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This manual describes features that may or may not be on your specific vehicle either because they are options that you did not purchase or due to changes subsequent to the printing of this owner manual. Please refer to the purchase documentation relating to your specific vehicle to confirm each of the features found on your vehicle. For vehicles first sold in Canada, substitute the name "General Motors of Canada Limited" for Cadillac Motor Car Division wherever it appears in this manual.

Keep this manual in the vehicle for quick reference.

## Canadian Vehicle Owners

### Propriétaires Canadiens

A French language copy of this manual can be obtained from your dealer or from:

On peut obtenir un exemplaire de ce guide en français auprès du concessionnaire ou à l'adresse suivante:

Helm, Incorporated
Attention: Customer Service
47911 Halyard Drive
Plymouth, MI 48170

Litho in U.S.A.
Part No. 20892406 B Second Printing

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## Using this Manual

To quickly locate information about the vehicle, use the Index in the back of the manual. It is an alphabetical list of what is in the manual and the page number where it can be found.

## Danger, Warnings, and Cautions

Warning messages found on vehicle labels and in this manual describe hazards and what to do to avoid or reduce them.

**Danger** indicates a hazard with a high level of risk which will result in serious injury or death.

**Warning** or **Caution** indicates a hazard that could result in injury or death.

**⚠ WARNING**

These mean there is something that could hurt you or other people.

***Notice:*** **This means there is something that could result in property or vehicle damage. This would not be covered by the vehicle's warranty.**



A circle with a slash through it is a safety symbol which means “Do Not,” “Do not do this,” or “Do not let this happen.”

## Symbols

The vehicle has components and labels that use symbols instead of text. Symbols are shown along with the text describing the operation or information relating to a specific component, control, message, gauge, or indicator.

: This symbol is shown when you need to see your owner manual for additional instructions or information.

: This symbol is shown when you need to see a service manual for additional instructions or information.

**Vehicle Symbol Chart**

Here are some additional symbols that may be found on the vehicle and what they mean. For more information on the symbol, refer to the Index.

: Airbag Readiness Light

: Air Conditioning

: Antilock Brake System (ABS)

: Audio Steering Wheel Controls or OnStar®

: Brake System Warning Light

: Charging System

: Cruise Control

: Engine Coolant Temperature

: Exterior Lamps

: Fog Lamps

: Fuel Gauge

: Fuses

: Headlamp High/Low-Beam Changer

: Heated Steering Wheel

: LATCH System Child Restraints

: Malfunction Indicator Lamp

: Oil Pressure

: Outside Power Foldaway Mirrors

: Power

: Remote Vehicle Start

: Safety Belt Reminders

: Tire Pressure Monitor

: Traction Control/StabiliTrak

: Windshield Washer Fluid

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# In Brief


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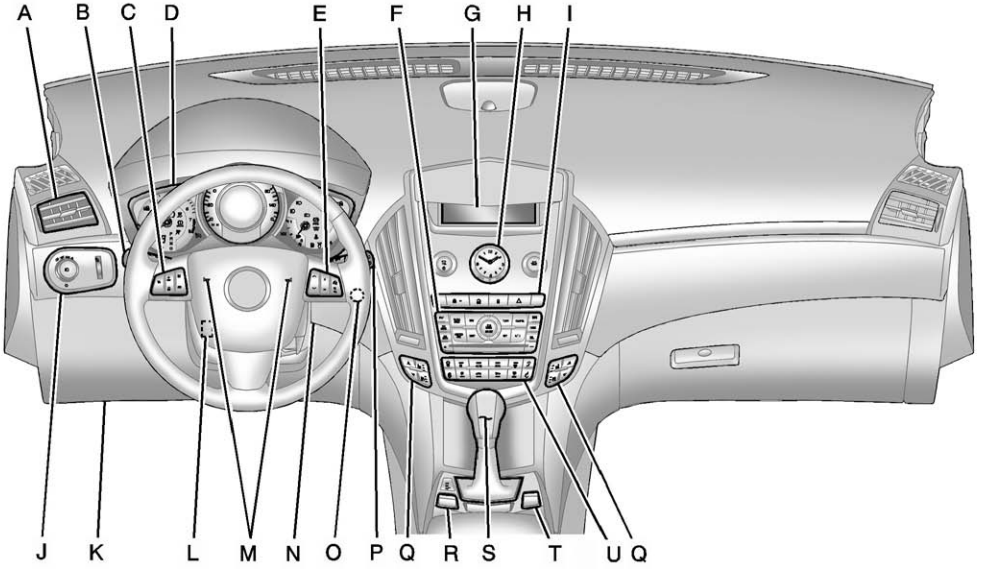
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## Instrument Panel



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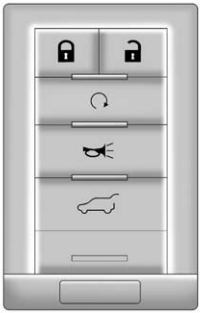
# Initial Drive Information

This section provides a brief overview about some of the important features that may or may not be on your specific vehicle.

For more detailed information, refer to each of the features which can be found later in this owner manual.

## Remote Keyless Entry (RKE) System

The Remote Keyless Entry (RKE) transmitter is used to lock and unlock the doors from up to 60 m (195 ft) away from the vehicle.



: Press to unlock the driver door or all doors depending on the vehicle personalization settings.

: Press to lock all doors.

Lock and unlock feedback can be personalized. See *Vehicle Personalization on page 5-40*.

: Press and hold to open or close the liftgate.

: Press and release to locate the vehicle.

Press and hold for three seconds to sound the panic alarm.

Press again or start the vehicle to cancel the panic alarm.

Press the key release button near the bottom of the transmitter to remove the key. The key can be used for the driver door and the glove box.

See *Keys on page 2-2* and *Remote Keyless Entry (RKE) System Operation on page 2-3*.

## Remote Vehicle Start

With this feature the engine can be started from outside of the vehicle.

### Starting the Vehicle

1. Press and release on the RKE transmitter.
2. Within two seconds, press and hold until the turn signal lamps flash, or for at least two seconds if the vehicle is not in view.

When the vehicle starts, the parking lamps will turn on and remain on as long as the engine is running. The doors will be locked and the climate control system may come on.

The engine will continue to run for 10 minutes. Repeat the steps for a 10-minute time extension. Remote start can be extended only once.

### Canceling a Remote Start

To cancel a remote start, do any of the following:

- Press and hold until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Turn the vehicle on and then off.

See *Remote Vehicle Start on page 2-10*.

## Door Locks

To lock or unlock the doors from the outside, press or on the Remote Keyless Entry (RKE) transmitter. See *Remote Keyless Entry (RKE) System Operation on page 2-3*.

To unlock a door from the inside, pull once on the door handle to unlock it, and a second time to open it.

### Power Door Locks

There is a power door lock switch on the instrument panel and on the front door panels.

: Press to lock the doors.

: Press to unlock the doors.

See *Power Door Locks on page 2-12*.

## Liftgate

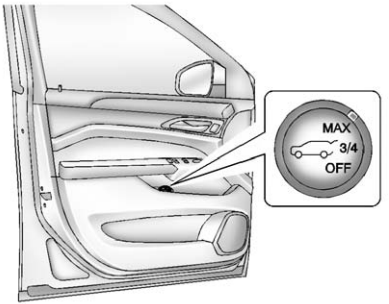
### Manual Liftgate Operation

For vehicles without keyless access, unlock the vehicle before opening the liftgate.

Press the touch pad located in the handle of the liftgate, above the license plate, and lift up to open.

Do not press the touch pad while closing the liftgate. This will cause the liftgate to be unlatched.

### Power Liftgate Operation

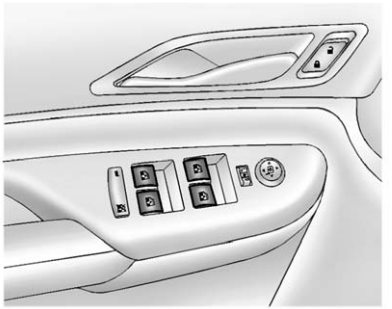



On vehicles with a power liftgate the switch is located on the driver door. The vehicle must be in P (Park) to use the power feature. The taillamps flash when the power liftgate moves.

Choose the power liftgate mode by turning the dial on the switch until the indicator lines up with the desired position. Press the center of the switch.

See *Liftgate on page 2-14* for more information.

## Windows



Pushing or pulling the switch part of the way will open or close the window as long as the switch is operated.

Fully push the front of the switch down and release it to express-down the window. Fully pull the switch up and release it to express-up the window.
See *Power Windows on page 2-24*.

### Remote Window Operation

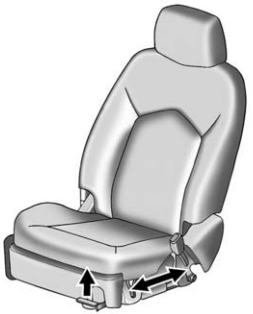


The vehicle may have remote operating windows that will open all the windows from outside the vehicle by pressing and holding on the Remote Keyless Entry (RKE) transmitter.

See *Power Windows on page 2-24*.

## Seat Adjustment

### Manual Seats



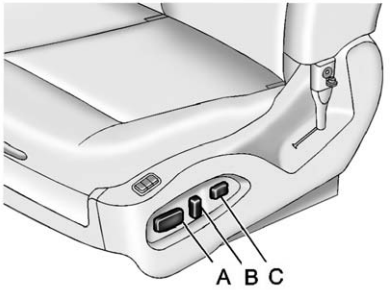
To adjust a manual seat:

1. Pull the handle at the front of the seat cushion.
2. Move the seat forward or rearward to adjust the seat position.
3. Release the handle to stop the seat from moving.
4. Try to move the seat back and forth to be sure it is locked in place.

To raise or recline the seatback, use the lever on the outboard side of the seat.

See *Seat Adjustment on page 3-4* and *Reclining Seatbacks on page 3-6*.

### Power Seats




A. Seat Position Control
B. Seatback Adjustment Control
C. Lumbar Adjustment Control

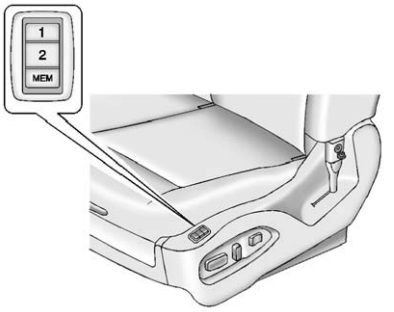
To adjust a power seat, if equipped:

- Slide control (A) forward or rearward, and up or down to adjust the power seat.

  See *Power Seat Adjustment on page 3-5*.
- Raise or recline the seatback by tilting control (B) forward or rearward.

  See *Reclining Seatbacks on page 3-6*.
- Increase or decrease the lumbar support by pressing and holding the front or rear of control (C). See *Lumbar Adjustment on page 3-5*.

## Memory Features




On vehicles with the memory feature, the “1” and “2” buttons on the outboard side of the driver seat are used to manually save and recall the positions of the driver seat, outside mirrors, and adjustable throttle and brake pedals, if available. These manually stored positions are referred to as Button Memory positions.

The vehicle will also automatically save driver seat, outside mirror, and adjustable throttle and brake pedal positions to the current driver Remote Keyless Entry (RKE) transmitter when the ignition is turned off. These automatically stored positions are referred to as RKE Memory positions.

**Storing Button Memory Positions**

To save positions into Button Memory:

1. Adjust the driver seat, seatback recliner, both outside mirrors, and adjustable pedals, if available, to the desired driving positions.
2. Press and hold MEM (Memory) and "1" at the same time until a beep sounds.
3. Repeat Steps 1 and 2 for a second driver using "2."

To recall the manually saved Button Memory positions, press and hold "1" or "2." The driver seat, outside mirrors, and adjustable pedals, if available, move to the positions stored to those buttons when pressed. Releasing "1" or "2" before the stored positions are reached stops the recall.

To automatically recall RKE Memory positions, unlock the driver door with the RKE transmitter, and open the driver door. On vehicles with Keyless Access, opening the driver door when an RKE transmitter is present will activate the RKE Memory recall. If the driver door is already open, pressing the RKE transmitter button will also activate the RKE Memory recall. The driver seat, outside mirrors, and pedals, if available, will move to the previously saved RKE Memory positions.

See *Memory Seats on page 3-7*.

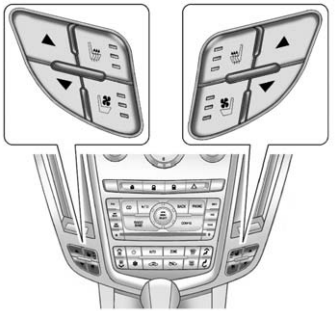
**Easy Exit Driver Seat**

This feature moves the seat rearward allowing the driver more room to exit the vehicle.

To activate, place the ignition in OFF and open the driver door. If the driver door is already open, placing the ignition in OFF will activate the easy exit driver seat.

This feature is turned on or off using the vehicle personalization menu. See *Vehicle Personalization on page 5-40*.

## Heated and Ventilated Seats



**Heated and Ventilated Seat Buttons Shown, Heated Seat Buttons Similar**

If available, the buttons are near the climate controls on the instrument panel. To operate, the ignition must be in ON/RUN/START.

Press or to heat the driver or passenger seat.

Press or , if available, to ventilate the driver or passenger seat.

See *Heated and Ventilated Front Seats on page 3-10*.

## Head Restraint Adjustment

Do not drive until the head restraints for all occupants are installed and adjusted properly.

To achieve a comfortable seating position, change the seatback recline angle as little as necessary while keeping the seat and the head restraint height in the proper position.

See *Head Restraints on page 3-2* and *Seat Adjustment on page 3-4*.

## Safety Belts



Refer to the following sections for important information on how to use safety belts properly:


- *Safety Belts on page 3-14*.
- *How to Wear Safety Belts Properly on page 3-15*.
- *Lap-Shoulder Belt on page 3-17*.
- *Lower Anchors and Tethers for Children (LATCH System) on page 3-45*.

## Passenger Sensing System




**United States**



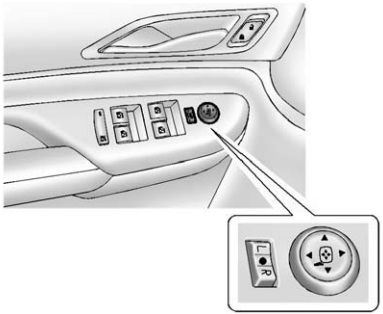
**Canada and Mexico**

The passenger sensing system will turn off the front outboard passenger frontal airbag and seat-mounted side impact airbag under certain conditions. No other airbag is affected by the passenger sensing system.

The passenger airbag status indicator will be visible on the overhead console when the vehicle is started. See *Passenger Sensing System on page 3-30* for more information.

## Mirror Adjustment

### Exterior



**Manual Folding Mirrors Shown**

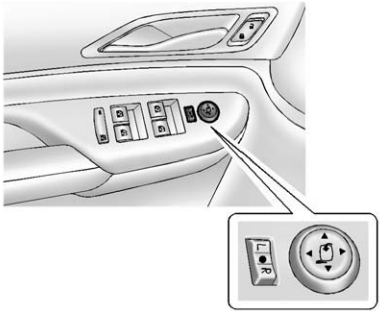
To adjust the mirror:

1. Move the selector switch to L (Left) or R (Right) to choose the driver or passenger mirror.
2. Press the arrows on the control pad to move each mirror to the desired position.
3. Return the selector switch to the center position.

### Manual Folding Mirrors

Vehicles with manual fold mirrors are folded inward toward the vehicle to prevent damage when going through an automatic car wash. Push the mirror outward to return it to the original position.

### Power Folding Mirrors



Vehicles with power folding mirrors, to fold the mirrors:

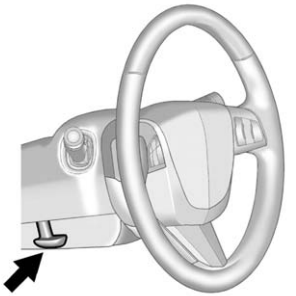
1. With the selector switch in the ● position, press the down arrow on the control pad. Both mirrors will automatically fold.
2. Pressing the down arrow again will return the mirrors to their original position.

See *Folding Mirrors on page 2-21*.

### Automatic Dimming Mirror

If the vehicle has the automatic dimming mirror, the driver outside mirror and the inside rearview mirror automatically adjust for the glare of headlamps behind you. See *Automatic Dimming Mirror on page 2-22* or *Automatic Dimming Rearview Mirror on page 2-23*.

## Steering Wheel Adjustment



To adjust the steering wheel:

1. Pull the lever down.
2. Move the steering wheel up or down.
3. Pull or push the steering wheel closer or away from you.
4. Pull the lever up to lock the steering wheel in place.

Do not adjust the steering wheel while driving.

## Throttle and Brake Pedal Adjustment

If the vehicle has this feature, the position of the throttle and brake pedals can be adjusted.

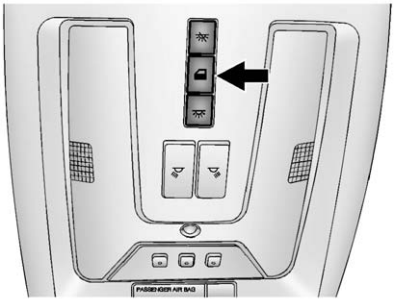
The switch used to adjust the pedals is located on the right side of the steering column, below the wiper stalk. Pull the switch toward you to move the pedals further from the floor, or push the switch away from you to move the pedals closer to the floor.

See *Adjustable Throttle and Brake Pedal on page 9-16*.

## Interior Lighting

### Dome Lamps

The dome lamp controls are located in the overhead console.



To change the dome lamp settings, press the following:

: Turns the lamp off, even when a door is open.

: The lamp comes on automatically when a door is opened.

: Turns the dome lamp on.

### Reading Lamps

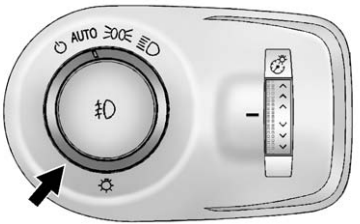
There are reading lamps located on the overhead console and over the rear passenger doors. These lamps come on automatically when any door is opened.

To manually turn the reading lamps on or off:

- For the overhead console reading lamps, press the button next to each lamp.
- For the rear passenger reading lamps, press the lamp lens.

For more information on interior lighting, see *Instrument Panel Illumination Control on page 6-7*.

## Exterior Lighting




The exterior lamps control is located on the instrument panel to the left of the steering column.

The exterior lamps control has four positions:

⏻ **:** Briefly turn to this position to turn the automatic light control off or on again.

**AUTO:** Turns the headlamps on automatically at normal brightness, together with the parking lamps, taillamps, license plate lamps, and instrument panel lights.

**:** Turns the parking lamps on together with the taillamps, license plate lamps, and instrument panel lights.

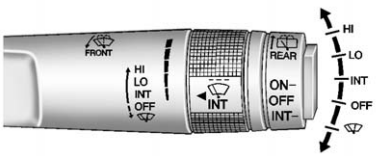
**:** Turns the headlamps on together with the parking lamps, taillamps, license plate lamps, and instrument panel lights.

**:** For vehicles with fog lamps, press to turn the lamps on or off.

For more information, see:

- *Exterior Lamp Controls on page 6-1*.
- *Daytime Running Lamps (DRL) on page 6-3*.

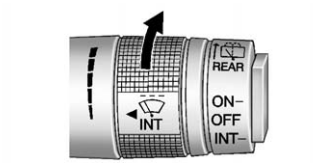
## Windshield Wiper/Washer




The windshield wiper/washer lever is located on the right side of the steering column. With the ignition in ACC/ACCESSORY or ON/RUN/START, move the windshield wiper lever to select the wiper speed.

**HI:** Use for fast wipes.

**LO:** Use for slow wipes.




**INT: (Intermittent Wipes):** Move the lever up to INT for intermittent wipes, then turn the INT band up for more frequent wipes or down for less frequent wipes. If the vehicle has Rainsense™, see the following Rainsense information.

**OFF:** Use to turn the wipers off.

**:** For a single wipe, briefly move the wiper lever down. For several wipes, hold the wiper lever down.

## Windshield Washer

Pull the windshield wiper lever toward you to spray windshield washer fluid and activate the wipers.

See *Windshield Wiper/Washer on page 5-4* and *Rear Window Wiper/Washer on page 5-6*, if equipped.

## Rainsense™

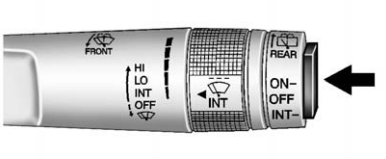
For vehicles with Rainsense:

**INT (Rainsense Wipe Sensitivity Control):** Move the windshield wiper lever to INT. Turn the INT band on the wiper lever to adjust the sensitivity.

- Turn the band up for more sensitivity to moisture.
- Turn the band down for less sensitivity to moisture.
- Move the windshield wiper lever out of the INT position to deactivate Rainsense.

## Rear Window Wiper/Washer

The rear wiper controls are on the end of the windshield wiper lever.




**ON:** Press the upper portion of the button for continuous rear window wipes.

**OFF:** The rear wiper turns off when the button is returned to the middle position.

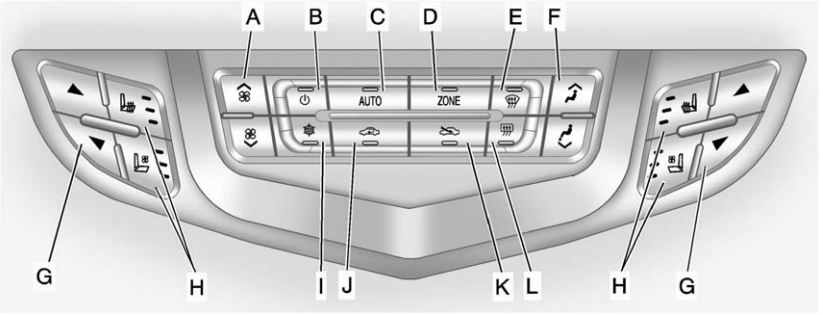
**INT (Intermittent Rear Wipes):** Press the lower portion of the button to set a delay between wipes.

**:** Push the windshield wiper lever forward to spray washer fluid on the rear window.

See *Windshield Wiper/Washer on page 5-4* and *Rear Window Wiper/Washer on page 5-6*.

## Climate Controls

The heating, cooling, and ventilation for the vehicle can be controlled with this system.




A. Fan Control
B. Power
C. AUTO (Automatic Operation)
D. ZONE
E. Defrost
F. Air Delivery Mode Control
G. Driver and Passenger Temperature Control
H. Driver and Passenger Heated and Ventilated Seats
I. Air Conditioning
J. Recirculation
K. Outside Air
L. Rear Window Defogger

See *Dual Automatic Climate Control System on page 8-1* and *Rear Climate Control System on page 8-5*, if equipped.

## Transmission

### Driver Shift Control (DSC)

Driver Shift Control (DSC) allows you to shift an automatic transmission similar to a manual transmission. To use the DSC feature:

1. Move the shift lever to the left from D (Drive) to M (Manual Mode).
2. To enter M (Manual Mode), press the shift lever forward (+) to upshift or rearward (−) to downshift.

See *Manual Mode on page 9-26*.

# Vehicle Features

## Radio(s)

**VOL/ ⏻ :** Press to turn the system on and off. Turn to increase or decrease the volume.

**RADIO/BAND:** Press to choose between FM, AM, or XM™, if equipped.

**TUNE or TUNE/INFO:** Turn to select radio stations.

Press the TUNE or TUNE/INFO button to show available information about the current station or track.

⏮ **SEEK:** Press to seek the previous station or track.

⏭ **SEEK:** Press to seek the next station or track.

⇦ **BACK or BACK ⇦ :** Press to exit or move backwards in a menu.

**Buttons 1 - 6:** Press to save and select favorite stations.

For more information about these and other radio features, see *Operation on page 7-7*.

### Storing a Favorite Station

Stations from all bands can be stored in the favorite lists in any order. Up to six stations can be stored in each favorite page and the number of available favorite pages can be set.

To store the station to a position in the list, press the corresponding numeric button 1-6 until the station can be heard again.

For more information, see “Storing a Station as a Favorite” in *AM-FM Radio on page 7-11*.

### Setting the Clock

The vehicle has a digital and an analog clock.

For detailed instructions on setting either clock, see *Clock (Analog Clock) on page 5-7* or *Clock (Digital Clock) on page 5-8*.

**Turning the Digital Clock On or Off**

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Select Clock Displayed.
4. Press the MENU/SELECT button to turn the clock on or off.

**Setting the Time and Date**

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Select Set Time or Set Date.
4. Turn the MENU/SELECT knob to adjust the highlighted value.
5. Press the MENU/SELECT knob to select the next value.
6. To save the time or date and return to the Time and Date Settings menu, press the BACK ⇦ button at any time or press the MENU/SELECT knob after adjusting the minutes or year.

**Setting the 12/24 Hour Format**

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Highlight 12/24 Hour Format.
4. Press the MENU/SELECT knob to select the 12 hour or 24 hour display format.

**Setting the Month & Day Format**

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Highlight Month & Day Format.
4. Press the MENU/SELECT knob to select MM/DD (month/day) or DD/MM (day/month).

**Setting the Auto Time Adjust (If Equipped)**

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Highlight Auto Time Adjust.
4. Press the MENU/SELECT knob to turn Auto Time Adjust on or off.

## Satellite Radio

Vehicles with an XM™ satellite radio tuner and a valid XM satellite radio subscription can receive XM programming.

### XM Satellite Radio Service

XM is a satellite radio service based in the 48 contiguous United States and 10 Canadian provinces. XM satellite radio has a wide variety of programming and commercial-free music, coast to coast, and in digital-quality sound. A fee is required to receive the XM service.

Refer to:

- www.xmradio.com or call 1-800-929-2100 (U.S.).
- www.xmradio.ca or call 1-877-438-9677 (Canada).

See *Satellite Radio on page 7-14*.

## Portable Audio Devices

Some vehicles have a 3.5 mm (1/8 in) auxiliary input and a USB port located in the center console. External devices such as iPods®, laptop computers, MP3 players, CD changers, and USB drives may be connected, depending on the audio system.

See *Auxiliary Devices (Radio with CD/DVD and MEM) on page 7-35* or *Auxiliary Devices (Radio with CD) on page 7-29*.

## Bluetooth®

The Bluetooth system allows users with a Bluetooth-enabled cell phone to make and receive hands-free calls using the vehicle audio system and controls.

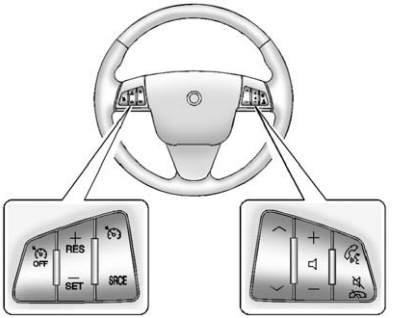
The Bluetooth-enabled cell phone must be paired with the in-vehicle Bluetooth system before it can be used in the vehicle. Not all phones will support all functions.

See *Bluetooth (Voice Recognition) on page 7-55* or *Bluetooth (Overview) on page 7-49* or *Bluetooth (UHP Mexico Only) on page 7-62* or *Bluetooth (Infotainment Controls) on page 7-51*.

## Mobile Apps

Mobile apps are available for download through iTunes® to then access the iPhone® App Store and Google™ Marketplace for Android™. Search for the apps to download. The apps are free of charge; however, the myCadillac app requires the user to link their own vehicle and OnStar MyLink requires an active OnStar subscription.

## Steering Wheel Controls




If available, some audio controls can be adjusted at the steering wheel.

**∧ or ∨ :** Press ∧ to select the next favorite radio station or next CD, DVD, if equipped, or MP3 track.

Press ∨ to select the previous favorite radio station or previous CD, DVD, if equipped, or MP3 track.

**+ 🔊 −:** Press + to increase the volume, press − to decrease the volume.

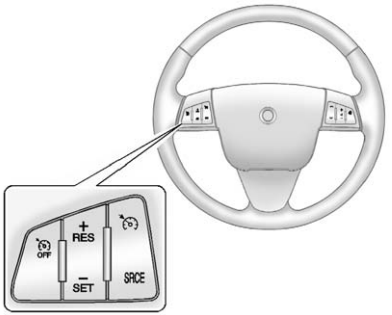
**📞 / 🎤 :** Press to interact with the available Bluetooth, OnStar, or Navigation system.

**🔇 / 🚗 :** Press to silence the vehicle speakers only. Press again to turn the sound on. For vehicles with OnStar or Bluetooth systems, press to reject an incoming call, or end a current call.

**SRCE:** Press to select an audio source.

For more information, see *Steering Wheel Controls on page 5-2*.

## Cruise Control




: Press to turn cruise control on and off.

**+ RES:** Press briefly to make the vehicle resume to a previously set speed or press and hold to accelerate.

**–SET:** Press to set the speed and activate cruise control or make the vehicle decelerate.

**OFF:** Press to disengage cruise control without erasing the set speed from memory.

See *Cruise Control on page 9-36*.

## Navigation System

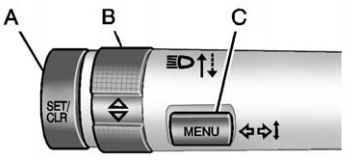
If the vehicle has a navigation system, there is a separate navigation system manual that includes information on the radio, audio players, and navigation system.

The navigation system provides detailed maps of most major freeways and roads. After a destination has been set, the system provides turn-by-turn instructions for reaching the destination. In addition, the system can help locate a variety of points of interest (POIs), such as banks, airports, restaurants, and more.

See the navigation system manual for more information.

## Driver Information Center (DIC)

The DIC display is located in the center of the instrument panel cluster. It shows the status of many vehicle systems. The controls for the DIC are located on the turn signal lever.




A. **SET/CLR:** Press to set or clear the menu item when it is displayed.

B. △ / ▽ **:** Use the thumbwheel to scroll through the items in each menu.

C. **MENU:** Press to display the Trip/Fuel menu and the Vehicle Information menu. This button is also used to return to or exit the last screen displayed on the DIC.

See *Driver Information Center (DIC) on page 5-27*.

## Rear Vision Camera (RVC)

If available, the RVC displays a view of the area behind the vehicle when the vehicle is shifted into R (Reverse). The display will appear on either the inside rearview mirror or navigation screen, if equipped.

To clean the camera lens, located above the license plate, rinse it with water and wipe it with a soft cloth.

See *Rear Vision Camera (RVC) on page 9-42*.

## Ultrasonic Parking Assist

If available, Ultrasonic Front and Rear Parking Assist (UFRPA) uses sensors on the front and rear bumpers to detect objects while parking the vehicle. It operates at speeds less than 8 km/h (5 mph). UFRPA uses audio beeps to provide distance and system information.

Keep the sensors on the vehicle's front and rear bumpers clean to ensure proper operation.

See *Ultrasonic Parking Assist on page 9-38* for more information.

## Storage Compartments

The glove box is air conditioned and can be used to store items at a lower temperature. Move the slide control to open or close the opening to adjust the air flow. See *Glove Box on page 4-1* for more information.

## Power Outlets

The accessory power outlets can be used to plug in electrical equipment, such as a cell phone or MP3 player.

The vehicle has four accessory power outlets. The power outlets located below the climate control system inside the front storage bin, inside the center floor console, and on the rear of the center floor console are powered while the vehicle is in ON/RUN/START or ACC/ACCESSORY mode, or until the driver door is opened within 10 minutes of turning off the vehicle.

The power outlet located in the rear cargo area is powered at all times.

Open the protective cap to use the accessory power outlet.

See *Power Outlets on page 5-9*.

## Universal Remote System



This system provides a way to replace up to three remote control transmitters used to activate devices such as garage door openers, security systems, and home automation devices.

Read the instructions completely before attempting to program the Universal Remote system. Because of the steps involved, it may be helpful to have another person available to assist you with programming the Universal Remote system.

See *Universal Remote System on page 5-46*.

# Performance and Maintenance

## Traction Control System (TCS)

The traction control system limits wheel spin. The system is on when the vehicle is started.

- To turn off traction control, press and release OFF located on the console. illuminates and the appropriate DIC message displays. See *Vehicle Messages on page 5-32*.
- Press and release OFF again to turn traction control back on.

For more information, see *Traction Control System (TCS) on page 9-32*.

## StabiliTrak® System

The StabiliTrak system assists with directional control of the vehicle in difficult driving conditions. The system is on when the vehicle is started.

- To turn off both Traction Control and StabiliTrak, press and hold OFF until OFF and illuminate and the appropriate DIC message displays. See *Vehicle Messages on page 5-32*.
- Press OFF again to turn on both systems.

For more information, see *StabiliTrak® System on page 9-34*.

## Tire Pressure Monitor

This vehicle may have a Tire Pressure Monitor System (TPMS).



The TPMS warning light alerts you to a significant loss in pressure of one of the vehicle's tires. If the warning light comes on, stop as soon as possible and inflate the tires to the recommended pressure shown on the Tire and Loading Information label. See *Vehicle Load Limits on page 9-10*. The warning light will remain on until the tire pressure is corrected.

During cooler conditions, the low tire pressure warning light may appear when the vehicle is first started and then turn off. This may be an early indicator that the tire pressures are getting low and the tires need to be inflated to the proper pressure.

The TPMS does not replace normal monthly tire maintenance. It is the driver's responsibility to maintain correct tire pressures.

See *Tire Pressure Monitor System on page 10-58*.

## Tire Sealant and Compressor Kit

This vehicle may come with a spare tire and tire changing equipment or a tire sealant and compressor kit. The kit can be used to temporarily seal small punctures in the tread area of the tire.

See *Tire Sealant and Compressor Kit on page 10-73* for complete operating information.

If the vehicle came with a spare tire and tire changing equipment, see *If a Tire Goes Flat on page 10-71*.

## Engine Oil Life System

The engine oil life system calculates engine oil life based on vehicle use and displays the CHANGE ENGINE OIL SOON message when it is time to change the engine oil and filter. The oil life system should be reset to 100% only following an oil change.

**Resetting the Oil Life System**

1. Using the DIC MENU button and thumbwheel on the turn signal lever, display REMAINING OIL LIFE on the DIC. See *Driver Information Center (DIC) on page 5-27* and *Engine Oil Messages on page 5-35*.
2. Press the SET/CLR button to reset the oil life at 100%.

   Be careful not to reset the oil life display accidentally at any time other than after the oil is changed. It cannot be reset accurately until the next oil change.

The oil life system can also be reset as follows:

1. Turn the ignition on with the engine off.
2. Fully press and release the accelerator pedal three times within five seconds.

   If the CHANGE ENGINE OIL SOON message is not on, the system is reset.

See *Engine Oil Life System on page 10-10*.

## Fuel E85 (85% Ethanol)

Vehicles that have a FlexFuel badge and a yellow fuel cap can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). See *Fuel E85 (85% Ethanol) on page 9-49*. For all other vehicles, use only the unleaded gasoline described under *Recommended Fuel on page 9-46*.

## Driving for Better Fuel Economy

Driving habits can affect fuel mileage. Here are some driving tips to get the best fuel economy possible.

- Avoid fast starts and accelerate smoothly.
- Brake gradually and avoid abrupt stops.
- Avoid idling the engine for long periods of time.
- When road and weather conditions are appropriate, use cruise control.
- Always follow posted speed limits or drive more slowly when conditions require.
- Keep vehicle tires properly inflated.
- Combine several trips into a single trip.
- Replace the vehicle's tires with the same TPC Spec number molded into the tire's sidewall near the size.
- Follow recommended scheduled maintenance.

## Roadside Service

U.S.: **1-800-224-1400**

Canada: **1-800-882-1112**

TTY Users (U.S. only): **1-888-889-2438**

Mexico: **01-800-466-0805**

As the owner of a new Cadillac, you are automatically enrolled in the Roadside Service program.

See *Roadside Service (U.S. and Canada) on page 13-8* or *Roadside Service (Mexico) on page 13-10*.

**Roadside Service and OnStar (U.S. and Canada)**

If you have an active OnStar subscription, press the button and the current GPS location will be sent to an OnStar advisor who will assess your problem, contact Roadside Service, and relay your exact location to get the help you need.

**Online Owner Center (U.S. and Canada)**

The Online Owner Center is a complimentary service that includes online service reminders, vehicle maintenance tips, online owner manual, special privileges, and more.

Sign up today at:

**U.S.: cadillac.com**

Click on “Owners,” then “Manage My Cadillac/Owners Login.”

**Canada: cadillacowner.ca**

## OnStar®

If equipped, this vehicle has a comprehensive, in-vehicle system that can connect to a live Advisor for Emergency, Security, Navigation, Connection, and Diagnostic Services. See *OnStar Overview on page 14-1*.

## ✍ NOTES

# Keys, Doors, and Windows


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- Remote Vehicle Start . . . . . 2-10
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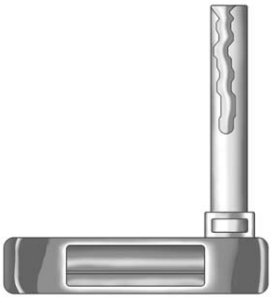
# Keys and Locks

## Keys

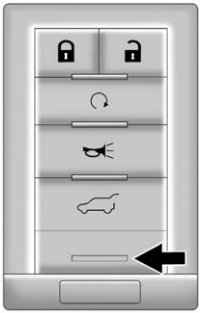
**⚠ WARNING**

Leaving children in a vehicle with the Remote Keyless Entry (RKE) transmitter is dangerous for many reasons; children or others could be badly injured or even killed. They could operate the power windows or other controls or even make the vehicle move. The windows will function with the RKE transmitter in the vehicle and they could be seriously injured or killed if caught in the path of a closing window. Do not leave the RKE transmitter in a vehicle with children.





This key, located inside the Remote Keyless Entry (RKE) transmitter, is used for the driver door and glove box.



To remove the key, press the button near the bottom of the transmitter, and pull the key out. Never pull the key out without pressing the button.

See your dealer if a new key is needed.

Contact Roadside Service if locked out of the vehicle. See *Roadside Service (U.S. and Canada) on page 13-8* or *Roadside Service (Mexico) on page 13-10*.

With an active OnStar subscription, an OnStar Advisor may remotely unlock the vehicle. See *OnStar Overview on page 14-1*.

## Remote Keyless Entry (RKE) System

See *Radio Frequency Statement on page 13-23* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

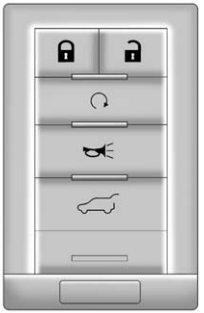
If there is a decrease in the RKE operating range:

- Check the distance. The transmitter may be too far from the vehicle.
- Check the location. Other vehicles or objects may be blocking the signal.
- Check the transmitter's battery. See “Battery Replacement” later in this section.
- If the transmitter is still not working correctly, see your dealer or a qualified technician for service.

## Remote Keyless Entry (RKE) System Operation

The Remote Keyless Entry (RKE) transmitter functions will work up to 60 m (195 ft) away from the vehicle.

Keep in mind that other conditions, such as those previously stated, can impact the performance of the transmitter.



**With Remote Start and Power Liftgate Shown, Without Similar**

**(Lock):** Press to lock all doors. The turn signal indicators may flash and/or the horn may sound to indicate locking, see "Locking Feedback" under *Vehicle Personalization on page 5-40*.

If the driver door is open when is pressed, all doors lock except the driver door, if enabled through the vehicle personalization. If the passenger door is open when is pressed, all doors lock.

Pressing may also arm the theft-deterrent system. See *Anti-theft Alarm System on page 2-18*.

**(Unlock):** Press to unlock the driver door or all doors, see "Door Unlock Options" under *Vehicle Personalization on page 5-40*. When remotely unlocking the vehicle at night the fog lamps and reverse lamps will come on for about 20 seconds to light your approach to the vehicle. The turn signal indicators may flash and/or the horn may sound to indicate unlocking. See "Unlock Feedback" under *Vehicle Personalization on page 5-40*.

Memory seat positions may be recalled when unlocking the vehicle. See "Memory Remote Recall" under *Vehicle Personalization on page 5-40* for more information.

Pressing will disarm the theft-deterrent system. See *Anti-theft Alarm System on page 2-18*.

On some models, pressing and holding will open all of the windows.

**(Remote Start):** For vehicles with this feature, press and then press and hold within two seconds to start the engine from outside the vehicle using the RKE transmitter. See *Remote Vehicle Start on page 2-10* for additional information.

**(Vehicle Locator/Panic Alarm):** Press and release one time to locate the vehicle. The exterior lamps flash and the horn chirps. Press and hold for three seconds to sound the panic alarm. The horn sounds and the turn signal lamps flash for 30 seconds, or until is pressed again or the vehicle is started.

**(Remote Liftgate Release):** Press until the liftgate begins to move to open or close the power liftgate.

## Keyless Access Operation

Some vehicles have the keyless access system that lets you lock and unlock the doors and access the liftgate without removing the remote transmitter from your pocket, purse, briefcase, etc. The keyless entry transmitter must be within 1 m (3 ft) of the door being opened. If the vehicle has this feature, there will be a body colored touch pad on the outside front door handles.

### Keyless Unlocking

With the transmitter within 1 m (3 ft), approach the front door and pull the handle. If the transmitter is recognized, the door will unlock and open.

Entering any door other than the driver door will always cause all of the doors to unlock. This is not customizable.

To customize which doors unlock when the driver's door is opened, see "Passive Unlock" under *Vehicle Personalization on page 5-40*.

### Keyless Locking

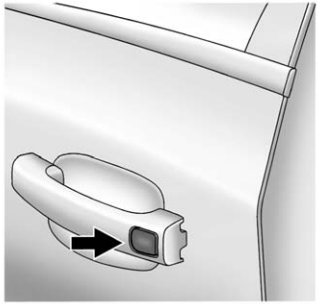
If the vehicle has the keyless access system, this feature allows you to select whether the doors automatically lock during normal vehicle exit. When the vehicle is turned off and all doors become closed, the vehicle will determine how many keyless access transmitters remain in the vehicle interior. If at least one keyless access transmitter has been removed from the interior of the vehicle, the doors will lock after eight seconds.

If there are two keyless access transmitters in the vehicle and one is removed, the other will be locked in. A person approaching the outside of the locked vehicle without an authorized keyless access transmitter will not be able to open the door, even with the transmitter in the vehicle.

You may temporarily disable the keyless locking feature by pressing and holding the power door unlock button on the instrument panel for several seconds with a door open. Keyless locking will then remain disabled until the door lock switch is pressed, or until the vehicle is turned on.

To customize whether the doors automatically lock when you exit the vehicle, see "Passive Locking" under *Vehicle Personalization on page 5-40*.

**Lock Sensor**



When all doors are closed and the ignition is off, the vehicle can be locked by pressing this area on the door handle. This feature will be available for several minutes after the vehicle has been turned off.

**Keyless Liftgate Opening**

Press the touch pad on the liftgate handle to open the liftgate if the keyless entry transmitter is within range.

## Programming Transmitters to the Vehicle

Only keyless entry transmitters programmed to the vehicle will work. If a transmitter is lost or stolen, a replacement can be purchased and programmed through your dealer. The vehicle can be reprogrammed so that lost or stolen transmitters no longer work. Each vehicle can have up to eight transmitters matched to it.

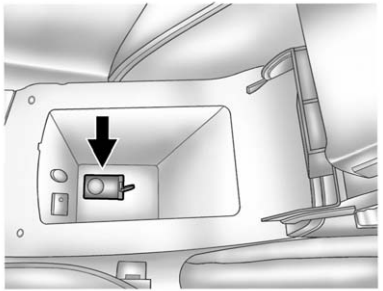
**Programming with a Recognized Transmitter (Keyless Access Vehicles Only)**

A new transmitter can be programmed to the vehicle when there is one recognized transmitter.

To program, the vehicle must be off and all of the transmitters, both currently recognized and new, must be with you.

1. Place the recognized transmitter(s) in the cupholder.
2. Insert the vehicle key of the new transmitter into the key lock cylinder located on the outside of the driver door and turn the key to the unlock position five times within ten seconds.

   The Driver Information Center (DIC) displays READY TO LEARN ELECTRONIC KEY #2, 3, 4, ETC.



3. Place the new transmitter into the transmitter pocket. The transmitter pocket is inside the center console storage area located between the driver and front passenger seats. The storage area will need to be opened and the storage tray lifted up to access the transmitter pocket.
4. Press the ignition. When the transmitter is learned the DIC display will show that it is ready to program the next transmitter.
5. Remove the transmitter from the transmitter pocket and press on the transmitter.

   To program additional transmitters, repeat Steps 3 through 5.

   When all additional transmitters are programmed, press and hold the ignition for 10 seconds to exit programming mode.

**Programming without a Recognized Transmitter (Keyless Access Vehicles Only)**

If there are no currently recognized transmitters available, follow this procedure to program up to eight transmitters. This feature is not available in Canada. This procedure will take approximately 30 minutes to complete. The vehicle must be off and all of the transmitters you wish to program must be with you.

1. Insert the vehicle key of the transmitter into the key lock cylinder located on the outside of the driver door and turn the key to the unlock position five times within ten seconds.

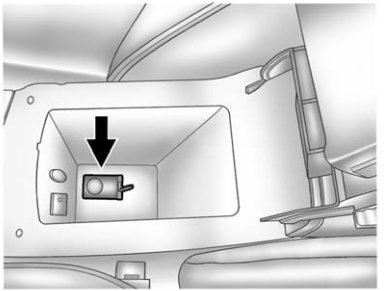
   The Driver Information Center (DIC) displays REMOTE LEARN PENDING, PLEASE WAIT.

2. Wait for ten minutes until the DIC displays PRESS ENGINE START BUTTON TO LEARN and then press the ignition.

   The DIC displays will again show REMOTE LEARN PENDING, PLEASE WAIT.

3. Repeat Step 2 two additional times. After the third time all previously known transmitters will no longer work with the vehicle. Remaining transmitters can be relearned during the next steps.

   The DIC display should now show READY FOR REMOTE # 1.



4. Place the new transmitter into the transmitter pocket. The transmitter pocket is inside the center console storage area located between the driver and front passenger seats. The storage area will need to be opened and the storage tray lifted up to access the transmitter pocket.

5. Press the ignition. When the transmitter is learned the DIC display will show that it is ready to program the next transmitter.

6. Remove the transmitter from the transmitter pocket and press on the transmitter.

   To program additional transmitters, repeat Steps 4 through 6.

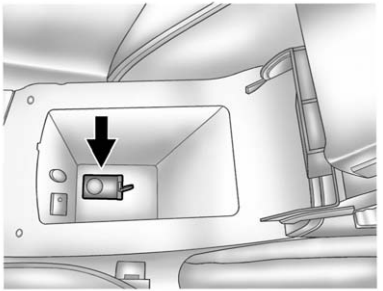
   When all additional transmitters are programmed, press and hold the ignition for 10 seconds to exit programming mode.

### Starting the Vehicle with a Low Transmitter Battery

If the transmitter battery is weak, the DIC may display NO REMOTE DETECTED when you try to start the vehicle. The REPLACE BATTERY IN REMOTE KEY message may also be displayed at this time.

To start the vehicle:

1. Open the center console storage area and the storage tray.



2. Place the transmitter in the transmitter pocket.
3. With the vehicle in P (Park) or N (Neutral), press the brake pedal and the START button.

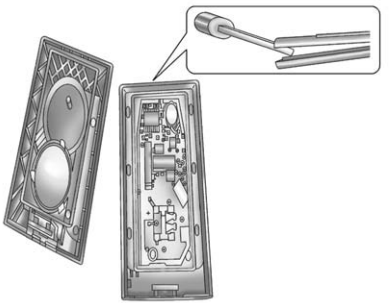
   Replace the transmitter battery as soon as possible.

### Battery Replacement

***Notice:*** **When replacing the battery, do not touch any of the circuitry on the transmitter. Static from your body could damage the transmitter.**

Replace the battery if the REPLACE BATTERY IN REMOTE KEY message displays in the DIC.

1. Press the button near the bottom of the transmitter and pull the key out.



2. Use the key blade to separate the two halves of the transmitter.

3. Remove the old battery. Do not use a metal object.
4. Insert the new battery, positive side facing down. Replace with a CR2032 or equivalent battery.
5. Snap the transmitter back together.

## Remote Vehicle Start

If available, this feature allows you to start the engine from outside the vehicle.

**(Remote Vehicle Start):** This button will be on the RKE transmitter if the vehicle has remote start.

Vehicles with an automatic climate control system will automatically change to a heating or cooling mode depending on the outside temperature during a remote start. When the ON/RUN/START ignition mode is selected, the climate control system will return to its setting from when the vehicle was last turned off.

Laws in some local communities may restrict the use of remote starters. For example, some laws may require a person using remote start to have the vehicle in view. Check local regulations for any requirements.

Other conditions can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System on page 2-3* for additional information.

**Starting the Engine Using Remote Start**

1. Press and release on the RKE transmitter.
2. Within two seconds, press and hold until the turn signal lamps flash. This confirms the request to remote start the vehicle has been received. If the vehicle' s lamps are not visible, press and hold for at least two seconds.

   During the remote start the doors will be locked and the parking lamps will remain on as long as the engine is running.

   The engine will shut off after 10 minutes unless a time extension is done or the ignition is put in ON/RUN/START.
3. Press the brake pedal and select the ON/RUN/START ignition mode to drive the vehicle.

**Extending Engine Run Time**

For a 10-minute extension, repeat Steps 1 and 2 while the engine is still running. The remote start can only be extended once.

When the remote start is extended, the second 10-minute period will start immediately.

For example, if the vehicle has been running for five minutes, and 10 minutes are added, the engine will run for a total of 15 minutes.

A maximum of two remote starts, or a remote start with an extension, are allowed between ignition cycles.

The vehicle's ignition must be changed to ON/RUN/START and then back to OFF before the remote start procedure can be used again.

**Shutting the Engine Off After a Remote Start**

To cancel a remote start, do any of the following:

- Press ⟳ until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Turn the vehicle on and then back off.

