

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

2004 ACCESSORIES & EQUIPMENT

Horns - C/K SUV

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Horn Bolt	9 N.m	80 lb in

SCHEMATIC AND ROUTING DIAGRAMS

HORNS SCHEMATICS

Refer to Horn in SYSTEM WIRING DIAGRAMS .

COMPONENT LOCATOR

HORNS COMPONENT VIEWS

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

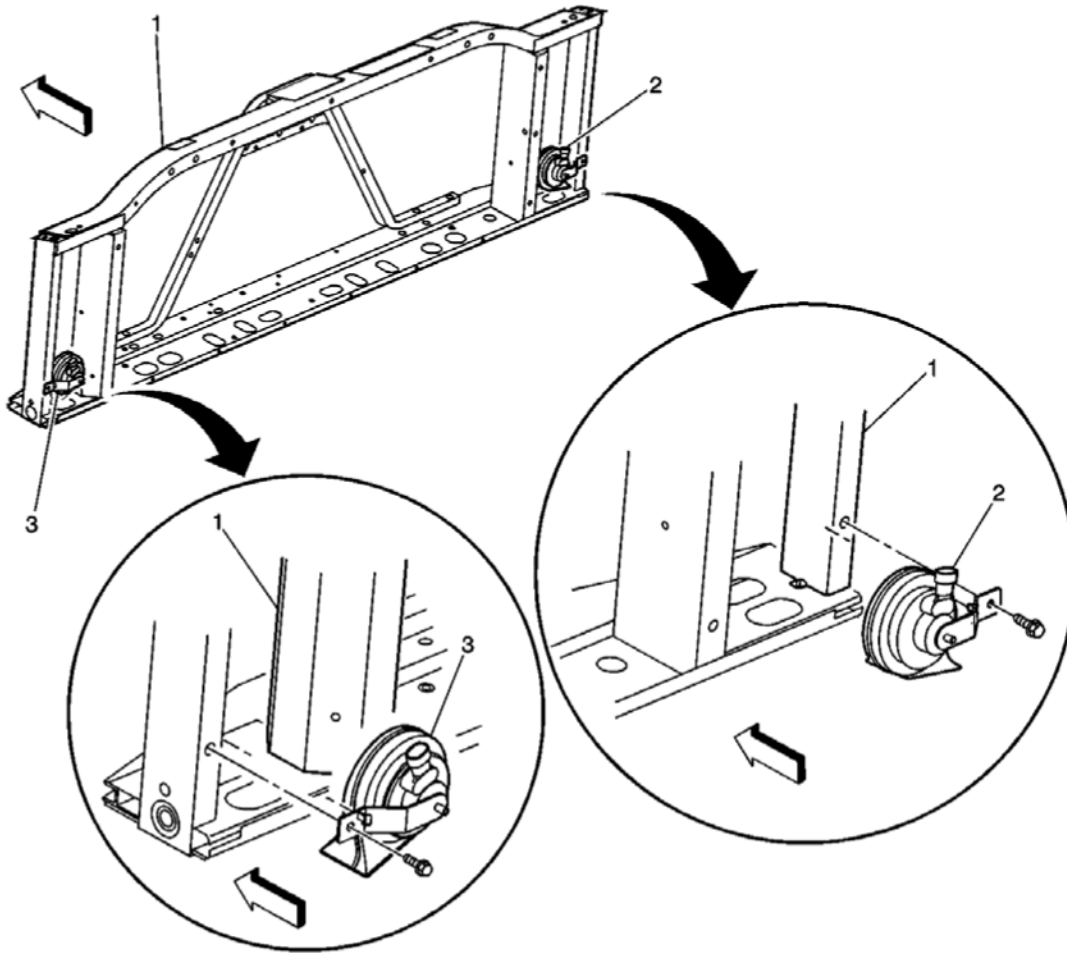


Fig. 1: Radiator Support - Horn Components View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 1

Callout	Component Name
1	Radiator Support
2	Horn - High Note
3	Horn - Low Note

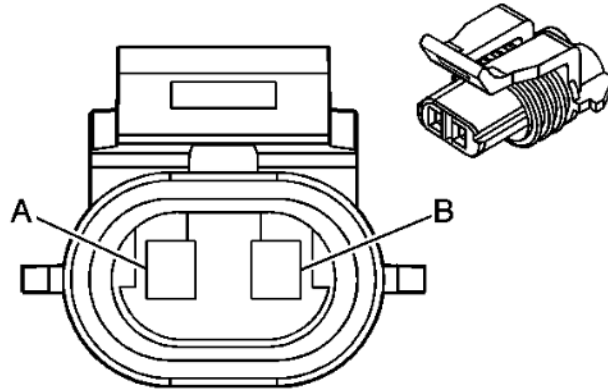
HORNS CONNECTOR END VIEWS

Horn - Right - High Note Terminal Identification

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2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

