

**2001 ACCESSORIES & EQUIPMENT****Steering Column Switches - Catera****DESCRIPTION & OPERATION**

**WARNING:** Vehicles are equipped with air bag supplemental restraint system. Before attempting any repairs involving steering column, instrument panel or related components, see SERVICE PRECAUTIONS and DISABLING & ACTIVATING AIR BAG SYSTEM in appropriate AIR BAG RESTRAINT SYSTEMS article.

Vehicle is equipped with tilt column. A multifunction switch lever, on left side of column controls turn signals, headlight dimmer, headlight flash-to-pass and cruise control functions. A wiper/washer switch, on right side of column controls wiper/washer functions.

Horns have battery voltage applied at all times to horn relay coil and horn relay switch. Pressing horn switch applies ground to horn relay control circuit. Body Control Module (BCM) may also apply ground to horn relay control circuit as described. When horn relay control circuit is grounded, horn relay is energized and battery voltage is applied to horns through horn control circuit. Horns sound as long as ground is applied to horn relay control circuit.

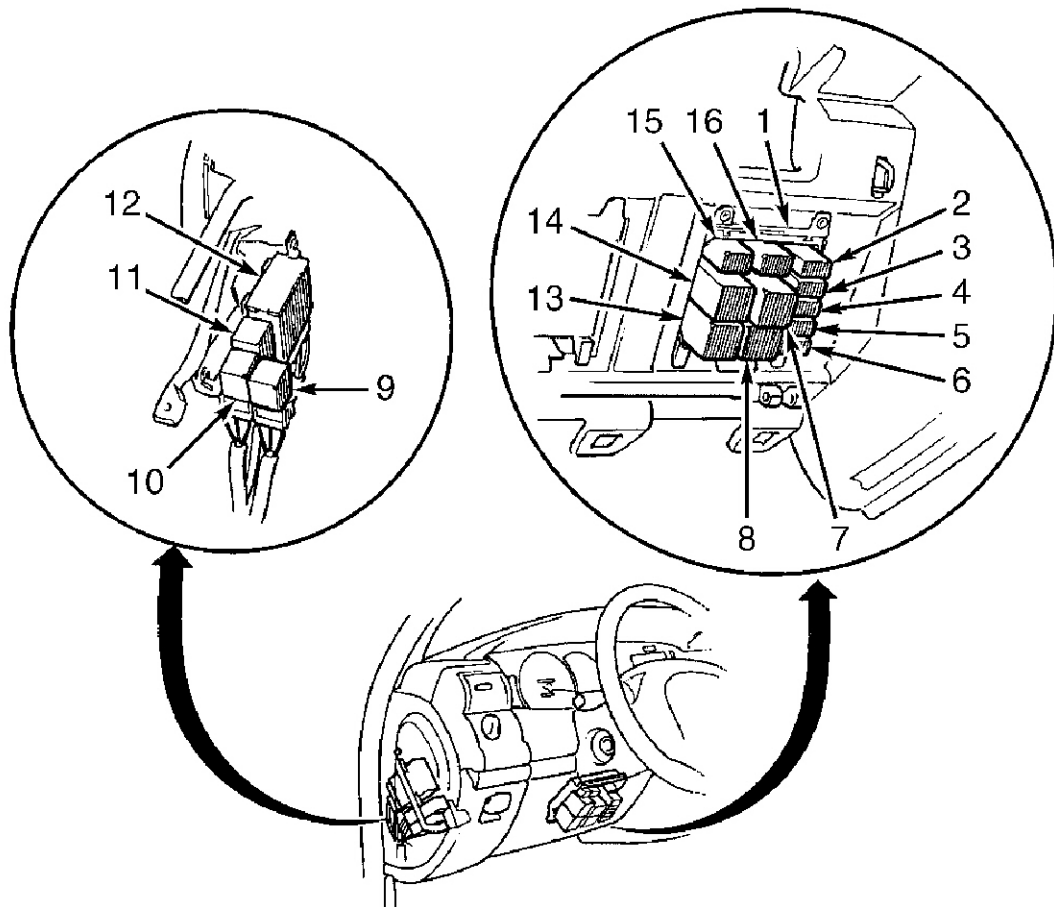
Steering wheel radio controls consist of multiple momentary contact switches that connect a series of resistors so that each switch selection corresponds to a fixed resistance value. These fixed resistance values allow radio to identify which switch has been pressed. Voltage and ground for steering wheel radio control switches is provided by radio.

**COMPONENT LOCATIONS**

**NOTE:** For component locations, refer to illustration. See Fig. 1 .

**COMPONENT LOCATIONS**

<b>Component</b>	<b>Location</b>
Body Control Module	On Lower Right "A" Pillar, Behind Trim Panel
Data Link Connector	Below Instrument Panel, To Right Of Steering Column
Fuse Block	Lower Instrument Panel, Left Of Steering Column
Headlight Switch	Left Side Of Instrument Panel, Left Of Steering Column
Horns	Behind Left Front Fascia, Near Fog Light
Horn Relay	In Relay Box
Relay Box	Lower Left Of Instrument Panel



- |                                     |  |
|-------------------------------------|--|
| 1. Relay Box                        | 10. Driver's Seat Heater Relay                           |
| 2. Parking Light Relay              | 11. Power Steering Control Module                        |
| 3. Low Beam Relay                   | 12. Multifunction Relay Module                           |
| 4. Not Used                         | 13. Right Headlight (High Beam) Relay                    |
| 5. Not Used                         | 14. Heated Outside Rearview Mirror & Rear Defogger Relay |
| 6. Left Headlight (High Beam) Relay | 15. Daytime Running Light (DRL) Relay                    |
| 7. Turn Signal Light Flasher        | 16. Rear Suspension Leveling Air Compressor Relay        |
| 8. Horn Relay                       |  |
| 9. Passenger's Seat Heater Relay    |  |

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**Fig. 1: Locating Relay Box Relays**  
 Courtesy of GENERAL MOTORS CORP.