**Conditions in Which Remote Start Will Not Work**

The remote start will not operate if any of the following occur:

- The ignition is in any mode other than OFF.
- The transmitter is in the vehicle.
- The hood is not closed.
- The hazard warning flashers are on.
- There is an emission control system malfunction.
- The engine coolant temperature is too high.
- The oil pressure is low.
- Two remote vehicle starts have already been used.
- The vehicle is not in P (Park).

## Door Locks

**⚠ WARNING**

Unlocked doors can be dangerous.

- Passengers, especially children, can easily open the doors and fall out of a moving vehicle. The chance of being thrown out of the vehicle in a crash is increased if the doors are not locked. So, all passengers should wear safety belts properly and the doors should be locked whenever the vehicle is driven.
- Young children who get into unlocked vehicles may be unable to get out. A child can be overcome by extreme heat and can suffer permanent injuries or even death from heat stroke. Always lock the vehicle whenever leaving it.

(Continued)

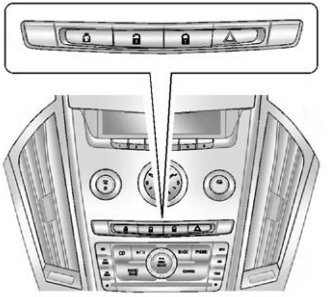
**WARNING (Continued)**

- Outsiders can easily enter through an unlocked door when slowing or stopping the vehicle. Lock the doors to help prevent this from happening.

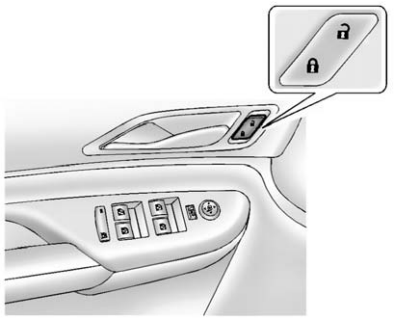
To lock or unlock the doors from the outside, press 🔒 or 🔓 on the Remote Keyless Entry (RKE) transmitter. See *Remote Keyless Entry (RKE) System Operation on page 2-3* or use the key in the driver door. Turn the key counterclockwise once to unlock the driver door; turning the key again will unlock the passenger doors.

To unlock a door from the inside, pull once on the door handle to unlock it, and a second time to open it.

## Power Door Locks



**Instrument Panel**



**Front Door Panels**

**(Lock):** Press to lock the doors.

**(Unlock):** Press to unlock the doors.

### Lockout Deterrent

Lockout deterrent decreases the chances that the keys may be accidentally locked in the vehicle.

When door locking is requested by pressing on the instrument panel or front door panels, or the RKE transmitter and the driver door is open, all doors will lock and the driver door will immediately unlock. The driver door must be closed when is pressed for all doors to remain locked.

This feature can be programmed to provide the lockout deterrent feature only when the ignition mode is ACC/ACCESSORY, or ON/RUN/START. See “Power Door Locks” in *Vehicle Personalization on page 5-40*.

### Delayed Locking

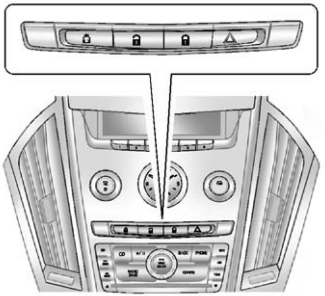
When this feature is enabled and the doors are locked with the power lock switch on the instrument panel or front door panels, three chimes sound to signal that the delayed locking feature is in use. All doors lock five seconds after the last door is closed.

When the delayed locking feature is in use, pressing on the instrument panel or front door panels, or the RKE transmitter will override the feature and lock all doors immediately.

This feature can be programmed by using the Driver Information Center (DIC). See “Delayed Door Lock” in *Vehicle Personalization on page 5-40*. The delayed locking feature is only available if “Unlocked Door Anti-Lockout” is disabled.

## Safety Locks

Rear door safety locks prevent passengers from opening the rear doors from the inside.



Press 🔓 to activate the safety locks, the LED in the switch illuminates.

Press 🔓 to deactivate the safety locks.

# Doors

## Liftgate

**⚠ WARNING**

Exhaust gases can enter the vehicle if it is driven with the liftgate or trunk/hatch open, or with any objects that pass through the seal between the body and the trunk/hatch or liftgate. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death.

If the vehicle must be driven with the liftgate or trunk/hatch open:

- Close all of the windows.
- Fully open the air outlets on or under the instrument panel.

(Continued)

**WARNING (Continued)**

- Adjust the climate control system to a setting that brings in only outside air and set the fan speed to the highest setting. See “Climate Control Systems” in the Index.
- If the vehicle is equipped with a power liftgate, disable the power liftgate function.

For more information about carbon monoxide, see *Engine Exhaust on page 9-23*.

***Notice:*** **If you open the liftgate without checking for overhead obstructions such as a garage door, you could damage the liftgate or the liftgate glass. Always check to make sure the area above and behind the liftgate is clear before opening it.**

### Manual Liftgate

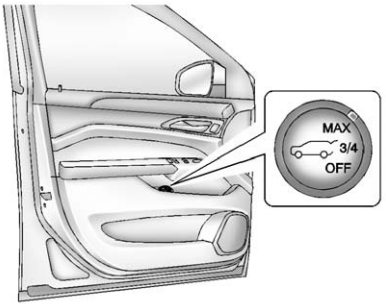
For vehicles without keyless access, unlock the vehicle before opening the liftgate.

Press the touch pad located in the handle of the liftgate, above the license plate, and lift up to open.

Do not press the touch pad while closing the liftgate. This will cause the liftgate to be unlatched.

Always close the liftgate before driving.

### Power Liftgate




On vehicles with a power liftgate, the switch is on the driver door. The vehicle must be in P (Park) to use the power feature. The taillamps flash when the power liftgate moves.

**⚠ WARNING**

You or others could be injured if caught in the path of the power liftgate. Make sure there is no one in the way of the liftgate as it is opening and closing.

Choose the power liftgate mode by turning the dial on the switch until the indicator lines up with the desired position.

The three modes are:

**MAX:** The liftgate opens to the full open height.

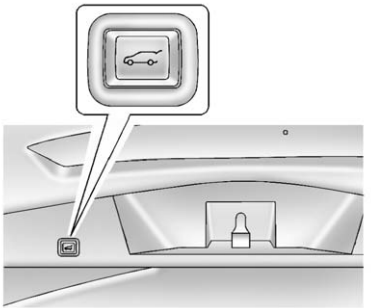
**3/4:** The liftgate opens to a reduced height that can be set by the vehicle operator in a range of approximately three-quarters open to full open. Use this setting to prevent the liftgate from opening into overhead obstructions such as a garage door or roof mounted cargo during power operation. The liftgate can still be manually opened all the way.

**OFF:** The liftgate only operates manually in this position.

Manual operation of a liftgate that also has power operation requires more effort than with a standard manual liftgate.

In either the MAX or the 3/4 mode, the liftgate can be power opened and closed by:

- Pressing on the Remote Keyless Entry (RKE) transmitter until the liftgate starts moving. See *Remote Keyless Entry (RKE) System Operation on page 2-3*.
- Pressing on the center of the mode switch on the driver door, with the driver door unlocked.
- Pressing the touch pad switch on the liftgate outside handle, with all doors unlocked, to open the liftgate.



Press and release on the liftgate next to the latch to close the liftgate.

Pressing any liftgate button, or the touch pad switch while the liftgate is moving, stops it. Pressing the button or RKE switch again reverses the direction. There is a minimum distance that the power liftgate must already be open for the system to hold it open. If movement is stopped below that minimum, the liftgate closes.

Do not force the liftgate open or closed during a power cycle.

The power liftgate may be temporarily disabled under extreme temperatures or low battery conditions. If this occurs, the liftgate can still be operated manually.

If you shift the transmission out of P (Park) while the power function is in progress, the liftgate power function will continue to completion. If you shift the transmission out of P (Park) and accelerate before the power liftgate latch is closed, the liftgate may reverse to the open position. Cargo could fall out of the vehicle. Always make sure the power liftgate is closed and latched before you drive away.

If you power open the liftgate and the liftgate support struts have lost pressure, the turn signals flash and a chime sounds. The liftgate stays open temporarily, then slowly closes. See your dealer for service before using the liftgate.

### Obstacle Detection Features

If the liftgate encounters an obstacle during a power open or close cycle, a warning chime will sound and the liftgate will automatically reverse direction to the full closed or open position. After removing the obstruction, the power liftgate operation can be used again. If the liftgate encounters multiple obstacles on the same power cycle, the power function will deactivate. After removing the obstructions, the liftgate will resume normal power operation.

The vehicle has pinch sensors located on the side edges of the liftgate. If an object is caught between the liftgate and the body and presses against this sensor, the liftgate will reverse direction and open fully. The liftgate will remain open until it is activated again or closed manually.

### Setting the Power Liftgate 3/4 Mode

To change the liftgate stop position.

1. Turn the liftgate switch to either the MAX, or the 3/4 mode position and power open the liftgate.
2. Stop the liftgate movement at the desired height by pressing any liftgate switch. Manually adjust the liftgate position if required.
3. Press and hold the button on the liftgate next to the latch until the turn signals flash and a beep sounds to indicate that the new setting is recorded.

When power opened with the 3/4 mode selected, the liftgate stops at the new set position.

If you do not receive the audible and visual feedback when setting the intermediate stop position, you are attempting to set the height below the 3/4 open height minimum (approximately 1.52 m or 5 ft). The liftgate cannot be set below that minimum and the new setting will not be recorded.

### Manual Operation of Power Liftgate

To change the liftgate to manual operation, turn the mode switch to the OFF position.

With the power liftgate disabled and all of the doors unlocked, the liftgate can be manually opened and closed. The effort required to operate a power liftgate is greater than the effort required to operate a non-power liftgate.

To open the liftgate, press the touch pad on the handle on the outside of the liftgate, and lift the gate open.

To close the liftgate, use the pull cup to lower the liftgate and close. With the power liftgate disabled, the liftgate electric latch will still power latch once contact is made with the striker. Always close the liftgate before driving.

If the RKE button is pressed while power operation is disabled, the turn signals flash and the liftgate will not move.

The liftgate has an electric latch. If the battery is disconnected or has low voltage, the liftgate will not open. The liftgate will resume operation when the battery is reconnected and charged.

# Vehicle Security

This vehicle has theft-deterrent features; however, they do not make it impossible to steal.

## Anti-theft Alarm System

This vehicle has an anti-theft alarm system.

The LED light, located on the instrument panel near the windshield, indicates the status of the system.

### Arming the System

1. Close all doors, liftgate, and hood.
2. Lock the vehicle using the transmitter or the power door lock button. The LED on the instrument panel should come on and stay on for about 30 seconds.

3. After 30 seconds, the alarm system will arm, and the LED will begin to slowly flash indicating the alarm is operating.

If a door, the hood, or liftgate is opened without first unlocking with the transmitter, the turn signals will flash and the horn will sound for about 30 seconds. The alarm system will then re-arm to monitor for the next unauthorized event.

The theft-deterrent alarm system will not activate if the doors are locked with the key. You can start the vehicle with a recognized transmitter in the vehicle if the alarm has been set off.

### Disarming the System

To disarm the system, either unlock the doors using the transmitter, or start the vehicle with a recognized transmitter in the vehicle.

To avoid setting off the alarm by accident:

- Lock the vehicle with the transmitter after all occupants have left the vehicle and all doors are closed.
- Always unlock a door with the transmitter. Unlocking a door any other way will not disarm the alarm.

If you set off the alarm by accident, turn off the alarm by pressing on the transmitter. The alarm will not stop if you try to unlock a door any other way.

### How to Detect a Tamper Condition

If is pressed and the horn chirps three times, an attempted break-in has occurred while the system was armed.

If the alarm has been activated, the THEFT ATTEMPTED message will appear on the DIC. See *Key and Lock Messages on page 5-36* for additional information.

## Immobilizer

See *Radio Frequency Statement on page 13-23* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

## Immobilizer Operation

This vehicle has a passive theft-deterrent system.

The system does not have to be manually armed or disarmed.

The vehicle is automatically immobilized when the vehicle is turned off.

The immobilization system is disarmed when the pushbutton start is activated to enter the ACC/ACCESSORY mode or the ON/RUN/START mode and a valid transmitter is present in the vehicle.



The security light, located in the instrument panel cluster, comes on if there is a problem with arming or disarming the theft-deterrent system.

The system has one or more RKE transmitters matched to an immobilizer control unit in your vehicle. Only a correctly matched RKE transmitter will start the vehicle. If the transmitter is ever damaged, you may not be able to start your vehicle.

When trying to start the vehicle, the security light comes on briefly when the ignition is turned on.

If the engine does not start and the security light stays on, there is a problem with the system. Turn the ignition off and try again.

If the vehicle will not change ignition modes (ACC/ACCESSORY, ON/RUN/START, OFF), and the RKE transmitter appears to be undamaged, try another transmitter. Or, you may try placing the transmitter in the transmitter pocket located in the center console. See “NO REMOTE DETECTED” under *Key and Lock Messages on page 5-36*.

If the ignition modes will not change with the other transmitter, your vehicle needs service. If the ignition does change modes, the first transmitter may be faulty. See your dealer who can service the theft-deterrent system and have a new RKE transmitter programmed to the vehicle.

It is possible for the immobilizer system to learn new or replacement RKE transmitters. Up to eight transmitters can be programmed for the vehicle. To program additional transmitters, see “Programming Transmitters to the Vehicle” under *Remote Keyless Entry (RKE) System Operation on page 2-3*.

Do not leave the key or device that disarms or deactivates the theft-deterrent system in the vehicle.

# Exterior Mirrors

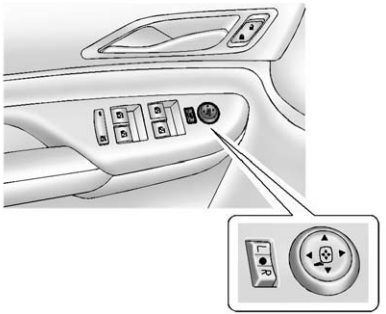
## Convex Mirrors

**⚠ WARNING**

A convex mirror can make things, like other vehicles, look farther away than they really are. If you cut too sharply into the right lane, you could hit a vehicle on the right. Check the inside mirror or glance over your shoulder before changing lanes.

The passenger side mirror is convex shaped. A convex mirror's surface is curved so more can be seen from the driver seat.

## Power Mirrors



**Manual Folding Mirrors Shown**

To adjust the mirror:

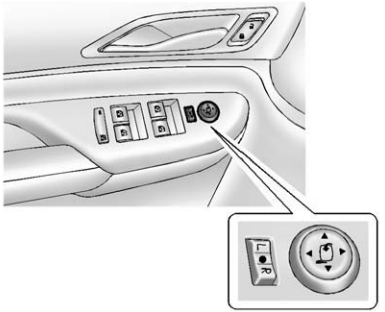
1. Move the selector switch to L (Left) or R (Right) to choose the driver or passenger mirror.
2. Press the arrows on the control pad to move each mirror in the desired direction.
3. Return the selector switch to the center position.

## Folding Mirrors

### Manual Folding Mirrors

Vehicles with manual fold mirrors are folded inward toward the vehicle to prevent damage when going through an automatic car wash. Push the mirror outward to return it to the original position.

### Power Folding Mirrors



Vehicles with power folding mirrors, to fold the mirrors:

1. With the selector switch in the ● position, press the down arrow on the control pad. Both mirrors will automatically fold.
2. Pressing the down arrow again will return the mirrors to their original position.

### Resetting the Power Folding Mirrors

Reset the power folding mirrors if:

- The mirrors are accidentally obstructed while folding.
- They are accidentally manually folded/unfolded.
- The mirrors do not stay in the unfolded position.
- The mirrors vibrate at normal driving speeds.

Fold and unfold the mirrors one time using the mirror controls to reset them to their normal position. A noise may be heard during the resetting of the power folding mirrors. This sound is normal after a manual folding operation.

## Heated Mirrors

**(Rear Window Defogger):** Press to heat the mirrors.

See “Rear Window Defogger” under *Dual Automatic Climate Control System on page 8-1* for more information.

## Automatic Dimming Mirror

If the vehicle has the automatic dimming mirror, the driver outside mirror automatically adjusts for the glare of headlamps behind you.

## Reverse Tilt Mirrors

If the vehicle is equipped with memory mirrors, there is an option to have the mirrors tilt down, when in R (Reverse), to more easily see the ground near the vehicle.

When the vehicle is shifted to R (Reverse), both the driver and passenger mirrors will tilt downward. They will return to their previous position when the vehicle is shifted out of R (Reverse), the ignition is turned to OFF, or the vehicle is left in R (Reverse) for an extended period of time.

This feature can be turned on or off. See *Vehicle Personalization on page 5-40*.

# Interior Mirrors

## Manual Rearview Mirror

Adjust the inside rearview mirror for a clear view of the area behind your vehicle. To avoid glare of the headlamps from behind, push the tab forward for daytime and pull it for nighttime use.

Vehicles with OnStar® have three control buttons at the bottom of the mirror. See your dealer for more information about OnStar and how to subscribe to it. See *OnStar Overview on page 14-1*.

## Automatic Dimming Rearview Mirror

The vehicle may have an automatic dimming inside rearview mirror. Automatic dimming reduces the glare from the headlamps of the vehicle behind you. The dimming feature and the indicator light come on each time the vehicle is started.

Vehicles with OnStar have three control buttons located at the bottom of the mirror. See your dealer for more information about OnStar and how to subscribe to it. See *OnStar Overview on page 14-1*.

### Cleaning the Mirror

Do not spray glass cleaner directly on the mirror. Use a soft towel dampened with water.

## Windows

**⚠ WARNING**

Leaving children, helpless adults, or pets in a vehicle with the windows closed is dangerous. They can be overcome by the extreme heat and suffer permanent injuries or even death from heat stroke. Never leave a child, a helpless adult, or a pet alone in a vehicle, especially with the windows closed in warm or hot weather.



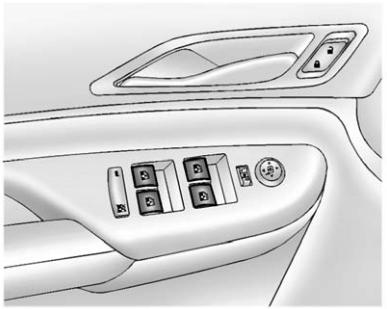
The vehicle aerodynamics are designed to improve fuel economy performance. This may result in a pulsing sound when a window is partially open. To reduce the sound, open another window or the sunroof (if equipped).

## Power Windows

**⚠ WARNING**

Leaving children in a vehicle with the RKE transmitter is dangerous for many reasons; children or others could be badly injured or even killed. They could operate the power windows or other controls or even make the vehicle move. The windows will function with the RKE transmitter in the vehicle and they could be seriously injured or killed if caught in the path of a closing window. Do not leave the RKE transmitter in a vehicle with children.

When there are children in the rear seat, use the window lockout switch to prevent unintentional operation of the windows.



The power windows:

- Can be operated with the ignition in ACC/ACCESSORY or ON/RUN/START.
- Can be operated within 10 minutes of switching the ignition off. See *Retained Accessory Power (RAP) on page 9-21*.
- Will stop operation when any door is opened.

Pushing or pulling the switch part of the way will open or close the window as long as the switch is operated.

### Express-Down/Up Windows

Windows that have the express-down/up feature allow the windows to be lowered and raised fully without holding the window switch. Press the window switch fully and release it to activate the express-down feature. Pull the window switch fully up and release it to activate the express-up feature. The express mode can be canceled at any time by briefly pressing or pulling the switch.

### Programming the Power Windows

Programming the power windows may be necessary if the vehicle's battery has been disconnected or discharged.

If the window will not express up after power has been restored and a message is displayed in the Driver Information Center:

1. Close all doors.
2. Place the ignition in ACC/ACCESSORY or ON/RUN/START.
3. From any partial open position, close the window and continue to pull the switch briefly after the window has fully closed.

### Obstacle Detection Feature

The Obstacle Detection Feature is part of the express-up feature and is active:

- In the middle and upper portions of the window opening.
- During window up movements.
- In ignition OFF during all window up movements and during express-up window movements in ignition ON/RUN/START.

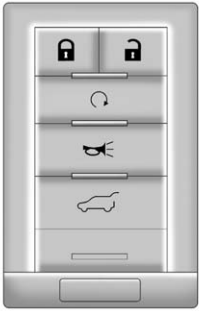
If there is something blocking the window during automatic closing, the window will reverse direction for a short distance. Weather conditions such as extreme cold and/or ice may cause the window to auto-reverse. The window will return to normal operation once the object or condition is removed.

If conditions prevent the window from closing and the window continues to auto-reverse, it is possible to close the window with the ignition in ON/RUN/START by holding the window switch in the partially or fully pulled up position. Release of the switch from the partially pulled up position will cause the window to stop. Release of the switch from the fully pulled up position will activate the express-up and related obstacle detection features.

### Overload

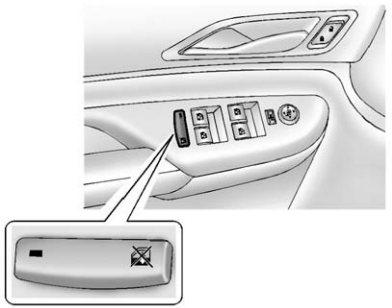
If the windows are repeatedly operated within a short time, the window operation is disabled for a short time.

### Remote Window Operation



The vehicle may have remote operating windows that will open all the windows from outside the vehicle by pressing and holding on the Remote Keyless Entry (RKE) transmitter.

### Window Lockout

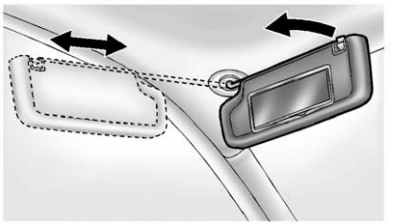


This feature prevents the rear passenger windows from operating, except from the driver position.

Press to activate the rear window lockout, the LED in the switch illuminates.

Press to deactivate the rear window lockout.

## Sun Visors



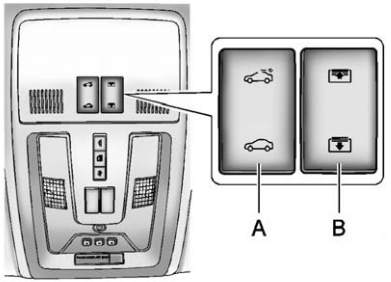
Pull the sun visor down to block glare. Detach the sun visor from the center mount to pivot to the side window, or to extend along the rod, if available.

# Roof

## Sunroof

On vehicles with a sunroof, the switches are on the overhead console.

The sunroof only operates when the ignition is in ON/RUN/START or ACC/ACCESSORY, or in Retained Accessory Power (RAP). See *Ignition Positions on page 9-17* and *Retained Accessory Power (RAP) on page 9-21*.




A. Sunroof Switch

B. Sunshade Switch

To open the sunroof, press the back of the sunroof switch (A) to the first detent and release, the sunroof will open to the vent position.

Press the back of the sunroof switch to the first detent and hold, to open the sunroof to a desired position at a normal speed. Press the rear of the switch to the second detent and release, to express open the sunroof to an automatically adjusted comfort position. Press the rear of the switch to the second detent and release again, to open the sunroof to the full open position. Press the front of the switch to second detent and release, to express close the sunroof.

Press the front of the sunroof switch to the first detent and hold, to close the sunroof to a desired position at a normal speed. Press the front of the switch to the second detent and release, to express close the sunroof.

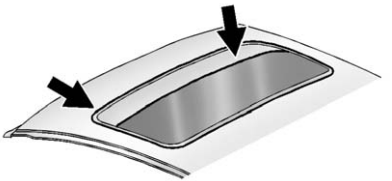
To open or close the sunshade, press the open or close sunroof switch (B).

Press the front or back of the sunshade switch to the first detent and hold, to open or close the sunshade to a desired position at a normal speed. Press the switch to the second detent and release, to express open or close the sunshade.

Fully close the glass before fully closing the sunshade.

### Anti-Pinch Feature

If an object is in the path of the sunroof when it is closing, the anti-pinch feature detects the object and stops the sunroof from closing at the point of the obstruction. The sunroof then returns to the full-open position.



Dirt and debris may collect on the sunroof seal or in the track. This could cause an issue with sunroof operation, noise, or plugging the water drainage system. Periodically open the sunroof and remove any obstacles or loose debris. Wipe the sunroof seal and roof sealing area using a clean cloth, mild soap, and water. Do not remove grease from the sunroof.

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# Head Restraints

**⚠ WARNING**

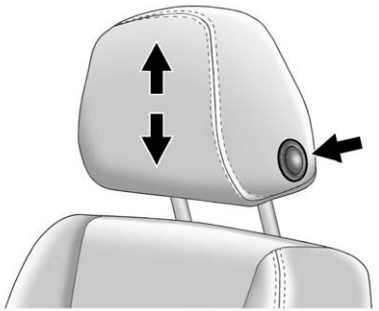
With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.



Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.

## Front Seats

The vehicle's front seats have adjustable head restraints in the outboard seating positions.

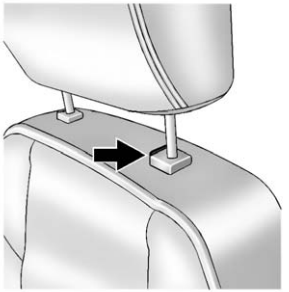


The height of the head restraint can be adjusted. To raise or lower the head restraint, press the button located on the side of the head restraint, and pull up or push the head restraint down, and release the button. Pull and push on the head restraint after the button is released to make sure that it is locked in place.

The front seat outboard head restraints are not designed to be removed.

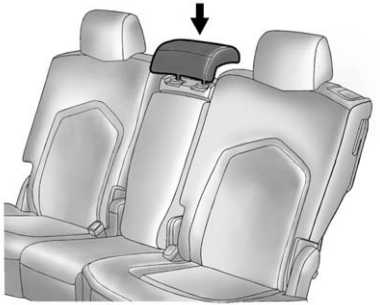
## Rear Seats

The vehicle's rear seats have adjustable head restraints in the outboard seating positions.



The height of the head restraint can be adjusted. Pull the head restraint up to raise it. Try to move the head restraint to make sure that it is locked in place.

To lower the head restraint, press the button, located on the top of the seatback, and push the head restraint down. Try to move the head restraint after the button is released to make sure that it is locked in place.



The vehicle's rear seat has an adjustable headrest in the center seating position that can be adjusted the same way as the outboard head restraints.

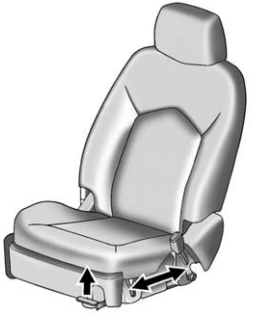
If you are installing a child restraint in the rear seat, see “Securing a Child Restraint Designed for the LATCH System” under *Lower Anchors and Tethers for Children (LATCH System) on page 3-45*.

# Front Seats

## Seat Adjustment

**⚠ WARNING**

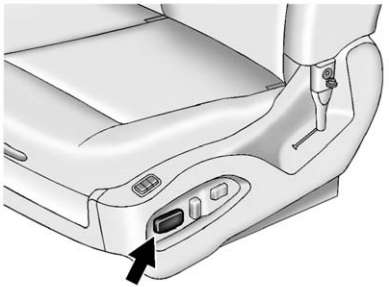
You can lose control of the vehicle if you try to adjust a driver seat while the vehicle is moving. The sudden movement could startle and confuse you, or make you push a pedal when you do not want to. Adjust the driver seat only when the vehicle is not moving.



To adjust a manual seat:

1. Pull the handle at the front of the seat cushion.
2. Move the seat forward or rearward to adjust the seat position.
3. Release the handle to stop the seat from moving.
4. Try to move the seat back and forth to be sure it is locked in place.

## Power Seat Adjustment



To adjust a power seat, if equipped:

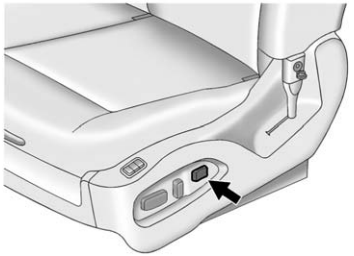
- Move the seat forward or rearward by sliding the control forward or rearward.
- Raise or lower the front or rear part of the seat cushion by moving the front or rear of the control up or down.
- Raise or lower the seat by moving the control up or down.

To adjust the seatback, see *Reclining Seatbacks on page 3-6*.

To adjust the lumbar support, see *Lumbar Adjustment on page 3-5*.

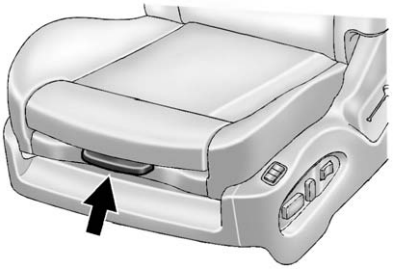
## Lumbar Adjustment

### Power Lumbar



If available, press and hold the front or rear of the control to increase or decrease lumbar support. Release the control when the seatback reaches the desired level of lumbar support.

## Thigh Support Adjustment



If available, adjust the manual leg extension by pulling up on the lever, and then pulling or pushing on the support to lengthen or shorten it. Release the lever to lock it in place.

## Reclining Seatbacks

**⚠ WARNING**

Sitting in a reclined position when the vehicle is in motion can be dangerous. Even when buckled up, the safety belts cannot do their job.

The shoulder belt will not be against your body. Instead, it will be in front of you. In a crash, you could go into it, receiving neck or other injuries.

The lap belt could go up over your abdomen. The belt forces would be there, not at your pelvic bones. This could cause serious internal injuries.

For proper protection when the vehicle is in motion, have the seatback upright. Then sit well back in the seat and wear the safety belt properly.

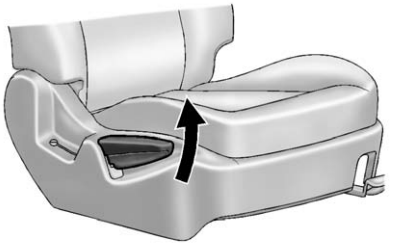


Do not have a seatback reclined if the vehicle is moving.

### Manual Reclining Seatbacks

**⚠ WARNING**

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.



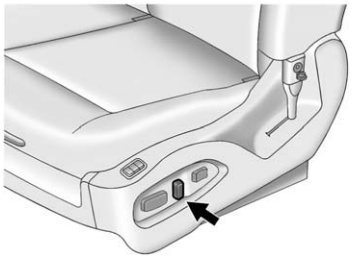
To recline a manual seatback:

1. Lift the lever.
2. Move the seatback to the desired position, and then release the lever to lock the seatback in place.
3. Push and pull on the seatback to make sure it is locked.

To return the seatback to the upright position:

1. Lift the lever fully without applying pressure to the seatback, and the seatback will return to the upright position.
2. Push and pull on the seatback to make sure it is locked.

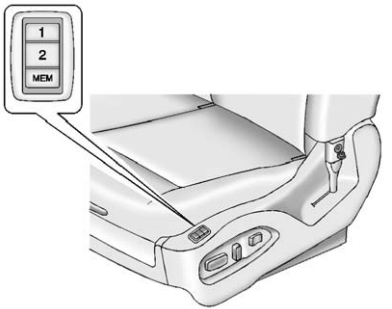
### Power Reclining Seatbacks



To adjust a power seatback, if available:

- Tilt the top of the control rearward to recline.
- Tilt the top of the control forward to raise.

## Memory Seats




On vehicles with the memory feature, the “1” and “2” buttons on the outboard side of the driver seat are used to manually save and recall the positions of the driver seat, outside mirrors, and adjustable throttle and brake pedal positions, if available. These manually stored positions are referred to as Button Memory positions.

The vehicle will also automatically save driver seat, outside mirror, and adjustable throttle and brake pedal positions to the current driver Remote Keyless Entry (RKE) transmitter when the ignition is turned off. These automatically stored positions are referred to as RKE Memory positions. See *Remote Keyless Entry (RKE) System Operation on page 2-3*.

**Storing Button Memory Positions**

To save positions into Button Memory:

1. Adjust the driver seat, seatback recliner, both outside mirrors, and adjustable pedals, if available, to the desired driving positions.
2. Press and hold MEM (Memory) and "1" at the same time until a beep sounds.
3. Repeat Steps 1 and 2 for a second driver using "2."

**Recalling Button Memory Positions**

To recall the manually saved Button Memory positions, press and hold "1" or "2." The driver seat, outside mirrors, and adjustable pedals, if available, move to the positions stored to those buttons when pressed. Releasing "1" or "2" before the stored positions are reached stops the recall.

If something has blocked the driver seat and/or the adjustable pedals, if available, while recalling a memory position, the recall may stop. Remove the obstruction; then press and hold the appropriate manual control for the memory item that is not recalling for two seconds. Try recalling the memory position again by pressing the appropriate memory button. If the memory position is still not recalling, see your dealer for service.

**Recalling RKE Memory Positions (Memory Remote Recall)**

The Memory Remote Recall feature can recall the driver seat, outside mirrors, and adjustable pedals, if available, to previously stored RKE Memory positions when entering the vehicle.

Every time the ignition is placed in OFF, the positions of the driver seat, outside mirrors, and adjustable pedals, if available, are automatically stored to the RKE transmitter that was used to start the vehicle. These positions are called RKE Memory positions and may be different than the previously mentioned Button Memory positions saved to the "1" or "2" buttons.

To automatically recall RKE Memory positions, unlock the driver door with the RKE transmitter, and open the driver door. On vehicles with Keyless Access, opening the driver door when an RKE transmitter is present will activate the RKE Memory recall. If the driver door is already open, pressing the RKE transmitter button will also activate the RKE Memory recall. The driver seat, outside mirrors, and pedals, if available, will move to the previously saved RKE Memory positions.

This feature is turned on or off using the vehicle personalization menu. See *Vehicle Personalization on page 5-40*.

To stop recall movement, press one of the memory, power mirror, or power seat controls, or the adjustable pedal switch, if available.

If something has blocked the driver seat and/or the adjustable pedals, if available, while recalling a memory position, the recall may stop. Remove the obstruction; then press and hold the appropriate manual control for the memory item that is not recalling for two seconds. Try recalling the memory position again by opening the driver door and pressing the RKE transmitter button. If the memory position is still not recalling, see your dealer for service.

**Easy Exit Driver Seat**

This feature moves the seat rearward allowing the driver more room to exit the vehicle.

To activate, place the ignition in OFF and open the driver door. If the driver door is already open, placing the ignition in OFF will activate the easy exit driver seat.

This feature is turned on or off using the vehicle personalization menu. See *Vehicle Personalization on page 5-40*.

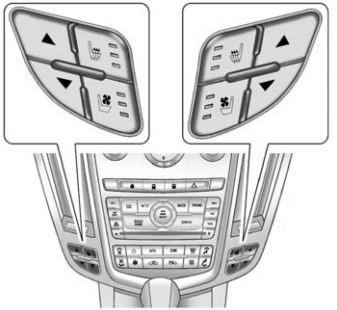
To stop recall movement, press one of the memory, power seat controls, or the adjustable pedal switch, if available.

If something has blocked the driver seat while recalling the exit position, the recall may stop. Remove the obstruction; then press and hold the power seat control rearward for two seconds. Try recalling the exit position again. If the exit position is still not recalling, see your dealer for service.

## Heated and Ventilated Front Seats

**⚠ WARNING**

If you cannot feel temperature change or pain to the skin, the seat heater may cause burns even at low temperatures. To reduce the risk of burns, people with such a condition should use care when using the seat heater, especially for long periods of time. Do not place anything on the seat that insulates against heat, such as a blanket, cushion, cover, or similar item. This may cause the seat heater to overheat. An overheated seat heater may cause a burn or may damage the seat.



**Heated and Ventilated Seat Buttons Shown, Heated Seat Buttons Similar**

If available, the buttons are near the climate controls on the instrument panel. To operate, the ignition must be in ON/RUN/START.

Press or to heat the driver or passenger seat.

Press or , if available, to ventilate the driver or passenger seat.

Press the button once for the highest setting. With each press of the button, the seat will change to the next lower setting, and then to the off setting. The lights indicate three for the highest setting and one for the lowest.

The passenger seat may take longer to heat up.

**Remote Start Heated and Ventilated Seats**

During a remote start, the heated or ventilated seats can be turned on automatically. They are canceled when the ignition is turned on. Press the button to use the heated or ventilated seats after the vehicle is started.

The heated or ventilated seat indicator lights on the button do not turn on during a remote start.

The temperature performance of an unoccupied seat may be reduced. This is normal.

The heated or ventilated seats will not turn on during a remote start unless they are enabled in the vehicle personalization menu. See *Remote Vehicle Start on page 2-10* and *Vehicle Personalization on page 5-40*.

# Rear Seats

## Split Folding Seatbacks

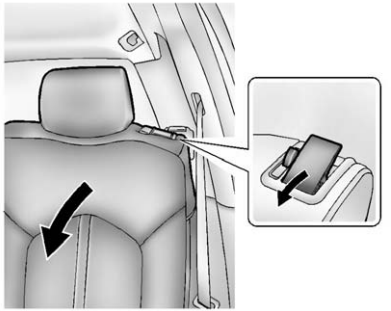
With this feature, either side of the rear seatback can be folded down for more cargo space.

## Folding the Seatbacks

***Notice:*** **Folding a rear seat with the safety belts still fastened may cause damage to the seat or the safety belts. Always unbuckle the safety belts and return them to their normal stowed position before folding a rear seat.**

To fold the seatback:

1. Unbuckle the rear safety belts and move the front seatbacks to the upright position. See *Reclining Seatbacks on page 3-6*.
2. Make sure that there is nothing under, in front of, or on the seat.



3. Lift the lever on the top of the seatback. A tab near the seatback lever raises when the seatback is unlocked.
4. Fold the seatback forward. A tab near the seatback lever retracts when the seatback is locked in place.

Keep the seatback in the upright, locked position when not in use.

### Raising the Seatbacks

**⚠ WARNING**

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.

**⚠ WARNING**

A safety belt that is improperly routed, not properly attached, or twisted will not provide the protection needed in a crash. The person wearing the belt could be seriously injured. After raising the rear seatback, always check to be sure that the safety belts are properly routed and attached, and are not twisted.

To raise the seatback:

1. Lift the lever on top of the seatback. Raise the seatback and release the lever. A tab near the seatback lever raises when the seatback is unlocked.
2. Push the seatback rearward until it locks in the upright position. A tab near the seatback lever retracts when the seatback is locked in place.
3. Make sure the rear safety belts are not twisted or caught between the seat cushion and the seatback.

### Reclining the Seatbacks

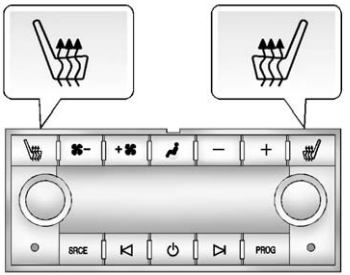
To recline the seatback:

1. Lift and hold the lever on top of the seatback. A tab near the seatback lever raises when the seatback is unlocked.
2. Tilt the seatback rearward, and then release the lever when the seatback is in the desired position. A tab near the seatback lever retracts when the seatback is locked in place.

## Heated Rear Seats

**⚠ WARNING**

If you cannot feel temperature change or pain to the skin, the seat heater may cause burns even at low temperatures. See the Warning under *Heated and Ventilated Front Seats on page 3-10*.

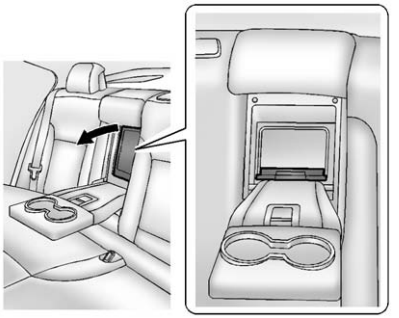



If available, the buttons are on the Rear Sear Audio (RSA) panel on the rear of the center console.

With the ignition in ON/RUN/START, press or to heat the left or right outboard seat cushion and seatback. An indicator on the RSA display appears when this feature is on.

Press the button once for the highest setting. With each press of the button, the heated seat changes to the next lower setting, and then the off setting. Three lights indicate the highest setting, and one light indicates the lowest.

## Rear Seat Pass-Through Door



Some vehicles have a rear seat pass-through door in the center of the rear seatback. Fold down the center armrest and push down on the latch to open the door.

# Safety Belts

This section of the manual describes how to use safety belts properly. It also describes some things not to do with safety belts.

**⚠ WARNING**

Do not let anyone ride where a safety belt cannot be worn properly. In a crash, if you or your passenger(s) are not wearing safety belts, injuries can be much worse than if you are wearing safety belts. You can be seriously injured or killed by hitting things inside the vehicle harder or by being ejected from the vehicle. In addition, anyone who is not buckled up can strike other passengers in the vehicle.

(Continued)

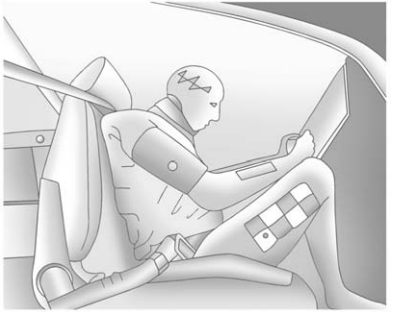
**WARNING (Continued)**

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, passengers riding in these areas are more likely to be seriously injured or killed. Do not allow passengers to ride in any area of the vehicle that is not equipped with seats and safety belts.

Always wear a safety belt, and check that all passenger(s) are restrained properly too.

This vehicle has indicators as a reminder to buckle the safety belts. See *Safety Belt Reminders on page 5-15*.

## Why Safety Belts Work



When riding in a vehicle, you travel as fast as the vehicle does. If the vehicle stops suddenly, you keep going until something stops you. It could be the windshield, the instrument panel, or the safety belts!

When you wear a safety belt, you and the vehicle slow down together. There is more time to stop because you stop over a longer distance and, when worn properly, your strongest bones take the forces from the safety belts. That is why wearing safety belts makes such good sense.

### Questions and Answers About Safety Belts

**Q: Will I be trapped in the vehicle after a crash if I am wearing a safety belt?**

**A:** You *could* be— whether you are wearing a safety belt or not. Your chance of being conscious during and after a crash, so you *can* unbuckle and get out, is *much* greater if you are belted.

**Q: If my vehicle has airbags, why should I have to wear safety belts?**

**A:** Airbags are supplemental systems only; so they work *with* safety belts— not instead of them. Whether or not an airbag is provided, all occupants still have to buckle up to get the most protection.

Also, in nearly all states and in all Canadian provinces, the law requires wearing safety belts.

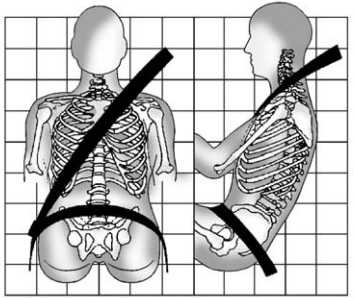
## How to Wear Safety Belts Properly

This section is only for people of adult size.

There are special things to know about safety belts and children. And there are different rules for smaller children and infants. If a child will be riding in the vehicle, see *Older Children on page 3-37* or *Infants and Young Children on page 3-39*. Follow those rules for everyone's protection.

It is very important for all occupants to buckle up. Statistics show that unbelted people are hurt more often in crashes than those who are wearing safety belts.

There are important things to know about wearing a safety belt properly.



- Sit up straight and always keep your feet on the floor in front of you.
- Always use the correct buckle for your seating position.
- Wear the lap part of the belt low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong pelvic bones and you would be less likely to slide under the lap belt. If you slid under it, the belt would apply force on your abdomen. This could cause serious or even fatal injuries.
- Wear the shoulder belt over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces. The shoulder belt locks if there is a sudden stop or crash.

**⚠ WARNING**

You can be seriously injured, or even killed, by not wearing your safety belt properly.

- Never allow the lap or shoulder belt to become loose or twisted.
- Never wear the shoulder belt under both arms or behind your back.
- Never route the lap or shoulder belt over an armrest.

## Lap-Shoulder Belt

All seating positions in the vehicle have a lap-shoulder belt.

The following instructions explain how to wear a lap-shoulder belt properly.

1. Adjust the seat, if the seat is adjustable, so you can sit up straight. To see how, see “Seats” in the Index.
2. Pick up the latch plate and pull the belt across you. Do not let it get twisted.

   The lap-shoulder belt may lock if you pull the belt across you very quickly. If this happens, let the belt go back slightly to unlock it. Then pull the belt across you more slowly.

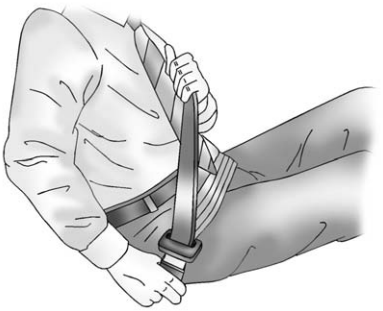
   If the shoulder portion of a passenger belt is pulled out all the way, the child restraint locking feature may be engaged. If this happens, let the belt go back all the way and start again.



3. Push the latch plate into the buckle until it clicks.

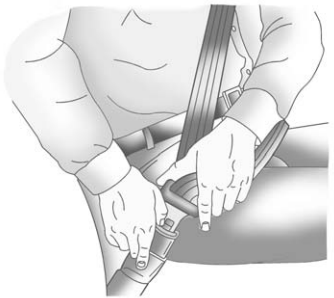
   Pull up on the latch plate to make sure it is secure. If the belt is not long enough, see *Safety Belt Extender on page 3-21*.

   Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.
4. If equipped with a shoulder belt height adjuster, move it to the height that is right for you. See “Shoulder Belt Height Adjuster” later in this section for instructions on use and important safety information.



5. To make the lap part tight, pull up on the shoulder belt.

   It may be necessary to pull stitching on the safety belt through the latch plate to fully tighten the lap belt on smaller occupants.



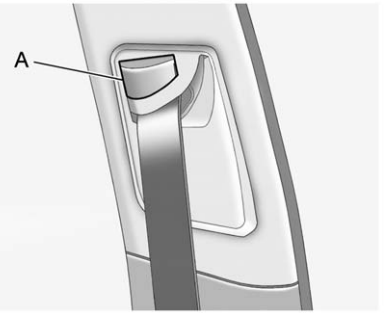
To unlatch the belt, just push the button on the buckle.

Before a door is closed, be sure the safety belt is out of the way. If a door is slammed against a safety belt, damage can occur to both the safety belt and the vehicle.

### Shoulder Belt Height Adjuster

The vehicle has a shoulder belt height adjuster for the driver and right front passenger seating positions.

Adjust the height so that the shoulder portion of the belt is on the shoulder and not falling off of it. The belt should be close to, but not contacting, the neck. Improper shoulder belt height adjustment could reduce the effectiveness of the safety belt in a crash. See *How to Wear Safety Belts Properly on page 3-15*.




Move the height adjuster up to the desired position by pushing up on the height adjuster.

After the height adjuster is set to the desired position, try to move it up or down without pressing the release button (A) to make sure it has locked into position. Press the release button to lower the height adjuster.

## Safety Belt Pretensioners

This vehicle has safety belt pretensioners for front outboard occupants. Although the safety belt pretensioners cannot be seen, they are part of the safety belt assembly. They can help tighten the safety belts during the early stages of a moderate to severe frontal and near frontal crash and will deploy in side, rear and rollover events if the threshold conditions for pretensioner activation are met.

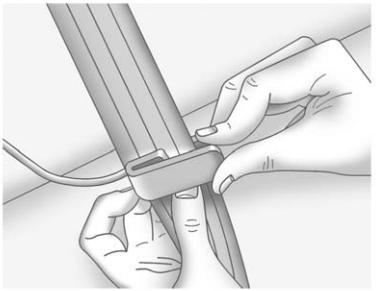
Pretensioners work only once. If the pretensioners activate in a crash, they will need to be replaced, and probably other new parts for the vehicle's safety belt system. See *Replacing Safety Belt System Parts after a Crash on page 3-22*.

## Rear Safety Belt Comfort Guides

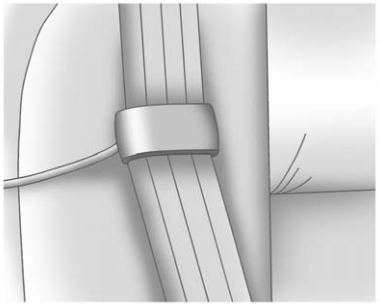
This vehicle may have rear shoulder belt comfort guides for the outboard passenger positions in the rear seat. If not, they are available through your dealer. The guides may provide added safety belt comfort for older children who have outgrown booster seats and for some adults. When installed on a shoulder belt, and properly adjusted, the comfort guide positions the belt away from the neck and head.

Here is how to install a comfort guide to the safety belt:

1. Remove the guide from its storage pocket on the side of the seat.



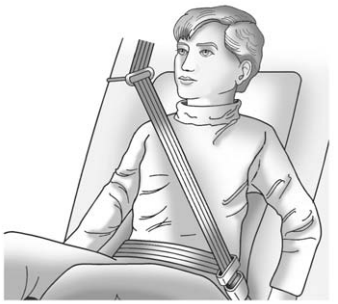
2. Place the guide over the belt, and insert the two edges of the belt into the slots of the guide.



3. Be sure that the belt is not twisted and it lies flat. The elastic cord must be under the belt and the guide on top.

**⚠ WARNING**

A safety belt that is not properly worn may not provide the protection needed in a crash. The person wearing the belt could be seriously injured. The shoulder belt should go over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces.



4. Buckle, position, and release the safety belt as described previously in this section. Make sure the shoulder portion of the belt is on the shoulder and not falling off of it. The belt should be close to, but not contacting, the neck.

To remove and store the comfort guide, squeeze the belt edges together so that the safety belt can be removed from the guide. Slide the guide back into its storage pocket located on the side of the seat.

## Safety Belt Use During Pregnancy

Safety belts work for everyone, including pregnant women. Like all occupants, they are more likely to be seriously injured if they do not wear safety belts.



A pregnant woman should wear a lap-shoulder belt, and the lap portion should be worn as low as possible, below the rounding, throughout the pregnancy.