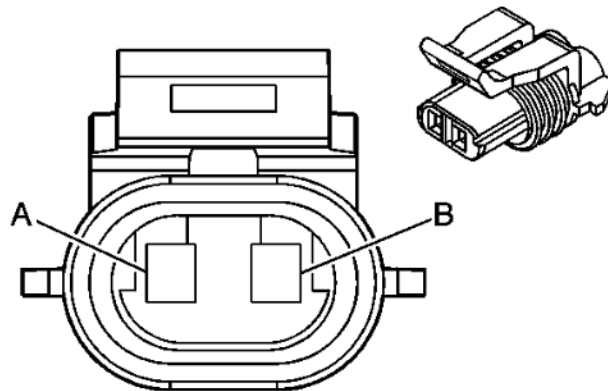


Connector Part Information

- 12052644
- 2-Way F Metri-Pack 150 Series Sealed (LT GRY)

Pin	Wire Color	Circuit No.	Function
A	DK GRN	1329	Horn Fuse Supply Voltage
B	BLK	150	Ground

Horn - Left - Low Note Terminal Identification



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Pin	Wire Color	Circuit No.	Function
A	DK GRN	1329	Horn Fuse Supply Voltage
B	BLK	150	Ground

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC STARTING POINT - HORNS

Begin the system diagnosis with **Diagnostic System Check - Horns** . The Diagnostic System Check will provide the following information:

- The identification of the control module(s) which command the system
- The ability of the control module(s) to communicate through the serial data circuit
- The identification of any stored diagnostic trouble codes (DTCs) and their status

The use of the Diagnostic System Check will identify the correct procedure for diagnosing the system and where the procedure is located.

DIAGNOSTIC SYSTEM CHECK - HORNS

Test Description

The number(s) below refer to the step number(s) on the diagnostic table.

2: Lack of communication may be due to a partial malfunction of the class 2 serial data circuit or due to a total malfunction of the class 2 serial data circuit. The specified procedure will determine the particular condition.

4: The presence of DTCs which begin with "U" indicate some other module is not communicating. The specified procedure will compile all the available information before tests are performed.

Diagnostic System Check - Horns

Step	Action	Yes	No
1	Install a scan tool. Does the scan tool power up?	Go to Step 2	Go to <u>Scan Tool Does Not Power Up</u> in Data Link Communications
2	1. Turn ON the ignition, with the engine OFF. 2. Attempt to establish communication with the body control module (BCM). Does the scan tool communicate with the body control module?	Go to Step 3	Go to <u>Scan Tool Does Not Communicate with Class 2 Device</u> in Data Link Communications
3	Select the body control module display DTCs function on the scan tool. Does the scan tool display any DTCs?	Go to Step 4	Go to <u>Symptoms - Horns</u>
4	Does the scan tool display any DTCs which begin with a "U"?	Go to <u>Scan Tool Does Not Communicate with Class 2 Device</u> in	

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

		Data Link Communications	Go to Step 5
5	Does the scan tool display DTC B1000, B1004, B1007, or B1009?	Go to <u>Diagnostic Trouble Code (DTC) List</u> in Body Control System	Go to Step 6
6	Does the scan tool display DTC B1327 or B1328?	Go to <u>Diagnostic Trouble Code (DTC) List</u> in Engine Electrical	Go to <u>Diagnostic Trouble Code (DTC) List</u>

SCAN TOOL OUTPUT CONTROLS

Scan Tool Output Controls

Scan Tool Output Control	Additional Menu Selection(s)	Description
Horn Relay Input	Output Control	The body control module (BCM) energizes the horn relay momentarily when you select On, resulting in the horn sounding.

SCAN TOOL DATA LIST

The Horns Scan Tool Data List contains all horn related parameters that are available on the scan tool. The parameters in the list are arranged in alphabetical order. The column, "Data List," indicates the location of the parameter within the scan tool menu selections. Use the Horns Scan Tool Data List as directed by a diagnostic table or in order to supplement the diagnostic procedures. Begin all of the diagnostic procedures with **Diagnostic System Check - Horns**.

Use the Scan Tool Data List only after the following is determined:

- There is no published DTC procedure nor published symptom procedure for the customer concern.
- The DTC or symptom diagnostic procedure indicated by the diagnostic system check does not resolve the customer concern.

The Typical Data Values are obtained from a properly operating vehicle under the conditions specified in the first row of the Scan Tool Data List table. Comparison of the parameter values from the suspect vehicle with the Typical Data Values may reveal the source of the customer concern.

Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Ignition ON/Engine OFF			
Battery Voltage	Data	Volts	Varies
Horn Relay	Outputs	On/Off	Off
Horn Relay Input	Input 1	Active/Inactive	Inactive

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

SCAN TOOL DATA DEFINITIONS

Battery Voltage

The scan tool displays the current state of the battery in volts.

Horn Relay

The scan tool displays the commanded state of the horn relay. The scan tool displays ON when the BCM applies ground to the horn relay to activate the horn(s).

