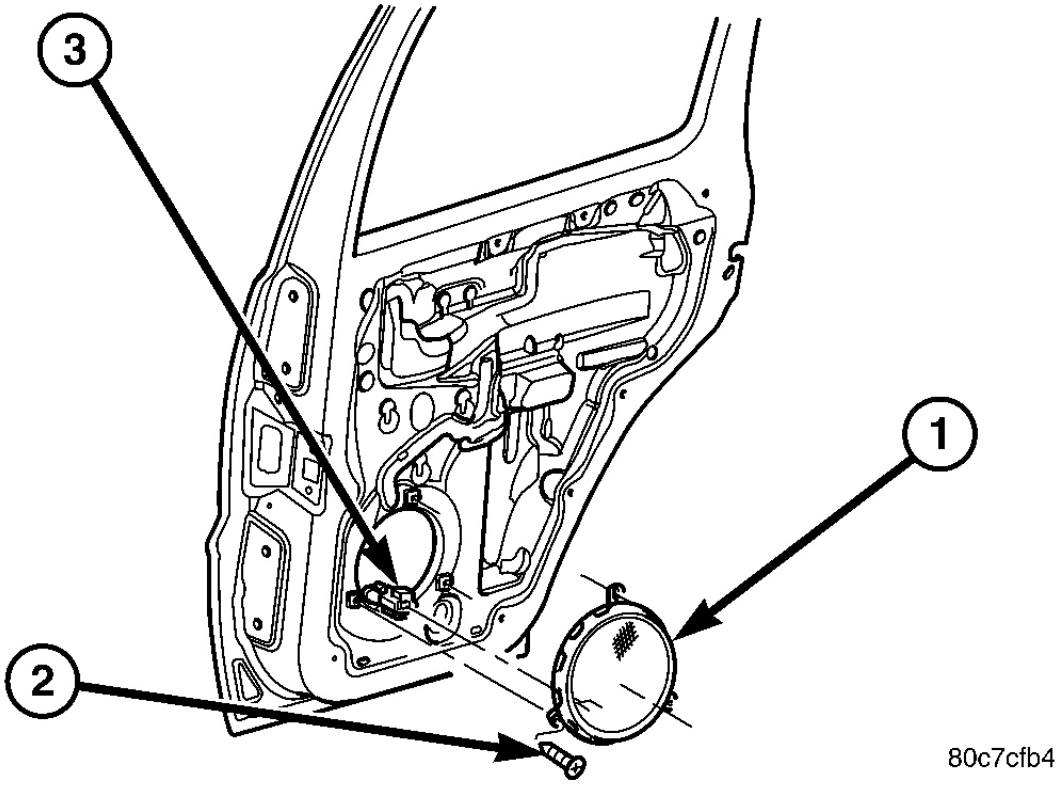

Fig. 8: Removing Rear Door Speaker
Courtesy of CHRYSLER LLC

1. Disconnect and isolate the battery negative cable.
2. Remove the rear door trim panel. Refer to **REMOVAL** .
3. Remove the speaker mounting fasteners.
4. Remove the speaker (1) from the door and disconnect the wire harness connector (3).

SUBWOOFER

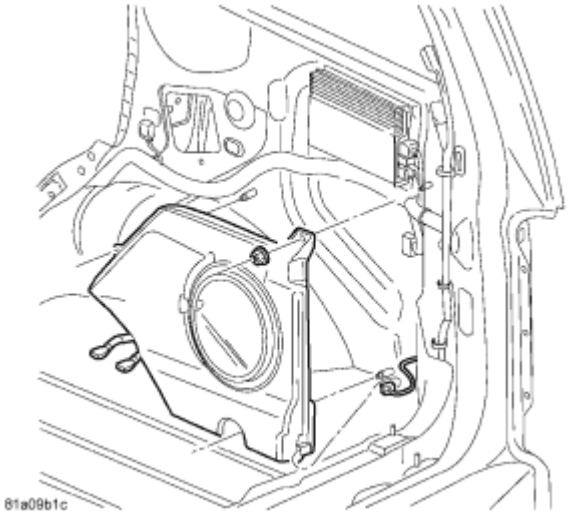

Fig. 9: Removing Subwoofer
Courtesy of CHRYSLER LLC

1. Disconnect and isolate the battery negative cable.
2. Remove the speaker grille fasteners and remove the speaker grille.
3. Remove the speaker mounting fasteners.
4. Remove the speaker and disconnect the electrical connector.