The best way to protect the fetus is to protect the mother. When a safety belt is worn properly, it is more likely that the fetus will not be hurt in a crash. For pregnant women, as for anyone, the key to making safety belts effective is wearing them properly.

## Safety Belt Extender

If the vehicle's safety belt will fasten around you, you should use it.

But if a safety belt is not long enough, your dealer will order you an extender. When you go in to order it, take the heaviest coat you will wear, so the extender will be long enough for you. To help avoid personal injury, do not let someone else use it, and use it only for the seat it is made to fit. The extender has been designed for adults. Never use it for securing child seats. To wear it, attach it to the regular safety belt. See the instruction sheet that comes with the extender.

## Safety System Check

Now and then, check that the safety belt reminder light, safety belts, buckles, latch plates, retractors, and anchorages are all working properly. Look for any other loose or damaged safety belt system parts that might keep a safety belt system from doing its job. See your dealer to have it repaired. Torn or frayed safety belts may not protect you in a crash. They can rip apart under impact forces. If a belt is torn or frayed, get a new one right away.

Make sure the safety belt reminder light is working. See *Safety Belt Reminders on page 5-15*.

Keep safety belts clean and dry. See *Safety Belt Care on page 3-22*.

## Safety Belt Care

Keep belts clean and dry.

**⚠ WARNING**

Do not bleach or dye safety belts. It may severely weaken them. In a crash, they might not be able to provide adequate protection. Clean safety belts only with mild soap and lukewarm water.

## Replacing Safety Belt System Parts after a Crash

**⚠ WARNING**

A crash can damage the safety belt system in the vehicle. A damaged safety belt system may not properly protect the person using it, resulting in serious injury or even death in a crash. To help make sure the safety belt systems are working properly after a crash, have them inspected and any necessary replacements made as soon as possible.

After a minor crash, replacement of safety belts may not be necessary. But the safety belt assemblies that were used during any crash may have been stressed or damaged. See your dealer to have the safety belt assemblies inspected or replaced.

New parts and repairs may be necessary even if the safety belt system was not being used at the time of the crash.

Have the safety belt pretensioners checked if the vehicle has been in a crash, or if the airbag readiness light stays on after you start the vehicle or while you are driving. See *Airbag Readiness Light on page 5-16*.

## Airbag System

The vehicle has the following airbags:

- A frontal airbag for the driver.
- A frontal airbag for the front outboard passenger.
- A seat-mounted side impact airbag for the driver.
- A seat-mounted side impact airbag for the front outboard passenger.
- A roof-rail airbag for the driver and for the second row passenger seated directly behind the driver.
- A roof-rail airbag for the front outboard passenger and the second row passenger seated directly behind the front outboard passenger.

All vehicle airbags have the word AIRBAG on the trim or on an attached label near the deployment opening.

For frontal airbags, the word AIRBAG is on the center of the steering wheel for the driver and on the instrument panel for the front outboard passenger.

For seat-mounted side impact airbags, the word AIRBAG is on the side of the seatback closest to the door.

For roof-rail airbags, the word AIRBAG is on the ceiling or trim.

Airbags are designed to supplement the protection provided by safety belts. Even though today's airbags are also designed to help reduce the risk of injury from the force of an inflating bag, all airbags must inflate very quickly to do their job.

Here are the most important things to know about the airbag system:

**⚠ WARNING**

You can be severely injured or killed in a crash if you are not wearing your safety belt, even with airbags. Airbags are designed to work with safety belts, not replace them. Also, airbags are not designed to inflate in every crash. In some crashes safety belts are the only restraint. See *When Should an Airbag Inflate? on page 3-26*.

Wearing your safety belt during a crash helps reduce the chance of hitting things inside the vehicle or being ejected from it. Airbags are “supplemental restraints” to the safety belts. Everyone in the vehicle should wear a safety belt properly, whether or not there is an airbag for that person.

**⚠ WARNING**

Because airbags inflate with great force and faster than the blink of an eye, anyone who is up against, or very close to any airbag when it inflates can be seriously injured or killed. Do not sit unnecessarily close to any airbag, as you would be if sitting on the edge of the seat or leaning forward. Safety belts help keep you in position before and during a crash. Always wear a safety belt, even with airbags. The driver should sit as far back as possible while still maintaining control of the vehicle.

Occupants should not lean on or sleep against the door or side windows in seating positions with seat-mounted side impact airbags and/or roof-rail airbags.

**⚠ WARNING**

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Airbags plus lap-shoulder belts offer protection for adults and older children, but not for young children and infants. Neither the vehicle's safety belt system nor its airbag system is designed for them. Young children and infants need the protection that a child restraint system can provide. Always secure children properly in the vehicle. To read how, see *Older Children on page 3-37* or *Infants and Young Children on page 3-39*.



There is an airbag readiness light on the instrument panel cluster, which shows the airbag symbol.

The system checks the airbag electrical system for malfunctions. The light tells you if there is an electrical problem. See *Airbag Readiness Light on page 5-16* for more information.

## Where Are the Airbags?



The driver frontal airbag is in the center of the steering wheel.



The front outboard passenger frontal airbag is in the passenger side instrument panel.



**Driver Side Shown, Passenger Side Similar**

The driver and front outboard passenger seat-mounted side impact airbags are in the side of the seatbacks closest to the door.



**Driver Side Shown, Passenger Side Similar**

The roof-rail airbags for the driver, right front passenger, and second row outboard passengers are in the ceiling above the side windows.

**⚠ WARNING**

If something is between an occupant and an airbag, the airbag might not inflate properly or it might force the object into that person causing severe injury or even death. The path of an inflating airbag must be kept clear. Do not put anything between an occupant and an airbag, and do not attach or put anything on the steering wheel hub or on or near any other airbag covering.

Do not use seat accessories that block the inflation path of a seat-mounted side impact airbag.

Never secure anything to the roof of a vehicle with roof-rail airbags by routing a rope or tie-down through any door or window opening. If you do, the path of an inflating roof-rail airbag will be blocked.

## When Should an Airbag Inflate?

Frontal airbags are designed to inflate in moderate to severe frontal or near frontal crashes to help reduce the potential for severe injuries mainly to the driver's or front outboard passenger's head and chest. However, they are only designed to inflate if the impact exceeds a predetermined deployment threshold. Deployment thresholds are used to predict how severe a crash is likely to be in time for the airbags to inflate and help restrain the occupants.

Whether the frontal airbags will or should inflate is not based primarily on how fast the vehicle is traveling. It depends on what is hit, the direction of the impact, and how quickly the vehicle slows down.

Frontal airbags may inflate at different crash speeds depending on whether the vehicle hits an object straight on or at an angle, and whether the object is fixed or moving, rigid or deformable, narrow or wide.

Thresholds can also vary with specific vehicle design.

Frontal airbags are not intended to inflate during vehicle rollovers, rear impacts, or in many side impacts.

In addition, the vehicle has dual-stage frontal airbags. Dual-stage airbags adjust the restraint according to crash severity. The vehicle has electronic frontal sensors, that help the sensing system distinguish between a moderate frontal impact and a more severe frontal impact. For moderate frontal impacts, dual-stage airbags inflate at a level less than full deployment. For more severe frontal impacts, full deployment occurs.

The vehicle has seat-mounted side impact and roof-rail airbags. See *Airbag System on page 3-23*. Seat-mounted side impact and roof-rail airbags are intended to inflate in moderate to severe side crashes depending on the location of the impact. In addition, these roof-rail airbags are intended to inflate during a rollover or in a severe frontal impact. Seat-mounted side impact and roof-rail airbags will inflate if the crash severity is above the system's designed threshold level. The threshold level can vary with specific vehicle design.

Seat-mounted side impact airbags are not intended to inflate in frontal impacts, near frontal impacts, rollovers, or rear impacts. Roof-rail airbags are not intended to inflate in rear impacts. A seat-mounted side impact airbag is intended to deploy on the side of the vehicle that is struck. Both roof-rail airbags will deploy when either side of the vehicle is struck, or if the sensing system predicts that the vehicle is about to roll over, or in a severe frontal impact.

In any particular crash, no one can say whether an airbag should have inflated simply because of the vehicle damage or repair costs.

## What Makes an Airbag Inflate?

In a deployment event, the sensing system sends an electrical signal triggering a release of gas from the inflator. Gas from the inflator fills the airbag causing the bag to break out of the cover. The inflator, the airbag, and related hardware are all part of the airbag module.

For airbag location, see *Where Are the Airbags? on page 3-25*.

## How Does an Airbag Restrain?

In moderate to severe frontal or near frontal collisions, even belted occupants can contact the steering wheel or the instrument panel. In moderate to severe side collisions, even belted occupants can contact the inside of the vehicle.

Airbags supplement the protection provided by safety belts by distributing the force of the impact more evenly over the occupant's body.

Rollover capable roof-rail airbags are designed to help contain the head and chest of occupants in the outboard seating positions in the first and second rows. The rollover capable roof-rail airbags are designed to help reduce the risk of full or partial ejection in rollover events, although no system can prevent all such ejections.

But airbags would not help in many types of collisions, primarily because the occupant's motion is not toward those airbags. See *When Should an Airbag Inflate? on page 3-26* for more information.

Airbags should never be regarded as anything more than a supplement to safety belts.

## What Will You See after an Airbag Inflates?

After the frontal airbags and seat-mounted side impact airbags inflate, they quickly deflate, so quickly that some people may not even realize an airbag inflated. Roof-rail airbags may still be at least partially inflated for some time after they inflate. Some components of the airbag module may be hot for several minutes. For location of the airbags, see *Where Are the Airbags? on page 3-25*.

The parts of the airbag that come into contact with you may be warm, but not too hot to touch. There may be some smoke and dust coming from the vents in the deflated airbags. Airbag inflation does not prevent the driver from seeing out of the windshield or being able to steer the vehicle, nor does it prevent people from leaving the vehicle.

**⚠ WARNING**

When an airbag inflates, there may be dust in the air. This dust could cause breathing problems for people with a history of asthma or other breathing trouble. To avoid this, everyone in the vehicle should get out as soon as it is safe to do so. If you have breathing problems but cannot get out of the vehicle after an airbag inflates, then get fresh air by opening a window or a door. If you experience breathing problems following an airbag deployment, you should seek medical attention.

The vehicle has a feature that may automatically unlock the doors, turn on the interior lamps, turn on the hazard warning flashers, and shut off the fuel system after the airbags inflate. You can lock the doors, turn off the interior lamps, and turn off the hazard warning flashers by using the controls for those features.

**⚠ WARNING**

A crash severe enough to inflate the airbags may have also damaged important functions in the vehicle, such as the fuel system, brake and steering systems, etc. Even if the vehicle appears to be drivable after a moderate crash, there may be concealed damage that could make it difficult to safely operate the vehicle.

Use caution if you should attempt to restart the engine after a crash has occurred.

In many crashes severe enough to inflate the airbag, windshields are broken by vehicle deformation. Additional windshield breakage may also occur from the front outboard passenger airbag.

- Airbags are designed to inflate only once. After an airbag inflates, you will need some new parts for the airbag system. If you do not get them, the airbag system will not be there to help protect you in another crash. A new system will include airbag modules and possibly other parts. The service manual for the vehicle covers the need to replace other parts.

- The vehicle has a crash sensing and diagnostic module which records information after a crash. See *Vehicle Data Recording and Privacy on page 13-21* and *Event Data Recorders on page 13-21*.
- Let only qualified technicians work on the airbag systems. Improper service can mean that an airbag system will not work properly. See your dealer for service.

## Passenger Sensing System

The vehicle has a passenger sensing system for the front outboard passenger position. The passenger airbag status indicator will light on the overhead console when the vehicle is started.




**United States**




**Canada and Mexico**

The words ON and OFF, or the symbol for on and off, are visible during the system check. If you use remote start, if equipped, to start the vehicle, you may not see the system check. When the system check is complete, either the word ON or OFF, or the symbol for on or off, will be visible. See *Passenger Airbag Status Indicator on page 5-17*.

The passenger sensing system turns off the front outboard passenger frontal airbag and seat-mounted side impact airbag under certain conditions. No other airbag is affected by the passenger sensing system.

The passenger sensing system works with sensors that are part of the front outboard passenger seat. The sensors are designed to detect the presence of a properly-seated occupant and determine if the front outboard passenger frontal airbag and seat-mounted side impact airbag should be allowed to inflate or not.

According to accident statistics, children are safer when properly secured in a rear seat in the correct child restraint for their weight and size.

We recommend that children be secured in a rear seat, including: an infant or a child riding in a rear-facing child restraint; a child riding in a forward-facing child seat; an older child riding in a booster seat; and children, who are large enough, using safety belts.

Never put a rear-facing child seat in the front. This is because the risk to the rear-facing child is so great, if the airbag deploys.

**⚠ WARNING**

A child in a rear-facing child restraint can be seriously injured or killed if the passenger frontal airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the

(Continued)

**WARNING (Continued)**

passenger frontal airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the front outboard passenger airbag(s), no system is fail-safe. No one can guarantee that an airbag will not inflate under some unusual circumstance, even though the airbag(s) are off.

Secure rear-facing child restraints in a rear seat, even if the airbag(s) are off. If you secure a forward-facing child restraint in the front outboard passenger seat, always move the seat as far back as it will go. It is better to secure the child restraint in a rear seat.

The passenger sensing system is designed to turn off the front outboard passenger airbag and seat-mounted side impact airbag if:

- The front outboard passenger seat is unoccupied.
- The system determines that an infant is present in a rear-facing infant seat.
- The system determines that a small child is present in a child restraint.
- The system determines that a small child is present in a booster seat.
- A front outboard passenger takes his/her weight off of the seat for a period of time.
- The front outboard passenger seat is occupied by a smaller person, such as a child who has outgrown child restraints.
- There is a critical problem with the airbag system or the passenger sensing system.

When the passenger sensing system has turned off the front outboard passenger frontal airbag and seat-mounted side impact airbag, the off indicator will light and stay lit as a reminder that the airbags are off. See *Passenger Airbag Status Indicator on page 5-17*.

The passenger sensing system is designed to turn on the front outboard passenger frontal airbag and seat-mounted side impact airbag anytime the system senses that a person of adult size is sitting properly in the front outboard passenger seat.

When the passenger sensing system has allowed the airbags to be enabled, the on indicator will light and stay lit as a reminder that the airbags are active.

For some children who have outgrown child restraints and for very small adults, the passenger sensing system may or may not turn off the front outboard passenger frontal airbag and seat-mounted side impact airbag, depending upon the person's seating posture and body build. Everyone in the vehicle who has outgrown child restraints should wear a safety belt properly — whether or not there is an airbag for that person.

**⚠ WARNING**

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light on page 5-16* for more information, including important safety information.

### If the On Indicator Is Lit for a Child Restraint

If a child restraint has been installed and the on indicator is lit:

1. Turn the vehicle off.
2. Remove the child restraint from the vehicle.
3. Remove any additional items from the seat such as blankets, cushions, seat covers, seat heaters, or seat massagers.
4. Reinstall the child restraint following the directions provided by the child restraint manufacturer and refer to "Securing a Child Restraint in the Right Front Seat Position" under *Securing Child Restraints (Rear Seat) on page 3-54* or *Securing Child Restraints (Front Passenger Seat) on page 3-56*.

5. If, after reinstalling the child restraint and restarting the vehicle, the on indicator is still lit, turn the vehicle off. Then slightly recline the vehicle seatback and adjust the seat cushion, if adjustable, to make sure that the vehicle seatback is not pushing the child restraint into the seat cushion.

   Also make sure the child restraint is not trapped under the vehicle head restraint. If this happens, adjust the head restraint. See *Head Restraints on page 3-2*.

6. Restart the vehicle.

   If the on indicator is still lit, secure the child restraint in a rear seat position in the vehicle, and check with your dealer.

### If the Off Indicator Is Lit for an Adult-Size Occupant



If a person of adult-size is sitting in the front outboard passenger seat, but the off indicator is lit, it could be because that person is not sitting properly in the seat.

Use the following steps to allow the system to detect that person and enable the front outboard passenger frontal airbag and seat-mounted side impact airbag:

1. Turn the vehicle off.
2. Remove any additional material from the seat, such as blankets, cushions, seat covers, seat heaters, or seat massagers.
3. Place the seatback in the fully upright position.
4. Have the person sit upright in the seat, centered on the seat cushion, with legs comfortably extended.
5. Restart the vehicle and have the person remain in this position for two to three minutes after the on indicator is lit.

### Additional Factors Affecting System Operation

Safety belts help keep the passenger in position on the seat during vehicle maneuvers and braking, which helps the passenger sensing system maintain the passenger airbag status. See “Safety Belts” and “Child Restraints” in the Index for additional information about the importance of proper restraint use.

A thick layer of additional material, such as a blanket or cushion, or aftermarket equipment such as seat covers, seat heaters, and seat massagers can affect how well the passenger sensing system operates. We recommend that you not use seat covers or other aftermarket equipment except when approved by GM for your specific vehicle. See *Adding Equipment to the Airbag-Equipped Vehicle on page 3-35* for more information about modifications that can affect how the system operates.

**⚠ WARNING**

Stowing of articles under the passenger seat or between the passenger seat cushion and seatback may interfere with the proper operation of the passenger sensing system.

## Servicing the Airbag-Equipped Vehicle

Airbags affect how the vehicle should be serviced. There are parts of the airbag system in several places around the vehicle. Your dealer and the service manual have information about servicing the vehicle and the airbag system. To purchase a service manual, see *Service Publications Ordering Information on page 13-18*.

**⚠ WARNING**

For up to 10 seconds after the vehicle is turned off and the battery is disconnected, an airbag can still inflate during improper service. You can be injured if you are close to an airbag when it inflates. Avoid yellow connectors. They are probably part of the airbag system. Be sure to follow proper service procedures, and make sure the person performing work for you is qualified to do so.

## Adding Equipment to the Airbag-Equipped Vehicle

Adding accessories that change the vehicle's frame, bumper system, height, front end, or side sheet metal may keep the airbag system from working properly.

The operation of the airbag system can also be affected by changing or moving any parts of the front seats, safety belts, airbag sensing and diagnostic module, steering wheel, instrument panel, roof-rail airbag modules, ceiling or pillar garnish trim, overhead console, front sensors, side impact sensors, rollover sensor module, airbag wiring, or cargo restraint system and convenience net.

Your dealer and the service manual have information about the location of the airbag sensors, sensing and diagnostic module, and airbag wiring.

In addition, the vehicle has a passenger sensing system that includes sensors as part of the front outboard passenger seat. The passenger sensing system may not operate properly if the original seat trim is replaced with non-GM covers, upholstery, or trim; or with GM covers, upholstery, or trim designed for a different vehicle. Any object, such as an aftermarket seat heater or a comfort-enhancing pad or device, installed under or on top of the seat fabric, could also interfere with the operation of the passenger sensing system. This could either prevent proper deployment of the passenger airbag(s) or prevent the passenger sensing system from properly turning off the passenger airbag(s). See *Passenger Sensing System on page 3-30*.

If the vehicle has rollover roof-rail airbags, see *Different Size Tires and Wheels on page 10-67* for additional important information.

If your vehicle needs to be modified because you have a disability and you have questions about whether the modifications will affect the vehicle's airbag system, or if you have questions about whether the airbag system will be affected if the vehicle is modified for any other reason, call Customer Assistance. See *Customer Assistance Offices (U.S. and Canada) on page 13-5* or *Customer Assistance Offices (Mexico) on page 13-5*.

## Airbag System Check

The airbag system does not need regularly scheduled maintenance or replacement. Make sure the airbag readiness light is working. See *Airbag Readiness Light on page 5-16*.

***Notice:*** **If an airbag covering is damaged, opened, or broken, the airbag may not work properly. Do not open or break the airbag coverings. If there are any opened or broken airbag covers, have the airbag covering and/or airbag module replaced. For the location of the airbags, see *Where Are the Airbags? on page 3-25*. See your dealer for service.**

## Replacing Airbag System Parts after a Crash

**⚠ WARNING**

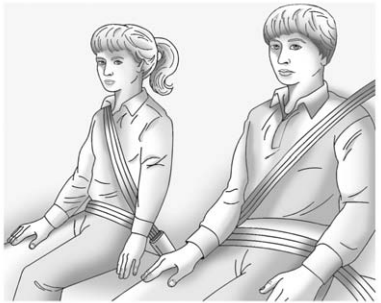
A crash can damage the airbag systems in the vehicle. A damaged airbag system may not work properly and may not protect you and your passenger(s) in a crash, resulting in serious injury or even death. To help make sure the airbag systems are working properly after a crash, have them inspected and any necessary replacements made as soon as possible.

If an airbag inflates, you will need to replace airbag system parts. See your dealer for service.

If the airbag readiness light stays on after the vehicle is started or comes on when you are driving, the airbag system may not work properly. Have the vehicle serviced right away. See *Airbag Readiness Light on page 5-16*.

# Child Restraints

## Older Children



Older children who have outgrown booster seats should wear the vehicle safety belts.

The manufacturer's instructions that come with the booster seat state the weight and height limitations for that booster. Use a booster seat with a lap-shoulder belt until the child passes the fit test below:

- Sit all the way back on the seat. Do the knees bend at the seat edge? If yes, continue. If no, return to the booster seat.
- Buckle the lap-shoulder belt. Does the shoulder belt rest on the shoulder? If yes, continue. If no, try using the rear safety belt comfort guide. See “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt on page 3-17* for more information. If the shoulder belt still does not rest on the shoulder, then return to the booster seat.
- Does the lap belt fit low and snug on the hips, touching the thighs? If yes, continue. If no, return to the booster seat.
- Can proper safety belt fit be maintained for the length of the trip? If yes, continue. If no, return to the booster seat.

**Q: What is the proper way to wear safety belts?**

**A:** An older child should wear a lap-shoulder belt and get the additional restraint a shoulder belt can provide. The shoulder belt should not cross the face or neck. The lap belt should fit snugly below the hips, just touching the top of the thighs. This applies belt force to the child's pelvic bones in a crash. It should never be worn over the abdomen, which could cause severe or even fatal internal injuries in a crash.

Also see “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt on page 3-17*.

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position.

In a crash, children who are not buckled up can strike other people who are buckled up, or can be thrown out of the vehicle. Older children need to use safety belts properly.

**⚠ WARNING**

Never allow more than one child to wear the same safety belt. The safety belt cannot properly spread the impact forces. In a crash, they can be crushed together and seriously injured. A safety belt must be used by only one person at a time.



**⚠ WARNING**

Never allow a child to wear the safety belt with the shoulder belt behind their back. A child can be seriously injured by not wearing the lap-shoulder belt properly. In a crash, the child would not be restrained by the shoulder belt. The child could move too far forward increasing the chance of head and neck injury.

(Continued)

**WARNING (Continued)**

The child might also slide under the lap belt. The belt force would then be applied right on the abdomen. That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.



## Infants and Young Children

Everyone in a vehicle needs protection! This includes infants and all other children. Neither the distance traveled nor the age and size of the traveler changes the need, for everyone, to use safety restraints. In fact, the law in every state in the United States and in every Canadian province says children up to some age must be restrained while in a vehicle.

**⚠ WARNING**

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck and the safety belt continues to tighten. Never leave children unattended in a vehicle and never allow children to play with the safety belts.

Airbags plus lap-shoulder belts offer protection for adults and older children, but not for young children and infants. Neither the vehicle's safety belt system nor its airbag system is designed for them. Every time infants and young children ride in vehicles, they should have the protection provided by appropriate child restraints.

Children who are not restrained properly can strike other people, or can be thrown out of the vehicle.

**⚠ WARNING**

Never hold an infant or a child while riding in a vehicle. Due to crash forces, an infant or a child will become so heavy it is not possible to hold it during a crash. For example, in a crash at only 40 km/h (25 mph), a 5.5 kg (12 lb) infant will suddenly become a 110 kg (240 lb) force on a person's arms. An infant should be secured in an appropriate restraint.



**⚠ WARNING**

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Never put a rear-facing child restraint in the right front seat. Secure a rear-facing child restraint in a rear seat. It is also better to secure a forward-facing child restraint in a rear seat.

(Continued)

**WARNING (Continued)**

If you must secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go.



**Q: What are the different types of add-on child restraints?**

**A:** Add-on child restraints, which are purchased by the vehicle owner, are available in four basic types. Selection of a particular restraint should take into consideration not only the child's weight, height, and age but also whether or not the restraint will be compatible with the motor vehicle in which it will be used.

For most basic types of child restraints, there are many different models available. When purchasing a child restraint, be sure it is designed to be used in a motor vehicle. If it is, the restraint will have a label saying that it meets federal motor vehicle safety standards. The restraint manufacturer's instructions that come with the restraint state the weight and height limitations for a particular child restraint. In addition, there are many kinds of restraints available for children with special needs.

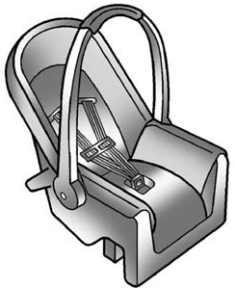
**⚠ WARNING**

To reduce the risk of neck and head injury during a crash, infants need complete support. In a crash, if an infant is in a rear-facing child restraint, the crash forces can be distributed across the strongest part of an infant's body, the back and shoulders. Infants should always be secured in rear-facing child restraints.

**⚠ WARNING**

A young child's hip bones are still so small that the vehicle's regular safety belt may not remain low on the hip bones, as it should. Instead, it may settle up around the child's abdomen. In a crash, the belt would apply force on a body area that is unprotected by any bony structure. This alone could cause serious or fatal injuries. To reduce the risk of serious or fatal injuries during a crash, young children should always be secured in appropriate child restraints.

## Child Restraint Systems



**(A) Rear-Facing Infant Seat**

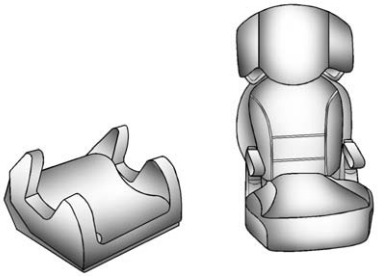
A rear-facing infant seat (A) provides restraint with the seating surface against the back of the infant.

The harness system holds the infant in place and, in a crash, acts to keep the infant positioned in the restraint.



**(B) Forward-Facing Child Seat**

A forward-facing child seat (B) provides restraint for the child's body with the harness.



**(C) Booster Seats**

A booster seat (C) is a child restraint designed to improve the fit of the vehicle's safety belt system. A booster seat can also help a child to see out the window.

### Securing an Add-On Child Restraint in the Vehicle

**⚠ WARNING**

A child can be seriously injured or killed in a crash if the child restraint is not properly secured in the vehicle. Secure the child restraint properly in the vehicle using the vehicle safety belt or LATCH system, following the instructions that came with that child restraint and the instructions in this manual.

To help reduce the chance of injury, the child restraint must be secured in the vehicle. Child restraint systems must be secured in vehicle seats by lap belts or the lap belt portion of a lap-shoulder belt, or by the LATCH system. See *Lower Anchors and Tethers for Children (LATCH System) on page 3-45*.

Children can be endangered in a crash if the child restraint is not properly secured in the vehicle.

When securing an add-on child restraint, refer to the instructions that come with the restraint which may be on the restraint itself or in a booklet, or both, and to this manual. The child restraint instructions are important, so if they are not available, obtain a replacement copy from the manufacturer.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in the vehicle — even when no child is in it.

In some areas of the United States and Canada, Certified Child Passenger Safety Technicians (CPSTs) are available to inspect and demonstrate how to correctly use and install child restraints.

In the U.S., refer to the National Highway Traffic Safety Administration (NHTSA) website to locate the nearest child safety seat inspection station. For CPST availability in Canada, check with Transport Canada or the Provincial Ministry of Transportation office.

### Securing the Child Within the Child Restraint

**⚠ WARNING**

A child can be seriously injured or killed in a crash if the child is not properly secured in the child restraint. Secure the child properly following the instructions that came with that child restraint.

## Where to Put the Restraint

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position.

We recommend that children and child restraints be secured in a rear seat, including: an infant or a child riding in a rear-facing child restraint; a child riding in a forward-facing child seat; an older child riding in a booster seat; and children, who are large enough, using safety belts.

A label on your sun visor says, “Never put a rear-facing child seat in the front.” This is because the risk to the rear-facing child is so great, if the airbag deploys.

**⚠ WARNING**

A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the right front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off.

(Continued)

**WARNING (Continued)**

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System on page 3-30* for additional information.

When securing a child restraint in a rear seating position, study the instructions that came with your child restraint to make sure it is compatible with this vehicle.

If the vehicle does not have a rear seat that will accommodate a rear-facing child restraint, we recommend that rear-facing child restraints not be transported in the vehicle, even if the airbag is off.

Child restraints and booster seats vary considerably in size, and some may fit in certain seating positions better than others. Always make sure the child restraint is properly secured.

Depending on where you place the child restraint and the size of the child restraint, you may not be able to access adjacent safety belt assemblies or LATCH anchors for additional passengers or child restraints. Adjacent seating positions should not be used if the child restraint prevents access to or interferes with the routing of the safety belt.

Wherever you install a child restraint, be sure to secure the child restraint properly.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in your vehicle — even when no child is in it.

## Lower Anchors and Tethers for Children (LATCH System)

The LATCH system holds a child restraint during driving or in a crash. This system is designed to make installation of a child restraint easier. The LATCH system uses anchors in the vehicle and attachments on the child restraint that are made for use with the LATCH system.

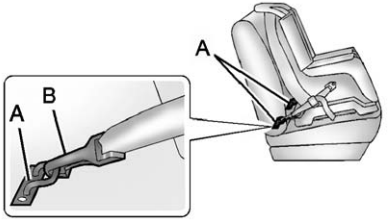
Make sure that a LATCH-compatible child restraint is properly installed using the anchors, or use the vehicle's safety belts to secure the restraint, following the instructions that came with that restraint, and also the instructions in this manual.

When installing a child restraint with a top tether, you must also use either the lower anchors or the safety belts to properly secure the child restraint. A child restraint must never be installed using only the top tether and anchor.

In order to use the LATCH system in your vehicle, you need a child restraint that has LATCH attachments. The child restraint manufacturer will provide you with instructions on how to use the child restraint and its attachments. The following explains how to attach a child restraint with these attachments in your vehicle.

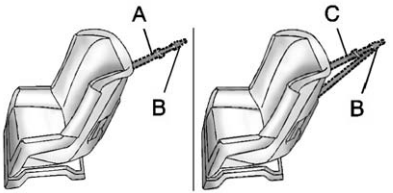
Not all vehicle seating positions or child restraints have lower anchors and attachments or top tether anchors and attachments.

### Lower Anchors




Lower anchors (A) are metal bars built into the vehicle. There are two lower anchors for each LATCH seating position that will accommodate a child restraint with lower attachments (B).

### Top Tether Anchor

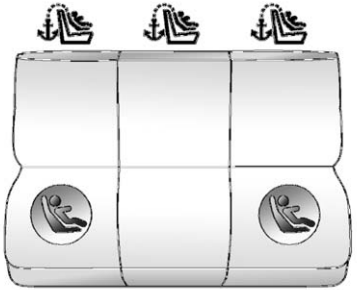



A top tether (A, C) anchors the top of the child restraint to the vehicle. A top tether anchor is built into the vehicle. The top tether attachment (B) on the child restraint connects to the top tether anchor in the vehicle in order to reduce the forward movement and rotation of the child restraint during driving or in a crash.

Your child restraint may have a single tether (A) or a dual tether (C). Either will have a single attachment (B) to secure the top tether to the anchor.

Some child restraints that have a top tether are designed for use with or without the top tether being attached. Others require the top tether always to be attached. In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached. Be sure to read and follow the instructions for your child restraint.

### Lower Anchor and Top Tether Anchor Locations



**Rear Seat**

**(Top Tether Anchor):** Seating positions with top tether anchors.

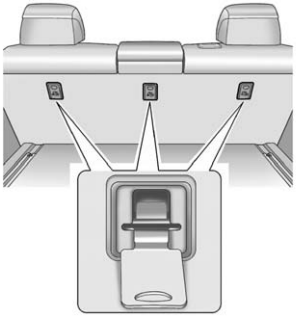
**(Lower Anchor):** Seating positions with two lower anchors.



To assist you in locating the lower anchors, each seating position with lower anchors has two labels, near the crease between the seatback and the seat cushion.



To assist you in locating the top tether anchors, the top tether anchor symbol is located on the cover.



**Top Tether Anchors**

The top tether anchors for each rear seating position are located under the covers, on the back of the rear seatback. Be sure to use an anchor located on the same side of the vehicle as the seating position where the child restraint will be placed.

Do not secure a child restraint in a position without a top tether anchor if a national or local law requires that the top tether be attached, or if the instructions that come with the child restraint say that the top tether must be attached.

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position. See *Where to Put the Restraint on page 3-44* for additional information.

### Securing a Child Restraint Designed for the LATCH System

**⚠ WARNING**

If a LATCH-type child restraint is not attached to anchors, the child restraint will not be able to protect the child correctly. In a crash, the child could be seriously injured or killed. Install a LATCH-type child restraint properly using the anchors, or use the vehicle safety belts to secure the restraint, following the instructions that came with the child restraint and the instructions in this manual.

**⚠ WARNING**

Do not attach more than one child restraint to a single anchor. Attaching more than one child restraint to a single anchor could cause the anchor or attachment to come loose or even break during a crash. A child or others could be injured. To reduce the risk of serious or fatal injuries during a crash, attach only one child restraint per anchor.

**⚠ WARNING**

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck and the safety belt continues to tighten. Buckle any unused safety belts behind the child restraint so children cannot reach them. Pull the shoulder belt all the way out of the retractor to set the lock, if the vehicle has one, after the child restraint has been installed.

***Notice:*** **Do not let the LATCH attachments rub against the vehicle's safety belts. This may damage these parts. If necessary, move buckled safety belts to avoid rubbing the LATCH attachments.**

**Do not fold the empty rear seat with a safety belt buckled. This could damage the safety belt or the seat. Unbuckle and return the safety belt to its stowed position, before folding the seat.**

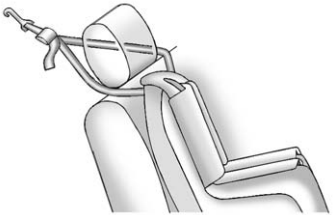
Make sure to attach the child restraint at the proper anchor location.

This system is designed to make installation of child restraints easier. When using lower anchors, do not use the vehicle's safety belts. Instead use the vehicle's anchors and child restraint attachments to secure the restraints. Some restraints also use another vehicle anchor to secure a top tether.

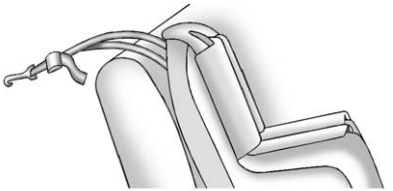
1. Attach and tighten the lower attachments to the lower anchors. If the child restraint does not have lower attachments or the desired seating position does not have lower anchors, secure the child restraint with the top tether and the safety belts. Refer to your child restraint manufacturer instructions and the instructions in this manual.
   1.1. Find the lower anchors for the desired seating position.
   1.2. Put the child restraint on the seat.

        For the outboard rear seating positions, if the head restraint interferes with the proper installation of the child restraint, the head restraint may be removed. See "Head Restraint Removal and Reinstallation" at the end of this section.
   1.3. Attach and tighten the lower attachments on the child restraint to the lower anchors.
2. If the child restraint manufacturer recommends that the top tether be attached, attach and tighten the top tether to the top tether anchor, if equipped. Refer to the child restraint instructions and the following steps:
   2.1. Find the top tether anchor and open its cover to expose the anchor.

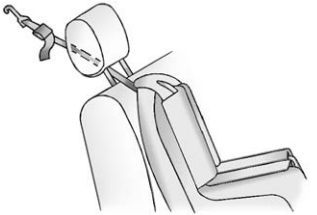
2.2. Route, attach, and tighten the top tether according to your child restraint instructions and the following instructions:



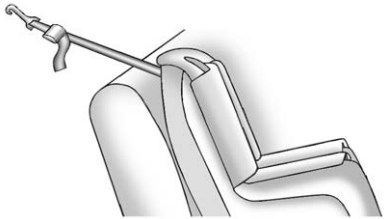
- If you are using a dual tether in the rear outboard seating position with an adjustable head restraint, route the dual tether around the head restraint.



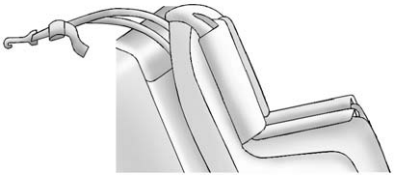
- If you are using a dual tether in the rear outboard seating position and the head restraint has been removed, route the dual tether over the seatback.



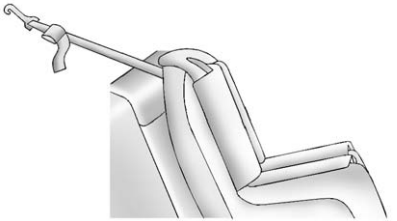
- If you are using a single tether in the rear outboard seating position with an adjustable head restraint, route the single tether under the head restraint and in between the head restraint posts.



- If you are using a single tether in the rear outboard seating position and the head restraint has been removed, route the single tether over the seatback.



- If you are using a dual tether in the rear center seating position, lower the adjustable headrest down to its stowed position and route the dual tether over the headrest.



- If you are using a single tether in the rear center seating position, lower the adjustable headrest down to its stowed position and route the single tether over the headrest.

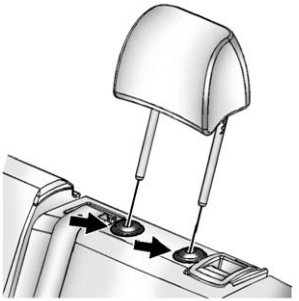
3. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the LATCH path and attempt to move it side-to-side and back-and-forth. There should be no more than 2.5 cm (1 in) of movement for proper installation.

### Head Restraint Removal and Reinstallation

The rear outboard head restraints can be removed if they interfere with the proper installation of the child restraint. The headrest in the rear center seating position is not removable and should be lowered to the stowed position for child restraint installation.

To remove the head restraint:

1. Partially fold the seatback forward. See *Rear Seats on page 3-11* for additional information.

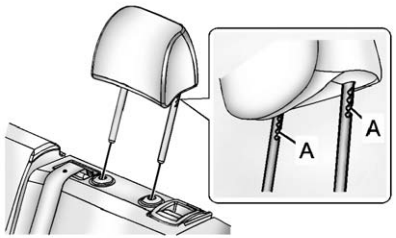


2. Press both buttons on the head restraint posts at the same time, and pull up on the head restraint.
3. Store the head restraint in the cargo area of the vehicle.
4. When the child restraint is removed, reinstall the head restraint before the seating position is used.

**⚠ WARNING**

With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.

To reinstall the head restraint:




1. Insert the head restraint posts into the holes in the top of the seatback. The notches (A) on the posts must face the driver side of the vehicle.
2. Push the head restraint down.

   If necessary, press the height adjustment release button to further lower the head restraint. See *Head Restraints on page 3-2*.
3. Try to move the head restraint to make sure that it is locked in place.

## Replacing LATCH System Parts After a Crash

**⚠ WARNING**

A crash can damage the LATCH system in the vehicle. A damaged LATCH system may not properly secure the child restraint, resulting in serious injury or even death in a crash. To help make sure the LATCH system is working properly after a crash, see your dealer to have the system inspected and any necessary replacements made as soon as possible.

If the vehicle has the LATCH system and it was being used during a crash, new LATCH system parts may be needed.

New parts and repairs may be necessary even if the LATCH system was not being used at the time of the crash.

## Securing Child Restraints (Rear Seat)

When securing a child restraint in a rear seating position, study the instructions that came with the child restraint to make sure it is compatible with this vehicle.

If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-45* for how and where to install the child restraint using LATCH. If a child restraint is secured in the vehicle using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-45* for top tether anchor locations.

Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

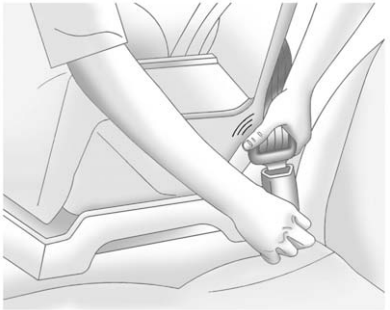
If the child restraint does not have the LATCH system, you will be using the safety belt to secure the child restraint in this position. Be sure to follow the instructions that came with the child restraint. Secure the child in the child restraint when and as the instructions say.

If more than one child restraint needs to be installed in the rear seat, be sure to read *Where to Put the Restraint on page 3-44*.

1. Put the child restraint on the seat.

   If the head restraint interferes with the proper installation of the child restraint, the head restraint may be removed. See “Head Restraint Removal and Reinstallation” under *Lower Anchors and Tethers for Children (LATCH System) on page 3-45*.

2. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.

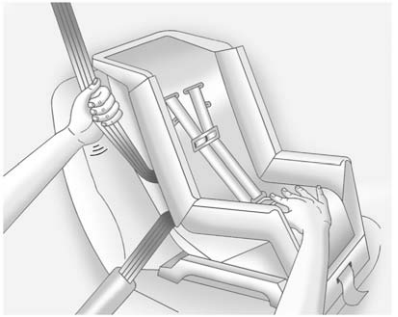


3. Push the latch plate into the buckle until it clicks.

   Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.



4. Pull the shoulder belt all the way out of the retractor to set the lock. When the retractor lock is set, the belt can be tightened but not pulled out of the retractor.



5. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt, and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.

   Try to pull the belt out of the retractor to make sure the retractor is locked. If the retractor is not locked, repeat Steps 4 and 5.

6. If the child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *Lower Anchors and Tethers for Children (LATCH System) on page 3-45* for more information.
7. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the safety belt path and attempt to move it side to side and back and forth. When the child restraint is properly installed, there should be no more than 2.5 cm (1 in) of movement.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position. If the top tether is attached to a top tether anchor, disconnect it. If the head restraint was removed, reinstall it before the seating position is used. See “Head Restraint Removal and Reinstallation” under *Lower Anchors and Tethers for Children (LATCH System) on page 3-45* for additional information on installing the head restraint properly.

## Securing Child Restraints (Front Passenger Seat)

This vehicle has airbags. A rear seat is a safer place to secure a forward-facing child restraint. See *Where to Put the Restraint on page 3-44*.

In addition, the vehicle has a passenger sensing system which is designed to turn off the right front passenger frontal airbag under certain conditions. See *Passenger Sensing System on page 3-30* and *Passenger Airbag Status Indicator on page 5-17* for more information, including important safety information.

A label on the sun visor says, “Never put a rear-facing child seat in the front.” This is because the risk to the rear-facing child is so great, if the airbag deploys.

**⚠ WARNING**

A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates and the passenger seat is in a forward position.

(Continued)

**WARNING (Continued)**

Even if the passenger sensing system has turned off the right front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off.

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System on page 3-30* for additional information.

If the vehicle does not have a rear seat that will accommodate a rear-facing child restraint, a rear-facing child restraint should not be installed in the vehicle, even if the airbag is off.

If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-45* for how and where to install the child restraint using LATCH. If a child restraint is secured using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-45* for top tether anchor locations.

Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

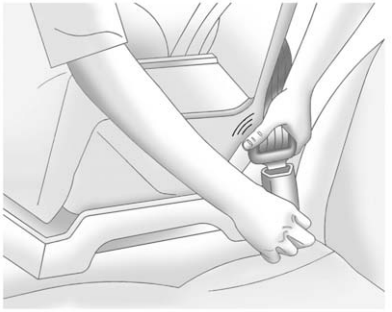
You will be using the lap-shoulder belt to secure the child restraint in this position. Follow the instructions that came with the child restraint.

1. Move the seat as far back as it will go before securing the forward-facing child restraint.

   When the passenger sensing system has turned off the right front passenger frontal airbag and seat-mounted side impact airbag, the off indicator on the passenger airbag status indicator should light and stay lit when you start the vehicle. See *Passenger Airbag Status Indicator on page 5-17*.

2. Put the child restraint on the seat.

3. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.

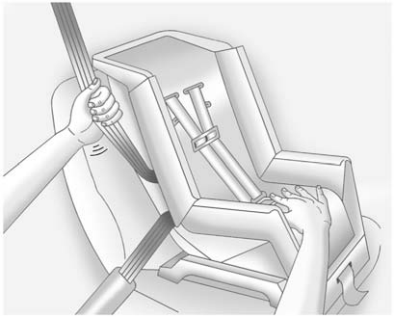


4. Push the latch plate into the buckle until it clicks.

   Position the release button on the buckle, so that the safety belt could be quickly unbuckled if necessary.



5. Pull the shoulder belt all the way out of the retractor to set the lock. When the retractor lock is set, the belt can be tightened but not pulled out of the retractor.



6. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt, and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.

   Try to pull the belt out of the retractor to make sure the retractor is locked. If the retractor is not locked, repeat Steps 5 and 6.

   If the vehicle does not have a rear seat and the child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *Lower Anchors and Tethers for Children (LATCH System) on page 3-45* for more information.

7. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the safety belt path and attempt to move it side to side and back and forth. When the child restraint is properly installed, there should be no more than 2.5 cm (1 in) of movement.

If the airbags are off, the off indicator in the passenger airbag status indicator will come on and stay on when the vehicle is started.

If a child restraint has been installed and the on indicator is lit, see “If the On Indicator is Lit for a Child Restraint” under *Passenger Sensing System on page 3-30* for more information.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position.

## ✍ NOTES

# Storage

**Storage Compartments**
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Cupholders . . . . . 4-1
Front Storage . . . . . 4-2
Armrest Storage . . . . . 4-2
Center Console Storage . . . . . 4-2

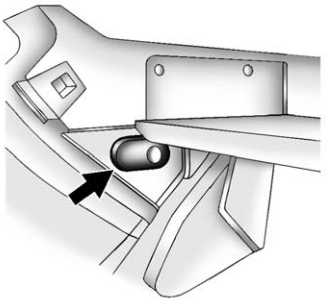
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**Roof Rack System**
Roof Rack System . . . . . 4-11

# Storage Compartments

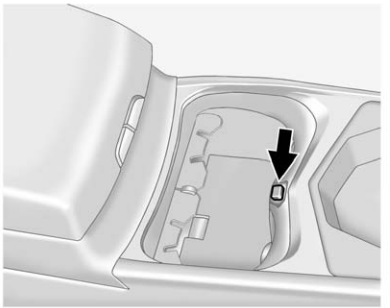
## Glove Box

Lift the glove box handle up to open it. Use the key to lock and unlock the glove box.



The glove box is air conditioned and can be used to store items at a lower temperature. The vehicle air conditioning must be turned on for the maximum cool air to enter the glove box. Move the slide control to allow cool air into the glove box. After opening the air flow, close the glove box door to keep the cold air from entering the vehicle.

## Cupholders

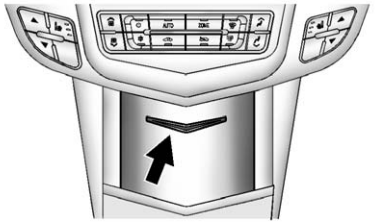


This vehicle has a cupholder equipped with a divider that can be adjusted to accommodate large containers or small containers.

For large containers, push the button to move aside the divider and make the cupholder deeper.

For small containers, push down on the top edge of the divider to lock it back in place and make the cupholder shorter.

## Front Storage



A storage area is located in front of the shift lever. Push upward on the top of the door and release; the door automatically opens.

There is an accessory power outlet inside. See *Power Outlets on page 5-9*.

## Armrest Storage

For vehicles with a rear seat armrest, pull the rear seat armrest forward to access cupholders with removable liners. For vehicles with a rear storage area, pull the lever to access.

## Center Console Storage

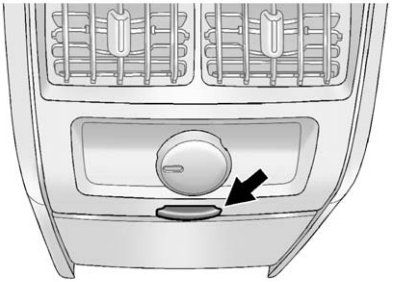
The center console has an armrest, upper storage tray, and a lower storage area.

The armrest can be adjusted to a rearward, middle, and forward position. Slide the top of the armrest to adjust to the desired position.

To access the storage, move the armrest to the full rearward position to access the storage compartment buttons.

Push the driver side button to access the upper storage tray. Push the passenger side button to access the lower storage area.

There is an accessory power outlet inside the center console. See *Power Outlets on page 5-9* for more information.

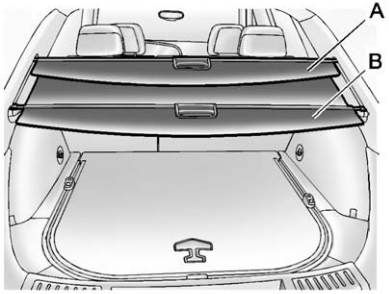


Push the button to open the storage area located at the rear of the center console.

# Additional Storage Features

## Cargo Cover

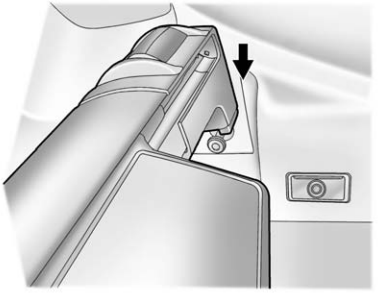
For vehicles with the dual position cargo cover, it can be used to cover items in the cargo area of the vehicle.



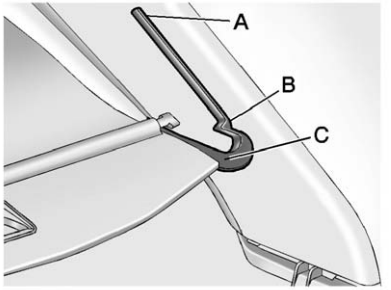

The shade can be set in two positions. It can be set in a halfway open (A) position for loading objects into the rear compartment, or the lower (B) position to conceal objects in the rear compartment.