Horn Relay Input

The scan tool displays the state of the horn relay. The scan tool displays ACTIVE when the BCM senses that the horn relay is being commanded ON by the relay coil circuit being grounded.

DIAGNOSTIC TROUBLE CODE (DTC) LIST

Diagnostic Trouble Code (DTC) List

DTC	Diagnostic Procedure	Module(s)
B2752	<u>DTC B2752</u>	BCM

DTC B2752

Circuit Description

The vehicle horns are activated whenever ground is applied to the horn relay coil through the horn relay control circuit. Ground may be applied by either of the following:

- Body control module (BCM)
- Horn switch

Conditions for Running the DTC

- The body control system voltage must be between 9.0 and 16.0 volts.
- The BCM is commanding the horn relay on or the horn switch is pressed.

Conditions for Setting the DTC

The BCM detects a short to ground or an open in the horn relay control circuit for approximately 3 minutes.

Action Taken When the DTC Sets

- If the horn relay control circuit is shorted to ground the horns will remain ON at all times.
- If the horn relay control circuit is open the horn will only work with the horn button on the steering wheel.

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

- The BCM stores DTC B2752 in memory.

Conditions for Clearing the DTC

- A current DTC will clear when the fault is no longer present and the ignition is cycled.
- A history DTC will clear after 100 consecutive ignition cycles without a fault present.
- A scan tool may be used to clear history and current DTC(s).

Diagnostic Aids

- Always begin diagnosis with the first DTC listed on the scan tool.
- The scan tool must display DTC B2752 as a current code before performing these diagnostics.
- Inspect for a sticking horn pad and or switch.
- Perform a visual inspection for loose or poor connections at all related components.

Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

2: Listen for an audible click when the horn relay operates. Command both the ON and OFF states. Repeat the commands as necessary.

3: Tests for voltage at the coil side of the horn relay. The HORN fuse supplies power to the coil side of the horn relay.

4: Verifies that the body control module (BCM) is providing ground to the horn relay.

5: Tests if ground is constantly being applied to the horn relay.

DTC B2752

Step	Action	Yes	No
Schematic Reference: <u>Horns Schematics</u>			
1	Did you perform the Horns Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Horns</u>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the horn relay ON and OFF. Does the horn relay turn ON and OFF with each command?	Go to Diagnostic Aids	Go to Step 3
	1. Turn OFF the ignition.		

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

3	2. Disconnect the horn relay. 3. Turn ON the ignition, with the engine OFF. 4. Connect a test lamp between the battery positive voltage circuit of the horn relay coil and a good ground. Does the test lamp illuminate?	Go to Step 4	Go to Step 10
4	1. Connect a test lamp between the control circuit of the horn relay and the battery positive voltage circuit of the horn relay coil. 2. With a scan tool, command the horn relay ON and OFF. Does the test lamp turn ON and OFF with each command?	Go to Step 8	Go to Step 5
5	Does the test lamp remain illuminated with each command?	Go to Step 7	Go to Step 6
6	Test the control circuit of the horn relay for an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
7	Test the control circuit of the horn relay for a short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
8	Inspect for poor connections at the horn relay. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 11
9	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 12
10	Repair the battery positive voltage circuit of the horn relay coil. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 13	-
11	Replace the horn relay. Did you complete the replacement?	Go to Step 13	-

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

12	IMPORTANT: Perform the BCM programming procedure when replacing the BCM. Replace the BCM. Refer to <u>Body Control Module Replacement</u> in Body Control System. Did you complete the replacement?	Go to Step 13	-
13	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	Go to Step 2	System OK

SYMPTOMS - HORNS

IMPORTANT: The following steps must be completed before using the symptom tables.

1. Perform **Diagnostic System Check - Horns** before using the symptom tables in order to verify that all of the following are true:
 - There are no DTCs set.
 - The body control module (BCM) can communicate via the serial data link.
2. Review the system operation in order to familiarize yourself with the system functions. Refer to **Horns System Description and Operation**.

Visual/Physical Inspection

Several of the symptom procedures ask for a careful visual/physical inspection. This step is extremely important, it could lead to correcting a problem without further checks and can save valuable time. These checks include the following:

- Inspect for aftermarket devices which could affect the operation of the Horn System. Refer to **Checking Aftermarket Accessories** in Wiring Systems.
- Inspect the easily accessible or visible system components and harness connectors for obvious damage or conditions which could cause the symptom.

NOTE: Refer to **Fastener Notice** in Cautions and Notices.

- Perform the following if the horns buzz or have a harsh tone:
 - Inspect for debris in the joints where the horns fasten to the vehicle.
 - Test the torque of the horn mounting hardware. The horn mounting hardware should be tightened to a torque of 10 N.m (7 lb ft).

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

Intermittents

Faulty electrical connections or wiring may be the cause of intermittent conditions. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose a symptom that does not set a DTC:

- **Horns Always On**
- **Horns Inoperative**
- **Horns Inoperative - One Horn**
- **Horns - Poor Tone**

HORNS ALWAYS ON

Test Description

The numbers below refer to the step numbers on the diagnostic table.