## PROGRAMMING

### BODY CONTROL MODULE

Using scan tool, select Special Functions menu. Select SETUP NEW BODY CONTROL MODULE. Follow scan tool instructions on display screen to program Body Control Module (BCM).

## TROUBLE SHOOTING

### PRELIMINARY INSPECTION

Verify customer complaint by operating system. Visually inspect for obvious signs of mechanical and electrical damage. Inspect for blown fuses. Inspect for loose or corroded connections, damaged wiring harnesses and/or switches. Check for a broken or partially broken wire inside insulation, which could cause system malfunction but prove good in a continuity/voltage check with system disconnected. Ensure any aftermarket electronic equipment is

properly installed. Inspect window track for any binding or sticking. If fault is found, repair as necessary. If no fault is found, perform self-diagnostics. See **SELF-DIAGNOSTIC SYSTEM**.

## **SELF- DIAGNOSTIC SYSTEM**

### **HORNS DIAGNOSTIC SYSTEM CHECK**

1. Connect scan tool to Data Link Connector (DLC). DLC is located below instrument panel, to right of steering column. Turn ignition switch to RUN position. If scan tool powers up, go to next step. If scan tool does not power up, perform appropriate diagnostic test. See **BODY CONTROL MODULES - CATERA** article.
2. Using scan tool, attempt to communicate with Body Control Module (BCM). If scan tool communicates with BCM, go to next step. If scan tool does not communicate with BCM, perform appropriate diagnostic test. See **BODY CONTROL MODULES - CATERA** article.
3. Using scan tool, select BCM display DTCS function. If scan tool displays any DTCs, go to next step. If scan tool does not display any DTCs, repair horns by symptom. See **SYMPTOM INDEX** table under **SYSTEM TESTS**.
4. If scan tool does not display any DTCs which begin with a "U", go to next step. If scan tool displays any DTCs which begin with a "U", perform appropriate diagnostic test. See **BODY CONTROL MODULES - CATERA** article.
5. If scan tool displays DTCs B1000 or B1004, perform appropriate test in accordance with DTC retrieved. See **BODY CONTROL MODULES - CATERA** article. If scan tool does not display DTCs B1000 or B1004, go to next step.
6. If scan tool displays DTCs B1339 or B1349, perform appropriate test in accordance with DTC retrieved. See **BODY CONTROL MODULES - CATERA** article. If scan tool does not display DTCs B1339 or B1349, go to next step.
7. If scan tool displays DTCs B1482, B1483, B1507 or B1508, perform appropriate test in accordance with DTC retrieved. See **BODY CONTROL MODULES - CATERA** article. If scan tool does not display DTCs B1482, B1483, B1507 or B1508, repair horns by symptom. See **SYMPTOM INDEX** table under **SYSTEM TESTS**.

### **RADIO/AUDIO SYSTEM DIAGNOSTIC SYSTEM CHECK**

1. Connect scan tool to Data Link Connector (DLC). DLC is located below instrument panel, to right of steering column. If scan tool powers up, go to next step. If scan tool does not power up, perform appropriate diagnostic test. See **BODY CONTROL MODULES - CATERA** article.
2. Turn ignition switch to RUN position. Try to establish scan tool communication with radio. If communication with radio is established, go to next step. If communication with radio is not established, perform appropriate diagnostic test. See **BODY CONTROL MODULES - CATERA** article.
3. Using scan tool, select radio display DTC function. If any DTCs are displayed, go to next step. If no DTCs are displayed, repair radio system as necessary. See **SYMPTOM INDEX** table under **SYSTEM TESTS**.
4. If scan tool displays any DTCs beginning with "U", perform appropriate test in accordance with DTC retrieved. See **BODY CONTROL MODULES - CATERA** article. If scan tool does not display any DTCs beginning with "U", go to next step.
5. If scan tool displays DTC B1982 or B1983, perform appropriate test in accordance with DTC retrieved. See **BODY CONTROL MODULES - CATERA** article. If scan tool does not display DTC B1982 or B1983, go to next step.
6. If scan tool displays DTC B1760 or DTC B1780, perform appropriate test in accordance with DTC retrieved. See **BODY CONTROL MODULES - CATERA** article. If scan tool does not display DTC B1760 or B1780, repair radio system as necessary.

## **SYSTEM TESTS**

**CAUTION:** To prevent damage to terminal, Connector Test Adapter Kit (J-35616-A) must be used whenever a diagnostic procedure requires checking or probing a terminal.