**Install the Cargo Cover**

1. Hold the cartridge so that the pull-out shade faces the rear of the vehicle.



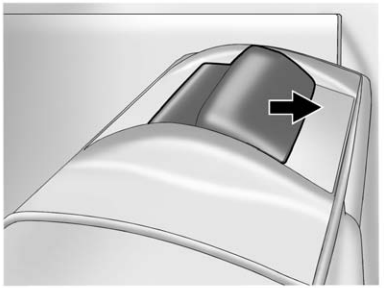
2. Align the cartridge over the pins on the trim panels of the vehicle.
3. Push down on the cartridge to snap it into place.
4. Unroll the shade toward the rear of the vehicle.




5. Insert the shade pins in the channels (C) on both sides.
6. Slide the shade to the lower (B) position, or the halfway open (A) position.

**Remove the Cargo Cover**

1. Remove the cover from the channels and carefully roll it back up.



2. Slide the button on the top to release the cartridge.
3. Pull up to remove the cartridge from the pins.

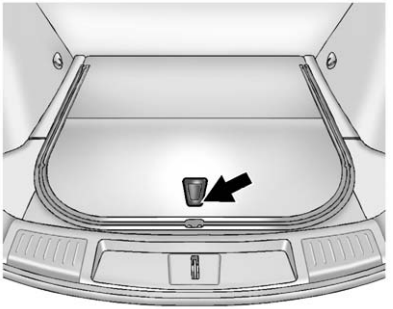
**⚠ WARNING**

An unsecured cargo cover could strike people in a sudden stop or turn, or in a crash. Store the cargo cover securely or remove it from the vehicle.

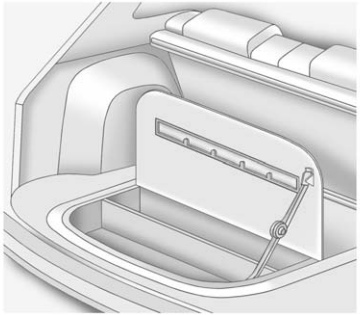
## Cargo Tie-Downs

For vehicles equipped with cargo tie-downs, the four tie-downs are located in the rear compartment of the vehicle. Use the tie-downs to secure small loads.

## Cargo Management System



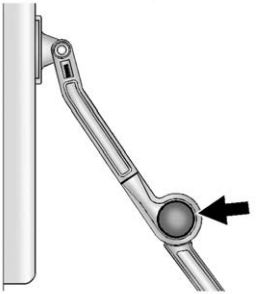
To open the cargo management system, press the rear of the handle to unlatch it and then lift the handle up.



A prop rod locks to hold the cover up when opened.

Four hooks are located on the inside cover and can be used for storing items.

There may be additional storage compartments on each side of the cargo management system. Lift the panel up to open.



Press the red button on the prop rod to close the cover.

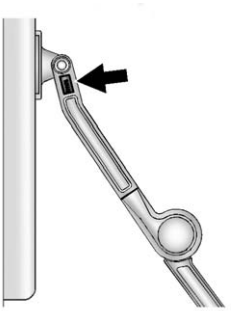
**Rear Storage Area**

**⚠ WARNING**

An improperly latched and closed cargo cover, or cargo cover left in the open position, could be thrown about the vehicle during a crash or sudden maneuver. Someone could be injured. Be sure to return the cover to the closed position and latch before driving. If the cover is removed, always store it outside of the vehicle. When it is replaced, always be sure that it is securely reattached.

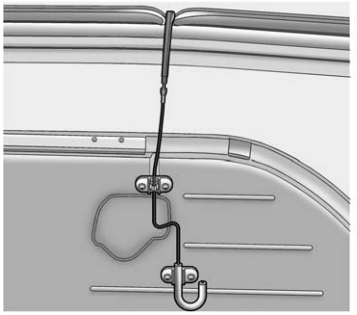
To access the rear storage areas of the cargo management system, and the tire sealant and compressor kit:

1. Remove the cargo cover, if equipped.
2. Open the cargo management system cover.



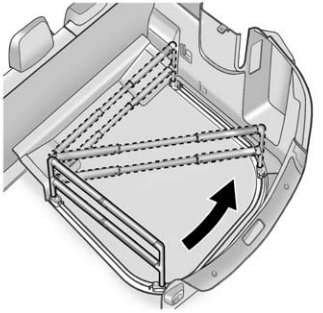
3. Release the prop rod from the inside cover by sliding the red clip down.

   Unhook the prop rod from the pin on the inside cover. Store the unhooked prop rod by folding it into the cargo management compartment.

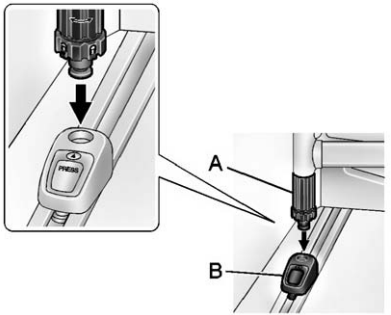


4. Store the cargo management system cover by hooking it onto the weatherstrip.

**U-Rail**



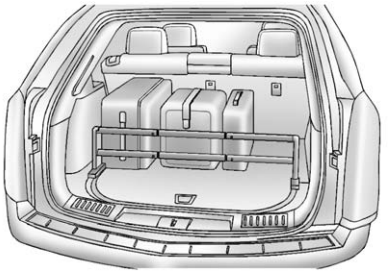
For vehicles with a u-rail system, the fence can be moved to different positions on the u-rail track to secure cargo.




Push both adapter buttons to move the adapters (B) on the straight part of the u-rail.

To move the fence around the u-rail, disconnect one side:

1. Unlock by turning the latch (A) to align with the arrow on the adapter (B).
2. Push the adapter button to move the adapters (B) to the desired position.
3. Reinstall the fence and lock both latches (A) by turning to align with the arrow on the adapter (B).

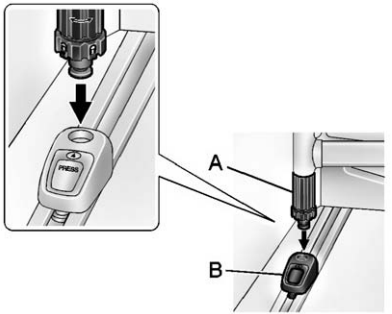


Use the fence to secure items in place.

**Removing the Fence**

Unlock by turning both latches (A) to align with the arrow on the adapter (B). Lift and remove the fence.

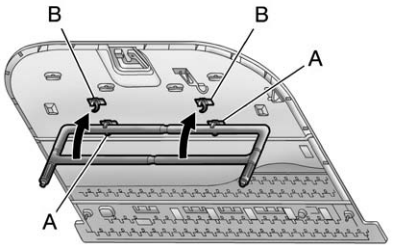
**Installing the Fence**




Insert the fence into the adapters and lock both latches (A) by turning to align with the arrow on the adapter (B).

**Storing the Fence**

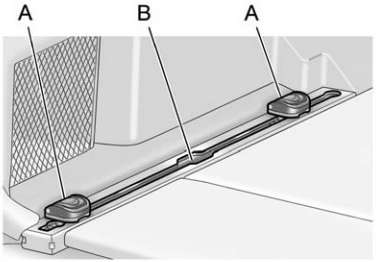
1. Lift the cargo management system cover.
2. Release the cover from the prop rod as described in the previous steps.



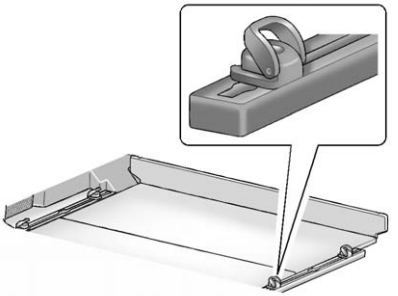

3. Insert the top of the fence into the lower two clips (A).
4. Turn the bottom of the fence up and insert it into the upper two clips (B).

## D-Ring Sliders

For vehicles with a D-ring system, there are four D-ring sliders that move along rails. These can be used as tie-downs when storing cargo.




Insert the D-ring sliders (A) into the channel (B) located in the middle of the rail. Push the button to move the D-ring slider along the rail.



The loop of the D-ring slider must be facing inward toward the storage area and the ring must be in the up position for proper usage.

## Cargo Net

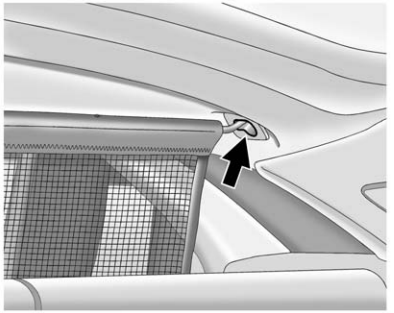
**⚠ WARNING**

Do not stack items higher than the upper end of the cargo net or hang anything from the net. Avoid items that have sharp edges or that apply excessive force to the net. If items are not properly stored, damage to the net could occur and items can be thrown about the vehicle. You or others could be injured. Always store items behind the net.

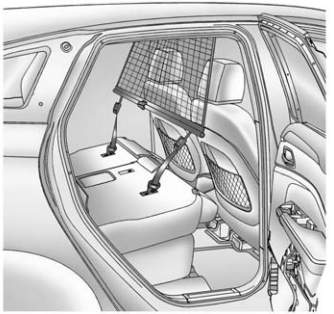
For vehicles equipped with a cargo net, it can be used to store light loads, keeping them from falling over or being thrown into the cabin during heavy braking.

The net should not be overloaded or used to store heavy loads.

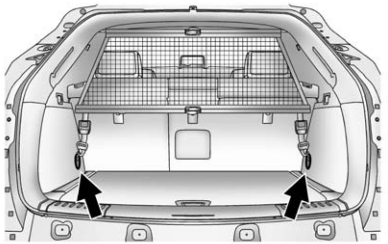
There are four openings in the headliner: two located behind the front seats and two behind the rear seats.



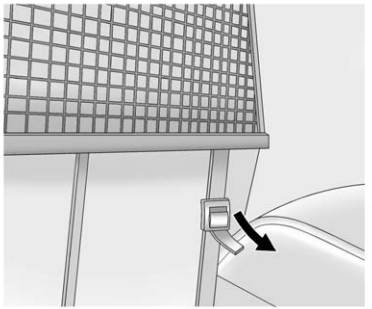
1. Insert the top corners of the cargo net into the large opening in the headliner and secure by sliding them into the small opening.
2. The rear seatbacks should be folded down when the net is installed in the headliner opening located behind the front seats.



3. Mount the cargo net to the rear seat tethers located on the back of the folded down rear seats and pull on the straps to tighten the net.
4. When the net is installed in the headliner opening located behind the rear seats, the rear seatbacks should be upright.



5. Mount the cargo net to the cargo tie-downs located on the lower side panels.



6. Pull on the straps to tighten the net.

### Cargo Net Storage

The cargo net can be removed from the vehicle and stored in the cargo management system.

1. Disconnect the net from the roof openings and the tethers.
2. Press the red button on the center of the net to fold it in half.
3. Roll up the cargo net, storing it into the attached vinyl bag.
4. Open the cargo management system cover.
5. For vehicles with an inflator kit, store the cargo net in the available space next to the kit.

## Convenience Net

This vehicle may have a convenience net located in the rear of the vehicle. Attach it to the cargo tie-downs for storing small loads.

Do not use the net to store heavy loads.

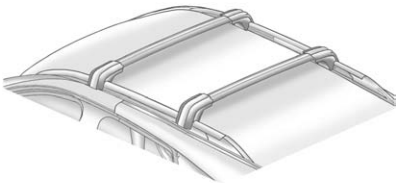
# Roof Rack System

**⚠ WARNING**

If something is carried on top of the vehicle that is longer or wider than the roof rack — like paneling, plywood, or a mattress — the wind can catch it while the vehicle is being driven. The item being carried could be violently torn off, and this could cause a collision and damage the vehicle. Never carry something longer or wider than the roof rack on top of the vehicle unless using a GM certified accessory carrier.

For vehicles with a roof rack, the rack can be used to load items. For roof racks that do not have crossrails included, GM Certified crossrails can be purchased as an accessory. See your dealer for additional information.

***Notice:*** **Loading cargo on the roof rack that weighs more than 100 kg (220 lbs) or hangs over the rear or sides of the vehicle may damage the vehicle. Load cargo onto the roof rack so that it rests evenly between the siderails, making sure to fasten cargo securely.**



To prevent damage or loss of cargo when driving, check to make sure crossrails and cargo are securely fastened. Loading cargo on the roof rack will make the vehicle's center of gravity higher. Avoid high speeds, sudden starts, sharp turns, sudden braking, or abrupt maneuvers; otherwise it may result in loss of control. If driving for a long distance, on rough roads, or at high speeds, occasionally stop the vehicle to make sure the cargo remains in its place. Do not exceed the maximum vehicle capacity when loading the vehicle. For more information on vehicle capacity and loading, see *Vehicle Load Limits on page 9-10*.

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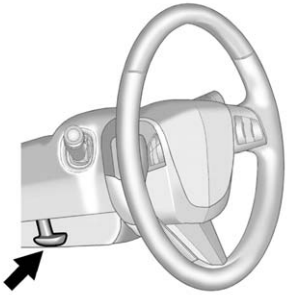
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# Controls

## Steering Wheel Adjustment

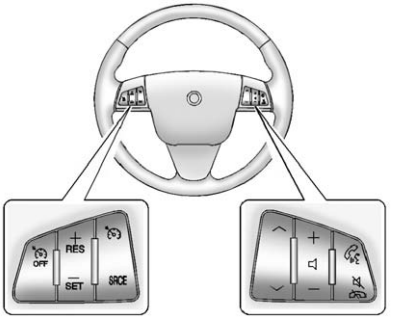


To adjust the steering wheel:

1. Pull the lever down.
2. Move the steering wheel up or down.
3. Pull or push the steering wheel closer or away from you.
4. Pull the lever up to lock the steering wheel in place.

Do not adjust the steering wheel while driving.

## Steering Wheel Controls




Use these controls, if equipped, to make audio adjustments at the steering wheel.

**∧ or ∨ :** Press ∧ to select the next favorite radio station or next CD, DVD, if equipped, or MP3 track.

Press ∨ to select the previous favorite radio station or previous CD, DVD, if equipped, or MP3 track.

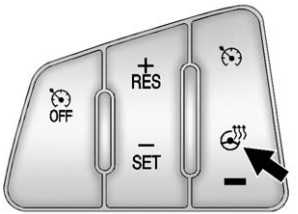
**+ − (Volume):** Press + to increase the volume; press − to decrease the volume.

**/ (Push to Talk):** For vehicles with an OnStar®, Bluetooth®, or navigation system, press to interact with those systems. See *Bluetooth (Voice Recognition) on page 7-55* or *Bluetooth (Overview) on page 7-49* or *Bluetooth (UHP Mexico Only) on page 7-62* or *Bluetooth (Infotainment Controls) on page 7-51*, *OnStar Overview on page 14-1*, or the separate navigation manual for more information.

**/ (End Call/Mute):** Press to silence the vehicle speakers only. Press again to turn the sound on. For vehicles with OnStar or Bluetooth systems, press to reject an incoming call, or end a current call.

**SRCE:** Press to select an audio source. For vehicles with a heated steering wheel, use the infotainment buttons to select an audio source. See *Heated Steering Wheel on page 5-3* or *Overview (Radio with CD) on page 7-3* or *Overview (Radio with CD/DVD and MEM) on page 7-5* for more information.

## Heated Steering Wheel




For vehicles with a heated steering wheel, the button for this feature is located on the steering wheel.

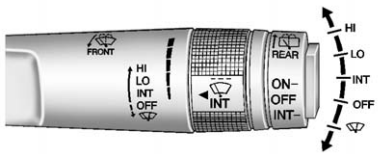
**(Heated Steering Wheel):** Press to turn the heated steering wheel on or off. A light on the button displays when the feature is turned on.

The steering wheel takes about three minutes to start heating.

## Horn

Press on the steering wheel pad to sound the horn.

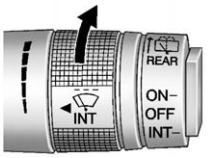
## Windshield Wiper/Washer




The windshield wiper/washer lever is located on the right side of the steering column. With the ignition in ACC/ACCESSORY or ON/RUN/START, move the windshield wiper lever to select the wiper speed.

**HI:** Use for fast wipes.

**LO:** Use for slow wipes.




**INT: (Intermittent Wipes):** Move the lever up to INT for intermittent wipes, then turn the INT band up for more frequent wipes or down for less frequent wipes. If the vehicle has Rainsense™, see the following Rainsense information.

**OFF:** Use to turn the wipers off.

**(Mist):** For a single wipe, briefly move the wiper lever down. For several wipes, hold the wiper lever down.

Clear snow and ice from the wiper blades before using them. If frozen to the windshield, carefully loosen or thaw them. Damaged blades should be replaced. See *Wiper Blade Replacement on page 10-27*.

Heavy snow or ice can overload the wiper motor.

**Wipe Parking**

If the ignition is changed to STOPPING THE ENGINE/OFF mode while the wipers are on 1, 2, or INT, they will immediately stop.

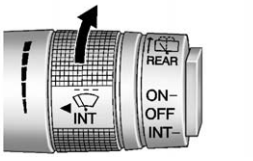
If the windshield wiper lever is then moved to off before the driver door is opened or within 10 minutes, the wipers will restart and move to the base of the windshield.

If the ignition is changed to STOPPING THE ENGINE/OFF while the wipers are performing wipes due to windshield washing, the wipers continue to run until they reach the base of the windshield.

## Rainsense™

For vehicles with Rainsense, a sensor located near the top center of the windshield detects the amount of water on the windshield and automatically controls the frequency of the windshield wiper.

Keep this area of the windshield clear of debris to allow for best system performance.




**INT (Rainsense Wipe Sensitivity Control):** Move the windshield wiper lever to INT. Turn the INT band on the wiper lever to adjust the sensitivity.

- Turn the band up for more sensitivity to moisture.
- Turn the band down for less sensitivity to moisture.
- Move the windshield wiper lever out of the INT position to deactivate Rainsense.

**Wiper Arm Assembly Protection**

When using an automatic car wash, move the windshield wiper lever to OFF. This disables the automatic Rainsense windshield wipers and/or rear wiper.

With Rainsense, if the transmission is in N (Neutral) and the vehicle speed is very slow, the wipers will automatically stop at the base of the windshield.

The wiper operations return to normal when the transmission is no longer in N (Neutral) or the vehicle speed has increased.

### Windshield Washer

Pull the windshield wiper lever toward you to spray windshield washer fluid and activate the wipers. The wipers will continue until the lever is released or the maximum wash time is reached. When the windshield wiper lever is released, additional wipes may occur depending on how long the windshield washer had been activated. See *Washer Fluid on page 10-21* for information on filling the windshield washer fluid reservoir.

**⚠ WARNING**

In freezing weather, do not use the washer until the windshield is warmed. Otherwise the washer fluid can form ice on the windshield, blocking your vision.

## Rear Window Wiper/Washer

The rear wiper controls are on the end of the windshield wiper lever.




**ON:** Press the upper portion of the button for continuous rear window wipes.

**OFF:** The rear wiper turns off when the button is returned to the middle position.

**INT (Intermittent Rear Wipes):** Press the lower portion of the button to set a delay between wipes.

**(Rear Washer):** Push the windshield wiper lever forward to spray washer fluid on the rear window. The lever automatically returns to its original position when released.

#### Reverse Gear Wipes

If the rear wiper control is off, the rear wiper will automatically operate continuously when the shift lever is in R (Reverse), and the front windshield wiper is performing low or high speed wipes. If the rear wiper control is off, the shift lever is in R (Reverse), and the front windshield wiper is performing interval wipes, then the rear wiper automatically performs interval wipes.

This feature can be changed. See *Vehicle Personalization on page 5-40*.

The windshield washer reservoir is used for the windshield and the rear window. Check the fluid level in the reservoir if either washer is not working. See *Washer Fluid on page 10-21*.

## Headlamp Washer

For vehicles with headlamp washers, they are located to the side of the headlamps.

The headlamps must be on in order to use the headlamp washers. If the headlamps are not on, only the windshield will be washed.

Pull the wiper lever toward you and hold briefly to activate. The headlamp washers will spray once, pause, and spray again. The headlamp washer will spray again after five windshield wash cycles.

See *Washer Fluid on page 10-21* for information on filling the windshield washer fluid.

## Compass

The vehicle may have a compass display on the Driver Information Center (DIC). The compass receives its heading and other information from the Global Positioning System (GPS) antenna, StabiliTrak, and vehicle speed information.

Avoid covering the GPS antenna for long periods of time with objects that may interfere with the antenna's ability to receive a satellite signal. See *Multi-Band Antenna on page 7-18* for the location of the vehicle's antenna. The compass system is designed to operate for a certain number of miles or degrees of turn before needing a signal from the GPS satellites. When the compass display shows CAL, drive the vehicle for a short distance in an open area where it can receive a GPS signal. The compass system will automatically determine when a GPS signal is restored and provide a heading again. See *Compass Messages on page 5-33* for more information on the messages that may be displayed for the compass.

## Clock (Analog Clock)

The analog clock is located on the instrument panel above the radio. The clock is not connected with any other vehicle system and runs by itself. To adjust the clock:

1. Locate the adjustment buttons directly below the clock face.
2. Push and hold either adjustment button to advance or reverse the clock hands. Holding the buttons down will cause the clock to advance faster. Release the buttons before reaching the desired time.
3. Push and release the buttons to increase the time by one minute increments until the desired time is reached.

## Clock (Digital Clock)

The infotainment system controls are used to access the time and date settings through the menu system. See *Operation on page 7-7* for information about how to use the menu system. See the separate navigation manual for instructions on how to operate the digital clock for the navigation system.

To turn the digital clock on or off:

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Select Clock Displayed.
4. Press MENU/SELECT to turn the clock on or off.

### Setting the Time and Date

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Select Set Time or Set Date.
4. Turn the MENU/SELECT knob to adjust the highlighted value.
5. Press the MENU/SELECT knob to select the next value.
6. To save the time or date and return to the Time and Date Settings menu, press the BACK ⇦ button at any time or press the MENU/SELECT knob after adjusting the minutes or year.

### Setting the 12/24 Hour Format

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Highlight 12/24 Hour Format.
4. Press the MENU/SELECT knob to select the 12 hour or 24 hour display format.

### Setting the Month & Day Format

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Highlight Month & Day Format.
4. Press the MENU/SELECT knob to select MM/DD (month/day) or DD/MM (day/month).

### Setting the Auto Time Adjust

1. Press the CONFIG button.
2. Select Time and Date Settings.
3. Highlight Auto Time Adjust.
4. Press the MENU/SELECT knob to turn Auto Time Adjust on or off.

## Power Outlets

The accessory power outlets can be used to plug in electrical equipment, such as a cell phone or MP3 player.

The vehicle has four accessory power outlets. The power outlets located below the climate control system inside the front storage bin, inside the center floor console, and on the rear of the center floor console are powered while the vehicle is in ON/RUN/START or ACC/ACCESSORY mode, or until the driver door is opened within 10 minutes of turning off the vehicle.

The power outlet located in the rear cargo area is powered at all times.

There is a small cap that must be removed to access the accessory power outlet. When not using the outlet be sure to cover it with the protective cap.

***Notice:*** **Leaving electrical equipment plugged in for an extended period of time while the vehicle is off will drain the battery. Power is always supplied to the rear cargo outlet. Always unplug electrical equipment when not in use and do not plug in equipment that exceeds the maximum 20 ampere rating.**

Certain accessory power plugs may not be compatible with the accessory power outlet and could overload vehicle or adapter fuses. If a problem is experienced, see your dealer.

When adding electrical equipment, be sure to follow the proper installation instructions included with the equipment. See *Add-On Electrical Equipment on page 9-61*.

***Notice:*** **Hanging heavy equipment from the power outlet can cause damage not covered by the vehicle warranty. The power outlets are designed for accessory power plugs only, such as cell phone charge cords.**

## Cigarette Lighter

There may be a cigarette lighter located under the climate control system, inside the front storage bin.

To activate the cigarette lighter, push it into the heating element and let go. The lighter pops out when it is ready to be used.

***Notice:*** **Holding a cigarette lighter in while it is heating does not let the lighter back away from the heating element when it is hot. Damage from overheating can occur to the lighter or heating element, or a fuse could be blown. Do not hold a cigarette lighter in while it is heating.**

## Ashtrays

There may be an ashtray located under the climate control system on the instrument panel. Press the door to release the ashtray.

To empty the ashtray, remove it from the instrument panel by holding the edges and pulling straight out. To reinstall, push the tray back into place.

There may also be ashtrays located on the center floor console behind the shift lever and in the rear doors.

***Notice:*** **If papers, pins, or other flammable items are put in the ashtray, hot cigarettes or other smoking materials could ignite them and possibly damage the vehicle. Never put flammable items in the ashtray.**

# Warning Lights, Gauges, and Indicators

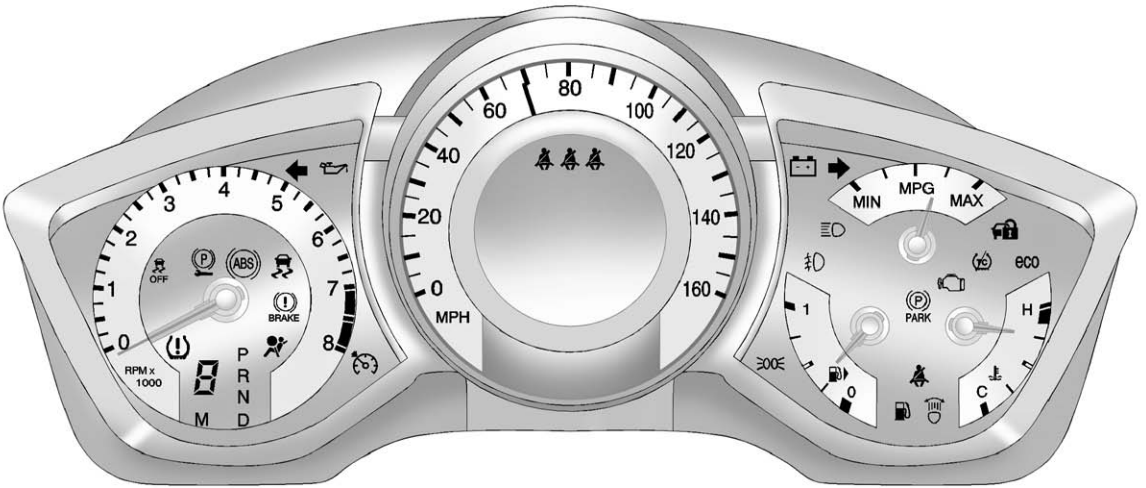
Warning lights and gauges can signal that something is wrong before it becomes serious enough to cause an expensive repair or replacement. Paying attention to the warning lights and gauges could prevent injury.

Warning lights come on when there could be a problem with a vehicle function. Some warning lights come on briefly when the engine is started to indicate they are working.

Gauges can indicate when there could be a problem with a vehicle function. Often gauges and warning lights work together to indicate a problem with the vehicle.

When one of the warning lights comes on and stays on while driving, or when one of the gauges shows there may be a problem, check the section that explains what to do. Follow this manual's advice. Waiting to do repairs can be costly and even dangerous.

## Instrument Cluster




English Shown, Metric Similar

## Speedometer

The speedometer shows the vehicle's speed in either kilometers per hour (km/h) or miles per hour (mph).

## Odometer

The odometer shows how far the vehicle has been driven, in either kilometers or miles.

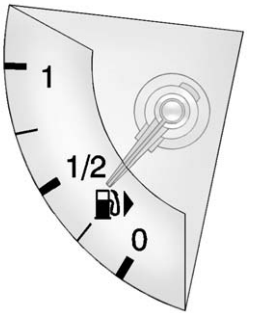
This vehicle has a tamper-resistant odometer. If the vehicle needs a new odometer installed, the new one is set to the mileage of the old odometer. If this is not possible, it is set at zero and a label is put on the driver door to show the old mileage reading.

## Tachometer

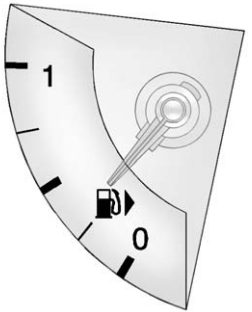
The tachometer displays the engine speed in revolutions per minute (rpm).

***Notice:*** **If the engine is operated with the tachometer in the shaded warning area, the vehicle could be damaged, and the damages would not be covered by the vehicle warranty. Do not operate the engine with the tachometer in the shaded warning area.**

## Fuel Gauge




**Metric**




**English**

When the ignition is on, the fuel gauge indicates about how much fuel is left in the tank.

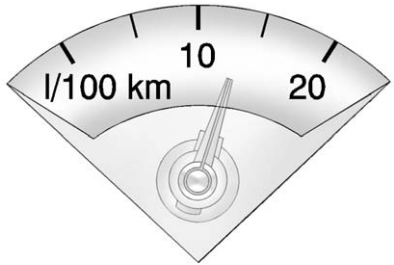
An arrow on the fuel gauge indicates the side of the vehicle the fuel door is on.

When the indicator nears empty, the low fuel light comes on. There still is a little fuel left, but the vehicle should be refueled soon.

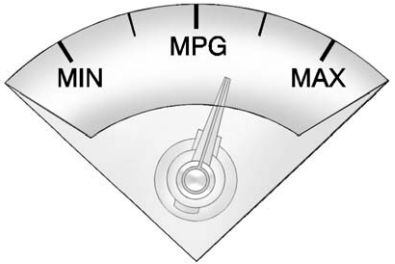
Here are four things that some owners ask about. None of these show a problem with the fuel gauge:

- At the service station, the fuel pump shuts off before the gauge reads full.
- It takes a little more or less fuel to fill up than the gauge indicated. For example, the gauge may have indicated the tank was half full, but it actually took a little more or less than half the tank's capacity to fill the tank.
- The gauge moves a little while turning a corner or speeding up.
- The gauge takes a few seconds to stabilize after the ignition is turned on, and goes back to empty when the ignition is turned off.

## Fuel Economy Gauge




**Metric**




**English**

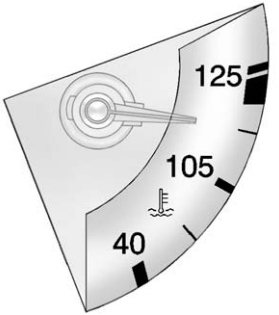
The gauge shows the fuel usage that the vehicle is currently achieving in MPG and in liters per 100 kilometers (l/100 km).

**MIN/20:** Is when the least efficient fuel economy usually occurs during acceleration or when idling.

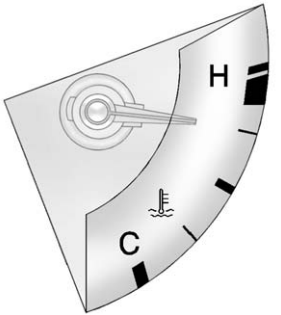
**MAX/l/100 km:** Is when the best fuel economy is being achieved.

This gauge moves often as it is an instantaneous calculation based on current driving conditions.

## Engine Coolant Temperature Gauge




**Metric**




**English**

This gauge measures the temperature of the vehicle's engine.

If the indicator needle moves into the shaded area, the engine is too hot.

While driving under normal operating conditions, if the needle moves into the shaded area, the engine is too hot. Pull off the road, stop the vehicle and turn off the engine as soon as possible.

## Safety Belt Reminders

### Driver Safety Belt Reminder Light

There is a driver safety belt reminder light on the instrument panel cluster.



When the vehicle is started this light flashes and a chime comes on to remind drivers to fasten their safety belt. Then the light stays on solid until the belt is buckled.

This cycle may continue several times if the driver remains or becomes unbuckled during driving while the vehicle is moving.

If the driver safety belt is already buckled, neither the light nor chime comes on.

### Passenger Safety Belt Reminder Light




When the vehicle is started this light flashes and a chime may come on to remind the front passenger to fasten their safety belt. Then the light stays on solid until the belt is buckled.

This cycle may continue several times if the passenger remains or becomes unbuckled while the vehicle is moving.

If the passenger safety belt is buckled, neither the chime nor the light comes on.

The front passenger safety belt reminder light and chime may turn on if an object is put on the seat such as a briefcase, handbag, grocery bag, laptop, or other electronic device. To turn off the reminder light and/or chime, remove the object from the seat or buckle the safety belt.

### Second Row Passenger Belt Reminder Light




When the engine is started and the Trip/Fuel display is chosen, three gray safety belt symbols come on and stay on for several seconds on the top of the Driver information Center (DIC) to remind passengers to fasten their safety belts.

If the Vehicle Information is selected, a full page screen displays at start-up the three safety belt symbols.

Once the passenger safety belt is buckled, the corresponding safety belt symbol in the DIC turns green. There are no seat position sensors in the seat, nor a safety belt reminder sensor pad. If a safety belt is not initially buckled, the cluster continues to show the gray safety belt icon.

While the vehicle is moving, if a second row passenger who was previously buckled becomes unbuckled, a full screen warning displays with the corresponding safety belt indicator flashing red. A chime may sound.

Acknowledge warning messages by pressing any of the DIC buttons.

## Airbag Readiness Light

This light shows if there is an electrical problem with the airbag system. The system check includes the airbag sensor(s), passenger sensing system, the pretensioners, the airbag modules, the wiring, and the crash sensing and diagnostic module. For more information on the airbag system, see *Airbag System on page 3-23*.



The airbag readiness light comes on for several seconds when the vehicle is started. If the light does not come on then, have the vehicle fixed immediately.

**⚠ WARNING**

If the airbag readiness light stays on after the vehicle is started or comes on while driving, it means the airbag system might not be working properly. The airbags in the vehicle might not inflate in a crash, or they could even inflate without a crash. To help avoid injury, have the vehicle serviced right away.

## Passenger Airbag Status Indicator

The vehicle has a passenger sensing system. See *Passenger Sensing System on page 3-30* for important safety information. The overhead console has a passenger airbag status indicator.




**United States**




**Canada and Mexico**

When the vehicle is started, the passenger airbag status indicator will light ON and OFF, or the symbol for on and off, for several seconds as a system check. If you are using remote start, if equipped, to start the vehicle from a distance you may not see the system check. Then, after several more seconds, the status indicator will light either ON or OFF, or either the on or off symbol to let you know the status of the right front passenger frontal and seat-mounted side impact airbag.

If the word ON or the on symbol is lit on the passenger airbag status indicator, it means that the right front passenger frontal airbag and seat-mounted side impact airbag are enabled (may inflate).

If the word OFF or the off symbol is lit on the passenger airbag status indicator, it means that the passenger sensing system has turned off the right front passenger frontal and seat-mounted side impact airbag.

If, after several seconds, both status indicator lights remain on, or if there are no lights at all, there may be a problem with the lights or the passenger sensing system. See your dealer for service.

**⚠ WARNING**

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light on page 5-16* for more information, including important safety information.

## Charging System Light




The charging system light comes on briefly when the ignition is turned on, but the engine is not running, as a check to show the light is working. The light turns off when the engine is started. If it does not, have the vehicle serviced by your dealer.

If the light stays on, or comes on while driving, there may be a problem with the electrical charging system. Have it checked by your dealer. Driving while this light is on could drain the battery.

When this light comes on, the Driver Information Center (DIC) also displays a message.

See *Battery Voltage and Charging Messages on page 5-32*.

If a short distance must be driven with the light on, be sure to turn off all accessories, such as the radio and air conditioner.

## Malfunction Indicator Lamp

A computer system called OBD II (On-Board Diagnostics-Second Generation) monitors the operation of the vehicle to ensure emissions are at acceptable levels, to produce a cleaner environment. This light comes on when the vehicle is placed in Service Only Mode, as a check to show it is working. If it does not, have the vehicle serviced by your dealer. See *Ignition Positions on page 9-17*.



If the malfunction indicator lamp comes on and stays on while the engine is running, this indicates that there is an OBD II problem and service is required.

Malfunctions often are indicated by the system before any problem is apparent. Being aware of the light can prevent more serious damage to the vehicle. This system assists the service technician in correctly diagnosing any malfunction.

***Notice:*** **If the vehicle is continually driven with this light on, the emission controls might not work as well, the vehicle fuel economy might not be as good, and the engine might not run as smoothly. This could lead to costly repairs that might not be covered by the vehicle warranty.**

***Notice:*** **Modifications made to the engine, transmission, exhaust, intake, or fuel system of the vehicle or the replacement of the original tires with other than those of the same Tire Performance Criteria (TPC) can affect the vehicle's emission controls and can cause this light to come on. Modifications to these systems could lead to costly repairs not covered by the vehicle warranty. This could also result in a failure to pass a required Emission Inspection/Maintenance test. See *Accessories and Modifications on page 10-4*.**

This light comes on during a malfunction in one of two ways:

**Light Flashing:** A misfire condition has been detected. A misfire increases vehicle emissions and could damage the emission control system on the vehicle. Diagnosis and service might be required.

To prevent more serious damage to the vehicle:

- Reduce vehicle speed.
- Avoid hard accelerations.
- Avoid steep uphill grades.
- If towing a trailer, reduce the amount of cargo being hauled as soon as it is possible.

If the light continues to flash, stop and park the vehicle. Turn the vehicle off, wait at least 10 seconds, and restart the engine. If the light is still flashing, follow the previous steps and see your dealer for service as soon as possible.

**Light On Steady:** An emission control system malfunction has been detected on the vehicle. Diagnosis and service might be required.

The following may correct an emission system malfunction:

- Check that the fuel cap is fully installed. See *Filling the Tank on page 9-50*. The diagnostic system can determine if the fuel cap has been left off or improperly installed. A loose or missing fuel cap allows fuel to evaporate into the atmosphere. A few driving trips with the cap properly installed should turn the light off.

- Check that good quality fuel is used. Poor fuel quality causes the engine not to run as efficiently as designed and may cause stalling after start-up, stalling when the vehicle is changed into gear, misfiring, hesitation on acceleration, or stumbling on acceleration. These conditions might go away once the engine is warmed up.

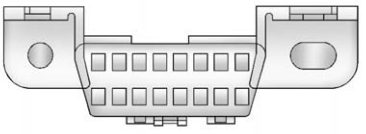
If one or more of these conditions occurs, change the fuel brand used. It will require at least one full tank of the proper fuel to turn the light off.

See *Recommended Fuel on page 9-46*.

If none of the above have made the light turn off, your dealer can check the vehicle. The dealer has the proper test equipment and diagnostic tools to fix any mechanical or electrical problems that might have developed.

## Emissions Inspection and Maintenance Programs

Some local governments may have programs to inspect the on-vehicle emission control equipment. For the inspection, the emission system test equipment is connected to the vehicle's Data Link Connector (DLC).



The DLC is under the instrument panel on the outboard side of the steering wheel. See your dealer if assistance is needed.

The vehicle may not pass inspection if:

- The malfunction indicator lamp is on with the engine running, or if the vehicle is placed in Service Only Mode and the malfunction indicator lamp does not come on. See your dealer for assistance in verifying proper operation of the malfunction indicator lamp.
- The OBD II (On-Board Diagnostics) system determines that critical emission control systems have not been completely diagnosed. The vehicle would be considered not ready for inspection. This can happen if the 12-volt battery has recently been replaced or run down. The diagnostic system is designed to evaluate critical emission control systems during normal driving. This can take several days of routine driving. If this has been done and the vehicle still does not pass the inspection for lack of OBD II system readiness, your dealer can prepare the vehicle for inspection.

## Brake System Warning Light

The vehicle brake system consists of two hydraulic circuits. If one circuit is not working, the remaining circuit can still work to stop the vehicle. For normal braking performance, both circuits need to be working.

If the warning light comes on, there is a brake problem. Have the brake system inspected right away.



Metric




English

The brake indicator light should come on briefly as the engine is started. If it does not come on have the vehicle serviced by your dealer.

**⚠ WARNING**

The brake system might not be working properly if the brake system warning light is on. Driving with the brake system warning light on can lead to a crash. If the light is still on after the vehicle has been pulled off the road and carefully stopped, have the vehicle towed for service.

If the light comes on while driving, a chime sounds. Pull off the road and stop. The pedal might be harder to push or go closer to the floor. It might also take longer to stop. If the light is still on, have the vehicle towed for service. See *Towing the Vehicle on page 10-93*.

## Electric Parking Brake Light



Metric




English

For vehicles with the Electric Parking Brake (EPB), this light should come on briefly as the engine is started. If it does not come on, have the vehicle serviced by your dealer.

The parking brake status light comes on when the brake is applied. If the light continues flashing after the parking brake is released, or while driving, there is a problem with the Electric Parking Brake system. A SERVICE PARKING BRAKE message may also display in the Driver Information Center (DIC). See *Brake System Messages on page 5-33* for more information.

If the light does not come on, or remains flashing, see your dealer.




For vehicles with the EPB, the parking brake warning light should come on briefly when the engine is started. If it does not come on, have the vehicle serviced by your dealer.

If this light comes on, there is a problem with a system on the vehicle that is causing the parking brake system to work at a reduced level. The vehicle can still be driven, but should be taken to a dealer as soon as possible. See *Parking Brake on page 9-30* for more information.

## Antilock Brake System (ABS) Warning Light




For vehicles with the Antilock Brake System (ABS), this light comes on briefly when the engine is started.

If the light does not come on, have it fixed so it will be ready to warn if there is a problem.

If the ABS light comes on and stays on while driving, stop as soon as possible and turn the ignition off.

Start the engine again to reset the system. If the light stays on after driving at a speed above 20 km/h (13 mph), see your dealer for service. A chime may also sound when the light comes on steady.

If the regular brake system warning light is not on, the vehicle still has brakes, but not antilock brakes. If the regular brake system warning light is also on, the vehicle does not have antilock brakes and there is a problem with the regular brakes. See *Brake System Warning Light on page 5-21*.

See *Brake System Messages on page 5-33* for all brake-related DIC messages.

## Traction Off Light




This light comes on briefly while starting the engine. If it does not, have the vehicle serviced by your dealer. If the system is working normally, the indicator light then turns off.

The traction off light comes on when the Traction Control System (TCS) has been turned off by pressing and releasing the TCS/StabiliTrak button.

This light and the StabiliTrak OFF light come on when StabiliTrak is turned off.

If the TCS is off, wheel spin is not limited. Adjust driving accordingly.

See *Traction Control System (TCS) on page 9-32* and *StabiliTrak® System on page 9-34*.

## StabiliTrak® OFF Light




This light should come on briefly as the vehicle is started. If it does not come on, have the vehicle serviced by your dealer.

This light comes on when the StabiliTrak system is turned off by pressing the StabiliTrak/TCS button. If the Traction Control System (TCS) is off, wheel spin is not limited.

When the StabiliTrak system is off, the system does not assist in controlling the vehicle. Adjust driving accordingly.

The warning light goes off when traction control and the StabiliTrak system are enabled.

See *Traction Control System (TCS) on page 9-32* and *StabiliTrak® System on page 9-34* for more information.

## Traction Control System (TCS)/StabiliTrak® Light



The StabiliTrak or Traction Control System (TCS) indicator/warning light comes on briefly when the engine is started.

If the light does not come on, have the vehicle serviced by your dealer. If the system is working normally, the indicator light turns off.

If the light is on and not flashing, the TCS, and potentially the StabiliTrak system have been disabled. A DIC message may display. Check the DIC messages to determine which feature(s) is no longer functioning and whether the vehicle requires service.

If the indicator/warning light is on and flashing, the TCS and/or the StabiliTrak system is actively working.

See *StabiliTrak® System on page 9-34* and *Traction Control System (TCS) on page 9-32*.

## Tire Pressure Light



For vehicles with the Tire Pressure Monitor System (TPMS), this light comes on briefly when the engine is started. It provides information about tire pressures and the TPMS.

**When the Light Is On Steady**

This indicates that one or more of the tires are significantly underinflated.

A Driver Information Center (DIC) tire pressure message may also display. See *Tire Messages on page 5-38*. Stop as soon as possible, and inflate the tires to the pressure value shown on the Tire and Loading Information label. See *Tire Pressure on page 10-56*.

**When the Light Flashes First and Then Is On Steady**

If the light flashes for about a minute and then stays on, there may be a problem with the TPMS. If the problem is not corrected, the light will come on at every ignition cycle. See *Tire Pressure Monitor Operation on page 10-59*.

## Engine Oil Pressure Light

***Notice:*** **Lack of proper engine oil maintenance can damage the engine. Driving with the engine oil low can also damage the engine. The repairs would not be covered by the vehicle warranty. Check the oil level as soon as possible. Add oil if required, but if the oil level is within the operating range and the oil pressure is still low, have the vehicle serviced. Always follow the maintenance schedule for changing engine oil.**



The oil pressure light should come on briefly as the engine is started. If it does not come on, have the vehicle serviced by your dealer.

If the light comes on and stays on, it means that oil is not flowing through the engine properly. The vehicle could be low on oil and might have some other system problem. See your dealer.

## Fuel Economy Light




This light should come on briefly as the vehicle is started. If it does not come on, have the vehicle serviced by your dealer.

For vehicles with the fuel economy mode light, it comes on when the eco (economy) button, located next to the shift lever, is pressed. Press the button again to turn off the light and exit the fuel economy mode. See *Driving for Better Fuel Economy on page 1-24* and *Fuel Economy Mode on page 9-28* for more information.

## Low Fuel Warning Light



This light is located near the fuel gauge and comes on briefly when the ignition is turned on as a check to show it is working.

It also comes on when the fuel tank is low on fuel. The light turns off when fuel is added. If it does not, have the vehicle serviced.

## Security Light



The immobilizer light should come on briefly as the engine is started. If it does not come on, have the vehicle serviced by your dealer. If the system is working normally, the indicator light turns off.

If the light stays on and the engine does not start, there could be a problem with the theft-deterrent system. See *Immobilizer Operation on page 2-20*.

## High-Beam On Light



This light comes on when the high-beam headlamps are in use.

See *Headlamp High/Low-Beam Changer on page 6-2* for more information.

## Adaptive Forward Lighting (AFL) Light



This light should come on briefly as the vehicle is started. If it does not come on, have the vehicle serviced by your dealer.

This light comes on solid when there is a problem with the Adaptive Forward Lighting system and flashes when the system is switching between lighting modes. See *Adaptive Forward Lighting (AFL) on page 6-3*.

## Front Fog Lamp Light



The fog lamp light comes on when the fog lamps are in use.

The light goes out when the fog lamps are turned off. See *Front Fog Lamps on page 6-6* for more information.

## Lamps On Reminder



For vehicles with the lamps on reminder light, it comes on when the lights are in use.

## Cruise Control Light



The cruise control light is white whenever the cruise control is set, and turns green when the cruise control is active.

The light turns off when the cruise control is turned off. See *Cruise Control on page 9-36*.

# Information Displays

## Driver Information Center (DIC)

The DIC displays information about the vehicle. It also displays warning messages if a system problem is detected. See *Vehicle Messages on page 5-32* for more information. All messages appear in the DIC display located in the center of the instrument panel cluster.

The vehicle may also have features that can be customized through the controls on the radio. See *Vehicle Personalization on page 5-40* for more information.

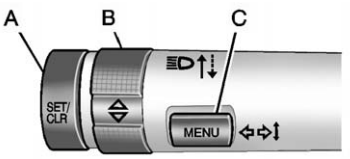
The DIC may display an indicator when the Rainsense wipers are active.

## DIC Operation and Displays

The DIC has different displays which can be accessed by using the DIC buttons on the turn signal lever located on the left side of the steering wheel. The DIC displays trip, fuel, vehicle system information, and warning messages if a system problem is detected.

The bottom of the DIC display shows what position the shift lever is in and the odometer. The direction the vehicle is driving will be shown on the top of the display.

### DIC Buttons




A. **SET/CLR (Set/Clear):** Use this button to set or clear the menu item when it is displayed.

B. △ ▽ **(Thumbwheel):** Use the thumbwheel to scroll through the items in each menu. A small marker will move up or down the side of the display as you scroll through the items. This shows where each item is in the menu.

C. **MENU:** Press this button to get to the Trip/Fuel Information Menu and the Vehicle Information Menu.

### Trip/Fuel Information Menu Items

Press the MENU button on the turn signal lever until Trip/Fuel Information Menu is displayed. Use the thumbwheel to scroll through the following possible menu items:

- Trip
- Average Fuel Economy or Average Fuel Economy and Instantaneous Fuel Economy
- Fuel Range
- Fuel Used
- Average Vehicle Speed
- Timer
- Distance to Destination
- Navigation Turn by Turn
- Speed and Curve Assist
- Digital Speedometer
- Blank

**Trip**

The Trip display shows the current distance traveled, in either kilometers (km) or miles (mi), since the trip odometer was last reset. The trip odometer can be reset to zero by pressing the trip reset stem or the SET/CLR button while the trip odometer display is showing.

**Average Fuel Economy or Average Fuel Economy and Instantaneous Fuel Economy**

The Average Fuel Economy display shows the approximate average liters per 100 kilometers (L/100 km) or miles per gallon (mpg). This number is calculated based on the number of L/100 km (mpg) recorded since the last time this menu item was reset. The Average Fuel Economy can be reset by pressing SET/CLR while the Average Fuel Economy display is showing.

The Instantaneous Fuel Economy display shows the current fuel economy in either liters per 100 kilometers (L/100 km) or miles per gallon (mpg). This number reflects only the fuel economy that the vehicle has right now and changes frequently as driving conditions change. Unlike average economy, this display cannot be reset.

**Fuel Range**

The Fuel Range display shows the approximate distance the vehicle can be driven without refueling. The fuel range estimate is based on an average of the vehicle's fuel economy over recent driving history and the amount of fuel remaining in the fuel tank. Fuel range cannot be reset.

**Fuel Used**

The Fuel Used display shows the approximate liters (L) or gallons (gal) of fuel that have been used since last reset. The fuel used can be reset by pressing the SET/CLR button while the Fuel Used display is showing.

**Average Vehicle Speed**

The Average Vehicle Speed display shows the average speed of the vehicle in kilometers per hour (km/h) or miles per hour (mph). This average is calculated based on the various vehicle speeds recorded since the last reset of this value. The average speed can be reset by pressing the SET/CLR button while the Average Vehicle Speed display is showing.