4: Tests if ground is constantly being applied to the horn relay.

5: The horn relay control circuit includes the horn switch. The horn switch must be tested for a short to ground when testing the relay control circuit.

Horns Always On

Step	Action	Yes	No
1	Did you perform the Horns Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Horns</u>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the body control module Horn Output ON and OFF. Are the horns on at all times?	Go to Step 3	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems
3	1. Turn OFF the ignition. 2. Disconnect the horn relay. Are the horns on at all times?	Go to Step 8	Go to Step 4
4	Connect a test lamp between the battery positive voltage circuit of the horn relay coil and the horn relay control circuit. Does the test lamp illuminate?	Go to Step 5	Go to Step 6

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

5	IMPORTANT: The horn switch is part of the inflatable restraint steering wheel module. Refer to <u>Inflatable Restraint Steering Wheel Module Replacement</u> in SIR. To disable the SIR system, refer to <u>SIR Disabling and Enabling Zone 3</u> in SIR. Test the horn relay control circuit for a short to ground. The horn relay control circuit includes the horn switch. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 7
6	Inspect for poor connections at the horn relay. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 9
7	Inspect for poor connections at the body control module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 10
8	Repair the short to voltage in the horn control circuit. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 11	-
9	Replace the horn relay. Did you complete the replacement?	Go to Step 11	-
10	IMPORTANT: Perform the BCM programming procedure when replacing the BCM. Replace the BCM. Refer to <u>Body Control Module Replacement</u> in Body Control System. Did you complete the replacement?	Go to Step 11	-
11	Operate the horn. Do the horns operate properly?	System OK	Go to Step 1

HORNS INOPERATIVE

Test Description

The numbers below refer to the step numbers on the diagnostic table.

4: Verifies that the body control module (BCM) is providing ground to the horn relay.

5: Tests for voltage at the battery positive voltage terminal of the horn relay coil.

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

7: Tests for voltage at the battery positive voltage terminal of the horn relay switch. The HORN fuse supplies power to the battery positive voltage terminal of the horn relay switch.

13: The horns need maximum current flow to operate properly. A high resistance (greater than 0.5 ohm) in the horn control circuit or the horn ground circuit could cause operating problems with the horns. Inspect the circuits for faults that would restrict current flow.

15: The horn relay control circuit includes the horn switch. The horn switch must be tested for a high resistance, an open or a short to voltage when testing the relay control circuit.

Horns Inoperative

Step	Action	Yes	No
1	Did you perform the Horns Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Horns</u>
2	Depress the horn switch. Do the horns operate?	Go to Step 3	Go to Step 5
3	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the body control module (BCM) Horn Output ON and OFF. Do the horns operate?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 4
4	Test the BCM portion of the horn relay control circuit for a high resistance or an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 21	Go to Step 11
5	1. Turn OFF the ignition. 2. Disconnect the horn relay. 3. Connect a test lamp between the battery positive voltage circuit of the horn relay coil and a good ground. Does the test lamp illuminate?	Go to Step 6	Go to Step 14
6	1. Connect a test lamp between the battery positive voltage circuit of the horn relay coil and the horn relay control circuit. 2. Depress and hold the horn switch. Does the test lamp illuminate?	Go to Step 7	Go to Step 15
7	Connect a test lamp between the battery positive voltage circuit of the horn relay switch and a good ground. Does the test lamp illuminate?	Go to Step 8	Go to Step 16
	Momentarily connect a 15 amp fused jumper wire		

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

8	between the battery positive voltage circuit of the horn relay switch and the horn control circuit. Do the horns operate?	Go to Step 12	Go to Step 9
9	1. Reconnect the horn relay. 2. Disconnect either horn connector. 3. Connect a test lamp between the horn control circuit and a good ground. 4. Depress and hold the horn switch. Does the test lamp illuminate?	Go to Step 10	Go to Step 17
10	1. Connect a test lamp between the horn control circuit and the horn ground circuit. 2. Depress and hold the horn switch. Does the test lamp illuminate?	Go to Step 13	Go to Step 18
11	Inspect for poor connections at the harness connector of the BCM. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 21	Go to Step 19
12	Inspect for poor connections at the horn relay. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 21	Go to Step 20
13	Repair the high resistance in the horn control circuit or the horn ground circuit. Also, though unlikely, it is possible that both horns are defective. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 21	-
14	Repair the open or high resistance in the battery positive voltage circuit of the horn relay coil. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 21	-
15	Repair the open or short to voltage in the horn relay control circuit. The horn relay control circuit includes the horn switch. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 21	-
16	Repair the open or high resistance in the battery positive voltage circuit of the horn relay switch. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems.		-

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

	Did you complete the repair?	Go to Step 21	
17	Repair the open or high resistance in the horn control circuit. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 21	-
18	Repair the open or high resistance in the horn ground circuit. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 21	-
19	IMPORTANT: Perform the BCM programming procedure when replacing the BCM. Replace the BCM. Refer to <u>Body Control Module Replacement</u> in Body Control System. Did you complete the replacement?	Go to Step 21	-
20	Replace the horn relay. Did you complete the replacement?	Go to Step 21	-
21	Operate the horns. Do the horns operate properly?	System OK	Go to Step 1

HORNS INOPERATIVE - ONE HORN

Test Description

The number below refers to the step number on the diagnostic table.