## SYMPTOM INDEX

Symptom	Perform Test
Horns Inoperative	<u>A</u>
Horns Always On	<u>B</u>
One Horn Inoperative	<u>C</u>
Steering Wheel Radio Controls Inoperative <sup>(1)</sup>	<u>D</u>

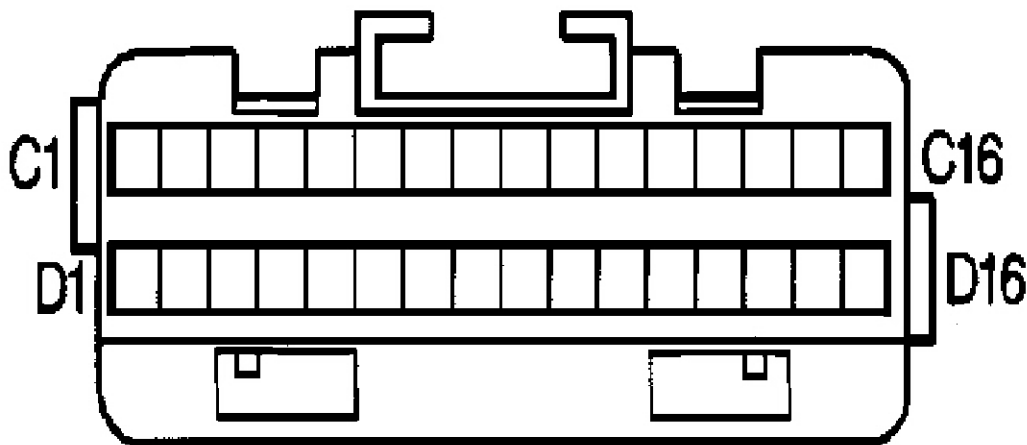
(1) If steering wheel controls are operative, repair radio as necessary.

### TEST A: HORNS INOPERATIVE

- If horns diagnostic system check has been performed, go to next step. If horns diagnostic system check has not been performed, perform **HORNS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
- Press horn switch. If horns sound, go to next step. If horns do not sound, go to step 5 .
- Connect scan tool to Data Link Connector (DLC). DLC is located below instrument panel, to right of steering column. Turn ignition switch to RUN position. Using scan tool, command Body Control Module (BCM) horn output ON and OFF. If horns do not sound, go to next step. If horns sound, inspect for intermittents. See **TROUBLE SHOOTING** .
- Inspect Brown/White wire for an open or high resistance between BCM harness connector C2 terminal C4 and horn relay socket No. 6. See **Fig. 2** and **Fig. 3** . If problem does not exist, go to step 11 . If problem exists, repair Brown/White wire as necessary. After repair, go to step 21 .
- Turn ignition switch to OFF position. Remove horn relay from relay box. Relay box is located on lower left of instrument panel. Connect a test light between ground and horn relay socket No. 2 (Red wire). See **Fig. 3** . If test light illuminates, go to next step. If test light does not illuminate, go to step 14 .
- Connect a test light between horn relay sockets No. 2 (Red wire) and No. 6 (Brown/White wire). Press and hold horn switch. If test light illuminates, go to next step. If test light does not illuminate, go to step 15 .
- Connect a test light between ground and horn relay socket No. 4 (Brown/White wire). If test light illuminates, go to next step. If test light does not illuminate, go to step 16 .
- Momentarily connect a 15-amp fused jumper wire between horn relay sockets No. 4 (Brown/White wire) and No. 6 (Brown/White wire). See **Fig. 3** . If horns do not sound, go to next step. If horns sound, go to step 12 .
- Install horn relay to relay box. Disconnect either horn harness connector. Connect a test light between ground and horn harness connector Brown/White wire terminal. Press and hold horn switch. If test light illuminates, go to next step. If test light does not illuminate, go to step 17 .
- Connect a test light between horn harness connector Brown/White wire terminal and horn ground circuit. See **WIRING DIAGRAMS** . Press and hold horn switch. If test light illuminates, go to step 13 . If test light does not illuminate, go to step 18 .
- Inspect BCM harness connector for poor connections. If problem does not exist, go to step 19 . If problem exists, repair BCM harness connector as necessary. After repair, go to step 21 .
- Inspect horn relay sockets for poor connections. If problem does not exist, go to step 20 . If problem exists, repair horn relay sockets as necessary. After repair, go to step 21 .
- Repair high resistance in Black wire and/or Brown/White wire. After repair, go to step 21 .
- Repair open or high resistance in Red wire between horn relay and fuse block. After repair, go to step 21 .
- Disable air bag system. See appropriate AIR BAG RESTRAINT SYSTEMS article. Repair open or short to voltage between horn relay and BCM, or inflatable restraint steering wheel module coil. After repair, go to

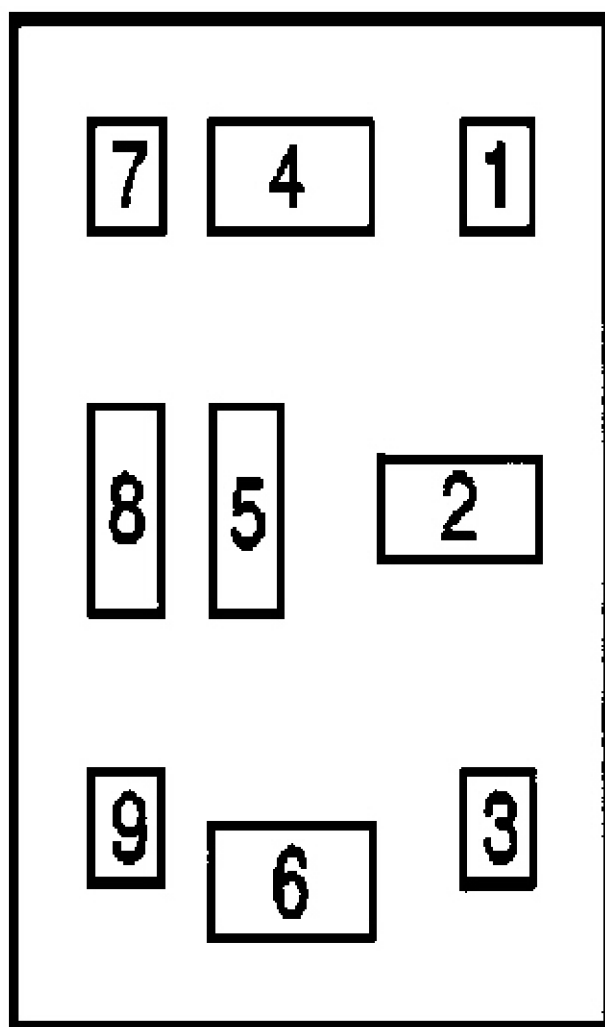
step 21 .