**Timer**

This display can be used as a timer. To start the timer, press SET/CLR while Timer is displayed. The display will show the amount of time that has passed since the timer was last reset. To stop the timer, press SET/CLR briefly while Elapsed Time is displayed. To reset the timer to zero, press and hold SET/CLR.

**Distance to Destination**

This display will show the vehicle distance with estimated time of arrival to destination. The value can be cleared or reset by pressing the SET/CLR button. Move the thumbwheel up or down to increase or decrease the destination distance value. Once the distance value is set, press SET/CLR to confirm the value.

**Turn-by-Turn**

This display is used for the OnStar or Navigation System Turn-by-Turn guidance. See *OnStar Overview on page 14-1* or the navigation manual, if the vehicle has navigation, for more information.

**Speed and Curve Assist**

This display will show the speed limit or the advised speed as determined by the information provided by the navigation system. The map database loaded in the navigation system may need to be updated periodically to display accurate information. See “Maps” in the navigation manual for information on updating the map database.

**Digital Speedometer**

The speedometer shows how fast the vehicle is moving in either kilometers per hour (km/h) or miles per hour (mph). The speedometer cannot be reset.

**Blank Display**

This display shows no information.

## Vehicle Information Menu Items

Press the MENU button on the turn signal lever until Vehicle Information Menu is displayed. Use the thumbwheel to scroll through the following possible menu items:

- Unit
- Speed Warning
- Battery Voltage
- Remaining Oil Life
- Tire Pressure
- Blank

**Unit**

Move the thumbwheel up or down to switch between metric or English when the Unit display is active. Press SET/CLR to confirm the setting. This will change the displays on the cluster and DIC to either metric or English measurements.

**Speed Warning**

Speed Warning allows the driver to set a speed that they do not want to exceed. To set the Speed Warning, press SET/CLR when Speed Warning is displayed. After selecting ON, use the thumbwheel to increase or decrease the desired speed limit. The value can be set from 0-250 km/h (0-160 mph). Press SET/CLR to confirm. If the selected speed limit is exceeded, a pop-up warning is displayed with a chime.

**Battery Voltage**

This display, available on some vehicles, shows the current battery voltage. If the voltage is in the normal range, the value will display. For example, the display may read BATTERY VOLTAGE 15.0 VOLTS. The vehicle's charging system regulates voltage based on the state of the battery. The battery voltage can fluctuate while viewing this information on the DIC. This is normal. See *Charging System Light on page 5-18* for more information. If there is a problem with the battery charging system, the DIC will display a message. See *Battery Voltage and Charging Messages on page 5-32*.

**Remaining Oil Life**

This display shows an estimate of the oil's remaining useful life. If REMAINING OIL LIFE 99% is displayed, that means 99% of the current oil life remains.

When the remaining oil life is low, the CHANGE ENGINE OIL SOON message will appear on the display. See *Engine Oil Messages on page 5-35*. The oil should be changed as soon as possible. See *Engine Oil on page 10-8*. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended in the Maintenance Schedule in this manual. See *Maintenance Schedule on page 11-4* for more information.

Remember, the Oil Life display must be reset after each oil change. It will not reset itself. Also, be careful not to reset the Oil Life display accidentally at any time other than when the oil has just been changed. It cannot be reset accurately until the next oil change. To reset the engine oil life system, press the SET/CLR button while the Oil Life display is active. See *Engine Oil Life System on page 10-10*.

**Tire Pressure**

The display will show a vehicle with the approximate pressures of all four tires. Tire pressure is displayed in either kilopascal (kPa) or in pounds per square inch (psi). See *Tire Pressure Monitor System on page 10-58* and *Tire Pressure Monitor Operation on page 10-59* for more information.

**Blank Display**

This display shows no information.

### Compass

The vehicle may have a compass display in the Driver Information Center (DIC). See *Compass on page 5-7*.

## Vehicle Messages

Messages displayed on the DIC indicate the status of the vehicle or some action that may be needed to correct a condition. Multiple messages may display one after the other.

The messages that do not require immediate action can be acknowledged and cleared by pressing SET/CLR. The messages that require immediate action cannot be cleared until that action is performed. All messages should be taken seriously and clearing the messages does not correct the problem.

### Battery Voltage and Charging Messages

#### BATTERY SAVER ACTIVE

This message displays when the vehicle has detected that the battery voltage is dropping beyond a reasonable point. The battery saver system starts reducing certain features of the vehicle that you may be able to notice. At the point that features are disabled, this message is displayed. It means that the vehicle is trying to save the charge in the battery. Turn off unnecessary accessories to allow the battery to recharge.

#### LOW BATTERY

This message is displayed when the battery voltage is low. See *Battery on page 10-24*.

### SERVICE BATTERY CHARGING SYSTEM

This message is displayed when there is a fault in the battery charging system. Take the vehicle to your dealer for service.

## Brake System Messages

### BRAKE FLUID LOW

This message is displayed when the brake fluid level is low. See *Brake Fluid on page 10-23*.

### BRAKES OVERHEATED

This message is displayed when the brakes are becoming overheated. You may see this when driving on hills. Shift to a lower gear.

### STEP ON BRAKE TO RELEASE PARK BRAKE

This message is displayed if you attempt to release the Electric Parking Brake without the brake pedal applied. See *Parking Brake on page 9-30* for more information.

### RELEASE PARKING BRAKE

This message is displayed if the Electric Parking Brake is on while the vehicle is in motion. Release it before you attempt to drive. See *Parking Brake on page 9-30* for more information.

### SERVICE BRAKE ASSIST

This message may be displayed when there is a problem with the brake boost assist system. When this message is displayed, the brake boost assist motor might be heard operating and you might notice pulsation in the brake pedal. This is normal under these conditions. Take the vehicle to your dealer for service.

### SERVICE PARKING BRAKE

This message is displayed when there is a problem with the parking brake. Take the vehicle to your dealer for service.

## Compass Messages

### CAL

This message is displayed when the compass needs to be calibrated. See *Compass on page 5-7*.

### – – –

Three dashes will be displayed if the compass needs service. See your dealer for service.

## Cruise Control Messages

### APPLY BRAKE BEFORE CRUISE

If this message displays when attempting to activate cruise control, apply the brake pedal and try again.

### CRUISE SET TO XXX

This message displays when the cruise control is set and shows the speed it was set to. See *Cruise Control on page 9-36* for more information.

## Door Ajar Messages

### DOOR OPEN

A door open symbol will be displayed on the DIC showing which door is open. If the vehicle has been shifted out of P (Park), a DOOR OPEN message will also be displayed. Close the door completely.

### HOOD OPEN

This message will display along with a hood open symbol when the hood is open. Close the hood completely.

### REAR ACCESS OPEN

This message will display along with a symbol when the liftgate is open. Close the liftgate completely.

## Engine Cooling System Messages

### A/C OFF DUE TO HIGH ENGINE TEMP

This message displays when the engine coolant becomes hotter than the normal operating temperature. To avoid added strain on a hot engine, the air conditioning compressor automatically turns off. When the coolant temperature returns to normal, the air conditioning compressor turns back on. You can continue to drive the vehicle.

If this message continues to appear, have the system repaired by your dealer as soon as possible to avoid damage to the engine.

### COOLANT LEVEL LOW ADD COOLANT

This message will display if the coolant is low. See *Engine Coolant on page 10-15*.

### ENGINE OVERHEATED— IDLE ENGINE

This message displays when the engine coolant temperature is too hot. Stop and allow the vehicle to idle until it cools down.

### ENGINE OVERHEATED— STOP ENGINE

This message displays and a continuous chime sounds if the engine cooling system reaches unsafe temperatures for operation. Stop and turn off the vehicle as soon as it is safe to do so to avoid severe damage. This message clears when the engine has cooled to a safe operating temperature.

### HIGH COOLANT TEMPERATURE

This message displays if the coolant temperature is hot. See *Engine Overheating on page 10-18*.

## Engine Oil Messages

### CHANGE ENGINE OIL SOON

This message displays when the engine oil needs to be changed. When you change the engine oil, be sure to reset the Oil Life System. See *Engine Oil Life System on page 10-10*, *Driver Information Center (DIC) on page 5-27*, *Engine Oil on page 10-8* and *Maintenance Schedule on page 11-4*.

### ENGINE OIL HOT, IDLE ENGINE

This message displays when the engine oil temperature is too hot. Stop and allow the vehicle to idle until it cools down.

### ENGINE OIL LOW — ADD OIL

This message displays when the engine oil level is too low. Check the oil level. See *Engine Oil on page 10-8*.

### OIL PRESSURE LOW — STOP ENGINE

This message displays if low oil pressure levels occur. Stop the vehicle as soon as safely possible and do not operate it until the cause of the low oil pressure has been corrected. Check the oil as soon as possible and have the vehicle serviced by your dealer.

## Engine Power Messages

### ENGINE POWER IS REDUCED

This message displays when the vehicle's engine power is reduced. Reduced engine power can affect the vehicle's ability to accelerate. If this message is on, but there is no reduction in performance, proceed to your destination. The performance may be reduced the next time the vehicle is driven. The vehicle may be driven at a reduced speed while this message is on, but maximum acceleration and speed may be reduced. Anytime this message stays on, the vehicle should be taken to your dealer for service as soon as possible.

## Fuel System Messages

### FUEL LEVEL LOW

This message displays when the vehicle is low on fuel. Refuel as soon as possible

### TIGHTEN GAS CAP

This message displays when the fuel cap is not on tight. Tighten the fuel cap.

## Key and Lock Messages

### NO REMOTE DETECTED

This message displays when trying to start the vehicle if an RKE transmitter is not detected. The transmitter battery may be weak. See “Starting the Vehicle with a Low Transmitter Battery” under *Remote Keyless Entry (RKE) System Operation on page 2-3*.

### NO REMOTE PRESS BRAKE TO RESTART

This message is displayed if the remote is no longer detected in the vehicle. Press the brake pedal to restart the vehicle.

### NUMBER OF KEYS PROGRAMMED

This message displays when programming new keys to the vehicle.

### REMOTE LEFT IN VEHICLE

This message displays when leaving the vehicle with the RKE transmitter still inside.

### REPLACE BATTERY IN REMOTE KEY

This message displays when the battery in the RKE transmitter needs to be replaced.

## Lamp Messages

### AFL (ADAPTIVE FORWARD LIGHTING) LAMPS NEED SERVICE

This message displays when the Adaptive Forward Lighting (AFL) system is disabled and needs service. See your dealer. See *Adaptive Forward Lighting (AFL) on page 6-3* for more information.

### AUTOMATIC LIGHT CONTROL ON

This message is displayed when the exterior lamp control is in AUTO and the lights have turned on. See *Twilight Sentinel on page 6-4*.

### AUTOMATIC LIGHT CONTROL OFF

This message is displayed when the exterior lamp control is in AUTO and the lights have turned off. See *Twilight Sentinel on page 6-4*.

### XXX TURN INDICATOR FAILURE

When one of the turn signals is out, this message displays to show which bulb needs to be replaced. See *Bulb Replacement on page 10-32* and *Replacement Bulbs on page 10-40* for more information on the turn signal bulb replacement.

### TURN SIGNAL ON

This message is displayed if the turn signal has been left on. Turn off the turn signal.

## Object Detection System Messages

### PARK ASSIST OFF

This message displays when the park assist system has been turned off or when there is a temporary condition causing the system to be disabled. See *Ultrasonic Parking Assist on page 9-38*.

### SERVICE PARKING ASSIST

This message displays if there is a problem with the Ultrasonic Front and Rear Parking Assist (UFRPA) system. Do not use this system to help you park. See *Ultrasonic Parking Assist on page 9-38* for more information. See your dealer for service.

## Ride Control System Messages

### SERVICE REAR AXLE

This message displays when there is a problem with the All-Wheel Drive (AWD) System. See your dealer for service.

### SERVICE STABILITRAK

This message displays if there is a problem with the StabiliTrak system. See *StabiliTrak® System on page 9-34*.

### SERVICE SUSPENSION SYSTEM

This message displays if there is a problem with the selective ride control. See *Selective Ride Control on page 9-35*.

### SERVICE TRACTION CONTROL

This message displays when there is a problem with the Traction Control System (TCS). See *Traction Control System (TCS) on page 9-32*.

### SPORT MODE ON

This message displays when Sport Mode has been activated. See *Selective Ride Control on page 9-35* and *Manual Mode on page 9-26* for more information.

## Airbag System Messages

### SERVICE AIRBAG

This message displays if there is a problem with the airbag system. Take the vehicle to your dealer for service.

## Safety Belt Messages

### BUCKLE SEATBELT

This message displays as a reminder when the safety belt is not buckled.

## Anti-theft Alarm System Messages

### THEFT ATTEMPTED

This message displays if the vehicle detects a tamper condition.

## Service Vehicle Messages

### SERVICE AC SYSTEM

This message is displayed if there is a problem with the air conditioning system. Take the vehicle to your dealer for service.

### SERVICE POWER STEERING

This message is displayed if there is a problem with the power steering system. Take the vehicle to your dealer for service.

### SERVICE VEHICLE SOON

This message is displayed if there is a problem with the vehicle. Take the vehicle to your dealer for service.

## Starting the Vehicle Messages

### PRESS BRAKE TO START VEHICLE

This message is displayed when attempting to start the vehicle without first pressing the brake pedal.

### SERVICE KEYLESS START SYSTEM

This message is displayed if there is a problem with the pushbutton start system. Take the vehicle to your dealer for service.

## Tire Messages

### SERVICE TIRE MONITOR SYSTEM

This message displays if there is a problem with the Tire Pressure Monitor System (TPMS). See *Tire Pressure Monitor Operation on page 10-59* for more information.

### TIRE LEARNING ACTIVE

This message displays when the system is learning new tires. See *Tire Pressure Monitor Operation on page 10-59* for more information.

### TIRE LOW ADD AIR TO TIRE

This message displays when the pressure in one or more of the tires is low.

This message also displays LEFT FRONT, RIGHT FRONT, LEFT REAR, or RIGHT REAR to indicate the location of the low tire.

The low tire pressure warning light will also come on. See *Tire Pressure Light on page 5-24*.

If a tire pressure message appears on the DIC, stop as soon as you can. Inflate the tires by adding air until the tire pressure is equal to the values shown on the Tire and Loading Information label. See *Tires on page 10-49*, *Vehicle Load Limits on page 9-10*, and *Tire Pressure on page 10-56*.

You can receive more than one tire pressure message at a time. The DIC also shows the tire pressure values. See *Driver Information Center (DIC) on page 5-27*.

## Transmission Messages

### SERVICE TRANSMISSION

This message displays if there is a problem with the transmission. See your dealer.

### SHIFT DENIED

This message displays when using the Driver Shift Control (DSC) and attempting to shift to a gear not appropriate for the vehicle speed and engine revolutions per minute (rpm). See *Manual Mode on page 9-26* for more information.

### SHIFT TO PARK

This message displays when the transmission needs to be shifted to P (Park). This may appear when attempting to remove the key from the vehicle if the vehicle is not in P (Park).

### TRANSMISSION HOT — IDLE ENGINE

This message displays and a chime sounds if the transmission fluid in the vehicle gets hot. Driving with the transmission fluid temperature high can cause damage to the vehicle. Stop the vehicle and let it idle to allow the transmission to cool. This message clears when the fluid temperature reaches a safe level.

## Vehicle Reminder Messages

### ICE POSSIBLE DRIVE WITH CARE

This message is displayed when ice conditions are possible.

### TURN WIPER CONTROL TO INTERMITTENT FIRST

This message is displayed when attempting to adjust the intermittent wiper speed without intermittent selected on the wiper control. See *Windshield Wiper/Washer on page 5-4*.

## Vehicle Speed Messages

### SELECTED SPEED LIMIT EXCEEDED

This message is displayed when the vehicle speed is greater than the set speed. See "Speed Warning" under *Driver Information Center (DIC) on page 5-27*.

## Washer Fluid Messages

### WASHER FLUID LOW ADD FLUID

This message may display when the washer fluid level is low. See *Washer Fluid on page 10-21*.

# Vehicle Personalization

The audio system controls are used to access the personalization menus for customizing vehicle features. Not all features are available on every vehicle. Only the features available on a particular vehicle will be displayed on that vehicle.

**CONFIG (Configuration):** Press to access the Configuration Settings Menu.

**MENU/SELECT Knob:** Press the center of this knob to enter the menus and select menu items. Turn the knob to scroll through the menus.

**⇦ BACK or BACK ⇦ (depending on system):** Press to exit or move backward in a menu.

**Entering the Personalization Menus**

1. Press CONFIG to access the Configuration Settings menu.
2. Turn the MENU/SELECT knob to highlight Vehicle Settings.
3. Press the center of the MENU/SELECT knob to select the Vehicle Settings menu.

The following list of menu items will be available:

- Climate and Air Quality
- Comfort and Convenience
- Language
- Lighting
- Power Door Locks
- Remote Lock/Unlock/Start
- Return to Factory Settings

Turn the MENU/SELECT knob to highlight the menu. Press the knob to select it. Each of the menus is detailed in the following information.

## Climate and Air Quality

Select the Climate and Air Quality menu and the following will be displayed:

- Auto Fan Speed
- Air Quality Sensor
- Remote Start Auto Seat Cool
- Remote Start Auto Heated Seats
- Auto Defog
- Auto Rear Defog

### Auto Fan Speed

This will allow you to select the automatic fan speed. This feature sets the climate control fan speed to maintain the interior temperature.

Press the MENU/SELECT knob when Auto Fan Speed is highlighted to open the menu. Turn the knob to highlight High, Medium, or Low. Press the knob to confirm the selection and move back to the last menu.

### Air Quality Sensor

This will allow you to select whether the system will operate at high or low sensitivity. Only vehicles with the dual zone climate control will have this option.

Press the MENU/SELECT knob when Air Quality Sensor is highlighted to open the menu. Turn the knob to highlight High or Low Sensitivity. Press the knob to confirm the selection and move back to the last menu.

### Remote Start Auto Seat Cool

When on, this feature will turn the vented seats on when using remote start on warm days.

Press the MENU/SELECT knob when Remote Start Auto Seat Cool is highlighted. Turn the knob to select On or Off. Press the knob to confirm and go back to the last menu.

### Remote Start Auto Heated Seats

When on, this feature will turn the heated seats on when using remote start on cold days.

Press the MENU/SELECT knob when Remote Start Auto Heated Seats is highlighted. Turn the knob to select On or Off. Press the knob to confirm and go back to the last menu.

### Auto Defog

This will allow you to turn the auto defog on or off.

Press the MENU/SELECT knob when Auto Defog is highlighted to open the menu. Turn the knob to highlight On or Off. Press the knob to confirm the selection and move back to the last menu.

**Auto Rear Defog**

This will allow you to turn the auto rear defog on or off.

Press the MENU/SELECT knob when Auto Rear Defog is highlighted to open the menu. Turn the knob to highlight On or Off. Press the knob to confirm the selection and move back to the last menu.

## Comfort and Convenience

Select the Comfort and Convenience menu and the following will be displayed:

- Easy Exit Driver Seat
- Chime Volume
- Reverse Tilt Mirror
- Auto Wipe in Reverse Gear

**Easy Exit Driver Seat**

This allows you to turn the easy exit driver seat feature on or off. When on, this feature will move the driver seat rearward upon turning the ignition off and the driver door opened. This may be performed to make it easier to exit the vehicle. See *Power Seat Adjustment on page 3-5* for more information.

Press the MENU/SELECT knob when Easy Exit Driver Seat is highlighted. Turn the knob to select On or Off. Press the knob to confirm and go back to the last menu.

**Chime Volume**

This allows the selection of the chime volume level.

Press the MENU/SELECT knob when Chime Volume is highlighted. Turn the knob to select Normal or High. Press the knob to confirm and go back to the last menu.

**Reverse Tilt Mirror**

This allows you to turn the reverse tilt mirror feature on or off. When on, both the driver and passenger mirrors will tilt downward when vehicle is shifted to R (Reverse) to improve visibility of the ground near the rear wheels. They will return to their previous driving position when the vehicle is shifted out of R (Reverse), the ignition is turned to OFF, or the vehicle is left in reverse.

Press the MENU/SELECT knob when Reverse Tilt Mirror is highlighted. Turn the knob to select Driver & Passenger or Off. Press the knob to confirm and go back to the last menu.

**Auto Wipe in Reverse Gear**

When on, and the front windshield wipers are on, the rear window wiper will turn on automatically when the vehicle is shifted into R (Reverse).

Press the MENU/SELECT knob when Auto Wipe in Reverse Gear is highlighted. Turn the knob to select On or Off. Press the knob to confirm and go back to the last menu.

## Language

Select the Language menu and the following will be displayed:

- English
- French
- Spanish

Turn the MENU/SELECT knob to select the language. Press the knob to confirm and go back to the last menu.

## Lighting

Select the Lighting menu and the following will be displayed:

- Vehicle Locator Lights
- Exit Lighting

### Vehicle Locator Lights

This allows the vehicle locator lights to be turned on or off.

Press the MENU/SELECT knob when Vehicle Locator Lights is highlighted. Turn the knob to select On or Off. Press the knob to confirm and go back to the last menu.

### Exit Lighting

This allows the selection of how long the exterior lamps stay on when leaving the vehicle when it is dark outside.

Press the MENU/SELECT knob when Exit Lighting is highlighted. Turn the knob to select Off, 30 Seconds, 1 Minute, or 2 Minutes. Press the knob to confirm and go back to the last menu.

## Power Door Locks

Select Power Door Locks and the following will be displayed:

- Unlocked Door Anti Lock Out
- Auto Door Unlock
- Delayed Door Lock

### Unlocked Door Anti Lock Out

When on, this feature will keep the driver door from locking when the door is open. If Off is selected, the Delayed Door Lock menu will be available and the door will lock as programmed through this menu.

Press the MENU/SELECT knob when Auto Door Unlock is highlighted. Turn the knob to select On or Off. Press the knob to confirm and go back to the last menu.

**Auto Door Unlock**

This allows selection of which of the doors will automatically unlock when the vehicle is shifted into P (Park).

Press the MENU/SELECT knob when Auto Door Unlock is highlighted. Turn the knob to select All Doors, Driver Door, or Off. Press the knob to confirm and go back to the last menu.

**Delayed Door Lock**

When on, this feature will delay the locking of the doors until five seconds after the last door is closed. You will hear three chimes to signal delayed locking is in use. Pressing either the power lock button or the lock button on the RKE transmitter twice will override the delayed locking feature and immediately lock all of the doors.

Press the MENU/SELECT knob when Delayed Door Lock is highlighted. Turn the knob to select On or Off. Press the knob to confirm and go back to the last menu.

## Remote Lock/Unlock/Start

Select Remote Lock/Unlock/Start and the following will be displayed:

- Unlock Feedback (Lights)
- Locking Feedback
- Door Unlock Options
- Passive Door Lock
- Passive Door Unlock
- Memory Remote Recall
- Remote Left in Vehicle Reminder

**Unlock Feedback (Lights)**

When on, the exterior lamps will flash when unlocking the vehicle with the RKE transmitter.

Press the MENU/SELECT knob when Unlock Feedback (Lights) is highlighted. Turn the knob to select Flash Lights or Off. Press the knob to confirm and go back to the last menu.

**Locking Feedback**

This allows selection of what type of feedback is given when locking the vehicle with the RKE transmitter.

Press the MENU/SELECT knob when Locking Feedback is highlighted. Turn the knob to select Lights and Horn, Lights Only, Horn Only, or Off. Press the knob to confirm and go back to the last menu.

**Door Unlock Options**

This allows selection of which doors will unlock when pressing the unlock button on the RKE transmitter.

Press the MENU/SELECT knob when Door Unlock Options is highlighted. Turn the knob to select All Doors or Driver Door Only. When set to Driver Door Only, the driver door will unlock the first time the unlock button is pressed and all doors will unlock when the button is pressed a second time.

When set to All Doors, all of the doors will unlock at the first press of the unlock button. Press the knob to confirm and go back to the last menu.

**Passive Door Lock**

If the vehicle has the Remote Keyless Entry (RKE) system, when enabled, this feature allows the doors to lock after several seconds if all doors are closed and at least one RKE transmitter has been removed from the interior of the vehicle. It does not matter how far away the RKE transmitter is from the vehicle. This feature can also be configured to chirp the horn when the doors are passively locked.

Press the MENU/SELECT knob when Passive Door Lock is highlighted. Turn the knob to select On With Chirp, On, or Off. Press the knob to confirm and go back to the last menu.

**Passive Door Unlock**

If the vehicle has the RKE system, this feature allows you to select which doors will automatically unlock when you open the driver door with the RKE transmitter present.

Press the MENU/SELECT knob when Passive Door Unlock is highlighted. Turn the knob to select All Doors or Driver Door. Press the knob to confirm and go back to the last menu.

**Memory Remote Recall**

This allows the Memory Remote Recall feature to be turned on or off.

Press the MENU/SELECT knob when Memory Remote Recall is highlighted. Turn the knob to select On or Off. Press the knob to confirm and go back to the last menu.

**Remote Left in Vehicle Reminder**

This allows the Remote Left In Vehicle reminder feature to be turned on or off. If on, the horn will chirp if a remote is left in the vehicle.

Press the MENU/SELECT knob when Remote Left In Vehicle is highlighted. Turn the knob to select On or Off. Press the knob to confirm and go back to the last menu.

### Return to Factory Settings

Select Return to Factory Settings to return all of the vehicle personalization to the default settings. Turn the knob to select Yes or No. Press the knob to confirm and go back to the last menu.

# Universal Remote System

See *Radio Frequency Statement on page 13-23* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

## Universal Remote System Programming



If the vehicle has this feature, you will see these buttons with one indicator light next to them in the overhead console.

This system provides a way to replace up to three remote control transmitters used to activate devices such as garage door openers, security systems, and home automation devices.

Do not use the Universal Remote system with any garage door opener that does not have the stop and reverse feature. This includes any garage door opener model manufactured before April 1,1982.

Read the instructions completely before attempting to program the Universal Remote system. Because of the steps involved, it may be helpful to have another person available to assist with programming the Universal Remote system.

Keep the original hand-held transmitter for use in other vehicles as well as for future Universal Remote system programming. It is also recommended that upon the sale of the vehicle, the programmed Universal Remote system buttons be erased for security purposes. See “Erasing Universal Remote System Buttons” later in this section.

When programming a garage door, park outside of the garage. Park directly in line with and facing the garage door opener motor-head or gate motor-head. Be sure that people and objects are clear of the garage door or gate being programmed.

It is recommended that a new battery be installed in the hand-held transmitter for quicker and more accurate transmission of the radio-frequency signal.

### Programming the Universal Remote System

For questions or help programming the Universal Remote system, call 1-800-355-3515 or go to www.homelink.com.

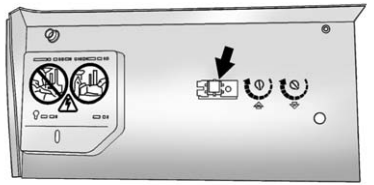
Programming a garage door opener involves time-sensitive actions, so read the entire procedure before starting. Otherwise, the device will time out and the procedure will have to be repeated.

To program up to three devices:

1. Hold the end of the hand-held transmitter about 3 to 8 cm (1 to 3 in) away from the Universal Remote system buttons while keeping the indicator light in view. The hand-held transmitter was supplied by the manufacturer of the garage door opener receiver (motor-head unit).
2. At the same time, press and hold both the hand-held transmitter button and one of the three Universal Remote system buttons to be used to operate the garage door. Do not release the Universal Remote system button or the hand-held transmitter button until the indicator light changes from a slowly to a rapidly flashing light. You now may release both buttons.

   Some entry gates and garage door openers may require substitution of Step 2 with the procedure noted in “Gate Operator and Canadian Programming” later in this section.
3. Press and hold for five seconds the newly trained Universal Remote system button (the button selected in Step 2) while observing the indicator light and garage door activation.
   - If the indicator light stays on continuously or the garage door starts to move when the Universal Remote system button is pressed and released, then the programming is complete. There is no need to continue programming Steps 4–6.
   - If the Universal Remote system indicator light blinks rapidly for two seconds, then turns to a constant light and the garage door does not move, continue with programming Steps 4–6.

     It may be helpful to have another person assist with the remaining Steps 4–6.



**“Learn” or “Smart” Button**

4. After Steps 1–3 have been completed, locate the “Learn” or “Smart” button inside the garage on the garage door opener receiver (motor-head unit). The name and color of the button may vary by manufacturer.
5. Firmly press and release the “Learn” or “Smart” button. After pressing this button, you will have 30 seconds to complete Step 6.
6. Immediately return to the vehicle. Firmly press and hold for two seconds the Universal Remote system button, selected in Step 2 to control the garage door, and then release it. If the garage door does not move or the lamp on the garage door opener receiver (motor-head unit) does not flash, press and hold the same button a second time for two seconds, then release it. Again, if the door does not move or the garage door lamp does not flash, press and hold the same button a third time for two seconds, then release.

The Universal Remote system should now activate the garage door.

To program the remaining two Universal Remote system buttons, begin with Step 1 of “Programming the Universal Remote System.”

### Gate Operator and Canadian Programming

If you have questions or need help programming the Universal Remote system, call 1-800-355-3515 or go to www.homelink.com.

Canadian radio-frequency laws require transmitter signals to time out or quit after several seconds of transmission. This may not be long enough for the Universal Remote system to pick up the signal during programming. Similarly, some U.S. gate operators are manufactured to time out in the same manner.

If you live in Canada, or you are having difficulty programming a gate operator or garage door opener by using the “Programming the Universal Remote System” procedures, regardless of where you live, replace Step 2 under “Programming the Universal Remote System” with the following:

Continue to press and hold the Universal Remote system button while you press and release every two seconds (cycle) the hand-held transmitter button until the frequency signal has been successfully accepted by the Universal Remote system. The Universal Remote system indicator light will flash slowly at first and then rapidly. Proceed with Step 3 under “Programming the Universal Remote System” to complete.

## Universal Remote System Operation

### Using the Universal Remote System

Press and hold the appropriate Universal Remote system button for at least half of a second. The indicator light will come on while the signal is being transmitted.

### Erasing Universal Remote System Buttons

All programmed buttons should be erased when the vehicle is sold or the lease ends.

To erase all programmed buttons on the Universal Remote system device:

1. Press and hold down the two outside buttons until the indicator light begins to flash. This should take about 10 seconds.
2. Release both buttons.

### Reprogramming a Single Universal Remote System Button

To reprogram any of the three Universal Remote system buttons:

1. Press and hold the desired Universal Remote system button. Do not release the button.
2. The indicator light will begin to flash after 20 seconds. Without releasing the button, proceed with Step 1 under “Programming the Universal Remote System.”

If you have questions or need help programming the Universal Remote system, call 1-800-355-3515 or go to www.homelink.com. You may also call the customer assistance phone number under *Customer Assistance Offices (U.S. and Canada) on page 13-5* or *Customer Assistance Offices (Mexico) on page 13-5*.

## ✍ NOTES

# Lighting

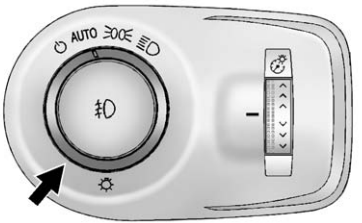
**Exterior Lighting**
Exterior Lamp Controls . . . . . 6-1
Headlamp High/Low-Beam Changer . . . . . 6-2
Flash-to-Pass . . . . . 6-2
Daytime Running Lamps (DRL) . . . . . 6-3
Adaptive Forward Lighting (AFL) . . . . . 6-3
Twilight Sentinel . . . . . 6-4
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**Lighting Features**
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# Exterior Lighting

## Exterior Lamp Controls




The exterior lamp control is located on the instrument panel to the left of the steering column.

It controls the following systems:

- Headlamps
- Taillamps
- Parking Lamps
- License Plate Lamps
- Instrument Panel Lights
- Fog Lamps

The exterior lamps control has four positions:

⏻ **(Off):** Briefly turn to this position to turn the automatic light control off or on again.

**AUTO (Automatic):** Turns the headlamps on automatically at normal brightness, together with the following:

- Parking Lamps
- Taillamps
- License Plate Lamps
- Instrument Panel Lights

**(Parking Lamps):** Turns the parking lamps on together with the following:

- Taillamps
- License Plate Lamps
- Instrument Panel Lights

**(Headlamps):** Turns the headlamps on together with the lamps listed below. A warning chime sounds if the driver door is opened when the ignition switch is off and the headlamps are on.

- Parking Lamps
- Taillamps
- License Plate Lamps
- Instrument Panel Lights

**(Front Fog Lamps):** For vehicles with fog lamps, press to turn the lamps on or off.

See *Front Fog Lamps on page 6-6*.

## Headlamp High/ Low-Beam Changer

Push the turn signal/lane change lever away from you and release, to turn the high beams on. To return to low beams, push the lever again or pull it toward you and release.



This indicator light turns on in the instrument panel cluster when the high-beam headlamps are on.

## Flash-to-Pass

The flash-to-pass feature works with the low beams or Daytime Running Lamps (DRL) on or off.

To flash the high beams, pull the turn signal/lane change lever all the way toward you, then release it.

## Daytime Running Lamps (DRL)

Daytime Running Lamps (DRL) can make it easier for others to see the front of your vehicle during the day. Fully functional daytime running lamps are required on all vehicles first sold in Canada.

A light sensor on top of the instrument panel makes the DRL work, so be sure it is not covered.

The DRL system makes the low-beam headlamps come on at a reduced brightness or for vehicles with High Intensity Discharge (HID) headlamps, the DRL lights will come on when the following conditions are met:

- The ignition is in the ON/RUN mode.
- The exterior lamps control is in AUTO.
- The engine is running.

When the DRL are on, only the low-beam headlamps, at a reduced level of brightness, will be on. The high-beam headlamps, taillamps, sidemarker, instrument panel lamps, and other lamps will not be on.

The headlamps automatically change from DRL to the regular headlamps depending on the darkness of the surroundings. The other lamps that come on with the headlamps will also come on.

When it is bright enough outside, the headlamps go off and the DRL come on.

To turn the DRL lamps off or on again, turn the exterior lamps control to the off position and then release. For vehicles first sold in Canada, the DRL cannot be turned off.

This vehicle may have a DRL disabling function. When the DRL are on and a turn signal is activated, the DRL on that side will be off until the turn signal goes off.

## Adaptive Forward Lighting (AFL)

For vehicles with uplevel headlamps, the Adaptive Forward Lighting System (AFL) adjusts the headlamps to provide greater road illumination in various driving conditions.

To enable AFL, set the exterior lamp control to the AUTO position. Moving the control out of the AUTO position will deactivate the system. AFL will operate when the vehicle speed is greater than 3 km/h (2 mph). AFL will not operate when the transmission is in R (Reverse). AFL is not immediately operable after starting the vehicle; driving a short distance is required to calibrate the AFL. See *Exterior Lamp Controls on page 6-1*.

### Curve Lighting

The light beam pivots based on the steering wheel position and vehicle speed of at least 10 km/h (6 mph). The headlamps shine at an angle of up to 15 degrees to the right or left of the direction of travel.

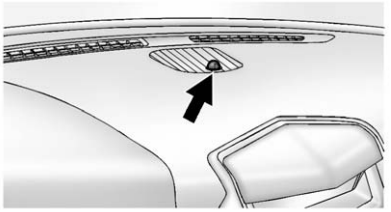
### Highway Lighting

If the vehicle is traveling straight continuously at high speeds, the light beam automatically raises slightly to increase the headlamp range.

### City Lighting

If the vehicle speed is less than 50 km/h (31 mph), the headlamp range is automatically reduced.

## Twilight Sentinel



This feature automatically turns the lamps on and off. A light sensor on top of the instrument panel makes the Twilight Sentinel® work, so be sure it is not covered.

With Twilight Sentinel the following will happen:

- When it is dark enough outside, and the exterior lamp control is in the AUTO position, the Daytime Running Lamps (DRL) go off, and the headlamps and parking lamps come on. The other lamps that come on with the headlamps also come on.
- When it is bright enough outside, the headlamps go off, and the DRL come on, as long as the exterior lamp control is in the AUTO position. See *Exterior Lamp Controls on page 6-1*.

If the vehicle is started in a dark garage, the automatic headlamp system comes on immediately. If it is light outside when the vehicle leaves the garage, there is a slight delay before the automatic headlamp system changes to the DRL. During that delay, the instrument panel cluster may not be as bright as usual. Make sure the instrument panel brightness control is in full bright position. See *Instrument Panel Illumination Control on page 6-7* for more information.

The vehicle can be idled with the lamps off, even when it is dark outside. After starting the vehicle, turn the exterior lamps control to off, then release it. The lamps will remain off until the control is turned to off again.

Twilight Sentinel also provides exterior illumination as you leave the vehicle. If Twilight Sentinel has turned on the lamps when the ignition is turned off, the lamps remain on until one of the following occurs:

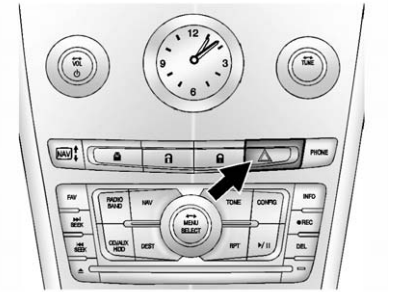
- The exterior lamp control is moved from ⏻ to the parking lamp position.
- The delay time selected has elapsed.

See *Vehicle Personalization on page 5-40* to select the delay time. You can also select no delay time.

If the ignition is turned off with the exterior lamps control in the parking lamp or headlamp position, the Twilight Sentinel delay will not occur. The lamps will turn off as soon as the control is turned off.

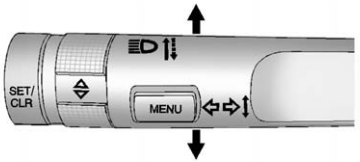
The regular headlamp system should be turned on when needed.

## Hazard Warning Flashers




⚠ **(Hazard Warning Flashers):** Press this button on the instrument panel, to make the front and rear turn signal lamps flash on and off. This warns others that you are having trouble. Press again to turn the flashers off.

## Turn and Lane-Change Signals




An arrow on the instrument panel cluster will flash in the direction of the turn or lane change.

Move the lever all the way up or down to signal a turn.

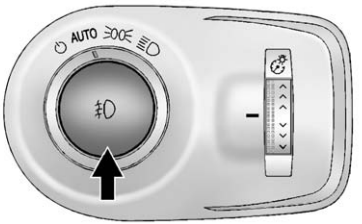
Raise or lower the lever until the arrow starts to flash to signal a lane change. The turn signal flashes three times.

The lever returns to its starting position when it is released.

If after signaling a turn or lane change the arrow flashes rapidly or does not come on, a signal bulb may be burned out.

Replace any burned out bulbs. If the bulb is not burned out, check the fuse. See *Fuses and Circuit Breakers on page 10-41* for more information.

## Front Fog Lamps




The front fog lamp button is located on the exterior lamp control, on the outboard side of the steering wheel.

The ignition must be on to turn on the fog lamps.

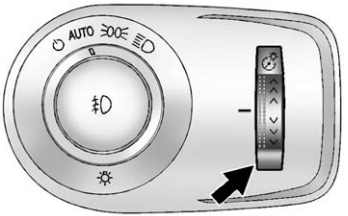
**(Front Fog Lamps):** Press to turn the fog lamps on or off. An indicator light on the instrument panel cluster comes on when the fog lamps are on.

The fog lamps come on together with the parking lamps.

Some localities have laws that require the headlamps to be on along with the fog lamps.

# Interior Lighting

## Instrument Panel Illumination Control




The brightness of the instrument panel lights and steering wheel controls can be adjusted.

**(Instrument Panel Brightness):** Move and hold the thumbwheel up or down to brighten or dim the lights.

## Cargo Lamp

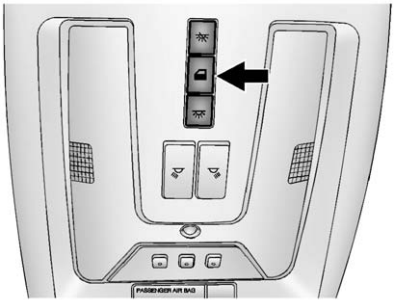
The cargo lamp is located in the rear compartment and is controlled by the dome lamp. See *Dome Lamps on page 6-7*.

## Courtesy Lamps

The courtesy lamps come on automatically when any door is opened and the dome lamp is in the door position.

## Dome Lamps

The dome lamp is located in the overhead console.



To change the dome lamp settings, press the following:

**(Dome Lamp Override):** Turns the lamp off, even when a door is open.

**(Door):** The lamp comes on automatically when a door is opened.

**(On):** Turns the dome lamp on.

## Reading Lamps

There are reading lamps located on the overhead console and over the rear passenger doors. These lamps come on automatically when any door is opened.

To manually turn the reading lamps on or off:

- Press or next to each overhead console reading lamp.
- Press the lamp lens on the rear passenger reading lamps.

# Lighting Features

## Entry Lighting

The headlamps, taillamps, license plate lamps, back-up lamps, dome lamps, and most of the interior lights turn on briefly, when is pressed on the Remote Keyless Entry (RKE) transmitter, or when the door handle is pulled. After about 30 seconds the exterior lamps turn off, and then the dome and remaining interior lights dim to off. The entry lighting can be manually turned off by changing the ignition out of the off position, or by pressing on the RKE transmitter.

This feature can be changed. See *Vehicle Personalization on page 5-40*.

## Exit Lighting

The headlamps, taillamps, parking lamps, back-up lamps, and license plate lamps come on at night, or in areas with limited lighting, when a door is opened after the ignition is turned off. The dome lamps also come on when a door is opened after the ignition is changed to the off position.

The exterior lights and dome lamp remain on after the door is closed for a set amount of time, then automatically turn off.

The exterior lights turn off immediately by turning the exterior lamps control to off.

This feature can be changed. See *Vehicle Personalization on page 5-40*.

## Battery Load Management

The vehicle has Electric Power Management (EPM) that estimates the battery's temperature and state of charge. It then adjusts the voltage for best performance and extended life of the battery.

When the battery's state of charge is low, the voltage is raised slightly to quickly bring the charge back up. When the state of charge is high, the voltage is lowered slightly to prevent overcharging. If the vehicle has a voltmeter gauge or a voltage display on the Driver Information Center (DIC), you may see the voltage move up or down. This is normal. If there is a problem, an alert will be displayed.

The battery can be discharged at idle if the electrical loads are very high. This is true for all vehicles. This is because the generator (alternator) may not be spinning fast enough at idle to produce all of the power needed for very high electrical loads.

A high electrical load occurs when several of the following are on, such as: headlamps, high beams, fog lamps, rear window defogger, climate control fan at high speed, heated seats, engine cooling fans, trailer loads, and loads plugged into accessory power outlets.

EPM works to prevent excessive discharge of the battery. It does this by balancing the generator's output and the vehicle's electrical needs. It can increase engine idle speed to generate more power whenever needed. It can temporarily reduce the power demands of some accessories.

Normally, these actions occur in steps or levels, without being noticeable. In rare cases at the highest levels of corrective action, this action may be noticeable to the driver. If so, a DIC message might be displayed and it is recommended that the driver reduce the electrical loads as much as possible.
See *Battery Voltage and Charging Messages on page 5-32*.

## ✍ NOTES

# Infotainment System

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# Introduction

## Infotainment

Read the following pages to become familiar with the audio system's features.

**⚠ WARNING**

Taking your eyes off the road for extended periods could cause a crash resulting in injury or death to you or others. Do not give extended attention to infotainment tasks while driving.

This system provides access to many audio and non-audio listings.

To minimize taking your eyes off the road while driving, do the following while the vehicle is parked:

- Become familiar with the operation and controls of the audio system.
- Set up the tone, speaker adjustments, and preset radio stations.

For more information, see *Defensive Driving on page 9-3*.

This vehicle's infotainment system may be equipped with a noise reduction system which can work improperly if the audio amplifier, engine calibrations, exhaust system, microphones, radio, or speakers are modified or replaced. This could result in more noticeable engine noise at certain speeds.

***Notice:*** **Contact your dealer before adding any equipment.**

**Adding audio or communication equipment could interfere with the operation of the engine, radio, or other systems, and could damage them. Follow federal rules covering mobile radio and telephone equipment.**

The vehicle has Retained Accessory Power (RAP). With RAP, the audio system can be played even after the ignition is turned off. See *Retained Accessory Power (RAP) on page 9-21* for more information.

### Navigation System

For vehicles with a navigation system, see the separate navigation manual.

## Theft-Deterrent Feature

The theft-deterrent feature works by learning a portion of the Vehicle Identification Number (VIN) to the infotainment system. The infotainment system does not operate if it is stolen or moved to a different vehicle.

## Overview (Radio with CD)




A. VOL/ ⏻
- Turns the system on or off and adjusts the volume.

B. Buttons 1 to 6
- Radio: Saves and selects favorite stations.

C. TUNE
- Radio: Manually selects radio stations.
- CD: Selects tracks.

D. FAV
- Radio: Opens the favorites list.

E. ⏭ SEEK
- Radio: Seeks the next station.
- CD: Selects the next track or fast forwards within a track.

F. ⏮ SEEK
- Radio: Seeks the previous station.
- CD: Selects the previous track or rewinds within a track.

G. ⏏ (CD Eject)
- Removes a disc from the CD slot.

H. CD
- Selects the CD player when listening to a different audio source.

I. RADIO/BAND
- Changes the band while listening to the radio.
- Selects the radio when listening to a different audio source.

J. ⏵/⏸
- CD: Pauses the CD.

K. CD Slot
- Insert a CD.

L. MENU/SELECT
- Press: Selects menu items.
- Turn: Opens menus, highlights menu items, or sets numeric values while in a menu.

M. BACK ⇦
- Menu: Moves one level back.
- Character Input: Deletes the last character.

N. CONFIG
- Opens the settings menu.

O. PHONE
- Opens the phone main menu.
- Mutes the audio system.

P. TONE
- Opens the tone menu.

Q. AUX
- Selects a connected external audio source.

R. INFO
- Radio: Shows available information about the current station.
- CD: Shows available information about the current track.

## Overview (Radio with CD/DVD and MEM)




A. VOL/ ⏻
- Turns the system on or off and adjusts the volume.

B. Buttons 1 to 6
- Radio: Saves and selects favorite stations.
- MEM: Saves and selects favorite tracks and playlists.

C. TUNE/INFO
- Radio: Manually selects radio stations and shows available information about the current station.
- CD: Selects tracks and shows available information about the current track.
- MEM: Selects tracks and shows available information about the current track.

D. FAV
- Radio: Opens the favorites list.
- MEM: Opens the favorites list.

E. ⏭ SEEK
- Radio: Seeks the next station.
- CD/DVD: Selects the next track or fast forwards within a track.
- MEM: Selects the next track or fast forwards within a track.

F. ⏮ SEEK
- Radio: Seeks the previous station.
- CD/DVD: Selects the previous track or rewinds within a track.
- MEM: Selects the previous track or rewinds within a track.

G. ⏏ (CD Eject)
- Removes a disc from the CD slot.

H. RADIO/BAND
- Changes the band while listening to the radio.
- Selects the radio when listening to a different audio source.

I. MEM/CD/AUX
- Selects MEM, CD/DVD, USB, or a connected auxiliary audio or auxiliary audio/video source.

J. ⏵/⏸
- Radio: Pauses time shifted content.
- CD/DVD: Pauses CD/DVD-A and DVD-V playback.
- MEM: Pauses MEM playback.

K. CD/DVD Slot
- Insert a disc.

L. MENU/SELECT
- Press: Selects menu items.
- Turn: Open menus, highlights menu items, or sets numeric values while in a menu.

M. TONE
- Opens the tone menu.

N. ⇦ BACK
- Menu: Moves one level back.
- Character Input: Deletes the last character.

O. CONFIG
- Opens the settings menu.

P. DEL
- MEM: Deletes the current track from MEM.

Q. ○ REC

- CD/DVD: Records content from audio CDs and MP3/WMA CDs.
- AUX: Records content from USB mass storage devices.

R. PHONE

- Opens the phone main menu.
- Mutes the audio system.

# Operation

## Controls

The infotainment system is operated by using the pushbuttons, multifunction knobs, menus shown on the display, and steering wheel controls, if equipped.

## Turning the System On or Off

**VOL/ ⏻ (Volume/Power):** Press to turn the system on and off.

### Automatic Switch-Off

If the infotainment system has been turned on after the ignition is turned off, the system will turn off automatically after 10 minutes.

## Volume Control

**VOL/ ⏻ (Volume/Power):** Turn to adjust the volume.

**PHONE:** For vehicles with OnStar, press and hold PHONE to mute the infotainment system. Press and hold PHONE again, or turn the VOL/ ⏻ knob to cancel mute.

For vehicles without OnStar®, press PHONE to mute the infotainment system. Press PHONE again, or turn the VOL/ ⏻ knob to cancel mute.

## Menu System

### Controls

The MENU/SELECT knob and the BACK ⇦ button are used to navigate the menu system.

**MENU/SELECT:** Press to:

- Select or activate the highlighted menu option.
- Confirm a set value.
- Turn a system setting on or off.

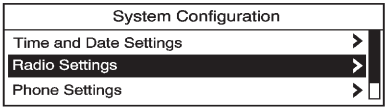
Turn to:

- Enter the menu system.
- Highlight a menu option.
- Select a value.

**BACK ⇦ :** Press to:

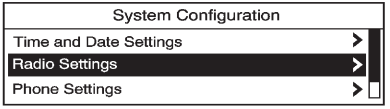
- Exit a menu.
- Return from a submenu screen to the previous menu screen.
- Delete the last character in a sequence.

### Selecting a Menu Option



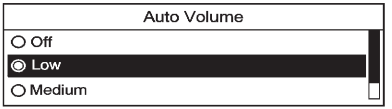

1. Turn the MENU/SELECT knob to move the highlighted bar.
2. Press the MENU/SELECT button to select the highlighted option.

### Submenus




An arrow on the right-hand edge of the menu indicates that it has a submenu with other options.