INSTALLATION

SPEAKER

FRONT DOOR	Refer to **FRONT DOOR** installation procedure.
INSTRUMENT PANEL	Refer to **INSTRUMENT PANEL** installation procedure.
REAR DOOR	Refer to **REAR DOOR** installation procedure.
SUBWOOFER	Refer to **SUBWOOFER** installation procedure.

FRONT DOOR

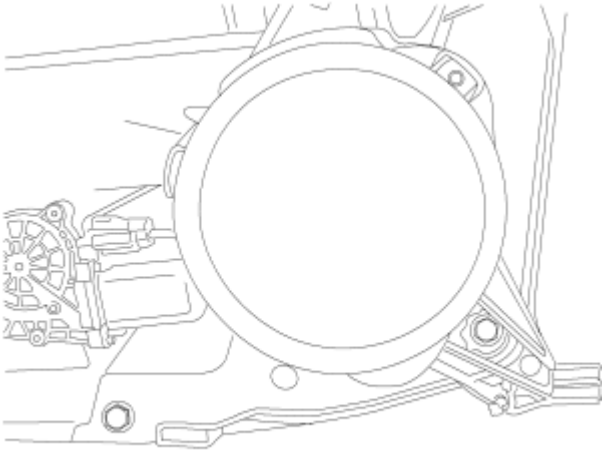

Fig. 10: Installing Front Door Speaker
Courtesy of CHRYSLER LLC

1. Connect the wire harness connector and install the speaker to the door.
2. Install the speaker mounting screws. Tighten to 2 N.m (20 in. lbs.).
3. Install the front door trim panel. Refer to **INSTALLATION** .
4. Connect the battery negative cable.