16. Repair open or high resistance in Brown/White wire between horn relay and appropriate horn. After repair, go to step 21 .
17. Repair open or high resistance in Brown/White wire between horn relay and appropriate horn. After repair, go to step 21 .
18. Repair open or high resistance in Black wire between ground and horn relay. Ground point is located below battery tray. After repair, go to step 21 .
19. Replace BCM. Program BCM. See **BODY CONTROL MODULE** under PROGRAMMING. After repair, go to step 21 .
20. Replace horn relay, then go to next step.
21. Operate horns to verify repair. If horns are not operating correctly, repeat test beginning at step 2 .



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**Fig. 2: Identifying Body Control Module Harness Connector C2 Terminals**  
Courtesy of GENERAL MOTORS CORP.



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**Fig. 3: Identifying Horn Relay Sockets**  
 Courtesy of GENERAL MOTORS CORP.

**TEST B: HORNS ALWAYS ON**

1. If horns diagnostic system check has been performed, go to next step. If horns diagnostic system check has not been performed, perform **HORNS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
2. Connect scan tool to Data Link Connector (DLC). DLC is located below instrument panel, to right of steering column. Turn ignition switch to RUN position. Using scan tool, command Body Control Module (BCM) horn output ON and OFF. If horns do not stop sounding, go to next step. If horns stop sounding, inspect for intermittents. See **TROUBLE SHOOTING**.
3. Turn ignition switch to OFF position. Remove horn relay from relay box. Relay box is located on lower left of instrument panel. If horns stop sounding, go to next step. If horns do not stop sounding, go to step 8.
4. Connect a test light between horn relay sockets No. 2 (Red wire) and No. 6 (Brown/White wire). See **Fig. 3**. If test light illuminates, go to next step. If test light does not illuminate, go to step 6.
5. Disable air bag system. See appropriate AIR BAG RESTRAINT SYSTEMS article. Inspect Brown/White wire for a short to ground between ground and horn relay socket No. 6. If problem does not exist, go to step 7. If problem exists, repair Brown/White wire as necessary. After repair, go to step 11.

6. Inspect horn relay sockets for poor connections. If problem does not exist, go to step 9 . If problem exists, repair horn relay sockets as necessary. After repair, go to step 11 .
7. Inspect BCM harness connector for poor connections. If problem does not exist, go to step 10 . If problem exists, repair BCM harness connector as necessary. After repair, go to step 11 .
8. Repair short to voltage in Brown/White wire between horn relay and appropriate horn. After repair, go to step 11 .
9. Replace horn relay. After repair, go to step 11 .
10. Replace BCM. Program BCM. See **BODY CONTROL MODULE** under PROGRAMMING. After repair, go to next step.
11. Operate horns to verify repair. If horns are not operating correctly, repeat test beginning at step 2 .

**TEST C: ONE HORN INOPERATIVE**

1. If horns diagnostic system check has been performed, go to next step. If horns diagnostic system check has not been performed, perform **HORNS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
2. Press horn switch. If either horn does not sound, go to next step. If both horns sound, inspect for intermittents. See **TROUBLE SHOOTING** .
3. Disconnect suspect horn harness connector. Connect a test light between ground and suspect horn harness connector Brown/White wire terminal. Press and hold horn switch. If test light illuminates, go to next step. If test light does not illuminate, go to step 7 .
4. Connect a test light between horn harness connector Brown/White wire terminal and horn ground circuit. See **WIRING DIAGRAMS** . Press and hold horn switch. If test light illuminates, go to next step. If test light does not illuminate, go to step 8 .
5. Inspect suspect horn and/or harness connector for poor connections. If problem does not exist, go to next step. If problem exists, repair horn and/or harness connector as necessary. After repair, go to step 11 .
6. Connect a 15-amp fused jumper wire between battery voltage and suspect horn control terminal (component side). Connect a second jumper wire between negative battery terminal and suspect horn ground terminal (component side). If horns sound, go to step 9 . If horns do not sound, go to step 10 .
7. Repair open or poor connection in Brown/White wire between suspect horn and horn relay. After repair, go to step 11 .
8. Repair open or poor connection in Black wire between ground and horn relay. Ground point is located below battery tray. After repair, go to step 11 .
9. Repair high resistance in Brown/White wire and/or Black wire. After repair, go to step 11 .
10. Replace suspect horn, then go to next step.
11. Operate horns to verify repair. If horns are not operating correctly, repeat test beginning at step 2 .