### Activating a Setting



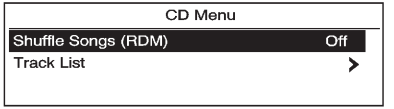

1. Turn the MENU/SELECT knob to highlight the setting.
2. Press the MENU/SELECT button to activate the setting.

### Setting a Value



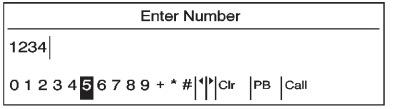

1. Turn the MENU/SELECT knob to change the current value of the setting.
2. Press the MENU/SELECT button to confirm the setting.

### Turning a Function On or Off




1. Turn the MENU/SELECT knob to highlight the function.
2. Press the MENU/SELECT button to turn the function on or off.

### Entering a Character Sequence




1. Turn the MENU/SELECT knob to highlight the character.
2. Press the MENU/SELECT button to select the character.

Press the BACK ⇦ button to delete the last character in the sequence or press and hold to delete the entire character sequence.

## Audio Settings

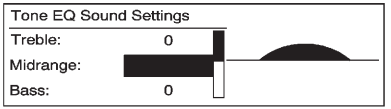
The audio settings can be set for each radio band and each audio player source.

To quickly reset an audio setting value to 0:

1. Press the TONE button.
2. Select the audio setting.
3. Press and hold the MENU/SELECT button until the value changes to 0.

Press the BACK ⇦ button to go back to the Tone Settings menu.

### Adjusting the Treble, Midrange, and Bass




1. Press the TONE button.
2. Select Treble, Midrange, or Bass.
3. Select the value.

Press the BACK ⇦ button to go back to the Tone Settings menu.

### Adjusting the Fader and Balance




1. Press the TONE button.
2. Select Fader or Balance.
3. Select the value.

Press the BACK ⇦ button to go back to the Tone Settings menu.

### Adjusting the EQ (Equalizer)

For vehicles that have an equalizer:

1. Press the TONE button.
2. Select EQ.
3. Select the setting.

Press the BACK ⇦ button to go back to the Tone Settings menu.

**DSP (Digital Signal Processing) Settings**

For vehicles with DSP, it is used to provide a choice of different listening experiences.

- *2.0 Normal* - Select this setting to adjust the audio for normal mode. This provides the best sound quality for all seating positions.
- *Centerpoint* - Centerpoint® signal processing circuitry. This setting creates a surround sound listening experience from stereo CDs and satellite radio.

  For more information on Bose® Centerpoint® signal processing circuitry, please visit www. bose.com/centerpoint.
- *5.1 Surround* - The infotainment system used in conjunction with the Bose® 5.1 Cabin Surround® sound system for the vehicle includes digital 5.1 decoding. This technology unlocks the full benefit of digital 5.1 recordings, so digitally encoded music and movie soundtracks can be presented faithfully and accurately. If the video screens or Rear Seat Audio (RSA) are on, 5.1 Surround is not available.

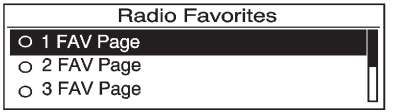
To adjust the DSP settings:

1. Press the TONE button.
2. Select DSP.
3. Select the setting.

Press the BACK ⇦ button to go back to the Tone Settings menu.

## System Settings

**Configuring the Number of Favorite Pages**



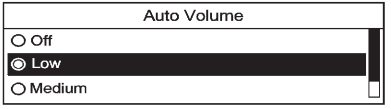

To configure the number of available favorite pages:

1. Press the CONFIG button.
2. Select Radio Settings.
3. Select Radio Favorites.
4. Select the number of available favorite pages.
5. Press the BACK ⇦ button to go back to the System Configuration menu.

### Auto Volume

The auto volume feature automatically adjusts the radio volume to compensate for road and wind noise as the vehicle speeds up or slows down, so that the volume level is consistent.

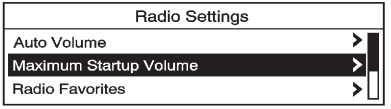
The level of volume compensation can be selected, or the auto volume feature can be turned off.




1. Press the CONFIG button.
2. Select Radio Settings.
3. Select Auto Volume.
4. Select the setting.
5. Press the BACK ⇦ button to go back to the System Configuration menu.

### Maximum Startup Volume

The maximum volume played when the radio is first turned on can be set.




1. Press the CONFIG button.
2. Select Radio Settings.
3. Select Maximum Startup Volume.
4. Select the setting.
5. Press the BACK ⇦ button to go back to the System Configuration menu.

# Radio

## AM-FM Radio

### Control Buttons

The buttons used to control the radio are:

**RADIO/BAND:** Press to turn the radio on and choose between AM, FM, and XM™, if equipped.

**MENU/SELECT:** Press and turn to navigate the available menus.

**TUNE:** Turn to search for stations.

**INFO:** Press to display additional information that may be available for the current song.

⏭ **SEEK /** ⏮ **SEEK:** Press to search for stations.

**FAV:** Press to open the favorites list.

**1 to 6:** Press to select preset stations.

⏵/⏸ **(Play/Pause):** Press to pause time shifted content, if equipped.

## RDS (Radio Data System)

The radio may have RDS. The RDS feature is available for use only on FM stations that broadcast RDS information. This feature only works when the information from the radio station is available. In rare cases, a radio station could broadcast incorrect information that causes the radio features to work improperly. If this happens, contact the radio station.

While the radio is tuned to an FM-RDS station, the station name or call letters display.

## Radio Menus

Radio menus are available for AM and FM.

Turn the MENU/SELECT knob to open the main radio menu for that frequency.

## Selecting a Band

Press the RADIO/BAND button to choose AM, FM, or XM, if equipped. The last station that was playing starts playing again.

## Selecting a Station

### Seek Tuning (Radio with CD)

If the radio station is not known:

Briefly press ⏮ SEEK or ⏭ SEEK to automatically search for the next available station. If a station is not found, the radio switches to a more sensitive search level. If a station still is not found, the frequency that was last active begins to play.

If the radio station is known:

Press and hold ⏮ SEEK or ⏭ SEEK until the station on the display is reached, then release the button.

### Seek Tuning (Radio with CD/DVD and MEM)

Briefly press ⏮ SEEK or ⏭ SEEK, to automatically search for the next available station. If a station is not found, the radio switches to a more sensitive search level. If a station still is not found, the frequency that was last active begins to play.

### Manual Tuning

Turn the TUNE knob to select the frequency on the display.

### Favorites List

1. Turn the MENU/SELECT knob.
2. Select Favorites List.
3. Select the station.

**Station Lists**

1. Turn the MENU/SELECT knob.
2. Select AM or FM Station List. All receivable stations in the current reception area are displayed. If a station list has not been created, an automatic station search is done.
3. Select the station.

**Category Lists**

Most stations that broadcast an RDS program type code specify the type of programming transmitted. Some stations change the program type code depending on the content. The system stores the RDS stations sorted by program type in the FM category list.

To search for a programming type determined by station:

1. Turn the MENU/SELECT knob.
2. Select FM category list. A list of all programing types available displays.
3. Select the programming type. A list of stations that transmit programming of the selected type displays.
4. Select the station.

   The category lists are updated when the station lists are updated.

**Updating Station & Category Lists**

If stations stored in the station list can no longer be received:

1. Turn the MENU/SELECT knob.
2. Select Update AM or FM Station List, if the stations stored in the station list are no longer received. A station search will be completed and the first station in the updated list will play.

To cancel the station search, press the MENU/SELECT knob.

## Storing a Station as a Favorite

Stations from all bands can be stored in any order in the favorite pages.

Up to six stations can be stored in each favorite page and the number of available favorite pages can be set.

**Storing Stations**

To store the station to a position in the list, press the corresponding button 1 to 6 until a beep is heard.

**Retrieving Stations**

Press the FAV button to open a favorite page or to switch to another favorite page. Briefly press one of the 1 to 6 buttons to retrieve the station.

### Time Shifting (Radio with CD/DVD and MEM)

The radio with MEM time shift feature can rewind 20 minutes of FM/AM content. While listening to the radio, the content from the current station is always being buffered.

Press ▶/II to pause the radio. The radio displays the time shift status bar. The status bar shows the amount of content stored in the buffer and the current pause point.

To resume playback from the current pause point, press ▶/II again. The radio is no longer live, but played from the time shift buffer. A status bar displays below the station number.

Press and hold ⏮ SEEK or ⏭ SEEK to fast forward or rewind through the time shift buffer.

Hold ⏭ SEEK until the end of the recorded buffer resumes live playback.

Press and release ⏮ SEEK or ⏭ SEEK to jump forward or back 30 seconds in the time shift buffer.

When the radio station is changed, the buffer is cleared and automatically restarted for the current station. Content from a previously tuned station is no longer available.

The time shift feature is not available while recording or with other sources of playback.

#### Pausing AM/FM with the Vehicle Turned Off

If AM/FM is paused when the vehicle is turned off, the radio continues to buffer the current radio station for up to 20 minutes. If the vehicle is turned back on within 20 minutes, the radio resumes playback from the paused point.

## Satellite Radio

Vehicles with an XM™ Satellite Radio tuner and a valid XM Satellite Radio subscription can receive XM programming.

### XM Satellite Radio Service

XM is a satellite radio service based in the 48 contiguous United States and 10 Canadian provinces. XM Satellite Radio has a wide variety of programming and commercial-free music, coast to coast, and in digital-quality sound. If XM service needs to be reactivated, the radio will display "No Subscription Please Renew on channel XM1." A service fee is required to receive the XM service. For more information, contact XM at www.xmradio.com or 1-800-929-2100 in the U.S. and www.xmradio.ca or 1-877-438-9677 in Canada.

## Control Buttons

The buttons used to control the XM radio are:

**RADIO/BAND:** Press to turn the radio on and choose between AM, FM, and XM, if equipped.

⏮ **SEEK /** ⏭ **SEEK:** Press to go to the previous or next channel.

**FAV:** Press to open the favorites list.

**1-6:** Press to select a favorite.

**TUNE:** Turn to select a channel.

**INFO:** Press to display additional information that may be available about the current song.

⏵/⏸ **(Play/Pause):** Press to pause time shifted content, if equipped.

## Selecting the XM Band

Press the RADIO/BAND button to choose between the AM, FM and XM bands. The last channel played in that band begins to play when that band is selected.

## XM Categories

XM channels are organized in categories.

### Removing or Adding Categories

Channels in a category that have been removed can still be accessed by using the ⏮ SEEK or ⏭ SEEK buttons, or the TUNE knob.

To add or remove categories:

1. Press the CONFIG button.
2. Select Radio Settings.
3. Select XM Categories.
4. Turn the MENU/SELECT knob to highlight the category.
5. Press the MENU/SELECT knob to remove or add the category.

## Selecting an XM Channel

XM channels can be selected by using ⏮ SEEK, ⏭ SEEK, the TUNE knob, or the menu system.

### Selecting a Channel Using ⏮ SEEK or ⏭ SEEK (Radio with CD)

- Press and release ⏮ SEEK or ⏭ SEEK to go to the previous or next channel.
- Press and hold ⏮ SEEK or ⏭ SEEK to scroll through the previous or next channel until the channel is reached.

### Selecting a Channel Using ⏮ SEEK or ⏭ SEEK (Radio with CD/DVD and MEM)

Press and release ⏮ SEEK or ⏭ SEEK to go to the previous or next channel.

### Selecting a Channel Using the TUNE Knob

To select an XM channel using the TUNE knob:

Turn the TUNE knob to highlight an XM channel; the channel is selected after a short delay.

To select a channel using the menu:

1. Turn the MENU/Select knob and select Channel List.
2. Select the desired channel.

**Selecting a Channel Using the Menu System**

1. Turn the MENU/SELECT knob.
2. Select XM Category List.
3. Select the category.
4. Select the channel.

## Storing an XM Channel as a Favorite

Channels from all bands can be stored in any order in the favorite pages.

Up to six channels can be stored in each favorite page and the number of available favorite pages can be set.

**Storing a Channel as a Favorite**

To store the channel to a position in the list, press and hold the corresponding 1 to 6 button until the channel can be heard again.

**Retrieving Channels**

Press the FAV button to open a favorite page or to change to another favorite page. Briefly press one of the 1 to 6 buttons to retrieve the channel.

## Time Shifting (Radio with CD/DVD and MEM)

The radio with the MEM time shift feature can rewind 20 minutes of XM content. While listening to the radio, the content from the current channel is always being buffered.

Press ⏵/⏸ to pause the radio. The radio displays the time shift status bar. The status bar shows the amount of content stored in the buffer and the current pause point.

To resume playback from the current pause point, press ⏵/⏸ again. The radio is no longer live, but played from the time shift buffer. A status bar displays below the channel number.

Press and hold ⏮ SEEK or ⏭ SEEK to fast forward or rewind through the time shift buffer. Hold ⏭ SEEK until the end of the recorded buffer resumes live playback.

Press and release ⏮ SEEK or ⏭ SEEK to go to the next or previous song in the time shift buffer.

When the channel is changed, the buffer is cleared and automatically restarted for the current channel. Content from a previously tuned station is no longer available.

The time shift feature is not available while recording or with other sources of playback.

**Pausing XM with the Vehicle Turned Off**

If XM is paused when the vehicle is turned off, the radio continues to buffer the current radio station for up to 20 minutes. If the vehicle is turned back on within 20 minutes, the radio resumes playback from the paused point.

## XM Messages

**XL (Explicit Language Channels):** These channels, or any others, can be blocked by request, by calling 1-800-929-2100 in the U.S. and 1-877-438-9677 in Canada.

**XM Updating:** The encryption code in the receiver is being updated, no action is required. This process should take no longer than 30 seconds.

**Loading XM:** The audio system is acquiring and processing audio and text data, no action is needed. This message should disappear shortly.

**Channel Off Air:** This channel is not currently in service. Tune in to another channel.

**Channel Unauth:** This channel is blocked or cannot be received with your XM Subscription package.

**Channel Unavailable:** This previously assigned channel is no longer assigned. Tune to another station.

**No Artist Info:** The system is working properly. No artist information is available at this time on this channel.

**No Title Info:** The system is working properly. No song title information is available at this time on this channel.

**No CAT Info:** The system is working properly. No category information is available at this time on this channel.

**No Information:** The system is working properly. No text or informational messages are available at this time on this channel.

**No Subscription Please Renew:** XM subscription needs to be reactivated. Contact XM at www.xmradio.com or call 1-800-929-2100 in the U.S. and www.xmradio.ca or call 1-877-438-9677 in Canada.

**No XM Signal:** The system is working properly. The vehicle may be in a location where the XM signal is being blocked. When the vehicle is moved into an open area, the signal should return.

**CAT Not Found:** The system is working properly. There are no channels available for the selected category.

**XM Radio ID:** If tuned to channel 0, this message alternates with the XM Radio eight-digit radio ID label. This label is needed to activate the service.

**Unknown:** If this message is received when tuned to channel 0, there could be a receiver fault. Consult with your dealer.

**Check Antenna:** If this message does not clear within a short period of time, the receiver could have a fault. Consult with your dealer.

**XM Not Available:** If this message does not clear within a short period of time, the receiver could have a fault. Consult with your dealer.

## Radio Reception

Frequency interference and static can occur during normal radio reception if items such as cell phone chargers, vehicle convenience accessories, and external electronic devices are plugged into the accessory power outlet. If there is interference or static, unplug the item from the accessory power outlet.

### FM

FM signals only reach about 16 to 65 km (10 to 40 mi). Although the radio has a built-in electronic circuit that automatically works to reduce interference, some static can occur, especially around tall buildings or hills, causing the sound to fade in and out.

### AM

The range for most AM stations is greater than for FM, especially at night. The longer range can cause station frequencies to interfere with each other. Static can occur when things like storms and power lines interfere with radio reception. When this happens, try reducing the treble on the radio.

### XM™ Satellite Radio Service

XM Satellite Radio Service gives digital radio reception from coast to coast in the 48 contiguous United States, and in Canada. Just as with FM, tall buildings or hills can interfere with satellite radio signals, causing the sound to fade in and out. In addition, traveling or standing under heavy foliage, bridges, garages, or tunnels may cause loss of the XM signal for a period of time.

### Cellular Phone Usage

Cellular phone usage can cause interference with the vehicle's radio.

## Multi-Band Antenna

The multi-band antenna is on the roof of the vehicle. The antenna is used for the AM-FM radio, OnStar, the XM Satellite Radio Service System, and GPS (Global Positioning System), if the vehicle has these features. Keep the antenna clear of obstructions for clear reception.

# Audio Players

## CD Player (Radio with CD)

The CD player can play audio CDs and MP3 CDs.

The CD player will not play 8 cm (3 in) CDs.

**Care of CDs**

Sound quality can be reduced due to disc quality, recording method, quality of the music recorded, and how the disc has been handled. Handle discs carefully and store them in their original cases or other protective cases away from direct sunlight and dust. If the bottom surface of a disc is damaged, the disc may not play properly or at all.

Do not touch the bottom surface of a disc while handling it; this could damage the surface. Pick up discs by grasping the outer edges or the edge of the hole and the outer edge.

If the bottom surface of a disc is dirty, take a soft lint-free cloth, or dampen a clean soft cloth in a mild neutral detergent solution mixed with water, and clean it. Wipe the disc from the center to the outer edge.

**Care of the CD Player**

Do not add a label to a disc, as it could get caught in the CD player. If a label is needed, label the top of the recorded disc with a marking pen.

Do not use disc lens cleaners because they could contaminate the lens of the disc optics and damage the CD player.

***Notice:*** **If a label is added to a CD, more than one CD is inserted into the slot at a time, or an attempt is made to play scratched or damaged CDs, the CD player could be damaged. While using the CD player, use only CDs in good condition without any label, load one CD at a time, and keep the CD player and the loading slot free of foreign materials, liquids, and debris.**

### Control Buttons

The buttons used to control the CD player are:

**CD:** Press to use the CD player.

**⏭ SEEK / ⏮ SEEK:** Press to select tracks or to fast forward or rewind within a track.

**INFO:** Press to display additional information about the current track that may be available.

**TUNE:** Turn to select tracks.

**MENU/SELECT:** Turn to enter the menu; press to select an item.

⏏ **(Eject):** Press to eject the disc.

⏵/⏸ **(Play/Pause):** Press to pause a CD or MP3 track, press again to resume playback.

### Inserting a CD

With the printed side facing up, insert a disc into the CD slot until it is drawn in.

### Removing a CD

Press ⏏.

The disc is pushed out of the CD slot.

If the disc is not removed after it is ejected, it is pulled back in after a few seconds.

### Playing a CD or MP3 CD

Press the CD button. If there is a disc in the player, it begins playing.

Information about the disc and current track is shown on the display depending on the data stored.

**Selecting a CD Track**

Using the control buttons:

- Press ⏮ SEEK or ⏭ SEEK to select the previous or next track.
- Turn the TUNE knob.

Using the CD Menu:

1. Turn the MENU/SELECT knob.
2. Select Tracks list.
3. Select the track.

**Playing Tracks in Random Order**

Turn the MENU/SELECT knob and set Shuffle Songs to On.

**Fast Forward and Rewind**

Press and hold ⏭ SEEK or ⏮ SEEK to fast forward or rewind within the current track.

**Selecting an MP3 Track**

Using the control buttons:

- Press ⏮ SEEK or ⏭ SEEK to select the previous or next track.
- Turn the TUNE knob.

Using the CD Menu:

1. Turn the MENU/SELECT knob.
2. Select Playlists/Folders.
3. Select the playlist or folder.
4. Select the track.

### Searching for MP3 Tracks

The search feature may take some time to display the information after reading the disc due to the amount of information stored on the disc. FM automatically plays while the disc is being read.

Tracks can be searched by:

- Playlists
- Artists
- Albums
- Song Titles
- Genres
- Folder View

To search for tracks:

1. Turn the MENU/SELECT knob.
2. Select Search.
3. Select: Playlists, Artists, Albums, Song Titles, Genres, or Folder View.
4. Select the track.

## CD/DVD Player

The CD/DVD player can play CDs, DVD-As, MP3/WMA CDs, MP3/WMA DVDs, and DVD-Vs.

The CD/DVD player will not play 8 cm (3 in) discs.

### Care of CDs and DVDs

Sound quality can be reduced due to disc quality, recording method, quality of the music recorded, and how the disc has been handled. Handle discs carefully and store them in their original cases or other protective cases away from direct sunlight and dust. If the bottom surface of a disc is damaged, the disc may not play properly or at all.

Do not touch the bottom surface of a disc while handling it; this could damage the surface. Pick up discs by grasping the outer edges or the edge of the hole and the outer edge.

If the bottom surface of a disc is dirty, take a soft lint-free cloth, or dampen a clean soft cloth in a mild neutral detergent solution mixed with water, and clean it. Wipe the disc from the center to the outer edge.

**Care of the CD/DVD Player**

Do not add a label to a disc, as it could get caught in the CD/DVD player. If a label is needed, label the top of the recorded disc with a marking pen.

Do not use disc lens cleaners because they could contaminate the lens of the disc optics and damage the CD/DVD player.

***Notice:*** **If a label is added to a CD, more than one CD is inserted into the slot at a time, or an attempt is made to play scratched or damaged CDs, the CD player could be damaged. While using the CD player, use only CDs in good condition without any label, load one CD at a time, and keep the CD player and the loading slot free of foreign materials, liquids, and debris.**

## Control Buttons

The buttons used to control the CD/DVD player are:

**MEM/CD/AUX:** Press to choose between the MEM, CD/DVD, and AUX.

⏭ **SEEK/** ⏮ **SEEK:** Press to select tracks or to fast forward or rewind within a track.

**INFO:** Press to display additional information about the disc that may be available.

**TUNE:** Turn to select tracks.

**MENU/SELECT:** Turn to enter the menu and press to select an item.

⏏ **(Eject):** Press to eject the disc.

⏵/⏸ **(Play/Pause):** Press to pause a CD, DVD-A, or DVD-V. Press again to resume playback. Press and hold to stop a DVD-V disc.

## Inserting a CD or DVD

With the printed side facing up, insert a disc into the slot until it is drawn in.

## Removing a CD or DVD

Press ⏏

The disc is pushed out of the CD/DVD slot.

If the disc is not removed after it is ejected, it is pulled back in after a few seconds.

## Playing a CD or DVD-A Disc

Press the MEM/CD/AUX button. If there is a disc in the player, it begins playing.

Information about the disc and current track is shown on the display depending on the data stored.

**Selecting CD or DVD-A Tracks**

Using the control buttons:

- Press ⏮ SEEK or ⏭ SEEK to select the previous or next track.
- Turn the TUNE knob.

Using the menu:

1. Turn the MENU/SELECT knob.
2. Select Tracks List.
3. Select the track.

**Pausing a CD or DVD-A Track**

Press ⏵/⏸ to pause a CD or DVD-A track. Press ⏵/⏸ again to continue playing the track.

**Playing CD or DVD-A Tracks in Random Order**

Turn the MENU/SELECT knob and then set Shuffle Songs to On.

**Fast Forward and Rewind**

Press and hold ⏭ SEEK or ⏮ SEEK to fast forward or rewind within the current track.

## Playing an MP3 CD or DVD

Files that are not stored in folders are displayed in the root directory (disc).

The search rate increases if the MENU/SELECT knob is continuously turned while searching in a list.

**Selecting an MP3 Track**

Using the control buttons:

- Press ⏮ SEEK or ⏭ SEEK to select the previous or next track.
- Turn the TUNE knob.

Using the CD or DVD Menu:

1. Turn the MENU/SELECT knob.
2. Select Folder List.
3. Select the folder.
4. Select the track.

**Searching for MP3s on a CD or DVD**

It is normal for the search feature to take some time to display the information after reading the disc due to the amount of information stored on the disc. The infotainment system automatically switches to FM while the disc is being read.

Files that do not have any meta data stored in the ID3 tag display as Unknown.

Tracks can be searched for by:

- Playlists
- Artists
- Albums
- Song Titles
- Genres

The number of objects in each category is shown in parentheses after the category.

To search for tracks:

1. Turn the MENU/SELECT knob.
2. Select Search.
3. Select: Playlists, Artists, Albums, Song Titles, or Genres.
4. Select the track. The search rate increases if the MENU/SELECT knob is continuously turned while searching in a list.

**Playing MP3 Tracks in Random Order**

Turn the MENU/SELECT knob and set Shuffle Songs to On.

## Recording an Audio or MP3 CD to MEM

See *Mass Storage Media (MEM) on page 7-25* for more information.

## Playing a DVD-V

See *Rear Seat Entertainment (RSE) System on page 7-37* for information about how to control a Video DVD using the wireless remote control.

**Selecting a Chapter**

Using the control buttons:

- Press ⏮ SEEK or ⏭ SEEK to select the previous or next chapter.
- Turn the TUNE knob.

Using the DVD Menu:

1. Turn the MENU/SELECT knob.
2. Select Chapter List.
3. Select the chapter.

**Selecting a Title**

1. Turn the MENU/SELECT knob.
2. Select Title List.
3. Select the title.

**Changing the Audio Stream**

1. Turn the MENU/SELECT knob.
2. Select Audio Stream.
3. Select Change Audio Stream.
4. Press MENU/SELECT to change the selection.

Select Cancel to exit the menu.

**Pausing a DVD**

1. Turn the MENU/SELECT knob.
2. Select Pause to pause the disc. Select unpause to start playback.

**Navigating the DVD-V Disc Menu**

Use the following actions to navigate the title menu on a DVD-V Disc.

- Select/Enter
- Cursor UP
- Cursor DOWN
- Cursor RIGHT
- Cursor LEFT
- Up Menu

Use the following actions to navigate the menu on a DVD-V Disc while playing chapters.

- Pause (Play)
- Chapter List
- Title List
- DVD/DVD — DVD on both video screens
- DVD/AUX — Left video screen/Right AUX input
- AUX/DVD — Left AUX input/Right video screen
- AUX/AUX — AUX input on both video screens

To navigate the menu:

1. Turn the MENU/SELECT knob.
2. Select the action.

## Mass Storage Media (MEM)

Infotainment systems with MEM storage are able to record up to 1.1 GB (gigabyte) of music from Audio CDs, MP3/WMA/AAC discs, and USB storage devices. The MEM player can also time shift audio from AM, FM, and XM radio.

Music or content stored in MEM that you did not create, or have the right to distribute, must be deleted before the sale or end of lease of the vehicle.

### Control Buttons

The buttons used to control the MEM player are:

**MEM/CD/AUX:** Press to select the MEM player.

**⏭ SEEK/ ⏮ SEEK:** Press to select tracks or to fast forward or rewind within a track.

**INFO:** Press to display additional information about the MEM track that may be available. Turn to select tracks.

**⏵/⏸ (Play/Pause):** Press to pause the track currently playing; press again to resume playback.

**○ REC:** Press to record music from a CD or USB drive.

**DEL:** Press to delete the current track from MEM.

**FAV (Favorites):** Press to display MEM favorites.

**1 to 6:** Press to select a track or playlist stored in that numeric position.

## Recording from Audio CDs

The infotainment system can record the current song playing or all songs from an audio CD to MEM. A status bar appears on the top of the display when the recording process starts and disappears when the process has ended. Copy protected CDs cannot be recorded to MEM.

### Recording to MEM

Press ○ REC, then select "Record Current Song" or "Record All Songs on Disc." If the track has started playing, the system will restart the track and begin recording from the beginning of the track. When the song recording is completed, the message "Song Recorded to MEM" displays, and there may be a slight pause.

Songs recorded to MEM are stored as the current date, disc, and track number.

### Re-recording a Previously Recorded Disc

If the disc or track has already been recorded to MEM, the message "The Song(s) is Already Recorded" displays.

### Stopping the Recording

Press the ○ REC button while recording from an audio CD to display the stop recording option. Select "Stop Recording Song to MEM."

### Renaming Recorded Discs

Discs that have been recorded to MEM can be renamed.

1. Turn the MENU/SELECT knob.
2. Select Rename Recorded Discs.
3. Select the disc.
4. Select Album or Artist to rename either one.
5. Use the MENU/SELECT knob to enter the character sequence. See *Operation on page 7-7* for more information.

## Recording from MP3/WMA Discs or USB Storage Devices

### USB Host Support

The USB connector uses the USB standards, 1.1 and 2.0.

### USB-Supported Devices

- USB Flash Drives
- Portable USB Hard Drives

### Recording to MEM

Press ○ REC, then select "Record Current Song" or "Record All Songs on Disc."

The information stored by MEM is titled according to the ID3 tag associated with it.

### Re-recording a Previously Recorded Disc

If the disc or track has already been recorded to MEM, the message "The Song(s) is Already Recorded" displays.

### Stopping the Recording

Press the ○ REC button while recording from an MP3/WMA CD or USB storage device to display the stop recording option. Select “Stop Recording Song to MEM”

## Deleting Tracks from MEM

Individual tracks and all tracks can be deleted from MEM.

To delete individual tracks, press and release the DEL button while the track is playing.

To delete all tracks from MEM, press and hold the DEL button while a track is playing.

## Playing from MEM

### Playing Back a Previously Recorded CD

Turn the TUNE knob to select a track if MEM is already playing from the previously recorded disc.

1. Select Recorded Disc List.
2. Select the disc.
3. Select the track.

### Searching for a Track

Tracks can be searched for by:

- Playlists
- Artists
- Albums
- Song Titles
- Genres

The number of objects in each category is shown in parentheses after the category.

To search for tracks:

1. Turn the MENU/SELECT knob.
2. Select Search.
3. Select: Playlists, Artists, Albums, Song Titles, or Genres.
4. Select the track. The search rate increases if the MENU/SELECT knob is continuously turned while searching in a list.

### Shuffle Songs

Select the Shuffle Songs option from the MEM menu to randomly play back tracks stored in MEM.

### Configuring MEM Favorites

During MEM playback, press the FAV button to change between favorite categories. The favorite categories are:

- Playlists
- Artists
- Albums
- Genres

To remove MEM favorites categories:

1. Press the CONFIG button.
2. Select Radio Settings.
3. Select MEM Favorites.
4. Remove the checkmark from the box to remove that MEM favorites category.

Replace the checkmark to re-add the removed category.

### Saving MEM Tracks as Favorites

Favorites can be saved by pressing and holding one of the 1 to 6 buttons. Favorites can be stored according to the following list:

**Playlist:** Adds the currently playing track to the playlist selected.

**Artist:** Saves the artist associated with the currently playing track in the indicated favorites position.

**Album:** Saves the album associated with the currently playing track in the indicated favorites position.

**Genre:** Saves the genre associated with the currently playing track in the indicated favorites position.

#### Creating Playlists

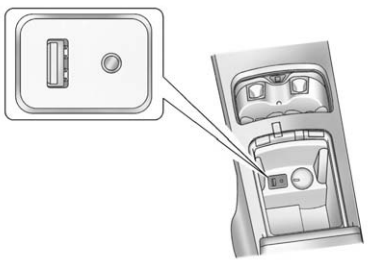
To create a playlist using tracks stored in MEM:

1. Select Playlist from the MEM favorites.
2. Select the track to be stored in the playlist.
3. Press and hold one of the 1 to 6 buttons until the track can be heard again to store the track.
4. Repeat Steps 1 though 3 to store additional tracks in the playlist.

## Auxiliary Devices (Radio with CD)

The optional AUX input allows portable devices to connect to the vehicle using the 3.5 mm (1/8 in) input jack, the USB port, or Bluetooth® wireless technology, if equipped.

Portable devices are controlled by using the menu system described in *Operation on page 7-7*.



The AUX input is located in the center console.

### 3.5 mm Auxiliary Input Jack

Connect a 3.5 mm (1/8 in) cable to the 3.5 mm auxiliary input jack to use a portable audio player.

Playback of an audio device that is connected to the 3.5 mm auxiliary input jack can only be controlled using the controls on the device.

#### Adjusting the Volume

Turn the VOL/ ⏻ knob to adjust the volume of the infotainment system after the volume level has been set on the portable audio device.

### USB Port

For vehicles with a USB port, the following devices may be connected and controlled by the infotainment system.

- iPods®
- PlaysForSure Devices (PFD)
- USB Drives
- Zunes

Not all iPods, PFDs, USB Drives, and Zunes are compatible with the infotainment system.

### Connecting and Controlling an iPod®

Not all iPods can be controlled by the infotainment system.

#### Connecting an iPod

Connect the iPod to the USB port.

#### Searching for a Track

Tracks can be searched for by:

- Playlists
- Artists
- Albums
- Song Titles
- Podcasts
- Genres
- Audiobooks
- Composers

To search for tracks:

1. Turn the MENU/SELECT knob.
2. Select Search.
3. Select: Playlists, Artists, Albums, Song Titles, Podcasts, Genres, Audiobooks, or Composers.
4. Select the track.

**Shuffle**

Turn the MENU/SELECT knob and set Shuffle Songs (Random) to On or Off, then press the BACK button to return to the main screen.

**On:** Plays tracks in the current folder in random order.

**Off:** Plays tracks in the current folder in sequential order.

**Repeat**

Turn the MENU/SELECT knob and set Repeat to On or Off, then press the BACK button to return to the main screen.

**On:** Repeats the current track.

**Off:** Playback starts from the beginning of the current track after the last track finishes.

## Connecting and Controlling a PlaysForSure Device (PFD) or Zune™

**Connecting a PFD or Zune**

Connect the PFD or Zune to the USB port.

**Searching for a Track**

Tracks can be searched for by:

- Playlists
- Artists
- Albums
- Song Titles
- Podcasts
- Genres

To search for tracks:

1. Turn the MENU/SELECT knob.
2. Select Search.
3. Select: Playlists, Artists, Albums, Song Titles, Podcasts, or Genres.
4. Select the track.

**Shuffle Functionality**

Turn the MENU/SELECT knob and set Shuffle Songs (Random) to On or Off.

**On:** Plays current tracks in random order.

**Off:** Plays current tracks in sequential order.

**Repeat Functionality**

Turn the MENU/SELECT knob and set Repeat to On or Off.

**Repeat On:** Repeats the current track.

**Repeat Off:** Playback starts from the beginning of the current track after the last track finishes.

## Connecting and Controlling a USB Drive

The infotainment system can only play back .mp3 and .wma files from a USB drive.

Only the first 10,000 songs are recognized on the device.

When a device is not supported, the message “No supported data found. You can safely disconnect the device” appears.

**Connecting a USB Drive**

Connect the USB drive to the USB port.

**Searching for a Track**

It is normal for the search feature to take some time to display the information after reading the device due to the amount of information stored.

Files that do not have any meta data stored in the ID3 tag display as Unknown.

Tracks can be searched for by:

- Playlists*
- Artists
- Albums
- Song Titles
- Genres
- Folder View

*This only displays if a playlist is found on the device.

To search for tracks:

1. Turn the MENU/SELECT knob.
2. Select Search.
3. Select: Playlists, Artists, Albums, Song Titles, Genres, or Folder View.
4. Select the track.

**Shuffle Functionality**

Turn the MENU/SELECT knob and set Shuffle Songs (Random) to On or Off.

**On:** Plays current tracks in random order.

**Off:** Plays current tracks in sequential order.

**Repeat Functionality**

Turn the MENU/SELECT knob and set Repeat to On or Off.

**Repeat On:** Repeats the current track.

**Repeat Off:** Playback starts from the beginning of the current track after the last track finishes.

## Connecting a Bluetooth® Device

Before a Bluetooth device can be connected to the infotainment system, it must first be paired to the system. Not all Bluetooth devices can be paired to the infotainment system. Before pairing the Bluetooth device, become familiar with its user guide for Bluetooth functions. The system only connects to Bluetooth devices that support A2DP (Advanced Audio Distribution Profile) version 1.2.

A Bluetooth phone with MP3 capability cannot be paired to the vehicle as a phone and an MP3 player at the same time.

Pairing Information:

- Up to five devices can be paired to the system.
- The pairing process is disabled when the vehicle is moving.
- The infotainment system automatically links with the first available paired device in the order the device was paired.
- Only one paired device can be connected to the infotainment system at a time.
- Pairing should only need to be completed once, unless changes to the pairing information have been made or the device is deleted.

**Bluetooth Setup Menu**

The Bluetooth Setup menu can be accessed with or without a device attached to the USB port.

To select the Bluetooth Setup menu when a device is attached to the USB port and active:

1. Turn the MENU/SELECT knob while in the iPod, Zune, PFD, or USB device main menu.
2. Select Bluetooth Music Setup.

To select the Bluetooth Music Setup menu when a device is not attached to the USB port, or when a device is attached to the USB port but not active:

1. Press the AUX button until AUX is the active source.
2. Turn the MENU/SELECT knob.
3. Select Bluetooth Music Setup.

To select the Bluetooth Music Setup menu when a Bluetooth device is connected and active:

1. Turn the MENU/SELECT knob.
2. Select Bluetooth Music Setup.

**Pairing a Device**

1. Select Connect To New Device from the Bluetooth Music Setup menu.
2. The system asks a series of Yes/No questions to determine what type of device is being paired.
3. After the system determines what type of Bluetooth device is being paired, the Bluetooth device will need to be put into discovery mode.
4. Some devices may require a Personal Identification Number (PIN) in order to complete the pairing process. Locate the device named “GMusicConnect” in the list on the Bluetooth device and follow the instructions on the device to enter the four-digit PIN provided by the infotainment system.

**Connecting to a Device**

Once a device is paired to the infotainment system, it can be connected to the infotainment system.

To connect a paired device when no other device is connected to the infotainment system:

1. Select the Select Device option from the Bluetooth Music Setup menu.
2. Select the new device.

To connect a paired device when another device is connected to the infotainment system:

1. Select the Select Device option from the Bluetooth Music Setup menu.
2. Select the new device.
3. The active device is disconnected from the system and the new device is connected.

**Removing a Device**

1. Select Remove Device from the Bluetooth Music Setup menu.
2. Select the device.
3. The device is removed from the system.

Before connecting to the removed device again, it will need to paired to the infotainment system.

**Changing the Default PIN**

To change the default PIN:

1. Select Change Default PIN from the Bluetooth Music Setup menu.
2. Select one of the pre-defined PIN, or select Other to create a PIN.

To create a PIN:

1. Select the length of the PIN.
2. Enter the character sequence.

**Messages**

The following messages may appear on the infotainment screen.

**Poor Bluetooth Signal Quality:** This message displays when the Bluetooth signal strength is low.

**This Feature is Unavailable While Vehicle is Moving:** This message displays when an action is not allowed while the vehicle is moving.

## Controlling a Bluetooth® Device

Bluetooth devices that support AVRCP (Audio/Video Remote Control Profile) version 1.0 may be able to be controlled by the infotainment system.

Press and release ⏮ SEEK / ⏭ SEEK to skip tracks.

## Other Information

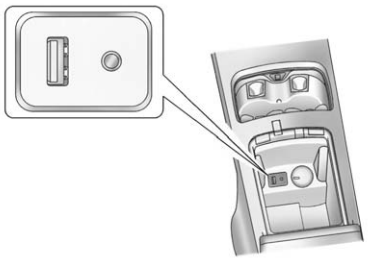
The Bluetooth® word mark and logos are owned by the Bluetooth® SIG, Inc. and any use of such marks by General Motors is under license. Other trademarks and trade names are those of their respective owners.

See *Radio Frequency Statement on page 13-23* for FCC information.

## Auxiliary Devices (Radio with CD/DVD and MEM)

The optional AUX input allows portable devices to be connected using the 3.5 mm (1/8 in) input jack or the USB port.

Portable devices are controlled by using the menu system described in *Operation on page 7-7*.



The AUX input is located in the center console.

### 3.5 mm Auxiliary Input Jack

Connect a 3.5 mm (1/8 in) cable to the 3.5 mm auxiliary input jack to use a portable audio player.

Playback of an audio device that is connected to the 3.5 mm auxiliary input jack can only be controlled using the controls on the device.

**Adjusting the Volume**

Turn the VOL/ ⏻ knob to adjust the volume of the infotainment system after the volume level has been set on the portable audio device.

### USB Port

The following devices may be connected to the USB port and controlled by the infotainment system.

- iPods
- USB Mass Storage Devices

Not all iPods or USB Mass Storage Devices are compatible with the infotainment system.

### Connecting and Controlling an iPod®

Not all iPods can be controlled by the infotainment system.

**Connecting an iPod**

Connect the iPod to the USB port.

**Selecting a Track**

Using the control buttons:

- Press ⏮ SEEK or ⏭ SEEK to select the previous or next track.
- Turn the TUNE knob to select a track in the current submenu. The track will start to play.

**Playing Tracks in Random Order**

Turn the MENU/SELECT knob and set Shuffle Songs to On or Off.

**Shuffle On:** Plays current tracks in random order.

**Shuffle Off:** Plays current tracks in sequential order.

**Searching for a Track**

Tracks can be searched for by:

- Playlists
- Artists
- Albums
- Song Titles
- Genres
- Composers
- Audiobooks

The number of objects in each category is shown in parentheses after the category.

To search for tracks:

1. Turn the MENU/SELECT knob.
2. Select Search.
3. Select: Playlists, Artists, Albums, Song Titles, Genres, Composers, or Audiobooks.
4. Select the track. The search rate increases if the MENU/SELECT knob is continuously turned while searching in a list.

## Connecting and Controlling a USB Drive

Files that are not stored in folders are displayed in the root directory (USB).

**Connecting a USB Drive**

Connect the USB drive to the USB port.

**Disconnecting a USB Drive**

A USB drive should be ejected from the USB port before disconnecting it. To eject a USB drive:

1. Turn the MENU/SELECT knob.
2. Select USB Eject.

**Playing Tracks in Random Order**

Turn the MENU/SELECT knob and then set Shuffle Songs to On.

**Selecting a Track**

Using the control buttons:

- Press ⏮ SEEK or ⏭ SEEK to select the previous or next track.
- Turn the TUNE knob to select a track in the current submenu. The track will start to play.

Selecting a track in a different folder:

1. Turn the MENU/SELECT knob.
2. Select Folder List.
3. Select the folder.
4. Select the track.

**Searching for Tracks**

It is normal for the search feature to take some time to display the information after reading the device due to the amount of information stored.

Files that do not have any meta data stored in the ID3 tag display as Unknown.

Tracks can be searched by:

- Playlists
- Artists
- Albums
- Song Titles
- Genres

The number of objects in each category is shown in parentheses after the category.

To search for tracks:

1. Turn the MENU/SELECT knob.
2. Select Search.
3. Select: Playlists, Artists, Albums, Song Titles, or Genres.
4. Select the track. The search rate increases if the MENU/SELECT knob is continuously turned while searching in a list.

**Recording Tracks to MEM**

See *Mass Storage Media (MEM) on page 7-25* for more information.

# Rear Seat Infotainment

## Rear Seat Entertainment (RSE) System

The vehicle may have a DVD Rear Seat Entertainment (RSE) system. The RSE system works with the vehicle's infotainment system. The DVD player is part of the front radio. The RSE system includes a radio with a DVD player, two rear seat video display screens, audio/video jacks, two wireless headphones, and a remote control. See *CD/DVD Player on page 7-21* or the separate navigation manual for more information on the vehicle's DVD system.

**Before Driving**

The RSE is for rear seat passengers only. The driver cannot safely view the video screen while driving.

In severe or extreme weather conditions the RSE system may not work until the temperature is within the operating range. The operating range is above −20°C (−4°F) and below 60°C (140°F). If the temperature is outside of this range, heat or cool the vehicle until it is within the operating range.

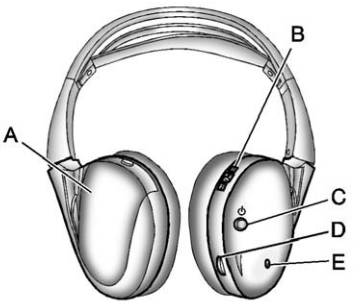
**Global Off**

Depending on the infotainment system, the RSE system may have a Global Off feature. The Global Off feature disables all RSE system features. Press and hold the radio power button for more than three seconds for Global Off to disable the RSE features. A padlock icon may display on the infotainment screen when the Global Off feature is on.

On some infotainment systems, the Global Off feature can be turned off by performing one of the following:

- Press and hold the radio power button for more than three seconds.
- Insert or eject any disc.
- Insert a DVD video disc.
- Press the Remote Control power button.
- Press the MEM/CD/AUX button or the ▶/II button when a DVD video disc is in the player.
- Press the SRC button on the steering wheel when a DVD video disc is in the player.
- Cycle the ignition.

## Headphones




A. Battery cover
B. Channel 1 or 2 switch
C. Power button
D. Volume control
E. Power indicator light

RSE includes two 2-channel wireless headphones. Channel 1 is dedicated to the DVD player, and Channel 2 is dedicated to RSA selections. The headphones are used to listen to various multi-media. If the vehicle is not equipped with RSA, then Channel 2 is dedicated to any external auxiliary device connected to the rear A/V jacks. The wireless headphones have a power button, Channel 1 or 2 switch, and a volume control. Turn the headphones off when not in use.

Push the power button to turn on the headphones. A light on the headphones comes on. If the light does not come on, check the batteries. Intermittent sound or static can also indicate weak batteries. See “Battery Replacement” later in this section for more information.

Infrared transmitters are on the top of the left seatback video screen. The headphones shut off automatically to save the battery power if the RSE system and RSA are shut off or if the headphones are out of range of the transmitters for more than three minutes. Moving too far forward or stepping out of the vehicle can cause the headphones to lose the signal or have static.

To adjust the volume on the headphones, use the volume control.

For best audio performance, the headphones must be worn correctly, with the headband over the top of the head. L (Left) and R (Right) are above the ear pads and are indicators as to how the headphones should be placed on the head.

***Notice:*** **Do not store the headphones in heat or direct sunlight. This could damage the headphones and repairs will not be covered by the warranty. Storage in extreme cold can weaken the batteries. Keep the headphones stored in a cool, dry place.**

If the foam ear pads attached to the headphones become worn or damaged, the pads can be replaced separately from the headphone set. To purchase replacement ear pads, call 1-888-293-3332, then prompt zero (0), or contact your dealer.

**Battery Replacement**

To change the batteries:

1. Loosen the screw to the battery door located on the left side of the headphones.
2. Slide the battery door open.
3. Replace the two AAA batteries.
4. Replace the battery door and tighten the screw.

Remove the batteries if the headphones are not going to be used for a long period of time.

## Audio/Video (A/V) Jacks

The A/V jacks may be located on the rear of the floor console. They allow audio or video cables to be connected from an auxiliary device such as a camcorder or a video game system.

The A/V jacks are color coded:

- Yellow for video input.
- White for left audio input.
- Red for right audio input.

Power for auxiliary devices is not supplied by the radio system.

To use the auxiliary inputs of the RSE system:

1. Connect the auxiliary device cables to the A/V jacks.
2. Power on both the auxiliary device and the RSE video screen.

### Changing the Source on the Video Display Screens

The image from the auxiliary device can be switched between the video display screens.

To change the display:

1. Press the AUX button on the remote control to change the source of both video screens from the DVD player to the auxiliary device.
2. Press the AUX button a second time to change the left video screen source to the DVD player and the right video screen to the auxiliary device.
3. Press the AUX button a third time to change the left video screen source to the auxiliary device and the right video screen to the DVD player.
4. Press the AUX button a fourth time to change the source of both video screens to the DVD player.

### Changing the RSE Video Screen Settings

The screen display mode, brightness, and language can be changed from the setup menu using the remote control. To change a setting:

1. Press ▢.
2. Use ▲, ▼, ◀, ▶, and ↵ to select the settings.
3. Press ▢ again to exit the setup menu.

### Audio Output

Audio from the DVD player or auxiliary inputs can be heard through the following:

- Wireless headphones
- Vehicle speakers
- Vehicle wired headphone jacks on the rear seat audio system, if the vehicle has this feature.

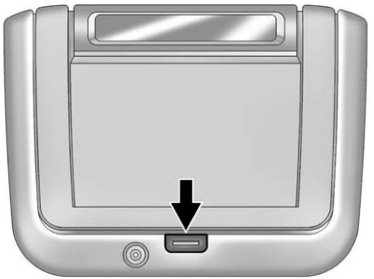
The RSE system transmits the audio signal to the wireless headphones if an audio signal is available. See “Headphones” earlier in this section for more information.

Audio can be heard from the wired headphone jacks on the RSA system by selecting the desired source from the RSA system, if the vehicle has this feature.

The front seat passengers are able to listen to playback from the A/V jacks through the vehicle speakers by selecting Rear A/V as the source on the radio.

### Video Screens

The video screens are located in the back of the driver and front passenger seats.



To use the video screen:

1. Push the release button located on the seatback console.
2. Move the screen to the desired viewing position.

Push the video screen down into its locked position when it is not in use. The screen turns off automatically.

Only the left RSE seatback console contains the infrared transmitters for the wireless headphones. They may be visible as eight illuminated LEDs. These LEDs are not on the right video screen. Both seatback consoles contain an infrared receiver for the remote control. They are located at the top of each console.

***Notice:*** **Avoid directly touching the video screen, as damage may occur. See “Cleaning the Video Screens” later in this section for more information.**

### Video Screen Input Jack

Each video screen is equipped with a video input jack to allow video cables to be connected from an auxiliary device such as a camcorder or a video game system. This signal will override any video provided by the RSE system; either the DVD or Auxiliary A/V jack source. The RSE system must be on for this input to operate.

## Remote Control



To use the remote control, aim it at the transmitter window at either seatback console and press the button. Direct sunlight or very bright light could affect the ability of the RSE transmitter to receive signals from the remote control. Check the batteries if the remote control does not seem to be working. See “Battery Replacement” later in this section. Objects blocking the line of sight could also affect the function of the remote control.

If a CD, DVD, or MP3 disc is in the Radio DVD slot, the remote control ⏻ button can be used to turn on the video screen display and start the disc. The infotainment system can also turn on the video screen display. See *CD/DVD Player on page 7-21* or the separate navigation manual for more information.

***Notice:*** **Storing the remote control in a hot area or in direct sunlight can damage it, and the repairs will not be covered by the warranty. Storage in extreme cold can weaken the batteries. Keep the remote control stored in a cool, dry place.**

### Remote Control Buttons

⏻ **(Power):** Press to turn the video screens on and off.

☼ **(Illumination):** Press to turn the remote control backlight on. The backlight times out after several seconds if no other button is pressed.

⮌ **(Title):** Press to return to the main menu of the DVD. This function could vary for each disc.