INSTRUMENT PANEL

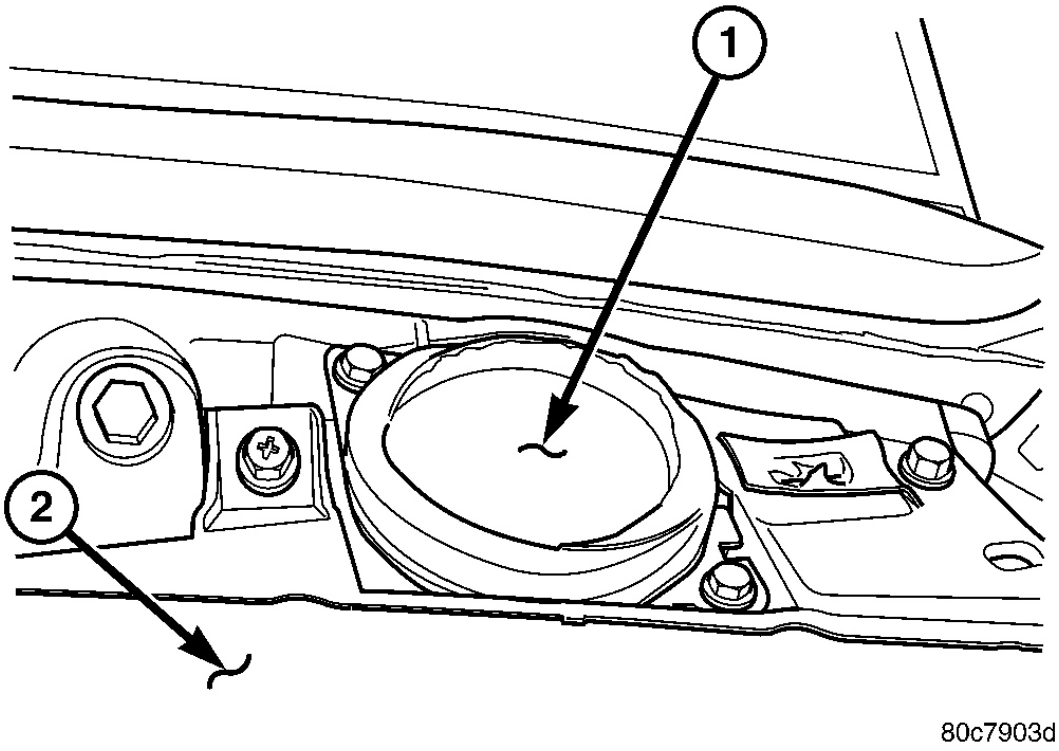

Fig. 11: Installing Instrument Panel Speaker
Courtesy of CHRYSLER LLC

1. Connect wire harness connector and install speaker.
2. Install speaker mounting screws. Tighten to 2 N.m (20 in. lbs.).
3. Install the air outlet. Refer to **INSTALLATION** .
4. Connect the battery negative cable.

REAR DOOR

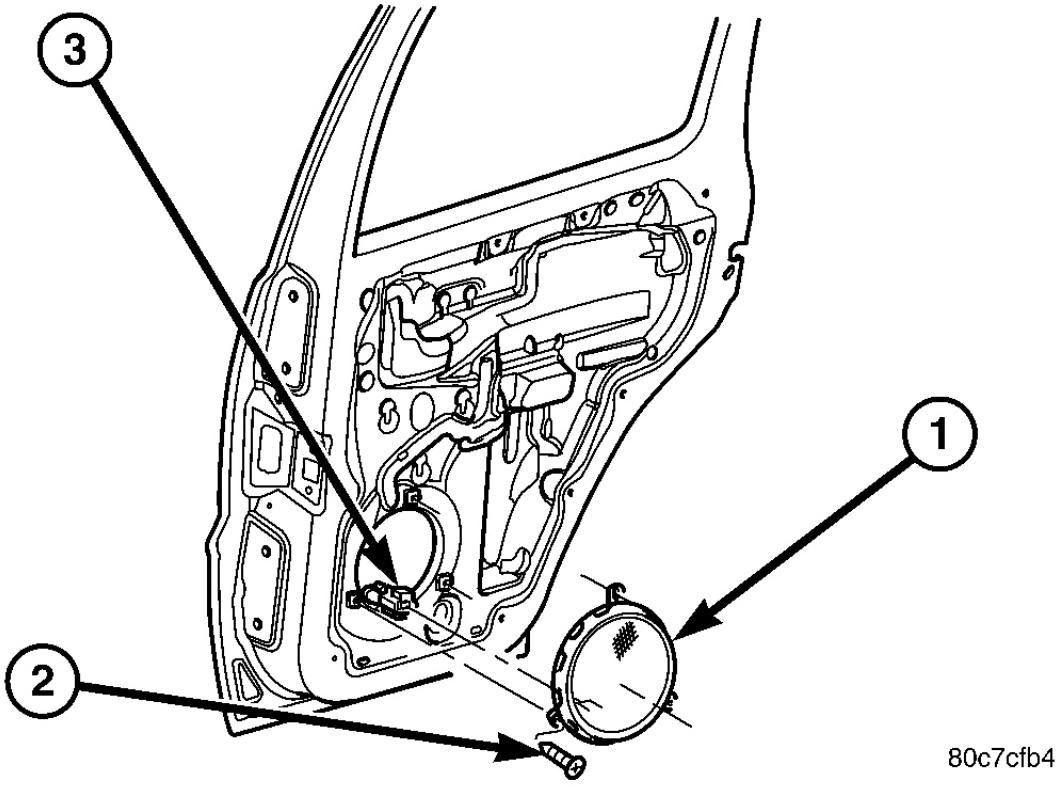

Fig. 12: Installing Rear Door Speaker
Courtesy of CHRYSLER LLC

1. Connect the wire harness connector and install the speaker to the door.
2. Install the speaker mounting screws. Tighten to 2 N.m (20 in. lbs.).
3. Install the rear door trim panel. Refer to **INSTALLATION** .
4. Connect the battery negative cable.