9: The horns need maximum current flow to operate properly. A high resistance, greater than 0.5 ohm, in the horn control circuit or the horn ground circuit could cause operating problems with the horns. Inspect the circuits for faults that would restrict current flow.

Horns Inoperative - One Horn

Step	Action	Yes	No
DEFINITION: This diagnostic procedure is for use with systems that have multiple horns in which one of the horns is inoperative.			
1	Did you perform the Horns Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Horns</u>
2	Depress the horn switch. Do all of the horns operate?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
	1. Disconnect the inoperative horn. 2. Connect a test lamp between the horn		

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

3	control circuit and a good ground. 3. Depress and hold the horn switch. Does the test lamp illuminate?	Go to Step 4	Go to Step 7
4	1. Connect a test lamp between the horn control circuit and the horn ground circuit. 2. Depress and hold the horn switch. Does the test lamp illuminate?	Go to Step 5	Go to Step 8
5	Inspect for poor connections at the inoperative horn. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 6
6	1. Connect a 15-amp fused jumper wire between the positive battery terminal and the control terminal of the horn. 2. Connect another jumper wire between the negative battery terminal and the ground terminal of the horn. Does the horn sound?	Go to Step 9	Go to Step 10
7	Repair the open or poor connection in the horn control circuit. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 11	-
8	Repair the open or poor connection in the horn ground circuit. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 11	-
9	Repair the high resistance in the horn control circuit or the horn ground circuit of the horn. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 11	-
10	Replace the inoperative horn. Refer to <u>Horn Replacement - Left</u> and <u>Horn Replacement - Right</u> . Did you complete the replacement?	Go to Step 11	-
11	Operate the horns. Do the horns operate properly?	System OK	Go to Step 1

HORNS - POOR TONE

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

Horns - Poor Tone

Step	Action	Yes	No
1	Did you perform the Horns Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Horns</u>
2	Depress the horn switch. Do the horns have a harsh tone or buzzing?	Go to Step 3	Go to <u>Symptoms - Horns</u>
3	1. Test the horn mounting hardware for adequate torque. Refer to <u>Fastener Tightening Specifications</u> . 2. Inspect the horns for debris in the joint where the horns attach to the vehicle. Did you find and correct the condition?	Go to Step 7	Go to Step 4
4	1. Connect a 15-amp fuse jumper wire between the positive battery terminal and the control terminal of the horn. 2. Connect another jumper wire between the negative battery terminal and the ground terminal of the horn. Do the horns have a harsh tone or buzzing?	Go to Step 6	Go to Step 5
5	Repair the high resistance in the horn control circuit or the horn ground circuit. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 7	-
6	Replace the horns. Refer to <u>Horn Replacement - Left</u> and <u>Horn Replacement - Right</u> . Did you complete the replacement?	Go to Step 7	-
7	Operate the horns. Do the horns operate properly?	System OK	Go to Step 1

REPAIR INSTRUCTIONS

HORN REPLACEMENT - LEFT

Removal Procedure

1. Raise the hood.
2. Remove the battery. Refer to **Battery Replacement** in Engine Electrical.
3. Remove the battery tray. Refer to **Battery Tray Replacement** in Engine Electrical.
4. Remove the washer reservoir. Refer to **Washer Pump/Reservoir Replacement** in Wipers/Washer Systems.

5. Raise and suitably support the vehicle. Refer to Lifting and Jacking the Vehicle in General Information.
6. Disconnect the horn electrical connector.
7. Remove the horn bolt. Reposition the park/turn signal lamp wiring harness for additional clearance.
8. Remove the horn (2) from the radiator support (1).