☰ **(Main Menu):** Press to access the DVD menu. The DVD menu is different on every DVD. Use the navigation arrows to move the cursor. After making a selection press the enter button. This button only operates when using a DVD.

▲, ▼, ◀, ▶ **(Menu Navigation Arrows):** Use the arrow buttons to navigate through a menu.

**(Enter):** Press to select the highlighted choice in any menu.

**(Display Menu):** Press to adjust the brightness and screen display mode, and display the language menu.

**(Return):** Press to exit the current active menu and return to the previous menu. This button operates only when the display menu or a DVD menu is active.

**(Stop):** Press to stop playing, rewinding, or fast forwarding a DVD. Press twice to return to the beginning of the DVD.

**(Play/Pause):** Press to start playing a DVD. Press to pause a DVD while it is playing. Press again to continue playing.

Depending on the infotainment system in the vehicle, DVD playback may be slowed down by pressing ▶‖ then ▶▶. Reverse slow play by pressing ▶‖ then ◀◀. Press ▶‖ again to cancel slow play.

**(Previous Track/Chapter):** Press to go to the start of the current track or chapter. Press again to go to the previous track or chapter. This button may not work when the DVD is playing the copyright information or the previews.

**(Next Track/Chapter):** Press to go to the beginning of the next chapter or track. This button might not work when the DVD is playing the copyright information or the previews.

**(Fast Reverse):** Press to quickly reverse the DVD or CD. To stop fast reversing a DVD video, press ▶‖. To stop fast reversing a DVD audio or CD, release ◀◀. This button might not work when the DVD is playing the copyright information or the previews.

**(Fast Forward):** Press to fast forward the DVD or CD. To stop fast forwarding a DVD video, press ▶‖. To stop fast forwarding a DVD audio or CD, release ▶▶. This button might not work when the DVD is playing the copyright information or the previews.

**(Audio):** Press to change audio tracks on DVDs that have this feature when the DVD is playing.

**(Subtitles):** Press to turn ON/OFF subtitles and to move through subtitle options when a DVD is playing.

**AUX (Auxiliary):** Press to switch the video displays between the DVD player and an auxiliary source.

The AUX button also controls the source display between the left and right video screens as described in the table below:

| Aux Button Press | Left Screen | Right Screen |
|---|---|---|
| Default State (No Press) | DVD Media | DVD Media |
| First Press | Aux Video Source | Aux Video Source |
| Second Press | DVD Media | Aux Video Source |
| Third Press | Aux Video Source | DVD Media |
| Fourth Press | Return to Default State | Return to Default State |

**(Camera):** Press to change the camera angle on DVDs that have this feature when the DVD is playing.

**(Clear) (If Available):** Press this button within three seconds after inputting a numeric selection, to clear all numeric inputs.

**≧10 (Double Digit Entries) (If Available):** Press this button to select chapter or track numbers greater than 9. Press this button before inputting the number.

**1 through 0 (Numeric Keypad):** The numbered keypad provides the capability of direct chapter or track number selection.

**Replacing the Remote Control**

If the remote control becomes lost or damaged, a new universal remote control can be purchased. Use a Toshiba® code set for replacement universal remote controls.

**Battery Replacement**

To change the remote control batteries:

1. Slide back the rear cover on the remote control.
2. Replace the two batteries in the compartment.
3. Replace the battery cover.

Remove the batteries from the remote control if unused for an extended period of time.

**Tips and Troubleshooting Chart**

| Problem | Recommended Action |
|---|---|
| No power. | The ignition might not be turned to ON/RUN or ACC/ACCESSORY. |
| The picture does not fill the screen. There are black borders on the top and bottom or on both sides or it looks stretched out. | Check the display mode settings in the setup menu by pressing the display menu button on the remote control. |
| In auxiliary mode, the picture moves or scrolls. | Check the auxiliary input connections at both devices. |
| The remote control does not work. | Check to make sure there is no obstruction between the remote control and the transmitter window.<br>Check the batteries to make sure they are not dead or installed incorrectly. |
| After stopping the player, I push Play but sometimes the DVD starts where I left off and sometimes at the beginning. | If the stop button was pressed one time, the DVD player resumes playing where the DVD was stopped. If the stop button was pressed two times, the DVD player begins to play from the beginning of the DVD. |

**Tips and Troubleshooting Chart (cont'd)**

| Problem | Recommended Action |
|---|---|
| The auxiliary source is running but there is no picture or sound. | Check that the RSE video screen is in the auxiliary source mode by pressing the AUX button on the remote control.<br>Check the auxiliary input connections at both devices. |
| Sometimes the wireless headphone audio cuts out or buzzes. | Check for obstructions, low batteries, reception range, and interference from cellular telephone towers or by using a cellular telephone in the vehicle.<br>Check that the headphones are on correctly using the L (left) and R (right) on the headphones.<br>Check that the headphones are positioned properly with the headband across the top of the head. |
| I lost the remote and/or the headphones. | See your dealer for assistance. |
| The DVD is playing, but there is no picture or sound. | Check that the RSE video screen is sourced to the DVD player by pressing the AUX button on the remote control. |

### DVD Display Error Messages

The DVD display error message depends on which radio the vehicle has. The video screen may display one of the following:

**Disc Load/Eject Error or Mechanical Error:** There are disc load or eject problems.

**Disc Format Error or Unknown Format:** The disc is inserted with the disc label wrong side up, or the disc is damaged.

**Disc Region Error or Disc Error:** The disc is not from a correct region.

**No Disc Inserted:** No disc is present when the ⏏ or MEM/CD/AUX button is pressed on the radio.

### DVD Distortion

Video distortion can occur when operating cellular phones, scanners, CB radios, Global Position Systems (GPSs)*, two-way radios, mobile faxes, or walkie talkies.

It might be necessary to turn off the DVD player when operating one of these devices in or near the vehicle.

*Excludes the OnStar® System.

### Cleaning the RSE Seatback Console

Use only a clean cloth dampened with clean water to clean the RSE seatback console surface.

### Cleaning the Video Screens

Use only a clean cloth dampened with clean water. Use care when touching or cleaning the screens as damage could result.

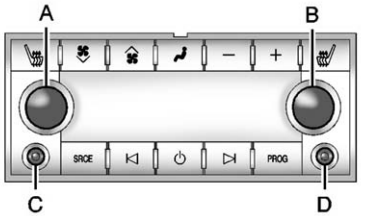
## Rear Seat Audio (RSA) System

Vehicles with this feature allow the rear seat passengers to listen to and control any of the music sources: radio, CDs, DVDs, or other auxiliary sources. RSA can only control music sources that the front seat passengers are not listening to, except on radios where dual control is allowed.

RSA can function when the front radio is off. 🎧 displays on the infotainment system when RSA is on.

Audio can be heard through wired headphones (not included) plugged into the jacks on the RSA. If the vehicle has a Rear Seat Entertainment system with wireless headphones, audio can also be heard on Channel 2 of the wireless headphones.

To listen to a portable audio device through the RSA, attach the portable audio device to either the front or rear auxiliary input, if available. Turn the device on, then choose the front auxiliary input with the RSA SRCE button.




A. Left side volume control.

   Turn to increase or decrease the volume of the left headphones.

B. Right side volume control.

   Turn to increase or decrease the volume of the right headphones.

C. Left side 3.5 mm (1/8 in) headphone auxiliary jack.

D. Right side 3.5 mm (1/8 in) headphone auxiliary jack.

**(Power):** Press to turn the RSA on or off.

**SRCE (Source):** Press to select between the radio, CD, and if these features are available: DVD, front or rear auxiliary, HDD, USB. The front radio may override the rear selection as required.

**or (Seek):** While listening to the radio, press to go to the previous or to the next station and stay there. If the front seat passengers are listening to the radio, this function may be inactive on some radios.

Press and hold or until "Tune" displays. Continue to press or to tune to an individual station. Tune stays active until or has not been pressed for several seconds. If the front seat passengers are listening to the radio, this function may be inactive on some radios.

While listening to a disc, press to go to the next track or chapter on the disc. Press to go back to the start of the current track or chapter if more than 10 seconds have played. If the front seat passengers are listening to a disc, this function may be inactive on some radios. Press and hold or to fast reverse or fast forward.

When a DVD video menu is being displayed, press or to cursor up or down on the menu. Hold or to cursor left or right on the menu.

**PROG (Program):** Press to go to the next preset radio station or channel set on the main radio. If the front seat passengers are listening to the radio, this function may be inactive on some radios.

When a CD or DVD audio disc is playing, press PROG to go to the beginning of the disc or display disc info. If the front seat passengers are listening to a disc, this function may be inactive on some radios.

When a disc is playing in the CD or DVD changer, press and hold PROG to select the next disc, if multiple discs are loaded. If the front seat passengers are listening to a disc, this function may be inactive on some radios.

The PROG button may be used to access the menu of an MP3. Once in the menu, use ⏮ or ⏭ to make selections.

When a DVD video menu is displayed, press PROG, or press and hold PROG to perform the menu function, then press ENTER.

# Phone

## Bluetooth (Overview)

For vehicles equipped with Bluetooth capability, the system can interact with many cell phones, allowing:

- Placement and receipt of calls in a hands-free mode.
- Sharing of the cell phone's address book or contact list with the vehicle.

To minimize driver distraction, before driving, and with the vehicle parked:

- Become familiar with the features of the cell phone. Organize the phone book and contact lists clearly and delete duplicate or rarely used entries. If possible, program speed dial or other shortcuts.
- Review the controls and operation of the infotainment system.
- Pair cell phone(s) to the vehicle. The system may not work with all cell phones. See "Pairing" in this section for more information.
- If the cell phone has voice dialing capability, learn to use that feature to access the address book or contact list. See "Voice Pass-Thru" in this section for more information.
- See "Storing and Deleting Phone Numbers" in this section for more information.

**⚠ WARNING**

When using a cell phone, it can be distracting to look too long or too often at the screen of the phone or the infotainment (navigation) system. Taking your eyes off the road too long or too often could cause a crash resulting in injury or death. Focus your attention on driving.

Vehicles with a Bluetooth system can use a Bluetooth-capable cell phone with a Hands-Free Profile to make and receive phone calls. The infotainment system and voice recognition are used to control the system. The system can be used while in ON/RUN or ACC/ACCESSORY. The range of the Bluetooth system can be up to 9.1 m (30 ft). Not all phones support all functions and not all phones work with the Bluetooth system. See www.gm.com/bluetooth for more information about compatible phones.

## Bluetooth Controls

Use the buttons located on the infotainment system and the steering wheel to operate the Bluetooth system.

### Steering Wheel Controls

**/ (Push To Talk):** Press to answer incoming calls, confirm system information, and start voice recognition.

**/ (End Call/Mute):** Press to end a call, reject a call, or cancel an operation.

### Infotainment System Controls

If equipped, the infotainment system allows certain controls to be selected on the infotainment display.

For information about how to navigate the menu system using the infotainment controls, see *Operation on page 7-7*.

**PHONE:** Press to enter the Phone main menu.

## Voice Recognition

The voice recognition system uses commands to control the system and dial phone numbers.

**Noise:** The system may not recognize voice commands if there is too much background noise.

**When to Speak:** A tone sounds to indicate that the system is ready for a voice command. Wait for the tone and then speak.

**How to Speak:** Speak clearly in a calm and natural voice.

## Audio System

When using the Bluetooth system, sound comes through the vehicle's front audio system speakers and overrides the audio system.

Use the VOL/ knob during a call to change the volume level. The adjusted volume level remains in memory for later calls. The system maintains a minimum volume level.

### Other Information

The Bluetooth® word mark and logos are owned by the Bluetooth® SIG, Inc. and any use of such marks by General Motors is under license. Other trademarks and trade names are those of their respective owners.

See *Radio Frequency Statement on page 13-23* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

## Bluetooth (Infotainment Controls)

For information about how to navigate the menu system using the infotainment controls, see *Operation on page 7-7*.

### Pairing

A Bluetooth-enabled cell phone must be paired to the Bluetooth system and then connected to the vehicle before it can be used. See your cell phone manufacturer's user guide for Bluetooth functions before pairing the cell phone. If a Bluetooth phone is not connected, calls will be made using OnStar Hands-Free Calling, if available. See *OnStar Overview on page 14-1* for more information.

#### Pairing Information

- A Bluetooth phone with MP3 capability cannot be paired to the vehicle as a phone and an MP3 player at the same time.
- Up to five cell phones can be paired to the Bluetooth system.
- The pairing process is disabled when the vehicle is moving.
- Pairing only needs to be completed once, unless the pairing information on the cell phone changes or the cell phone is deleted from the system.
- Only one paired cell phone can be connected to the Bluetooth system at a time.
- If multiple paired cell phones are within range of the system, the system connects to the first available paired cell phone in the order that they were first paired to the system. To link to a different paired phone, see “Linking to a Different Phone” later in this section.

**Pairing a Phone**

1. Press the CONFIG button.
2. Select Phone Settings.
3. Select Bluetooth.
4. Select Pair Device (Phone). A four-digit Personal Identification Number (PIN) appears on the display. The PIN is used is Step 6.
5. Start the pairing process on the cell phone to be paired to the vehicle. See the cell phone manufacturer's user guide for information on this process.
6. Locate the device named “Your Vehicle” in the list on the cell phone. Follow the instructions on the cell phone to enter the PIN provided in Step 4. After the PIN is successfully entered, the system prompts you to provide a name for the paired cell phone. This name will be used to indicate which phones are paired and connected to the vehicle. The system responds with “<Phone name> has been successfully paired” after the pairing process is complete.
7. Repeat Steps 1 through 6 to pair additional phones.

**Listing All Paired and Connected Phones**

1. Press the CONFIG button.
2. Select Phone Settings.
3. Select Bluetooth.
4. Select Device List.

**Deleting a Paired Phone**

1. Press the CONFIG button.
2. Select Phone Settings.
3. Select Bluetooth.
4. Select Device List.
5. Select the phone to delete and follow the on screen prompts.

**Linking to a Different Phone**

To link to a different phone, the new phone must be in the vehicle and available to be connected to the Bluetooth system before the process is started.

1. Press the CONFIG button.
2. Select Phone Settings.
3. Select Bluetooth.
4. Select Device List.
5. Select the new phone to link to and follow the on screen prompts.

   If delete is selected, the highlighted phone will be deleted.

## Making a Call Using Phone Book

For cell phones that support the phone book feature, the Bluetooth system can use the contacts stored on your cell phone to make calls. See your cell phone's owner's guide or contact your wireless provider to find out if this feature is supported by your phone.

When a cell phone supports the phone book feature, the Phone Book and Call Lists menus are automatically available.

The Phone Book menu allows you to access the phone book stored in the cell phone to make a call.

The Call Lists menu allows you to access the phone numbers from the Incoming Calls, Outgoing Calls, and Missed Calls menus on your cell phone to make a call.

**Radio with CD**

To make a call using the Phone Book menu:

1. Press the PHONE button twice.
2. Select Phone Book.
3. Search through the list by selecting the letter group the phone book entry begins with, or press the SELECT button to scroll through the entire list of names/numbers in the phone book.
4. Select the name or number you want to call.

To make a call using the Call Lists menu:

1. Press the PHONE button twice.
2. Select Call Lists.
3. Select the Incoming Calls, Outgoing Calls, or Missed Calls list.
4. Select the name or number you want to call.

**Radio with CD/DVD and MEM**

1. Press the PHONE button.
2. Select Phone Book.
3. Search through the list by selecting the letter group the phone book entry begins with, or press the SELECT button to scroll through the entire list of names/numbers in the phone book.
4. Select the name or number you want to call.

To make a call using the Call Lists menu:

1. Press the PHONE button.
2. Select Call Lists.
3. Select the Incoming Calls, Outgoing Calls, or Missed Calls list.
4. Select the name or number you want to call.

## Making a Call

**Radio with CD**

1. Press the PHONE button twice.
2. Enter the character sequence. See “Entering a Character Sequence” in *Operation on page 7-7* for more information.
3. Select Call to start dialing the number.

**Radio with CD/DVD and MEM**

1. Press the PHONE button.
2. Select Enter number.
3. Enter the character sequence. See “Entering a Character Sequence” in *Operation on page 7-7* for more information.
4. Select Call to start dialing the number.

## Accepting or Declining a Call

When an incoming call is received, the infotainment system mutes and a ring tone is heard in the vehicle.

**Accepting a Call**

Turn the MENU/SELECT knob to “Answer” and press the MENU/SELECT knob to accept the call.

**Declining a Call**

Turn the MENU/SELECT knob to “Decline” and press the MENU/SELECT knob to decline the call.

## Call Waiting

Call waiting must be supported on the Bluetooth phone and enabled by the wireless service carrier to work.

**Accepting a Call**

Turn the MENU/SELECT knob to “Answer” and press the MENU/SELECT knob to accept the call.

**Declining a Call**

Turn the MENU/SELECT knob to “Decline” and press the MENU/SELECT knob to decline the call.

**Switching Between Calls (Call Waiting Calls Only)**

To switch between calls:

1. Turn or press the MENU/SELECT knob.
2. Select Switch Call from the menu.

### Conference Calling

Conference calling and three-way calling must be supported on the Bluetooth phone and enabled by the wireless service carrier to work.

To start a conference while in a current call:

1. Turn or press the MENU/SELECT knob.
2. Select Enter Number.
3. Enter the character sequence then select Call. See “Entering a Character Sequence” in *Operation on page 7-7* for more information.
4. After the call has been placed, turn or press the MENU/SELECT knob and choose Merge Calls.
5. To add more callers to the conference call, repeat Steps 1 through 4. The number of callers that can be added is limited by your wireless service carrier.

### Ending a Call

Turn or press the MENU/SELECT knob and select Hang Up.

### Muting a Call

**To Mute a Call**

Turn or press the MENU/SELECT knob and select Mute Call.

**To Cancel Mute**

Turn or press the MENU/SELECT knob and select Mute Call.

### Dual Tone Multi-Frequency (DTMF) Tones

The in-vehicle Bluetooth system can send numbers during a call. This is used when calling a menu-driven phone system.

1. Turn or press the MENU/SELECT knob and select Enter Number.
2. Enter the character sequence. See “Entering a Character Sequence” in *Operation on page 7-7* for more information.

## Bluetooth (Voice Recognition)

### Using Voice Recognition

To use voice recognition, press the ✆ / 🎙 button located on the steering wheel. Use the commands below for the various voice features. For additional information, say "Help" while you are in a voice recognition menu.

## Pairing

A Bluetooth-enabled cell phone must be paired to the Bluetooth system and then connected to the vehicle before it can be used. See your cell phone manufacturer's user guide for Bluetooth functions before pairing the cell phone. If a Bluetooth phone is not connected, calls will be made using OnStar Hands-Free Calling, if available. See *OnStar Overview on page 14-1* for more information.

### Pairing Information

- A Bluetooth phone with MP3 capability cannot be paired to the vehicle as a phone and an MP3 player at the same time.
- Up to five cell phones can be paired to the Bluetooth system.
- The pairing process is disabled when the vehicle is moving.
- Pairing only needs to be completed once, unless the pairing information on the cell phone changes or the cell phone is deleted from the system.
- Only one paired cell phone can be connected to the Bluetooth system at a time.
- If multiple paired cell phones are within range of the system, the system connects to the first available paired cell phone in the order that they were first paired to the system. To link to a different paired phone, see "Linking to a Different Phone" later in this section.

### Pairing a Phone

1. Press ✆ / 🎤. The system responds "Ready," followed by a tone.
2. Say "Bluetooth." This command can be skipped.
3. Say "Pair." The system responds with instructions and a four-digit Personal Identification Number (PIN). The PIN is used in Step 5.
4. Start the pairing process on the cell phone that you want to pair. For help with this process, see your cell phone manufacturer's user guide.
5. Locate the device named "Your Vehicle" in the list on the cell phone. Follow the instructions on the cell phone to enter the PIN provided in Step 3. After the PIN is successfully entered, the system prompts you to provide a name for the paired cell phone. This name will be used to indicate which phones are paired and connected to the vehicle. The system responds with "<Phone name> has been successfully paired" after the pairing process is complete.
6. Repeat Steps 1 through 5 to pair additional phones.

### Listing All Paired and Connected Phones

The system can list all cell phones paired to it. If a paired cell phone is also connected to the vehicle, the system responds with “is connected” after that phone name.

1. Press ✆ / 🎤. The system responds “Ready,” followed by a tone.
2. Say “Bluetooth.”
3. Say “List.”

### Deleting a Paired Phone

If the phone name you want to delete is unknown, see “Listing All Paired and Connected Phones.”

1. Press ✆ / 🎤. The system responds “Ready,” followed by a tone.
2. Say “Bluetooth.”
3. Say “Delete.” The system asks for which phone to delete.
4. Say the name of the phone you want to delete.

### Connecting to a Different Phone

To connect to a different cell phone, the Bluetooth system looks for the next available cell phone in the order in which all the available cell phones were paired. Depending on which cell phone you want to connect to, you may have to use this command several times.

1. Press ✆ / 🎤. The system responds “Ready,” followed by a tone.
2. Say “Bluetooth.”
3. Say “Change phone.”
   - If another cell phone is found, the response will be “<Phone name> is now connected.”
   - If another cell phone is not found, the original phone remains connected.

## Storing and Deleting Phone Numbers

The system can store up to 30 phone numbers as name tags in the Hands-Free Directory that is shared between the Bluetooth and OnStar systems.

The following commands are used to delete and store phone numbers.

**Store:** This command will store a phone number, or a group of numbers as a name tag.

**Digit Store:** This command allows a phone number to be stored as a name tag by entering the digits one at a time.

**Delete:** This command is used to delete individual name tags.

**Delete All Name Tags:** This command deletes all stored name tags in the Hands-Free Calling Directory and the Destinations Directory.

**Using the "Store" Command**

1. Press ✆ / 🎤. The system responds "Ready," followed by a tone.
2. Say "Store."
3. Say the phone number or group of numbers you want to store all at once with no pauses, then follow the directions given by the system to save a name tag for this number.

**Using the "Digit Store" Command**

If an unwanted number is recognized by the system, say "Clear" at any time to clear the last number.

To hear all of the numbers recognized by the system, say "Verify" at any time.

1. Press ✆ / 🎤. The system responds "Ready," followed by a tone.
2. Say "Digit Store."
3. Say each digit, one at a time, that you want to store. After each digit is entered, the system repeats back the digit it heard followed by a tone. After the last digit has been entered, say "Store," and then follow the directions given by the system to save a name tag for this number.

**Using the "Delete" Command**

1. Press ✆ / 🎤. The system responds "Ready," followed by a tone.
2. Say "Delete."
3. Say the name tag you want to delete.

**Using the "Delete All Name Tags" Command**

This command deletes all stored name tags in the Hands Free Calling Directory and the Destinations Directory.

To delete all name tags:

1. Press ✆ / 🎤. The system responds "Ready," followed by a tone.
2. Say "Delete all name tags."

## Listing Stored Numbers

The list command will list all the stored numbers and name tags.

**Using the "List" Command**

1. Press ✆ / 🎤. The system responds "Ready," followed by a tone.
2. Say "Directory."
3. Say "Hands Free Calling."
4. Say "List."

## Making a Call

Calls can be made using the following commands.

**Dial or Call:** The dial or call command can be used interchangeably to dial a phone number or a stored name tag.

**Digit Dial:** This command allows a phone number to be dialed by entering the digits one at a time.

**Re-dial:** This command is used to dial the last number used on the cell phone.

### Using the "Dial" or "Call" Command

1. Press ✆ / 🎤. The system responds "Ready," followed by a tone.
2. Say "Dial" or "Call."
3. Say the entire number without pausing or say the name tag.

Once connected, the person called will be heard through the audio speakers.

### Using the "Digit Dial" Command

The digit dial command allows a phone number to be dialed by entering the digits one at a time. After each digit is entered, the system repeats back the digit it heard followed by a tone.

If an unwanted number is recognized by the system, say "Clear" at any time to clear the last number.

To hear all of the numbers recognized by the system, say "Verify" at any time.

1. Press ✆ / 🎤. The system responds "Ready," followed by a tone.
2. Say "Digit Dial."
3. Say each digit, one at a time, that you want to dial. After each digit is entered, the system repeats back the digit it heard followed by a tone. After the last digit has been entered, say "Dial."

Once connected, the person called will be heard through the audio speakers.

### Using the "Re-dial" Command

1. Press ✆ / 🎤. The system responds "Ready," followed by a tone.
2. After the tone, say "Re-dial." The system dials the last number called from the connected cell phone.

Once connected, the person called will be heard through the audio speakers.

## Receiving a Call

When an incoming call is received, the audio system mutes and a ring tone is heard in the vehicle.

- Press ✆ / 🎤 to answer the call.
- Press 🔇 / ⌓ to ignore a call.

### Call Waiting

Call waiting must be supported on the cell phone and enabled by the wireless service carrier.

- Press ✆ / ⏯ to answer an incoming call when another call is active. The original call is placed on hold.
- Press ✆ / ⏯ again to return to the original call.
- To ignore the incoming call, no action is required.
- Press 🔇 / ⏎ to disconnect the current call and switch to the call on hold.

### Three-Way Calling

Three-way calling must be supported on the cell phone and enabled by the wireless service carrier.

1. While on a call, press ✆ / ⏯.
2. Say “Three-way call.”
3. Use the dial or call command to dial the number of the third party to be called.
4. Once the call is connected, press ✆ / ⏯ to link all callers together.

### Ending a Call

Press 🔇 / ⏎ to end a call.

### Muting a Call

During a call, all sounds from inside the vehicle can be muted so that the person on the other end of the call cannot hear them.

To mute a call, press ✆ / ⏯ , and then say “Mute Call.”

To cancel mute, press ✆ / ⏯ , and then say “Un-mute Call.”

### Transferring a Call

Audio can be transferred between the Bluetooth system and the cell phone.

The cell phone must be paired and connected with the Bluetooth system before a call can be transferred. The connection process can take up to two minutes after the ignition is turned to ON/RUN.

**To Transfer Audio from the Bluetooth System to a Cell Phone**

During a call with the audio in the vehicle:

1. Press ✆ / ⏯.
2. Say “Transfer Call.”

**To Transfer Audio to the Bluetooth System from a Cell Phone**

During a call with the audio on the cell phone, press ✆ / ⏯. The audio transfers to the vehicle. If the audio does not transfer to the vehicle, use the audio transfer feature on the cell phone. See your cell phone manufacturer's user guide for more information.

## Voice Pass-Thru

Voice pass-thru allows access to the voice recognition commands on the cell phone. See your cell phone manufacturer's user guide to see if the cell phone supports this feature.

To access contacts stored in the cell phone:

1. Press ✆ / ⏯. The system responds “Ready,” followed by a tone.
2. Say “Bluetooth.” This command can be skipped.
3. Say “Voice.” The system responds “OK, accessing <phone name>.”

The cell phone's normal prompt messages will go through their cycle according to the phone's operating instructions.

## Dual Tone Multi-Frequency (DTMF) Tones

The Bluetooth system can send numbers and the numbers stored as name tags during a call. You can use this feature when calling a menu-driven phone system. Account numbers can also be stored for use.

**Sending a Number or Name Tag During a Call**

1. Press ✆ / ⏯. The system responds “Ready,” followed by a tone.
2. Say “Dial.”
3. Say the number or name tag to send.

## Clearing the System

Unless information is deleted out of the in-vehicle Bluetooth system, it will be retained indefinitely. This includes all saved name tags in the phone book and phone pairing information. For information on how to delete this information, see the previous sections on “Deleting a Paired Phone” and “Deleting Name Tags.”

# Bluetooth (UHP Mexico Only)

## General Information

Vehicles with a Universal Hands-free Phone (UHP) system can use a Bluetooth® capable mobile phone with a Hands-Free Profile to make and receive phone calls. The infotainment system and voice control are used to control the system. The system can be used while the ignition is in ON/RUN or ACC/ACCESSORY. The range of the UHP system can be up to 10 m (33 ft). Not all phones support all functions and not all phones work with the UHP system.

## Other Information

The Bluetooth word mark and logos are owned by the Bluetooth® SIG, Inc. and any use of such marks by General Motors is under license. Other trademarks and trade names are those of their respective owners.

## UHP Controls

Use the buttons located on the infotainment system and the steering wheel to operate the UHP system.

### Steering Wheel Controls

Steering wheel controls can be used to:

- Answer incoming calls
- Confirm system information
- Start voice recognition
- End a call
- Reject a call
- Cancel an operation
- Make outgoing calls using the call list

**/ (Push To Talk):** Press to answer incoming calls, to confirm system information, and to start voice control. Press and hold for two to three seconds to access the call list.

**/ (End call/Mute):** Press to end a call, reject a call, or to cancel an operation.

To make outgoing calls using the call list.

1. Press the / button.
2. Highlight the phone number by toggling the SRC switch up or down.
3. Dial the highlighted number by pressing the / button.

### Infotainment System Controls

For information about how to navigate the menu system using the navigation system controls, see the separate Navigation System Manual.

**PHONE:** Press to enter the Phone main menu.

### Voice Control

The voice control system uses commands to control the system and dial phone numbers.

**Noise:** The system may not recognize voice commands if there is too much background noise.

**When to Speak:** A tone sounds to indicate that the system is ready for a voice command. Wait for the tone and then speak.

**How to Speak:** Speak clearly in a calm and natural voice.

### Audio System

When using the UHP system, sound comes through the vehicle's front audio system speakers and overrides the audio system.

Use the VOL/ ⏻ knob during a call to change the volume level. The adjusted volume level remains in memory for later calls. The system maintains a minimum volume level.

### Turning Bluetooth On or Off

1. Press the CONFIG button.
2. Select Phone Settings, or touch Phone on a navigation radio.
3. Select Bluetooth.
4. Select Activation.

### Changing Bluetooth Code

The default Bluetooth code should work with most mobile phones. If you are having difficulty pairing your mobile phone, you can change the code at any time.

1. Press the CONFIG button.
2. Select Phone Settings, or touch Phone on a navigation radio.
3. Select Bluetooth.
4. Select Change Bluetooth Code.
5. Enter a new four-digit code, then select OK.

### Ring Tone

There are three different ring tones available for the UHP system.

To change the ring tone:

1. Press the CONFIG button.
2. Select Phone Settings, or touch Phone on a navigation radio.
3. Select Ring Tones.
4. Select Ring Tone 1, 2, or 3.

### Default Settings

Selecting this option will reset the ring tones and the Bluetooth code.

## Pairing

A Bluetooth enabled mobile phone must be paired to the UHP system first and then connected to the vehicle before it can be used. See the mobile phone manufacturer's user guide for Bluetooth functions before pairing the mobile phone.

Pairing Information:

- Up to five mobile phones can be paired to the UHP system
- The pairing process is disabled when the vehicle is moving
- The UHP system connects with the first available paired mobile phone in the order the phone was paired
- Only one paired mobile phone can be connected to the UHP system at a time
- Pairing should only need to be completed once, unless changes to the pairing information have been made or the mobile phone is deleted

## Using UHP with Infotainment Controls

### Pairing a Phone

If your mobile phone has simple pairing or auto discovery features, they need to be turned off before the mobile phone can be paired to the UHP system. Reference the mobile phone manufacturer's user guide for information on these features.

1. Press the CONFIG button.
2. Select Phone Settings, or touch Phone on a navigation radio.
3. Select Bluetooth.
4. Select Pair Device or Add new Hands-free (HF) device on a navigation radio. A four-digit number appears on the display and the UHP system goes into discovery mode.
5. Start the pairing process on the mobile phone that will be paired to the vehicle. Reference the mobile phone manufacturer's user guide for information on this process.

   Locate the device named UHP followed by a four-digit number in the list on the mobile phone and follow the instructions on the mobile phone and enter the four-digit code provided by the system if necessary, then follow the instructions on the infotainment display screen.
6. Repeat Steps 1 through 5 to pair additional mobile phones.

### Viewing All Paired and Connected Phones

To view all available mobile phones that are paired to the UHP system:

1. Press the CONFIG button.
2. Select Phone Settings, or touch Phone on a navigation radio.
3. Select Bluetooth.
4. Select Device List.
5. Repeat Steps 1 through 4 to pair additional mobile phones.

### Deleting a Paired Phone

To remove a paired mobile phone from the UHP system:

1. Press the CONFIG button.
2. Select Phone Settings, or touch Phone on a navigation radio.
3. Select Bluetooth.
4. Select Device List.
5. Select the mobile phone to delete and follow the on screen prompts.

### Connecting to a Different Phone

To connect to a different paired mobile phone, the new mobile phone must be in the vehicle and available to be connected to the UHP system before the process is started.

To connect to a different phone:

1. Press the CONFIG button.
2. Select Phone Settings, or touch Phone on a navigation radio.
3. Select Bluetooth.
4. Select Device List.
5. Select the new mobile phone to link to and follow the on screen prompts.

If delete is selected, the highlighted mobile phone will be deleted.

### Making a Call Using Phone Book and Call List

For mobile phones that support the phone book and call list features, the UHP system can use the contacts and call lists stored on your mobile phone to make calls. See your mobile phone manufacturer's user guide or contact your wireless provider to find out if this feature is supported by your mobile phone.

The time it takes to download the phone book and call list from your mobile phone to the UHP system can vary depending on the size of the phone book and call list stored on your mobile phone.

When a mobile phone supports the phone book and call list features, the Phone Book, and Call Lists menus are automatically available.

The Phone Book menu allows you to access the phone book stored in the mobile phone to make a call.

The Call Lists menu allows you to access the phone numbers from the Incoming Calls, Outgoing Calls, and Missed Calls menus on your mobile phone to make a call.

To make a call using the Phone Book menu:

1. Press PHONE twice, or press PHONE once on vehicles with a navigation system.
2. Select Phone Book.
3. You can search through the list by selecting the letter group the phone book entry begins with, to continue scrolling through the entire list, turn the MENU knob.
4. Select the name or number you want to call.

To make a call using the Call Lists menu:

1. Press PHONE twice, or press PHONE once on vehicles with a navigation system.
2. Select Call Lists.
3. Select the Incoming Calls, Outgoing Calls, or Missed Calls list.
4. Select the name or number you want to call.

**Making a Call**

To make a call:

1. Press PHONE twice, or press PHONE once on vehicles with a navigation system.
2. Select Enter Number for vehicles without a navigation system.
3. Select the numbers to be dialed. For vehicles with a navigation system, touch the numbers on the infotainment screen. For vehicles without a navigation system, see “Entering a Character Sequence” in *Operation on page 7-7* for more information.
4. Select Call to start dialing the number.

**Accepting or Declining a Call**

When an incoming call is received, the infotainment system mutes and a ring tone is heard in the vehicle.

To accept the incoming call, turn the MENU/SELECT knob to “Answer” and press the MENU/SELECT knob, or press the ✆ / ✆ button on the steering wheel controls.

To decline the incoming call, turn the MENU/SELECT knob to “decline” and press the MENU/SELECT knob, or press the ✆ / ✆ button on the steering wheel controls.

**Call Waiting**

Call waiting must be supported on the mobile phone and enabled by the wireless service carrier to work.

To accept the incoming call, turn the MENU/SELECT knob to “Answer” and press the MENU/SELECT knob, or press the ✆ / ✆ button on the steering wheel controls.

To decline the incoming call, turn the MENU/SELECT knob to “Decline” and press the MENU/SELECT knob, or press the ✆ / ✆ button on the steering wheel controls.

1. Press PHONE.
2. Select Switch Call from the menu.

**Conference Calling**

Conference calling and three way calling must be supported on the mobile phone and enabled by the wireless service carrier to work.

To start a conference call while in a call:

1. Press the MENU/SELECT knob and select Enter Number.
2. Enter the character sequence then select call.
3. After the call has been placed, press the MENU/SELECT knob and choose Merge Calls.
4. To add more callers to the conference call, repeat steps 1 through 3. The number of callers that can be added is limited by your wireless service carrier.

To disconnect from one caller while in a conference call, select Detach Number from the menu and select the number to hang up on.

**Ending a Call**

Press the MENU/SELECT knob and select Hang Up, or press the ✆ / ✆ button on the steering wheel controls.

**To Mute a Call**

Press the MENU/SELECT knob and select Mute Call.

**To Cancel Mute**

Press the MENU/SELECT knob and select Mute Call.

**Dual Tone Multi-Frequency (DTMF) Tones**

The UHP system can send numbers during a call. This is used when calling a menu driven phone system.

To access this system:

1. Press the MENU/SELECT knob and select Enter Number.
2. Enter the character sequence.

## Operating UHP Using Voice Control

The voice control of the UHP system enables you to operate several functions of the mobile phone using your voice. The UHP system uses voice commands to control the system and dial phone numbers. After input of the command the infotainment system guides you through the dialogue with appropriate questions and feedback to achieve the desired action. The commands and numbers can be spoken without a pause between the individual words.

In addition you can save telephone numbers under a name tag that is selectable by you. The telephone connection can be set up with this name.

In the event of incorrect operation or incorrect codes, the voice control gives you voice feedback and requests you to re-enter the desired command. Apart from this, the voice control acknowledges important commands and will ask if necessary.

In order that calls are made inside the vehicle do not lead to unintentional triggering of the mobile phone, the voice control does not start until it has been activated.

**Activating the Voice Control**

For vehicles without a navigation system, press the ✆ / button on the steering wheel to activate the voice control of the UHP system.

For vehicles with a navigation system, press the ✆ / button on the steering wheel to activate the voice control of the UHP system The system responds with a tone. After the tone, say”Phone.“

For the duration of the dialogue any audio source that is active is muted and any traffic news fade-in is cancelled.

**Adjusting the Volume for Voice Output**

Turn the volume knob of the Infotainment system or press the + / - buttons on the steering wheel.

**Canceling Dialogue**

There are various possibilities of deactivating the voice control and cancelling the dialogue:

- Press the / button on the steering wheel controls.
- Enter the command “Cancel.”
- Do not enter a command for some time.
- The command is unrecognized after three tries.

**Main Menu Commands**

The UHP system has a set of main menu commands that are available when voice control is first started. After the voice control is activated, a short tone indicates that the voice control system is waiting for a command.

Available commands:

- “Dial”
- “Call”
- “Re-dial”
- “Save”
- “Delete”
- “Directory”
- “Pair”
- “Select device”
- “Voice feedback”
- “Help”
- “Cancel”

**Frequently Used Commands**

Here is a list of frequently used commands:

- “Help”: the dialogue is terminated and all commands available in the current context are enumerated.
- “Cancel”: the voice control is deactivated.
- “Yes”: a suitable action is triggered depending on the context.
- “No”: a suitable action is triggered depending on the context.

**Voice Feedback**

Each voice input is answered or commented on by the infotainment system by way of a voice output that is adapted to the situation.

To switch the voice output on or off, enter “Voice feedback” or press the / button.

**Pairing, Saving, or Deleting Phone From Device List**

With the command “Pair” a mobile phone can be saved to or deleted from the device list of the UHP system. A device number will be assigned by the UHP system to the mobile phone when it is paired.

Available commands:

- “Add”
- “Delete”
- “Help”
- “Cancel”

**Example of a dialogue**

User: “Pair.”

Voice output: “Do you want to add or delete a device?”

User: “Add.”

Voice output: “Using the pair function in the external device, enter <1234> to pair.”

(At this time, start the pairing process on the mobile phone that will be paired to the vehicle. Reference the mobile phone manufacturer's user guide for information on this process. Locate the device named UHP followed by a four-digit number in the list on the mobile phone and follow the instructions on the mobile phone and enter the four-digit code provided by the system.)

Voice output: “Do you want to pair the device?”

User: “Yes.”

Voice output: “Paired, ending session.”

**Selecting Phone from Device List**

The “Select device” command can be used to select a different paired mobile phone. The UHP system asks for a device number that was assigned by the UHP system to the mobile phone when it was paired.

**Example of a dialogue**

User: “Select device.”

Voice output: “Please, say a device number to select.”

User: “device number.”

Voice output: “Do you want to select the device number “device number.”

(The device name appears on the infotainment display screen)

User: “Yes.”

Voice output: “One moment please, the system searches for the selected device.”

Voice output: “Device number “device number” is selected, ending session.”

**Telephone Number Dialing**

After the “Dial” command, the voice control requests input of a number.

The telephone number must be spoken in your normal speech without any artificial pauses between the numbers.

Recognition is best, if a pause of at least half a second is made after every three to five digits. The infotainment system then repeats the numbers recognized.

Available Commands:

- “Dial”: the inputs are accepted.
- “Digit”: a numeric value between “0-9” is entered.
- “Delete”: the number last entered or the block of numbers last entered is deleted.
- “Plus”: a preceding “+” is entered for a call abroad.
- “Verify”: the inputs are repeated by the voice output.
- “Asterisk”: an asterisk “*” is entered.
- “Hash”: a hash character “#” is entered.
- “Pause”: a pause is entered into the character sequence.
- “Help”
- “Cancel”

The telephone number entered can have a maximum length of 25 digits.

To be able to make a call abroad you can say the word “Plus” (+) at the beginning of your number. The plus allows you to call from any country without knowing the prefix for calls made abroad in that country. Then say the required country code.

**Example of a dialogue**

User: “Dial.”

Voice output: “Please, say the number to dial.”

User: “Plus four nine.”

User: “Seven three one.”

Voice output: “Seven three one.”

User: “One one nine nine.”

Voice output: “One one nine nine.”

User: “Dial.”

Voice output: “The number is being dialled.”

**Making a Call Using Name Tag**

When the “Call” command is used, a telephone number is entered that has been stored in the telephone book as a name tag.

Available commands:

- “Yes”
- “No”
- “Help”
- “Cancel”

**Example of a dialogue**

User: “Call.”

Voice output: “Please, say the name tag to call.”

(for name tag information, see “Saving a Name Tag” later in this section)

User:”Name tag.“

Voice output: “Seven three one.”

User: “Yes.”

Voice output: “Calling.”

**Starting a Second Call**

Press the button ✆ / 🎤 to start a second call during an active telephone call.

Available commands:

- “Send”: activate manual DTMF (touch-tone dialling), e.g. for voice mail or telephone banking.
- “Send name tag”: activate DTMF (touch-tone dialling) by entering a name tag.
- “Dial”
- “Call”
- “Re-dialing”
- “Help”
- “Cancel”

**Example of a dialogue**

User: Press the ✆ / 🎤 button if a telephone call is active.

User: “Send.”

Voice output: “Please, say the number to send.”

(for number input information, see the dialogue example for “Making a Call Using a Telephone Number” earlier in this section)

User: “Send.”

**Re-dialing**

The “Re-dialing” command re-dials the last number dialed .

**Saving a Name Tag**

The “Save” command is used to store a telephone number in the telephone book under as a name tag.

The name entered must be repeated once. The pitch and pronunciation must be as identical as possible for both name inputs, otherwise the voice control will reject the inputs.

A maximum of 50 name tags can be stored in the telephone book.

Name tags are speaker-dependent, i.e. only the person who recorded a name tag can open it. To avoid the start of the recording of a saved name from being cut off, a short pause should be left after an input request.

To be able to use the name tag independently of the location, i.e. including other countries, all telephone numbers should be entered with a “plus” character and a country code.

Available commands:

- “Save”: the inputs are accepted.
- “Re-dialing”: the last input is repeated.
- “Help”
- “Cancel”

**Example of a dialogue**

User: “Save.”

Voice output: “Please, say the number to save.”

User: Say number to save.

(for number input information, see the dialogue example for “Making a Call Using a Telephone Number” earlier in this section)

User: “Save.”

User: “Name Tag” (give name tag).

Voice output: “Please, repeat the name tag to confirm.”

User: “Name Tag”

Voice output: “Saving the name tag.”

### Deleting a Name Tag

The “Delete” command is used to delete a previously saved name tag.

Available commands:

- “Yes”
- “No”
- “Help”
- “Cancel”

### Listening to Stored Name Tags

The “Directory” command is used to listen to all stored name tags.

Available commands:

- “Call”: the telephone number of the voice tag last read aloud is selected.
- “Delete”: the entry of the voice tag last read aloud is deleted.

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## ✍ NOTES

# Climate Controls

**Climate Control Systems**
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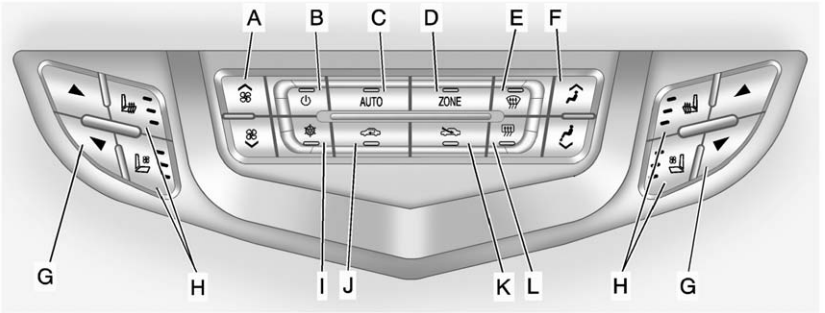
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# Climate Control Systems

## Dual Automatic Climate Control System

The heating, cooling, and ventilation for the vehicle can be controlled with this system.




A. Fan Control
B. Power
C. AUTO (Automatic Operation)
D. ZONE
E. Defrost
F. Air Delivery Mode Control
G. Driver and Passenger Temperature Controls
H. Driver and Passenger Heated and Ventilated Seats
I. Air Conditioning
J. Recirculation
K. Outside Air
L. Rear Window Defogger

**Automatic Operation**

The system automatically controls the fan speed, air delivery, air conditioning and recirculation in order to heat or cool the vehicle to the desired temperature.

When the indicator light is on, the system is in full automatic operation. If the air delivery mode or fan setting is manually adjusted, the auto indicator turns off and displays will show the selected settings.

To place the system in automatic mode do the following:

1. Press AUTO.
2. Set the temperature. Allow the system time to stabilize. Then adjust the temperature as needed for best comfort.

English units can be changed to metric units through the Driver Information Center (DIC). See *Vehicle Personalization on page 5-40*.

**▲ / ▼ (Driver and Passenger Temperature Controls):** The temperature can be adjusted separately for the driver and the passenger. Press to increase or decrease the temperature.

**ZONE:** Press to link all climate zone settings to the driver settings. The ZONE indicator light turns off. When the passenger settings are adjusted, the ZONE indicator light is on.

**Manual Operation**

**(Power):** Press to turn the climate control system on or off.

**(Fan Control):** Press to increase or decrease the fan speed. Pressing either button cancels automatic operation and the system goes into manual mode. Press AUTO to return to automatic operation.

**(Air Delivery Mode Control):** Press to change the direction of the airflow. The current mode appears in the display screen. Changing the mode cancels the automatic operation and the system goes into manual mode. Press AUTO to return to automatic operation.

To change the current mode, select one of the following:

**(Vent):** Air is directed to the instrument panel outlets.

**(Bi-Level):** Air is divided between the instrument panel outlets and the floor outlets.

**(Tri-Level):** Air is divided between the windshield, instrument panel, and floor outlets.

**(Floor):** Air is directed to the floor outlets.

**(Defog):** Clears the windows of fog or moisture. Air is directed to the windshield and floor outlets.

**(Upper):** Air is directed to the windshield outlets.

**(Hi-Level):** Air is divided between the windshield and instrument panel outlets.

**(Defrost):** Clears the windshield of fog or frost more quickly. Air is directed to the windshield.

**(Air Conditioning):** Press to turn the automatic air conditioning on or off. If the fan is turned off or the outside temperature falls below freezing, the air conditioner will not run.

Press AUTO to return to automatic operation and the air conditioner runs as needed. When the indicator light is on, the air conditioner runs automatically to cool the air inside the vehicle or to dry the air needed to defog the windshield faster.

**(Recirculation):** Press to turn on recirculation. An indicator light comes on. Air is recirculated to quickly cool the inside of the vehicle or prevent outside air and odors from entering.

**Automatic Air Recirculation:** When the AUTO indicator light is on, the air is automatically recirculated as needed to help quickly cool the inside of the vehicle.

The climate control system may have a sensor to detect air pollution. In auto recirculation control, the Air Quality Control system may operate. To adjust the sensitivity of the Air Quality Control, see “Climate and Air Quality” under *Vehicle Personalization on page 5-40*.

**Auto Defog:** The climate control system may have a sensor to automatically detect high humidity inside the vehicle. When high humidity is detected, the climate control system may adjust to outside air supply and turn on the air conditioner. If the climate control system does not detect possible window fogging, it returns to normal operation. To turn Auto Defog off or on, see “Climate and Air Quality” under *Vehicle Personalization on page 5-40*.

**(Outside Air):** Press to turn on outside air. An indicator light comes on. Outside air is circulated through the vehicle.

## Rear Window Defogger

**(Rear Window Defogger):** Press to turn the rear window defogger on or off.

The rear window defogger turns off automatically after about 10 minutes. If turned on again it runs for about five minutes before turning off. At higher speeds, the rear window defogger may stay on continuously.

The rear window defogger can be set to automatic operation. See “Climate and Air Quality” under *Vehicle Personalization on page 5-40*. When Auto Rear Defog is selected, the rear window defogger turns on automatically when the interior temperature is cold and the outside temperature is about 40°F and below. The auto rear defogger turns off automatically after about 10 minutes. At higher speeds, the rear window defogger may stay on continuously.

The heated outside rearview mirrors turn on when the rear window defogger button is on and help to clear fog or frost from the surface of the mirrors. See *Heated Mirrors on page 2-22*.

***Notice:*** **Do not try to clear frost or other material from the inside of the front windshield and rear window with a razor blade or anything else that is sharp. This may damage the rear window defogger grid and affect your radio's ability to pick up stations clearly. The repairs would not be covered by your warranty.**

**Heated and Ventilated Seats:** Press to heat or ventilate the seat. See *Heated and Ventilated Front Seats on page 3-10*.

**Remote Start Climate Control Operation:** For vehicles with the remote vehicle start feature, the climate control system may run when the vehicle is started remotely. The system uses the driver's previous settings to heat or cool the inside of the vehicle. See *Remote Vehicle Start on page 2-10*.

The rear window defogger turns on if it is cold outside.