SUBWOOFER

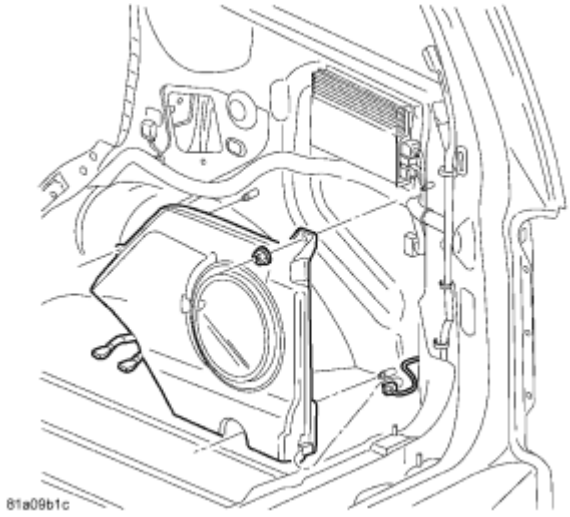

Fig. 13: Installing Subwoofer
Courtesy of CHRYSLER LLC

1. Connect the electrical connector and install the speaker.
2. Install the speaker mounting fasteners.
3. Install the speaker grille.
4. Connect the battery negative cable.

VIDEO SCREEN

REMOVAL

REMOVAL

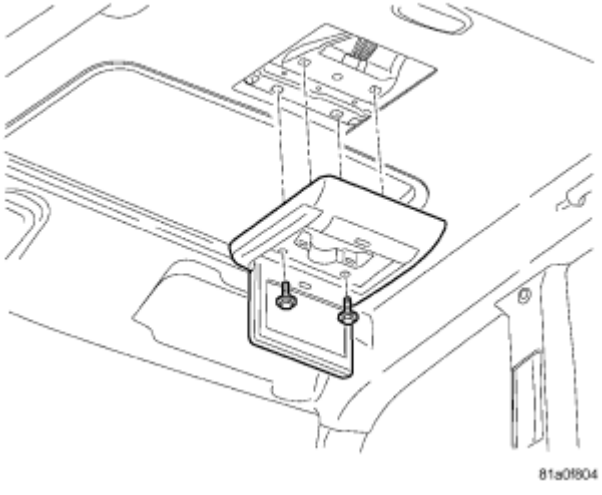

Fig. 14: Removing Video Screen
Courtesy of CHRYSLER LLC

1. Disconnect and isolate the battery negative cable.

2. Remove the video screen mounting fasteners.
3. Remove the video screen and disconnect the electrical connectors.

INSTALLATION

INSTALLATION

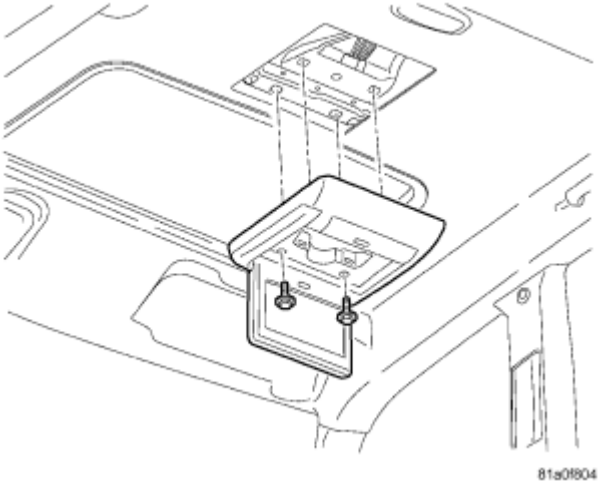

Fig. 15: Installing Video Screen
Courtesy of CHRYSLER LLC

1. Connect the electrical connectors and snap the video screen in position.
2. Install the video screen mounting fasteners.
3. Connect the battery negative cable.