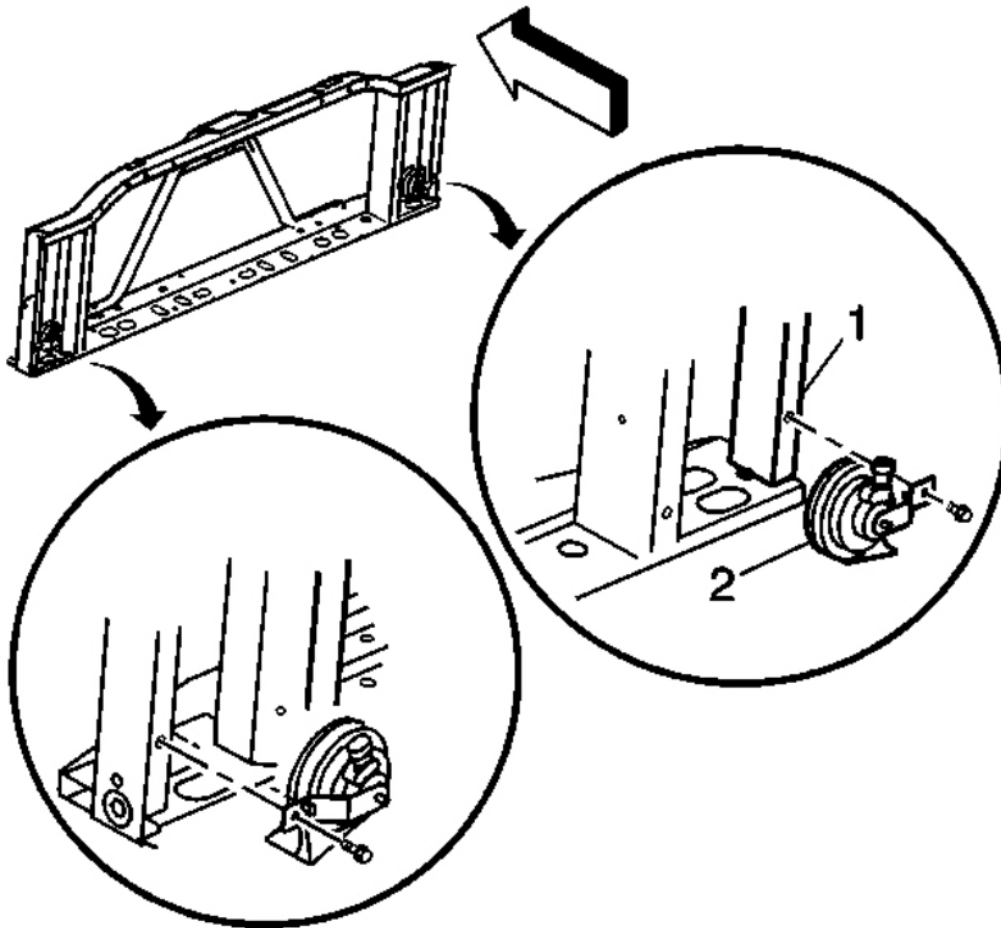


Fig. 2: Removing Left Horn

Courtesy of GENERAL MOTORS CORP.

Installation Procedure

IMPORTANT: Ensure that the black side of the horn is facing forward on the vehicle.

1. Install the horn (2) to the radiator support (1).

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the horn bolt.

Tighten: Tighten the horn bolts to 9 N.m (80 lb in).