**TEST D: STEERING WHEEL RADIO CONTROLS INOPERATIVE**

1. If radio/audio system diagnostic system check has been performed, go to next step. If radio/audio system diagnostic system check has not been performed, perform **RADIO/AUDIO SYSTEM DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
2. Turn ignition switch to RUN position. Turn radio on. Operate all steering wheel radio control switches. If all steering wheel radio control switches do not operate, go to next step. If all steering wheel radio control switches operate, inspect for intermittents. See **TROUBLE SHOOTING** .
3. Turn ignition switch to OFF position. Disable air bag system. See appropriate AIR BAG RESTRAINT SYSTEMS article. Disconnect steering wheel radio control switch 4-pin harness connector. Press all steering wheel radio control switches, while measuring resistance between steering wheel radio control switch harness connector terminals "B" (Blue/Red wire) and "D" (Brown wire). See **STEERING WHEEL RADIO**

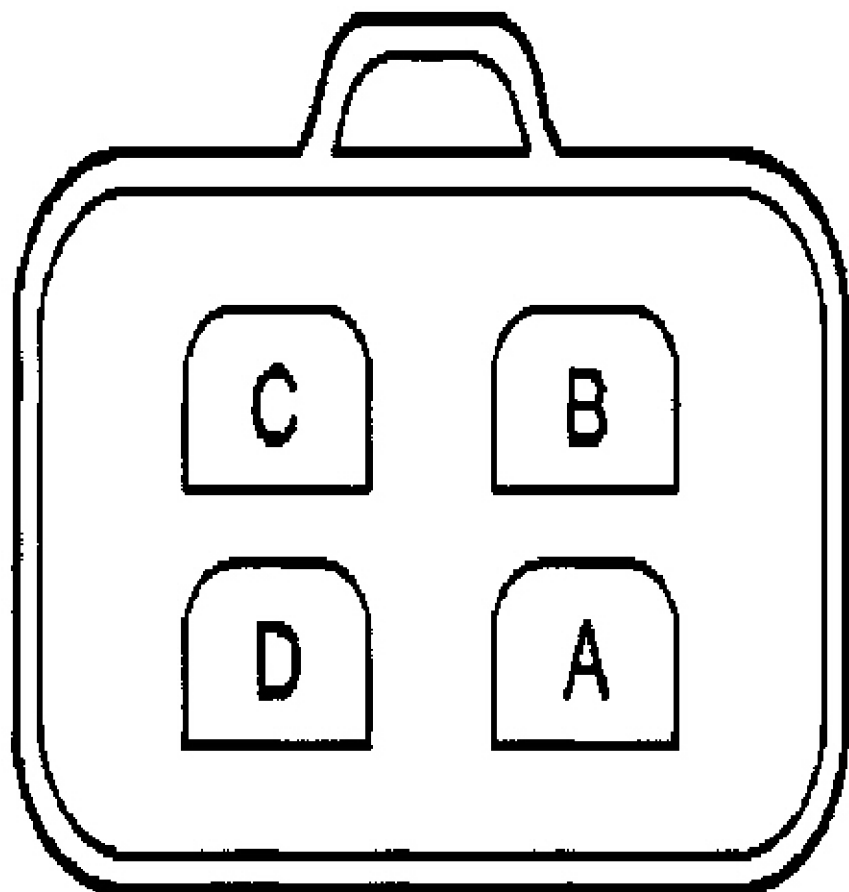
**CONTROL SWITCH RESISTANCE** table. See **Fig. 4** . If resistance is as specified, go to next step. If resistance is not as specified, go to step 5 .

### STEERING WHEEL RADIO CONTROL SWITCH RESISTANCE

Steering Wheel Radio Control	Ohms
Volume Up	164
Volume Down	82
Mode	284
Select Up	464
Select Down	794
Scan	1474

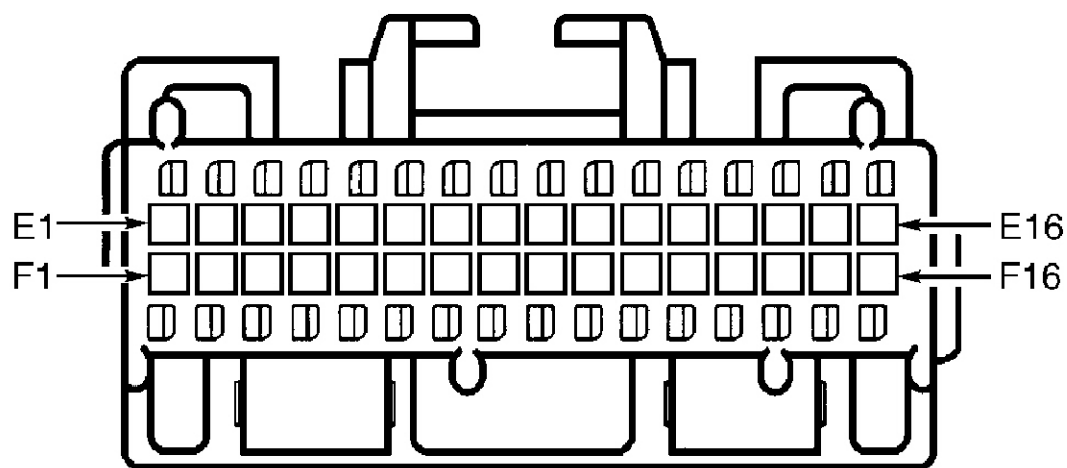
4. Inspect ground circuit for an open or high resistance between radio harness connector terminal F9 (Black wire) and steering wheel radio control switch harness connector terminal "D" (Brown wire). See **Fig. 4** and **Fig. 5** . If problem does not exist, go to step 6 . If problem exists, repair Brown wire as necessary. After repair, go to step 10 .
5. Inspect steering wheel radio control switch harness connector for poor connections. If problem does not exist, go to step 7 . If problem exists, repair steering wheel radio control switch harness connector as necessary. After repair, go to step 10 .
6. Inspect Blue/Red wire for an open or short to ground between radio harness connector terminal F8 and steering wheel radio control switch harness connector terminal "B" . See **Fig. 4** and **Fig. 5** . If problem does not exist, go to step 8 . If problem exists, repair Blue/Red wire as necessary. After repair, go to step 10 .
7. Replace steering wheel radio control switches. After repair, go to step 10 .
8. Inspect radio harness connector for poor connections. If problem does not exist, go to next step. If problem exists, repair radio harness connector as necessary. After repair, go to step 10 .
9. Replace radio. After repair, go to next step.
10. Operate radio steering wheel controls to verify repair. If radio steering wheel controls are not operating correctly, repeat test beginning at step 2 .