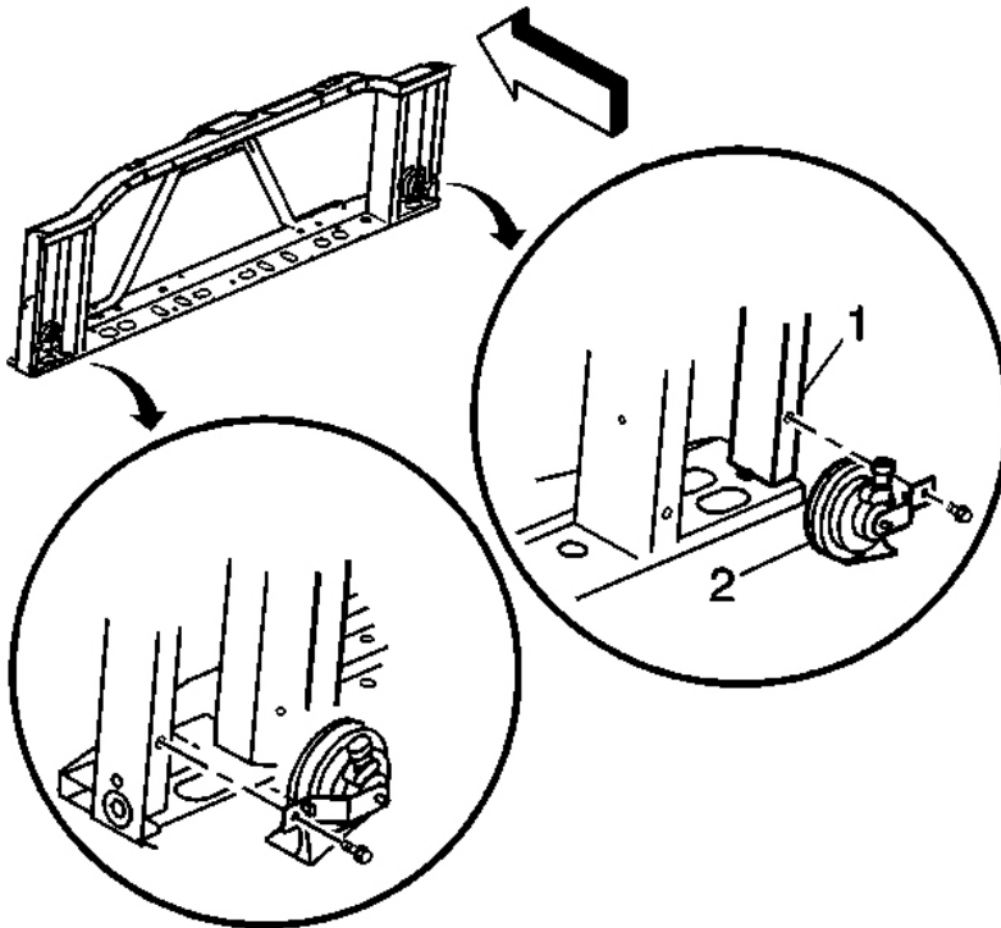


Fig. 3: Installing Left Horn
Courtesy of GENERAL MOTORS CORP.

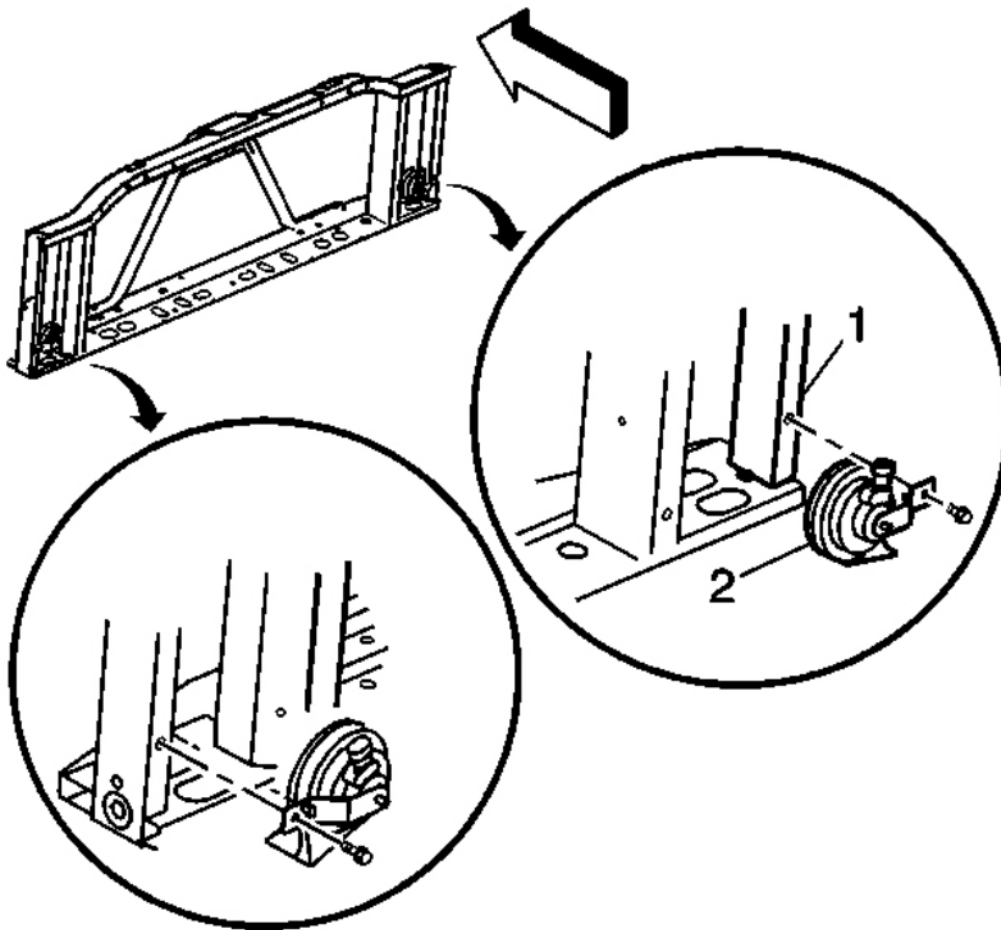
3. Connect the horn electrical connector.
4. Lower the vehicle.
5. Install the washer reservoir. Refer to Washer Pump/Reservoir Replacement in Wipers/Washer Systems.

6. Install the battery tray. Refer to **Battery Tray Replacement** in Engine Electrical.
7. Install the battery. Refer to **Battery Replacement** in Engine Electrical.
8. Close the hood.

HORN REPLACEMENT - RIGHT

Removal Procedure

1. Raise and suitably support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Disconnect the horn electrical connector.
3. Remove the horn bolt. Reposition the park/turn signal lamp wiring harness for additional clearance.
4. Remove the horn (2) from the radiator support (1).



2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

Fig. 4: Removing Right Horn

Courtesy of GENERAL MOTORS CORP.

Installation Procedure

IMPORTANT: Ensure that the black side of the horn is facing forward on the vehicle.

1. Install the horn (2) to the radiator support (1).

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the horn bolt.

Tighten: Tighten the horn bolts to 9 N.m (80 lb in).