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**Fig. 4: Identifying Steering Wheel Radio Control Switch Harness Connector Terminals**  
Courtesy of GENERAL MOTORS CORP.



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**Fig. 5: Identifying Radio Harness Connector Terminals**  
Courtesy of GENERAL MOTORS CORP.

**REMOVAL & INSTALLATION**

**WARNING:** Vehicles are equipped with air bag supplemental restraint system. Before attempting any repairs involving steering column, instrument panel or related components, see **SERVICE PRECAUTIONS** and **DISABLING & ACTIVATING AIR BAG SYSTEM** in appropriate **AIR BAG RESTRAINT SYSTEMS** article.

**CAUTION:** When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See **COMPUTER RELEARN PROCEDURES** article in **GENERAL INFORMATION** before disconnecting battery.

**NOTE:** Use illustration for exploded view of upper section of steering column assembly. See **Fig. 6** . Before servicing steering column, place gearshift lever in Park. Turn ignition switch to OFF position and remove key.

### **HORN SWITCH**

Disable air bag system. Remove air bag module. See appropriate **AIR BAG RESTRAINT SYSTEMS** article. Remove horn switch from steering wheel. Disconnect harness connector. To install, reverse removal procedure.

### **IGNITION SWITCH**

#### **Removal**

1. Disable air bag system. See appropriate **AIR BAG RESTRAINT SYSTEMS** article. Disconnect negative battery cable. Remove steering wheel. See **STEERING WHEEL** . Remove screws and upper column cover. Carefully thread out tilt lever. Remove rubber protective cover for lock cylinder. Remove screws and lower steering column cover.
2. Remove SIR coil. See appropriate **AIR BAG RESTRAINT SYSTEMS** article. Insert a small pointed tool into lock cylinder release pin hole, and pull lock cylinder out. Disconnect theft deterrent immobilizer harness connector. Insert a small flat-bladed tool into ignition switch harness connector hole and depress locking tab. Disconnect ignition switch harness connector. Remove ignition switch.

#### **Installation**

To install, reverse removal procedure. For lock cylinder installation procedure, see **INSTALLATION** under **LOCK CYLINDER**. Coat tilt lever with medium strength locking compound. Tighten steering wheel nut to specification. See **TORQUE SPECIFICATIONS** .

### **LOCK CYLINDER**

#### **Removal**

1. Disable air bag system. See appropriate **AIR BAG RESTRAINT SYSTEMS** article. Disconnect negative battery cable. Remove steering wheel. See **STEERING WHEEL** . Remove screws and upper column cover. Carefully thread out tilt lever. Remove rubber protective cover for lock cylinder. Remove screws and lower steering column cover.
2. Remove SIR coil. See appropriate **AIR BAG RESTRAINT SYSTEMS** article. Insert a small pointed tool into lock cylinder release pin hole, and pull lock cylinder out.

#### **Installation**

Through hole left by lock cylinder on lower right side, locate locking lever. Using a small screwdriver, carefully push locking lever down until an audible click is heard. To complete installation, reverse removal procedure. Coat

tilt lever with medium strength locking compound. Tighten steering wheel nut to specification. See **TORQUE SPECIFICATIONS** .

## STEERING COLUMN

**CAUTION:** Ensure front wheels are in straight-ahead position and steering column is in **LOCK** position before disconnecting steering column or intermediate shaft from steering gear, or SIR coil will become uncentered. If weight of column is supported by only lower or upper support bracket, lower bearing adapter may be damaged. When steering column is removed from vehicle, it is extremely susceptible to damage. Do not drop or lean on column. Do not hammer on ends of shaft, or plastic injections which maintain column rigidity could be loosened.

### Removal

1. Disable air bag system. See appropriate AIR BAG RESTRAINT SYSTEMS article. Disconnect negative battery cable. Remove steering wheel. See **STEERING WHEEL** . Remove screws and upper column cover. Carefully thread out tilt lever. Remove rubber protective cover for lock cylinder. Remove screws and lower steering column cover.
2. Remove SIR coil. See appropriate AIR BAG RESTRAINT SYSTEMS article. Insert a small pointed tool into lock cylinder release pin hole, and pull lock cylinder out. Disconnect theft deterrent immobilizer harness connector. Remove set screw and ignition switch. Remove turn signal/headlight dimmer lever switch and harness connector. Remove wiper/washer switch and harness connector.
3. Remove driver-side knee bolster. Remove sound insulator. Remove coupler-to-steering column shaft bolt. Slightly separate coupler to allow removal. Rotating bolt with a chisel, remove forward support strap nut and shear-bolt. Remove rear support bracket bolt. Carefully remove steering column straight back through dash assembly.

### Installation

1. Install steering column in vehicle, carefully aligning column shaft into lower steering coupler. Loosely install rear support bracket bolt. Install forward support strap nut and a NEW shear-bolt. Tighten rear support bracket bolts, forward support strap nut and shear-bolt to specification. See **TORQUE SPECIFICATIONS** .
2. Install and tighten coupler/steering column shaft connection bolt to specification. See **TORQUE SPECIFICATIONS** . To complete installation, reverse removal procedure. For lock cylinder installation procedure, see **INSTALLATION** under LOCK CYLINDER. Coat tilt lever with medium strength locking compound. Tighten steering wheel nut to specification.

## STEERING WHEEL RADIO CONTROL SWITCHES

### Removal & Installation

Disable air bag system. See appropriate AIR BAG RESTRAINT SYSTEMS article. Remove inflatable restraint steering wheel module from steering wheel. Disconnect steering wheel radio control switch harness connectors. Remove 2 screws from each steering wheel radio control switch. Remove steering wheel radio control switches. To install, reverse removal procedure. Tighten steering wheel radio control switch screws to specification. See **TORQUE SPECIFICATIONS** .

## STEERING WHEEL

### Removal & Installation

Turn ignition switch to OFF position. Remove air bag module. See appropriate AIR BAG RESTRAINT

SYSTEMS article. Mark steering wheel hub in relation to slash mark on steering shaft for installation reference. Remove steering wheel nut. Using Steering Wheel Puller (J-1859-A) and Steering Wheel Puller Legs (J-36541), remove steering wheel. To install, reverse removal procedure. Tighten steering wheel nut to specification. See **TORQUE SPECIFICATIONS** .

### **TURN SIGNAL/HEADLIGHT DIMMER SWITCH**

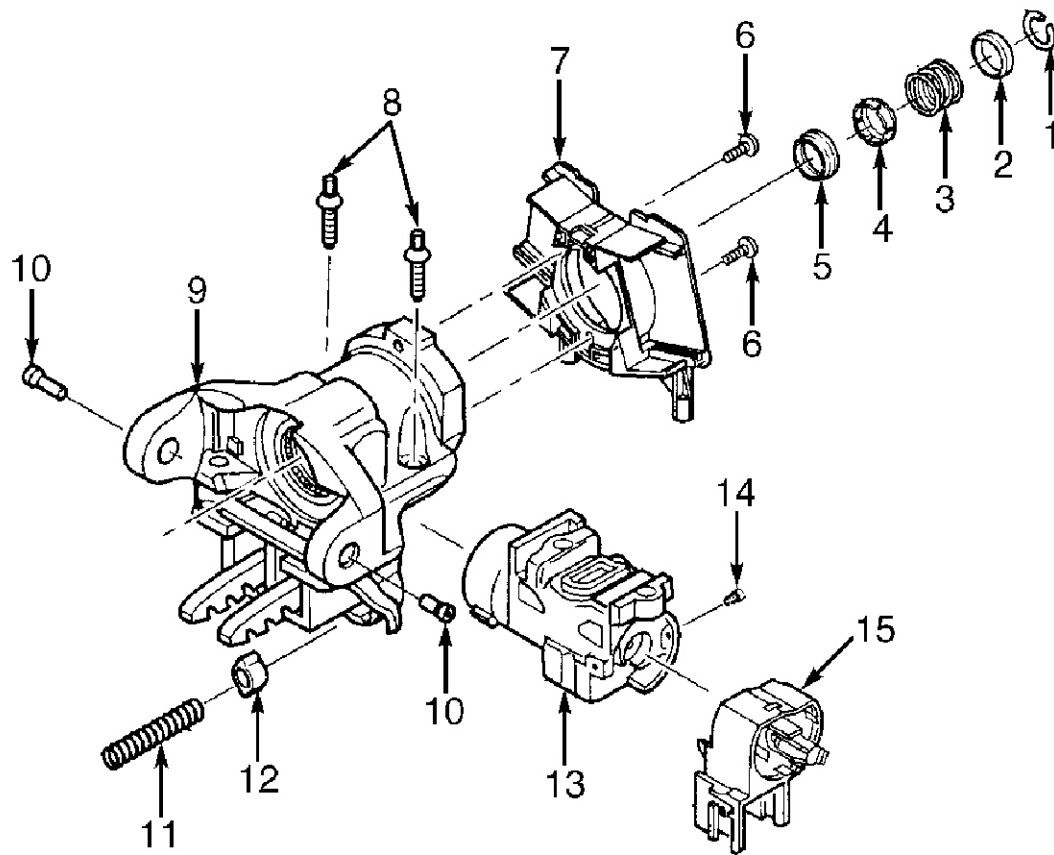
#### **Removal & Installation**

1. Disconnect negative battery cable. Remove steering wheel. See **STEERING WHEEL** . Remove screws and upper column cover. Carefully thread out tilt lever. Remove rubber protective cover for lock cylinder. Remove screws and lower steering column cover.
2. Depress tabs to release turn signal/headlight dimmer switch. Remove turn signal/headlight dimmer lever switch and harness connector. To install, reverse removal procedure. Coat tilt lever with medium strength locking compound. Tighten steering wheel nut to specification. See **TORQUE SPECIFICATIONS** .

### **WIPER/WASHER SWITCH**

#### **Removal & Installation**

1. Disconnect negative battery cable. Remove steering wheel. See **STEERING WHEEL** . Remove screws and upper column cover. Carefully thread out tilt lever. Remove rubber protective cover for lock cylinder. Remove screws and lower steering column cover.
2. Remove SIR coil. See appropriate AIR BAG RESTRAINT SYSTEMS article. Remove lock cylinder. See **LOCK CYLINDER** . Disconnect theft deterrent immobilizer harness connector. Remove set screw and ignition switch. Depress tabs to release turn signal/headlight dimmer switch. Remove turn signal/headlight dimmer lever switch and harness connector. Depress tabs to release wiper/washer switch from column. Remove wiper/washer switch and harness connector. To install, reverse removal procedure.