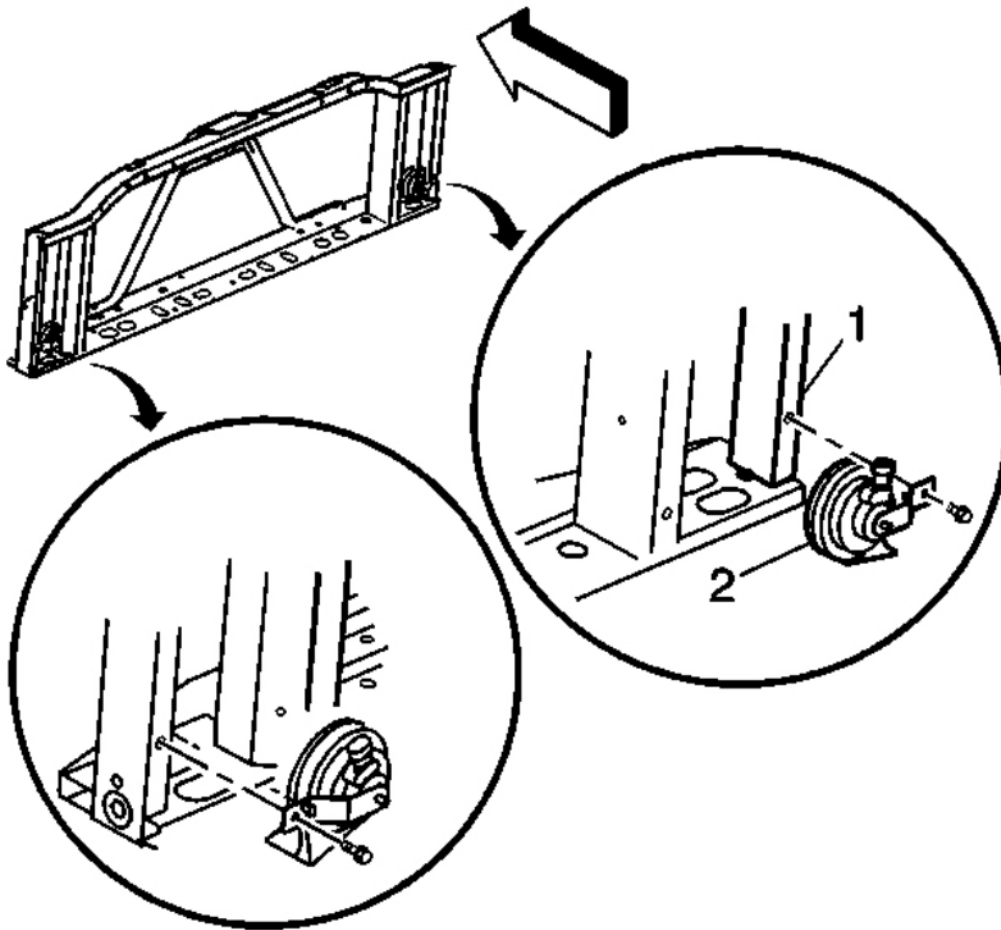


Fig. 5: Installing Right Horn

Courtesy of GENERAL MOTORS CORP.

3. Connect the horn electrical connector.
4. Lower the vehicle.

DESCRIPTION AND OPERATION

HORNS SYSTEM DESCRIPTION AND OPERATION

System Description

The horn system consists of the following components:

2004 Cadillac Escalade

2004 ACCESSORIES & EQUIPMENT Horns - C/K SUV

- Horn fuse
- Horn relay
- Horn switch
- Horn(s)
- Body Control Module (BCM)

System Operation

The vehicle horns are activated under the following conditions:

- The horn switch is depressed.
- The body control module (BCM) commands the horns on. The BCM commands the horns on under either of the following conditions:
 - When the content theft deterrent system detects a vehicle intrusion. For further information, refer to **Content Theft Deterrent (CTD) Description and Operation** in Theft Deterrent.
 - When the panic button is depressed on the remote control door lock transmitter. For further information, refer to **Keyless Entry System Description and Operation** in Keyless Entry.
 - When the OnStar(R) system is used to sound the horns, if equipped. For further information, refer to **OnStar Description and Operation** in Cellular Communications.
 - When the keyless entry system is used to lock the vehicle, a horn chirp may sound to notify the driver that the vehicle has been locked. The notification feature may be enabled or disabled through personalization. For further information, refer to **Keyless Entry System Description and Operation** in Keyless Entry.

Circuit Operation

Battery positive voltage is applied at all times to the horn relay coil and the horn relay switch. Pressing the horn switch applies ground to the horn relay control circuit. The body control module BCM may also apply ground to the horn relay control circuit as described above. When the horn relay control circuit is grounded, the horn relay is energized and battery positive voltage is applied to the horn(s) through the horn control circuit. The horn(s) sound as long as ground is applied to the horn relay control circuit.