- 1. Retaining Ring
- 2. Spring Retainer
- 3. Upper Bearing Spring
- 4. Inner Race Seat
- 5. Inner Race
- 6. Support Screw
- 7. Signal Switch Housing
- 8. Shear-Bolt
- 9. Steering Column Housing
- 10. Pivot Pin
- 11. Wheel Tilt Spring
- 12. Spring Retainer
- 13. Lock Housing Assembly
- 14. Set Screw
- 15. Ignition Switch Assembly

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**Fig. 6: Identifying Upper Steering Column Components**  
 Courtesy of GENERAL MOTORS CORP.

**TORQUE SPECIFICATIONS**

**TORQUE SPECIFICATIONS**

Application	Ft. Lbs. (N.m)
Coupler/Steering Column Shaft Connection Bolt	16 (22)
Forward Support Strap Nut	16 (22)
Forward Support Strap Shear-Bolt	(1) 15 (21)
Rear Support Bracket Bolt	16 (22)
Steering Wheel Nut	21 (28)
	<b>INCH Lbs. (N.m)</b>
SIR Module Screws	72 (8.0)
Steering Wheel Radio Control Switch Screws	18 (2.0)
Switch Housing Screws	25-35 (2.8-4.0)

(1) Tighten shear-bolt until head snaps off. Torque specification given is approximate.

WIRING DIAGRAMS

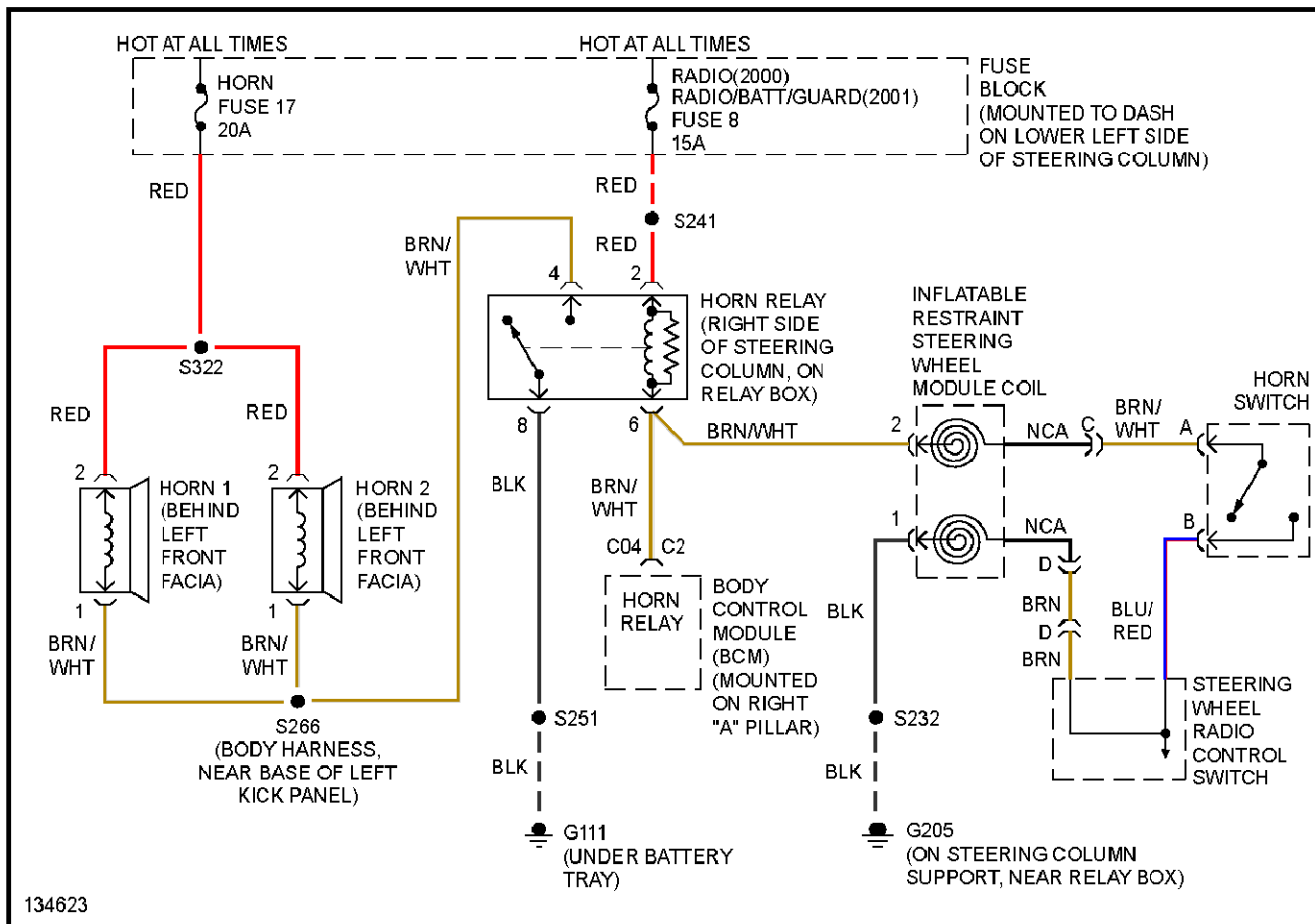


Fig. 7: Horn System Wiring Diagram (Catera)

**2001 Cadillac Catera**

2001 ACCESSORIES & EQUIPMENT Steering Column Switches - Catera

**2001 Cadillac Catera**

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