## Sensors

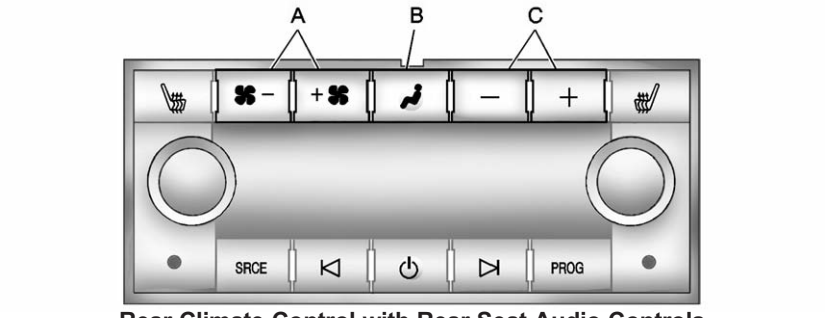
The solar sensor, located on top of the instrument panel near the windshield, monitors the solar heat.

The climate control system uses the sensor information to adjust the temperature, fan speed, recirculation, and air delivery mode for best comfort.

If the sensor is covered, the automatic climate control system may not work properly.

## Rear Climate Control System

For vehicles with the rear heat and air conditioning controls, they are integrated with the rear seat audio controls located in the center console.




**Rear Climate Control with Rear Seat Audio Controls**

A. Fan Control
B. Air Delivery Mode Control
C. Temperature Control

**ZONE:** When the rear climate control is turned on from the rear, the ZONE indicator light will turn on.

Press the ZONE button on the front climate control system to turn off the rear blower and match the rear settings to the front. The ZONE indicator light and rear climate control display will turn off.

The rear climate control can be turned off by pressing − .

**Independent Mode:** This mode directs rear seating airflow according to the settings of the rear controls.

The front climate control system must be on for the rear climate control to work. To turn on the rear climate control from rear seating, press any rear climate control button.

The rear climate control will not work if the front climate control system is in defrost.

**Automatic Operation**

**AUTO:** Press ↗ until the AUTO setting is selected to control the rear temperature, air delivery, and fan speed automatically.

**Manual Operation**

**⌘ −/+ ⌘ (Fan Control):** Press these buttons on the rear seat audio control panel to increase or decrease the airflow. Pressing + ⌘ when the system is off will turn the system on. The air delivery mode remains in its previous setting.

**−/+ (Temperature Control):** Press these buttons to adjust the temperature of the air flowing into the passenger area. Press + for warmer air and press − for cooler air.

**↗ (Air Delivery Mode Control):** Press the mode button to change the direction of the airflow. Multiple presses will cycle through the delivery selections.

# Air Vents

Move the sliding knob on the air outlets up and down or left and right to direct the airflow. Use the thumbwheels near the air outlets to open or close off the airflow.

**Operation Tips**

- Clear away any ice, snow, or leaves from air inlets at the base of the windshield that could block the flow of air into the vehicle.
- Keep the path under the front seats clear of objects to help circulate the air inside the vehicle more effectively.
- Use of non-GM approved hood deflectors can adversely affect the performance of the system. Check with your dealer before adding equipment to the outside of the vehicle.
- Do not insert any objects in the outlets, as failure of the mechanism may occur.

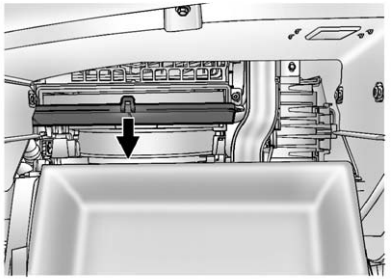
# Maintenance

## Passenger Compartment Air Filter

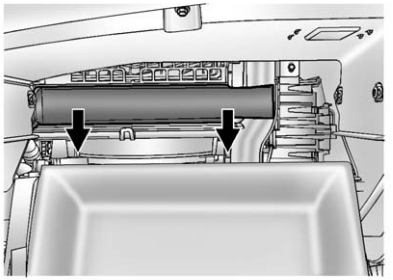
The filter removes dust, pollen, and other airborne irritants from outside air that is pulled into the vehicle.

The filter should be replaced as part of routine scheduled maintenance, see *Maintenance Schedule on page 11-4*. To find out what type of filter to use, see *Maintenance Replacement Parts on page 11-14*.

1. Open the glove box completely and remove the four screws along the upper portion of the glove box.
2. When released, lower the upper portion of the glove box.
3. Locate the service door for the passenger compartment air filter.



4. Release the two latches holding the service door. Lower the service door.



5. Remove the old air filter.
6. Install the new air filter.
7. Close the service door and latches.
8. Reinstall the upper portion of the glove box.

See your dealer if additional assistance is needed.

## ✍ NOTES

# Driving and Operating


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# Driving Information

## Distracted Driving

Distraction comes in many forms and can take your focus from the task of driving. Exercise good judgment and do not let other activities divert your attention away from the road. Many local governments have enacted laws regarding driver distraction. Become familiar with the local laws in your area.

To avoid distracted driving, always keep your eyes on the road, hands on the wheel, and mind on the drive.

- Do not use a phone in demanding driving situations. Use a hands-free method to place or receive necessary phone calls.
- Watch the road. Do not read, take notes, or look up information on phones or other electronic devices.
- Designate a front seat passenger to handle potential distractions.
- Become familiar with vehicle features before driving, such as programming favorite radio stations and adjusting climate control and seat settings. Program all trip information into any navigation device prior to driving.
- Wait until the vehicle is parked to retrieve items that have fallen to the floor.
- Stop or park the vehicle to tend to children.
- Keep pets in an appropriate carrier or restraint.
- Avoid stressful conversations while driving, whether with a passenger or on a cell phone.

**⚠ WARNING**

Taking your eyes off the road too long or too often could cause a crash resulting in injury or death. Focus your attention on driving.

Refer to the infotainment section for more information on using that system, including pairing and using a cell phone.

If equipped, refer to the navigation manual for information on that system, including pairing and using a cell phone.

## Defensive Driving

Defensive driving means “always expect the unexpected.” The first step in driving defensively is to wear the safety belt. See *Safety Belts on page 3-14*.

- Assume that other road users (pedestrians, bicyclists, and other drivers) are going to be careless and make mistakes. Anticipate what they might do and be ready.
- Allow enough following distance between you and the driver in front of you.
- Focus on the task of driving.

## Drunk Driving

Death and injury associated with drinking and driving is a global tragedy.

**⚠ WARNING**

Drinking and then driving is very dangerous. Your reflexes, perceptions, attentiveness, and judgment can be affected by even a small amount of alcohol. You can have a serious — or even fatal — collision if you drive after drinking.

Do not drink and drive or ride with a driver who has been drinking. Ride home in a cab; or if you are with a group, designate a driver who will not drink.

## Control of a Vehicle

Braking, steering, and accelerating are important factors in helping to control a vehicle while driving.

## Braking

Braking action involves perception time and reaction time. Deciding to push the brake pedal is perception time. Actually doing it is reaction time.

Average driver reaction time is about three-quarters of a second. In that time, a vehicle moving at 100 km/h (60 mph) travels 20 m (66 ft), which could be a lot of distance in an emergency.

Helpful braking tips to keep in mind include:

- Keep enough distance between you and the vehicle in front of you.
- Avoid needless heavy braking.
- Keep pace with traffic.

If the engine ever stops while the vehicle is being driven, brake normally but do not pump the brakes. Doing so could make the pedal harder to push down. If the engine stops, there will be some power brake assist but it will be used when the brake is applied. Once the power assist is used up, it can take longer to stop and the brake pedal will be harder to push.

## Steering

### Hydraulic Power Steering

Your vehicle has hydraulic power steering. It may require maintenance. See *Power Steering Fluid on page 10-20*.

If power steering assist is lost due to a system malfunction, the vehicle can be steered, but may require increased effort.

See your dealer if there is a problem.

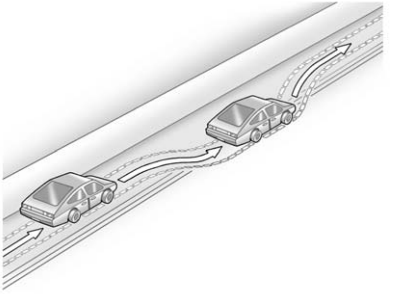
### Curve Tips

- Take curves at a reasonable speed.
- Reduce speed before entering a curve.
- Maintain a reasonable steady speed through the curve.
- Wait until the vehicle is out of the curve before accelerating gently into the straightaway.

### Steering in Emergencies

- There are some situations when steering around a problem may be more effective than braking.
- Holding both sides of the steering wheel allows you to turn 180 degrees without removing a hand.
- The Antilock Brake System (ABS) allows steering while braking.

## Off-Road Recovery



The vehicle's right wheels can drop off the edge of a road onto the shoulder while driving. Follow these tips:

1. Ease off the accelerator and then, if there is nothing in the way, steer the vehicle so that it straddles the edge of the pavement.
2. Turn the steering wheel about one-eighth of a turn, until the right front tire contacts the pavement edge.
3. Then turn the steering wheel to go straight down the roadway.

## Loss of Control

### Skidding

There are three types of skids that correspond to the vehicle's three control systems:

- Braking Skid — wheels are not rolling.
- Steering or Cornering Skid — too much speed or steering in a curve causes tires to slip and lose cornering force.
- Acceleration Skid — too much throttle causes the driving wheels to spin.

Defensive drivers avoid most skids by taking reasonable care suited to existing conditions, and by not overdriving those conditions. But skids are always possible.

If the vehicle starts to slide, follow these suggestions:

- Ease your foot off the accelerator pedal and quickly steer the way you want the vehicle to go. The vehicle may straighten out. Be ready for a second skid if it occurs.
- Slow down and adjust your driving according to weather conditions. Stopping distance can be longer and vehicle control can be affected when traction is reduced by water, snow, ice, gravel, or other material on the road. Learn to recognize warning clues — such as enough water, ice, or packed snow on the road to make a mirrored surface — and slow down when you have any doubt.
- Try to avoid sudden steering, acceleration, or braking, including reducing vehicle speed by shifting to a lower gear. Any sudden changes could cause the tires to slide.

Remember: Antilock brakes help avoid only the braking skid.

## Driving on Wet Roads

Rain and wet roads can reduce vehicle traction and affect your ability to stop and accelerate. Always drive slower in these types of driving conditions and avoid driving through large puddles and deep-standing or flowing water.

**⚠ WARNING**

Wet brakes can cause crashes. They might not work as well in a quick stop and could cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car/vehicle wash, lightly apply the brake pedal until the brakes work normally.

Flowing or rushing water creates strong forces. Driving through flowing water could cause the vehicle to be carried away. If this happens, you and other vehicle occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

### Hydroplaning

Hydroplaning is dangerous. Water can build up under the vehicle's tires so they actually ride on the water. This can happen if the road is wet enough and you are going fast enough. When the vehicle is hydroplaning, it has little or no contact with the road.

There is no hard and fast rule about hydroplaning. The best advice is to slow down when the road is wet.

### Other Rainy Weather Tips

Besides slowing down, other wet weather driving tips include:

- Allow extra following distance.
- Pass with caution.
- Keep windshield wiping equipment in good shape.
- Keep the windshield washer fluid reservoir filled.
- Have good tires with proper tread depth. See *Tires on page 10-49*.
- Turn off cruise control.

## Highway Hypnosis

Always be alert and pay attention to your surroundings while driving. If you become tired or sleepy, find a safe place to park the vehicle and rest.

Other driving tips include:

- Keep the vehicle well ventilated.
- Keep the interior temperature cool.
- Keep your eyes moving — scan the road ahead and to the sides.
- Check the rearview mirror and vehicle instruments often.

## Hill and Mountain Roads

Driving on steep hills or through mountains is different than driving on flat or rolling terrain. Tips for driving in these conditions include:

- Keep the vehicle serviced and in good shape.
- Check all fluid levels and brakes, tires, cooling system, and transmission.
- Shift to a lower gear when going down steep or long hills.

**⚠ WARNING**

If you do not shift down, the brakes could get so hot that they would not work well. You would then have poor braking or even none going down a hill. You could crash. Shift down to let the engine assist the brakes on a steep downhill slope.

**⚠ WARNING**

Coasting downhill in N (Neutral) or with the ignition off is dangerous. The brakes will have to do all the work of slowing down and they could get so hot that they would not work well. You would then have poor braking or even none going down a hill. You could crash. Always have the engine running and the vehicle in gear when going downhill.

- Stay in your own lane. Do not swing wide or cut across the center of the road. Drive at speeds that let you stay in your own lane.
- Be alert on top of hills; something could be in your lane (stalled car, accident).
- Pay attention to special road signs (falling rocks area, winding roads, long grades, passing or no-passing zones) and take appropriate action.

## Winter Driving

### Driving on Snow or Ice

Drive carefully when there is snow or ice between the tires and the road, creating less traction or grip. Wet ice can occur at about 0°C (32°F) when freezing rain begins to fall, resulting in even less traction. Avoid driving on wet ice or in freezing rain until roads can be treated with salt or sand.

Drive with caution, whatever the condition. Accelerate gently so traction is not lost. Accelerating too quickly causes the wheels to spin and makes the surface under the tires slick, so there is even less traction.

Try not to break the fragile traction. If you accelerate too fast, the drive wheels will spin and polish the surface under the tires even more.

The *Antilock Brake System (ABS) on page 9-29* improves vehicle stability during hard stops on slippery roads, but apply the brakes sooner than when on dry pavement.

Allow greater following distance on any slippery road and watch for slippery spots. Icy patches can occur on otherwise clear roads in shaded areas. The surface of a curve or an overpass can remain icy when the surrounding roads are clear. Avoid sudden steering maneuvers and braking while on ice.

Turn off cruise control, if equipped, on slippery surfaces.

### Blizzard Conditions

Being stuck in snow can be a serious situation. Stay with the vehicle unless there is help nearby. If possible, use the *Roadside Service (U.S. and Canada) on page 13-8* or *Roadside Service (Mexico) on page 13-10*. To get help and keep everyone in the vehicle safe:

- Turn on the hazard warning flashers.
- Tie a red cloth to an outside mirror.

**⚠ WARNING**

Snow can trap engine exhaust under the vehicle. This may cause exhaust gases to get inside. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death.

(Continued)

**WARNING (Continued)**

If the vehicle is stuck in the snow:

- Clear away snow from around the base of your vehicle, especially any that is blocking the exhaust pipe.
- Check again from time to time to be sure snow does not collect there.
- Open a window about 5 cm (2 in) on the side of the vehicle that is away from the wind to bring in fresh air.
- Fully open the air outlets on or under the instrument panel.
- Adjust the climate control system to a setting that circulates the air inside the vehicle and set the fan speed to the highest setting. See “Climate Control Systems” in the Index.

(Continued)

**WARNING (Continued)**

For more information about carbon monoxide, see *Engine Exhaust on page 9-23*.

Run the engine for short periods only as needed to keep warm, but be careful.

To save fuel, run the engine for only short periods as needed to warm the vehicle and then shut the engine off and close the window most of the way to save heat. Repeat this until help arrives but only when you feel really uncomfortable from the cold. Moving about to keep warm also helps.

If it takes some time for help to arrive, now and then when you run the engine, push the accelerator pedal slightly so the engine runs faster than the idle speed. This keeps the battery charged to restart the vehicle and to signal for help with the headlamps. Do this as little as possible to save fuel.

## If the Vehicle Is Stuck

Slowly and cautiously spin the wheels to free the vehicle when stuck in sand, mud, ice, or snow.

If stuck too severely for the traction system to free the vehicle, turn the traction system off and use the rocking method.

**⚠ WARNING**

If the vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 56 km/h (35 mph).

For information about using tire chains on the vehicle, see *Tire Chains on page 10-70*.

### Rocking the Vehicle to Get it Out

Turn the steering wheel left and right to clear the area around the front wheels. Turn off any traction system. Shift back and forth between R (Reverse) and a forward gear, spinning the wheels as little as possible. To prevent transmission wear, wait until the wheels stop spinning before shifting gears. Release the accelerator pedal while shifting, and press lightly on the accelerator pedal when the transmission is in gear. Slowly spinning the wheels in the forward and reverse directions causes a rocking motion that could free the vehicle. If that does not get the vehicle out after a few tries, it might need to be towed out. If the vehicle does need to be towed out, see *Towing the Vehicle on page 10-93*.

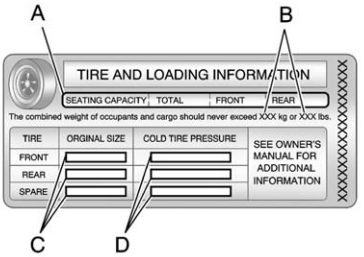
## Vehicle Load Limits

It is very important to know how much weight the vehicle can carry. This weight is called the vehicle capacity weight and includes the weight of all occupants, cargo and all nonfactory-installed options. Two labels on the vehicle show how much weight it may properly carry, the Tire and Loading Information label and the Certification label.

**⚠ WARNING**

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also shorten the life of the vehicle.

### Tire and Loading Information Label




**Label Example**

A vehicle-specific Tire and Loading Information label is attached to the vehicle's center pillar (B-pillar). With the driver door open, the label is attached near the door lock post. The Tire and Loading Information label shows the number of occupant seating positions (A), and the maximum vehicle capacity weight (B) in kilograms and pounds.

The Tire and Loading Information label also shows the tire size of the original equipment tires (C) and the recommended cold tire inflation pressures (D). For more information on tires and inflation see *Tires on page 10-49* and *Tire Pressure on page 10-56*.

There is also important loading information on the Certification label. It tells you the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axle. See “Certification Label” later in this section.

**Steps for Determining Correct Load Limit**

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs" on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1400 lbs and there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs (1400 − 750 (5 x 150) = 650 lbs).
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, the load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

See *Trailer Towing on page 9-57* for important information on towing a trailer, towing safety rules and trailering tips.

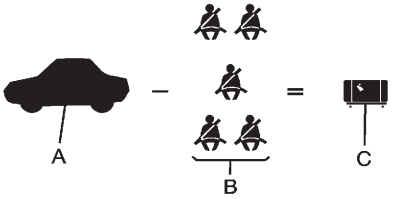



**Example 1**

A. Vehicle Capacity Weight for Example 1 = 453 kg (1,000 lbs).

B. Subtract Occupant Weight @ 68 kg (150 lbs) × 2 = 136 kg (300 lbs).

C. Available Occupant and Cargo Weight = 317 kg (700 lbs).

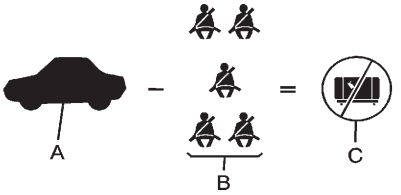



**Example 2**

A. Vehicle Capacity Weight for Example 2 = 453 kg (1,000 lbs).

B. Subtract Occupant Weight @ 68 kg (150 lbs) × 5 = 340 kg (750 lbs).

C. Available Cargo Weight = 113 kg (250 lbs).




**Example 3**

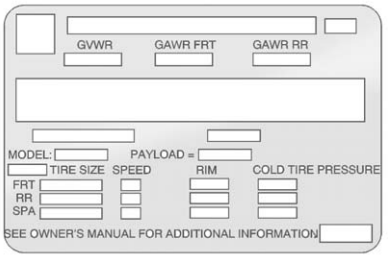
A. Vehicle Capacity Weight for Example 3 = 453 kg (1,000 lbs).

B. Subtract Occupant Weight @ 91 kg (200 lbs) × 5 = 453 kg (1,000 lbs).

C. Available Cargo Weight = 0 kg (0 lbs).

Refer to the vehicle's Tire and Loading Information label for specific information about the vehicle's capacity weight and seating positions. The combined weight of the driver, passengers, and cargo should never exceed the vehicle's capacity weight.

**Certification Label**




**Label Example**

A vehicle-specific Certification/ Tire label is attached to the driver side center pillar (B-pillar).

The label shows the size of the vehicle's original tires and the inflation pressures needed to obtain the gross weight capacity of the vehicle. This is called Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, and cargo.

The Certification/Tire label also tells you the maximum weights for the front and rear axles, called Gross Axle Weight Rating (GAWR). To find out the actual loads on the front and rear axles, you need to go to a weigh station and weigh the vehicle. Your dealer can help you with this. Be sure to spread out the load equally on both sides of the center line.

Never exceed the GVWR for the vehicle, or the GAWR for either the front or rear axle.

If the vehicle is carrying a heavy load, it should be spread out. See “Steps for Determining Correct Load Limit” earlier in this section.

**⚠ WARNING**

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also shorten the life of the vehicle.

Your warranty does not cover parts or components that fail because of overloading.

The label will help you decide how much cargo and installed equipment your vehicle can carry.

Using heavier suspension components to get added durability might not change your weight ratings. Ask your dealer to help you load your vehicle the right way.

If you put things inside your vehicle – like suitcases, tools, packages, or anything else – they will go as fast as the vehicle goes. If you have to stop or turn quickly, or if there is a crash, they will keep going.

**⚠ WARNING**

Things inside the vehicle can strike and injure people in a sudden stop or turn, or in a crash.

- Put things in the cargo area of the vehicle. In the cargo area, put them as far forward as possible. Try to spread the weight evenly.
- Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.

(Continued)

**WARNING (Continued)**

- Do not leave an unsecured child restraint in the vehicle.
- Secure loose items in the vehicle.
- Do not leave a seat folded down unless needed.

# Starting and Operating

## New Vehicle Break-In

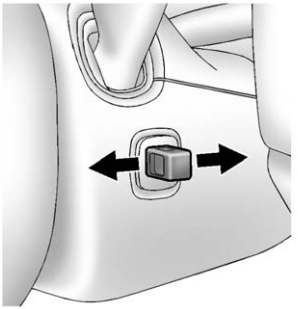
***Notice:*** **The vehicle does not need an elaborate break-in. But it will perform better in the long run if you follow these guidelines:**

- **Do not drive at any one constant speed, fast or slow, for the first 805 km (500 mi). Do not make full-throttle starts. Avoid downshifting to brake or slow the vehicle.**
- **During the first 1 000 km (600 mi), avoid using more than moderate acceleration in lower gears and avoid vehicle speeds above 110 km/h (68 mph).**
- **Between the first 1 000 km (600 mi) and 5 000 km (3,000 mi), heavy acceleration in lower gears can be used. Vehicle speeds above 110 km/h (68 mph) should be limited to five minutes per use.**
- **Avoid making hard stops for the first 322 km (200 mi) or so. During this time the new brake linings are not yet broken in. Hard stops with new linings can mean premature wear and earlier replacement. Follow this breaking-in guideline every time you get new brake linings.**
- **Do not tow a trailer during break-in. See *Driving Characteristics and Towing Tips on page 9-53* for the trailer towing capabilities of your vehicle and more information.**

**Following break-in, engine speed and load can be gradually increased.**

## Adjustable Throttle and Brake Pedal

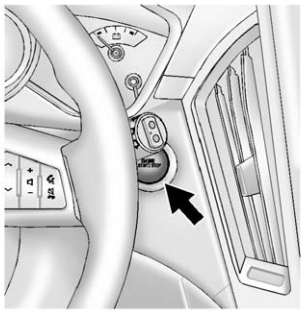
If the vehicle has this feature, the position of the throttle and brake pedals can be adjusted.



The switch used to adjust the pedals is located on the right side of the steering column, below the wiper stalk. Pull the switch toward you to move the pedals further from the floor, or push the switch away from you to move the pedals closer to the floor.

Adjust the throttle and brake pedals while the vehicle is in P (Park) without pressing on the pedals. The pedals cannot be adjusted while the vehicle is in R (Reverse) or when cruise control is engaged. The throttle and brake pedals can also be adjusted while driving.

## Ignition Positions



The vehicle has an electronic keyless ignition with pushbutton start.

Pressing the button cycles it through three modes, ACC/ACCESSORY, ON/RUN/START and STOPPING THE ENGINE/OFF.

If the pushbutton start is not working, the vehicle may be near a strong radio antenna signal causing interference to the keyless entry system. See *Driver Information Center (DIC) on page 5-27* for more information.

To shift out of P (Park), the vehicle must be in ACC/ACCESSORY or ON/RUN mode and the brake pedal must be applied.

**STOPPING THE ENGINE/OFF (No LED Lights):** When the vehicle is stopped, press the engine START/STOP button once to turn the engine off.

If the vehicle is in P (Park), the ignition will turn off, and Retained Accessory Power (RAP) will remain active. See *Retained Accessory Power (RAP) on page 9-21* for more information.

If the vehicle is not in P (Park), the ignition will return to ACC/ACCESSORY and display the message SHIFT TO PARK in the Driver Information Center (DIC). See *Driver Information Center (DIC) on page 5-27* for more information. When the vehicle is shifted into P (Park), the ignition system will switch to OFF.

Do not turn the engine off when the vehicle is moving. This will cause a loss of power assist in the brake and steering systems and disable the airbags.

If the vehicle must be shut off in an emergency:

1. Brake using a firm and steady pressure. Do not pump the brakes repeatedly. This may deplete power assist, requiring increased brake pedal force.
2. Shift the vehicle to N (Neutral). This can be done while the vehicle is moving. After shifting to N (Neutral), firmly apply the brakes and steer the vehicle to a safe location.
3. Come to a complete stop, shift to P (Park), and turn the ignition to OFF. On vehicles with an automatic transmission, the shift lever must be in P (Park) to turn the ignition switch to the OFF position.
4. Set the parking brake. See *Parking Brake on page 9-30*.

**⚠ WARNING**

Turning off the vehicle while moving may cause loss of power assist in the brake and steering systems and disable the airbags. While driving, only shut the vehicle off in an emergency.

If the vehicle cannot be pulled over, and must be shut off while driving, switch the ignition to ACC/ACCESSORY.

**ACC/ACCESSORY (Amber LED Light):** This mode allows you to use some electrical accessories when the engine is off.

With the ignition off, pressing the button one time without the brake pedal applied, will place the ignition system in ACC/ACCESSORY.

The ignition will switch from ACC/ACCESSORY to OFF after ten minutes to prevent battery run down.

**ON/RUN/START (Green LED Light):** This mode is for driving and starting. With the ignition off, and the brake pedal applied, pressing the button once will place the ignition system in ON/RUN/START. Once engine cranking begins, release the button. Engine cranking will continue until the engine starts. See *Starting the Gasoline Engine on page 9-19* for more information. The ignition will then remain in ON/RUN.

**Service Only Mode**

This power mode is available for service and diagnostics, and to verify the proper operation of the malfunction indicator lamp as may be required for emission inspection purposes. With the vehicle off, and the brake pedal not applied, pressing and holding the button for more than five seconds will place the vehicle in Service Only Mode. The instruments and audio systems will operate as they do in ON/RUN, but the vehicle will not be able to be driven. The engine will not start in Service Only Mode. Push the button again to turn the vehicle off.

## Starting the Gasoline Engine

Place the transmission in the proper gear by moving the shift lever to P (Park) or N (Neutral). To restart the engine when the vehicle is already moving, use N (Neutral).

***Notice:*** **Do not try to shift to P (Park) if the vehicle is moving. If you do, you could damage the transmission. Shift to P (Park) only when the vehicle is stopped.**

The keyless access transmitter must be inside the vehicle for the ignition to work.

Cell phone chargers can interfere with the operation of the Keyless Access System. Battery chargers should not be plugged in when starting or turning off the engine.

To start the vehicle:

**Starting Procedure**

1. With the brake pedal applied, press the START button located on the instrument panel. See *Ignition Positions on page 9-17*.
2. When the engine begins cranking, let go of the button and the engine cranks automatically until it starts.

   If the transmitter is not in the vehicle or something is interfering with the transmitter, the Driver Information Center (DIC) will display NO REMOTE DETECTED. See *Driver Information Center (DIC) on page 5-27* for more information.

   If the battery in the keyless access transmitter needs replacing, the DIC displays REPLACE BATTERY IN REMOTE KEY. The vehicle can still be driven. See *Remote Keyless Entry (RKE) System Operation on page 2-3* for more information.

3. Do not race the engine immediately after starting it. Operate the engine and transmission gently until the oil warms up and lubricates all moving parts.
4. If the engine does not start and no DIC message is displayed, wait 15 seconds before trying again to let the cranking motor cool down.

   If the engine does not start after 5-10 seconds, especially in very cold weather (below −18°C or 0°F), it could be flooded with too much gasoline. Try pushing the accelerator pedal all the way to the floor while cranking for up to 15 seconds.

***Notice:*** **Cranking the engine for long periods of time, by pressing the START button immediately after cranking has ended, can overheat and damage the cranking motor, and drain the battery. Wait at least 15 seconds between each try, to allow the cranking motor to cool down.**

When the engine starts, let go of the accelerator. If the vehicle starts briefly but then stops again, do the same thing. This clears the extra gasoline from the engine.

The vehicle has a Computer-Controlled Cranking System. This feature assists in starting the engine and protects components. Once cranking has been initiated, the engine continues cranking for a few seconds or until the vehicle starts. If the engine does not start, cranking automatically stops after 15 seconds to prevent cranking motor damage. To prevent gear damage, this system also prevents cranking if the engine is already running.

***Notice:*** **The engine is designed to work with the electronics in the vehicle. If you add electrical parts or accessories, you could change the way the engine operates. Before adding electrical equipment, check with your dealer. If you do not, the engine might not perform properly. Any resulting damage would not be covered by the vehicle warranty.**

## Engine Heater

The engine coolant heater, if available, can help in cold weather conditions at or below −18°C (0°F) for easier starting and better fuel economy during engine warm-up. Plug in the coolant heater at least four hours before starting the vehicle. An internal thermostat in the plug end of the cord will prevent engine coolant heater operation at temperatures above −18°C (0°F).

### To Use the Engine Coolant Heater

1. Turn off the engine.
2. Open the hood and unwrap the electrical cord. The cord is located near the air cleaner.
3. Plug it into a normal, grounded 110-volt AC outlet.

**⚠ WARNING**

Plugging the cord into an ungrounded outlet could cause an electrical shock. Also, the wrong kind of extension cord could overheat and cause a fire. You could be seriously injured. Plug the cord into a properly grounded three-prong 110-volt AC outlet. If the cord will not reach, use a heavy-duty three-prong extension cord rated for at least 15 amps.

4. Before starting the engine, be sure to unplug and store the cord as it was before to keep it away from moving engine parts. If you do not it could be damaged.

The length of time the heater should remain plugged in depends on several factors. Ask a dealer in the area where you will be parking the vehicle for the best advice on this.

## Retained Accessory Power (RAP)

These accessories can be used after the engine is turned off:

- Audio system (up to 10 minutes or driver door is opened).
- Power windows, sunroof (if equipped), and power outlets (up to 10 minutes or any door is opened).

## Shifting Into Park

**⚠ WARNING**

It can be dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, use the steps that follow.

1. Hold the brake pedal down and set the parking brake.

   See *Parking Brake on page 9-30* for more information.
2. Move the shift lever into P (Park) by pushing the lever all the way toward the front of the vehicle.
3. Turn the ignition off.

### Leaving the Vehicle with the Engine Running

**⚠ WARNING**

It can be dangerous to leave the vehicle with the engine running. The vehicle could move suddenly if the shift lever is not fully in P (Park) with the parking brake firmly set. And, if you leave the vehicle with the engine running, it could overheat and even catch fire. You or others could be injured. Do not leave the vehicle with the engine running.

If you have to leave the vehicle with the engine running, be sure the vehicle is in P (Park) and the parking brake is firmly set before you leave it. After you have moved the shift lever into P (Park), hold down the regular brake pedal. See if you can move the shift lever away from P (Park) without first pulling it toward you. If you can, it means that the shift lever was not fully locked into P (Park).

### Torque Lock

Torque lock is when the weight of the vehicle puts too much force on the parking pawl in the transmission. This happens when parking on a hill and shifting the transmission into P (Park) is not done properly and then it is difficult to shift out of P (Park). To prevent torque lock, set the parking brake and then shift into P (Park). To find out how, see "Shifting Into P (Park)" listed previously.

If torque lock does occur, your vehicle may need to be pushed uphill by another vehicle to relieve the parking pawl pressure, so you can shift out of P (Park).

If you are towing a trailer and parking on a hill, see *Driving Characteristics and Towing Tips on page 9-53*.

## Shifting out of Park

This vehicle is equipped with an automatic transmission shift lock control system. The shift lock control is designed to prevent movement of the shift lever out of P (Park), unless the ignition is in ON/RUN and the brake pedal is applied

The shift lock control is always functional except in the case of an uncharged or low voltage (less than 9-volt) battery.

If the vehicle has an uncharged battery or a battery with low voltage, try charging or jump starting the battery. See *Jump Starting on page 10-88*.

To shift out of P (Park):

1. Apply the brake pedal.
2. Turn the ignition to ON/RUN.
3. Press the shift lever button.
4. Move the shift lever to the desired position.

If you still are unable to shift out of P (Park):

1. Fully release the shift lever button.
2. Hold the brake pedal down and press the shift lever button again.
3. Move the shift lever to the desired position.

If you still cannot move the shift lever from P (Park), consult your dealer or a professional towing service.

## Parking over Things That Burn

**⚠ WARNING**

Things that can burn could touch hot exhaust parts under the vehicle and ignite. Do not park over papers, leaves, dry grass, or other things that can burn.

# Engine Exhaust

**⚠ WARNING**

Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. Exposure to CO can cause unconsciousness and even death.

Exhaust may enter the vehicle if:

- The vehicle idles in areas with poor ventilation (parking garages, tunnels, deep snow that may block underbody airflow or tail pipes).
- The exhaust smells or sounds strange or different.
- The exhaust system leaks due to corrosion or damage.
- The vehicle exhaust system has been modified, damaged or improperly repaired.

(Continued)

**WARNING (Continued)**

- There are holes or openings in the vehicle body from damage or aftermarket modifications that are not completely sealed.

If unusual fumes are detected or if it is suspected that exhaust is coming into the vehicle:

- Drive it only with the windows completely down.
- Have the vehicle repaired immediately.

Never park the vehicle with the engine running in an enclosed area such as a garage or a building that has no fresh air ventilation.

## Running the Vehicle While Parked

It is better not to park with the engine running. But if you ever have to, here are some things to know.

**⚠ WARNING**

Idling a vehicle in an enclosed area with poor ventilation is dangerous. Engine exhaust may enter the vehicle. Engine exhaust contains Carbon Monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death. Never run the engine in an enclosed area that has no fresh air ventilation. For more information, see *Engine Exhaust on page 9-23*.

**⚠ WARNING**

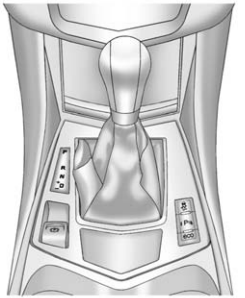
It can be dangerous to get out of the vehicle if the automatic transmission shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll. Do not leave the vehicle when the engine is running unless you have to. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park).

Follow the proper steps to be sure the vehicle will not move. See *Shifting Into Park on page 9-21*.

If parking on a hill and pulling a trailer, see *Driving Characteristics and Towing Tips on page 9-53*.

# Automatic Transmission

The shift lever is located on the center console between the front seats.



There are several different positions for the shift lever.

**P (Park):** This position locks the front wheels. It is the best position to use when you start the engine because the vehicle cannot move easily.

**⚠ WARNING**

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

Do not leave the vehicle when the engine is running unless you have to. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park on page 9-21*. If you are pulling a trailer, see *Driving Characteristics and Towing Tips on page 9-53*.

Make sure the shift lever is fully in P (Park) before starting the engine. The vehicle has an automatic transmission shift lock control system. You must fully apply the regular brakes first and then press the shift lever button before you can shift from P (Park) when the ignition is in ON/RUN. If you cannot shift out of P (Park), ease pressure on the shift lever and push the shift lever all the way into P (Park) as you maintain brake application. Then press the shift lever button and move the shift lever into another gear. See *Shifting out of Park on page 9-22*.

***Notice:*** **Shifting to R (Reverse) while the vehicle is moving forward could damage the transmission. The repairs would not be covered by the vehicle warranty. Shift to R (Reverse) only after the vehicle is stopped.**

**R (Reverse):** Use this gear to back up.

At low vehicle speeds, R (Reverse) can be used to rock the vehicle back and forth to get out of snow, ice, or sand without damaging your transmission. See *If the Vehicle Is Stuck on page 9-10* for additional information.

**N (Neutral):** In this position, the engine does not connect with the wheels. To restart when the vehicle is already moving, use N (Neutral) only. You can also use N (Neutral) when the vehicle is being towed.

**⚠ WARNING**

Shifting into a drive gear while the engine is running at high speed is dangerous. Unless your foot is firmly on the brake pedal, the vehicle could move very rapidly. You could lose control and hit people or objects. Do not shift into a drive gear while the engine is running at high speed.

***Notice:*** **Shifting out of P (Park) or N (Neutral) with the engine running at high speed may damage the transmission. The repairs would not be covered by the vehicle warranty. Be sure the engine is not running at high speed when shifting the vehicle.**

**D (Drive):** This position is for normal driving. It provides the best fuel economy. If you need more power for passing, and you are:

- Going less than 35 mph (55 km/h), push the accelerator pedal about halfway down.
- Going about 35 mph (55 km/h) or more, push the accelerator all the way down.

  The transmission will shift down to a lower gear and have more power.

Downshifting the transmission in slippery road conditions could result in skidding, see “Skidding” under *Loss of Control on page 9-5*

***Notice:*** **Spinning the tires or holding the vehicle in one place on a hill using only the accelerator pedal may damage the transmission. If you are stuck, do not spin the tires. When stopping on a hill, use the brakes to hold the vehicle in place.**

## Manual Mode

### Driver Shift Control (DSC)

***Notice:*** **Driving with the engine at a high rpm without upshifting while using Driver Shift Control (DSC), could damage the vehicle. Always upshift when necessary while using DSC.**

Driver Shift Control (DSC) allows you to shift an automatic transmission similar to a manual transmission. To use the DSC feature:

1. Move the shift lever to the left from D (Drive) to M (Manual Mode).

   If you do not move the shift lever forward or rearward, the vehicle will be in Sport Mode. When you are in Sport Mode the vehicle will still shift automatically. The transmission may remain in a gear longer than it would in the normal driving mode based on braking, throttle input, and vehicle lateral acceleration.

SPORT MODE ON will be displayed in the DIC. See *Ride Control System Messages on page 5-37*. The word “sport” will display below the odometer. The gear position will also be indicated in the tachometer.

Within Sport Mode there is a further performance feature called Performance Mode Lift Foot (PMLF) Mode. The feature is activated automatically when sports oriented driving is detected, based on cornering and on/off throttle application. PMLF allows the transmission to hold the current gear instead of upshifting when the throttle is lifted.

2. To enter M (Manual Mode), press the shift lever forward to upshift or rearward to downshift.

   An M will be displayed in the DIC.

3. To return to Sport Mode from M (Manual Mode), press and briefly hold the shift lever forward.




The tachometer display on the instrument panel cluster will show which gear the vehicle is in. The number indicates the requested gear range when moving the shift lever forward or rearward. See *Tachometer on page 5-12* for more information.

While using the DSC feature, the vehicle will have firmer, quicker shifting. You can use this for sport driving or when climbing or descending hills, to stay in gear longer, or to downshift for more power or engine braking.

The transmission will only allow you to shift into gears appropriate for the vehicle speed and engine revolutions per minute (rpm). The transmission will not automatically shift to the next lower gear if the engine rpm is too high, nor to the next higher gear when the maximum engine rpm is reached.

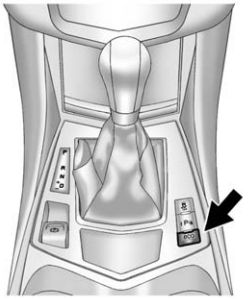
If shifting is prevented for any reason, the currently selected gear will flash multiple times, indicating that the transmission has not shifted gears.

While in the DSC mode, the transmission will automatically downshift when the vehicle comes to a stop. This will allow for more power during take-off.

When accelerating the vehicle from a stop in snowy and icy conditions, you may want to shift into second gear. A higher gear ratio allows you to gain more traction on slippery surfaces.

## Fuel Economy Mode

The vehicle may have a fuel economy mode. When engaged, fuel economy mode can improve the vehicle's fuel economy.



Pressing the eco button by the shift lever will engage fuel economy mode. When activated, the eco light in the instrument cluster will come on. See *Fuel Economy Light on page 5-25*. Pressing the button a second time will turn fuel economy mode off.

When fuel economy mode is on:

- The transmission will upshift sooner, and downshift later.
- The torque converter will lock up sooner, and stay on longer.
- The gas pedal will be less sensitive.
- The vehicle's computers will more aggressively shut off fuel to the engine under deceleration.
- The engine operates at lower rpm's in fuel economy mode, which can increase noise and vibration. This is normal.

# Drive Systems

## All-Wheel Drive

Vehicles with this feature always send engine power to all four wheels. It is fully automatic, and adjusts itself as needed for road conditions.

When using a compact spare tire on an AWD vehicle, the system automatically detects the compact spare and disables AWD. To restore AWD operation and prevent excessive wear on the system, replace the compact spare with a full-size tire as soon as possible. See *Compact Spare Tire on page 10-88* for more information.

# Brakes

## Antilock Brake System (ABS)

This vehicle has the Antilock Brake System (ABS), an advanced electronic braking system that helps prevent a braking skid.

When the engine is started and the vehicle begins to drive away, ABS checks itself. A momentary motor or clicking noise might be heard while this test is going on, and it might even be noticed that the brake pedal moves a little. This is normal.




If there is a problem with ABS, this warning light stays on. See *Antilock Brake System (ABS) Warning Light on page 5-22*.

If driving safely on a wet road and it becomes necessary to slam on the brakes and continue braking to avoid a sudden obstacle, a computer senses that the wheels are slowing down. If one of the wheels is about to stop rolling, the computer will separately work the brakes at each wheel.

ABS can change the brake pressure to each wheel, as required, faster than any driver could. This can help the driver steer around the obstacle while braking hard.

As the brakes are applied, the computer keeps receiving updates on wheel speed and controls braking pressure accordingly.

Remember: ABS does not change the time needed to get a foot up to the brake pedal or always decrease stopping distance.

If you get too close to the vehicle in front of you, there will not be enough time to apply the brakes if that vehicle suddenly slows or stops. Always leave enough room up ahead to stop, even with ABS.

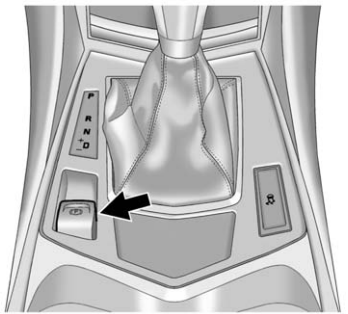
### Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly and let ABS work. You might hear the ABS pump or motor operating and feel the brake pedal pulsate, but this is normal.

### Braking in Emergencies

ABS allows the driver to steer and brake at the same time. In many emergencies, steering can help more than even the very best braking.

## Parking Brake




The vehicle has an Electric Parking Brake (EPB). The switch for the EPB is in the center console. The EPB can always be activated, even if the ignition is off. To avoid draining the battery, do not cycle the EPB too often without the engine running. The EPB can be left applied while the vehicle is parked.

The system has a parking brake status light and a parking brake warning light. See *Brake System Warning Light on page 5-21*. There are also three Driver Information Center (DIC) messages. See *Driver Information Center (DIC) on page 5-27* for more information. In case of insufficient electrical power, the EPB cannot be applied or released.

Before leaving the vehicle, check the parking brake status light to ensure the parking brake is applied.

### EPB Apply

The EPB can be applied any time the vehicle is stopped. The EPB is applied by momentarily lifting up on the EPB switch. Once fully applied, the parking brake status light will be on. While the brake is being applied, the status light will flash until full apply is reached. If the light does not come on, or remains flashing, you need to have the vehicle serviced. Do not drive the vehicle if the parking brake status light is flashing. See your dealer. See *Brake System Warning Light on page 5-21* for more information.

If the EPB is applied while the vehicle is in motion, a chime will sound, and the DIC message RELEASE PARKING BRAKE will be displayed. The vehicle will decelerate as long as the switch is held in the up position. Releasing the EPB switch during the deceleration will release the parking brake. If the switch is held in the up position until the vehicle comes to a stop, the EPB will remain applied.

If the parking brake status light flashes continuously, the EPB is only partially applied or released, or there is a problem with the EPB. The DIC message SERVICE PARKING BRAKE will be displayed. If this light flashes continuously, release the EPB, and attempt to apply it again. If this light continues to flash, do not drive the vehicle. See your dealer.

If the parking brake warning light is on, the EPB has detected an error in another system and is operating with reduced functionality. To apply the EPB when this light is on, lift up on the EPB switch and hold it in the up position. Full application of the parking brake by the EPB system may take a longer period of time than normal when this light is on. Continue to hold the switch until the parking brake status light remains on. If the parking brake warning light is on, see your dealer.

If the EPB fails to apply, the rear wheels should be blocked to prevent vehicle movement.

### EPB Release

To release the EPB, place the ignition in the ON/RUN position, apply and hold the brake pedal, and push down momentarily on the EPB switch. If you attempt to release the EPB without the brake pedal applied, a chime will sound, and the DIC message STEP ON BRAKE TO RELEASE PARK BRAKE will be displayed. The EPB is released when the parking brake status light is off.

If the parking brake warning light is on, the EPB has detected an error in another system and is operating with reduced functionality. To release the EPB when this light is on, push down on the EPB switch and hold it in the down position. EPB release may take a longer period of time than normal when this light is on. Continue to hold the switch until the parking brake status light is off. If the light is on, see your dealer.

***Notice:*** **Driving with the parking brake on can overheat the brake system and cause premature wear or damage to brake system parts. Make sure that the parking brake is fully released and the brake warning light is off before driving.**

### Automatic EPB Release

The EPB will automatically release if the vehicle is running, placed into gear, and an attempt is made to drive away. Avoid rapid acceleration when the EPB is applied, to preserve parking brake lining life.

If you are towing a trailer and parking on a hill, see *Driving Characteristics and Towing Tips on page 9-53* for more information.

## Brake Assist

This vehicle has a brake assist feature designed to assist the driver in stopping or decreasing vehicle speed in emergency driving conditions. This feature uses the stability system hydraulic brake control module to supplement the power brake system under conditions where the driver has quickly and forcefully applied the brake pedal in an attempt to quickly stop or slow down the vehicle. The stability system hydraulic brake control module increases brake pressure at each corner of the vehicle until the ABS activates. Minor brake pedal pulsation or pedal movement during this time is normal and the driver should continue to apply the brake pedal as the driving situation dictates. The brake assist feature will automatically disengage when the brake pedal is released or brake pedal pressure is quickly decreased.

## Hill Start Assist (HSA)

This vehicle has a Hill Start Assist (HSA) feature, which may be useful when the vehicle is stopped on a grade. This feature is designed to prevent the vehicle from rolling, either forward or rearward, during vehicle drive off. After the driver completely stops and holds the vehicle in a complete standstill on a grade, HSA will be automatically activated. During the transition period between when the driver releases the brake pedal and starts to accelerate to drive off on a grade, HSA holds the braking pressure to ensure that there is no rolling. The brakes will automatically release when the accelerator pedal is applied within the two-second window. It will not activate if the vehicle is in a drive gear and facing downhill or if the vehicle is facing uphill and in R (Reverse).

# Ride Control Systems

## Traction Control System (TCS)

The vehicle has a Traction Control System (TCS) that limits wheel spin. On a front-wheel-drive vehicle, the system operates if it senses that one or both of the front wheels are spinning or beginning to lose traction. On an All-Wheel-Drive (AWD) vehicle, the system will operate if it senses that any of the wheels are spinning or beginning to lose traction. When this happens, the system brakes the spinning wheel(s) and/or reduces engine power to limit wheel spin.

The system may be heard or felt while it is working, but this is normal.

TCS is on whenever the vehicle is started. To limit wheel spin, especially in slippery road conditions, the system should always be left on. But, TCS can be turned off if needed.



flashes to indicate that the traction control system is active.

If there is a problem detected with TCS, SERVICE TRACTION CONTROL and SERVICE STABILITRAK may be displayed on the Driver Information Center (DIC) and will be on. See *Ride Control System Messages on page 5-37*.

When this message is displayed and comes on and stays on, the vehicle is safe to drive but the system is not operational. Driving should be adjusted accordingly.

***Notice:*** **Do not repeatedly brake or accelerate heavily when TCS is off. The vehicle's driveline could be damaged.**

If comes on and stays on, reset the system by:

1. Stopping the vehicle.
2. Turning the engine off and waiting 15 seconds.
3. Starting the engine.

If still comes on and stays on at a speed above 20 km/h (13 mph), see your dealer for service.

A chime may also sound when the light comes on steady.

The is located on the console.



The TCS off light comes on and TRACTION CONTROL OFF is displayed on the Driver Information Center (DIC) to indicate that the traction control system has been turned off. See *Ride Control System Messages on page 5-37*.

TCS can be turned off by pressing and releasing . When TCS is turned off, comes on and the system will not limit wheel spin. Driving should be adjusted accordingly. Press and release again to turn the system back on.

When TCS is turned off on AWD vehicles, the system may still make noise. This is normal and necessary with AWD hardware.

It may be necessary to turn the system off if the vehicle ever gets stuck in sand, mud, or snow and rocking the vehicle is required. See *If the Vehicle Is Stuck on page 9-10* for more information. See also *Winter Driving on page 9-8* for information on using TCS when driving in snowy or icy conditions.

If cruise control is being used when TCS activates, cruise control will automatically disengage. Press the cruise control button to re-engage when road conditions allow. See *Cruise Control on page 9-36*.

Adding non-GM accessories can affect the vehicle's performance. See *Accessories and Modifications on page 10-4* for more information.

## StabiliTrak® System

The vehicle has a vehicle stability enhancement system called StabiliTrak. It is an advanced computer controlled system that assists with directional control of the vehicle in difficult driving conditions.

StabiliTrak activates when the computer senses a difference between the intended path and the direction the vehicle is actually traveling. StabiliTrak selectively applies braking pressure to the vehicle's brakes to help steer the vehicle in the intended direction.

StabiliTrak is on automatically whenever the vehicle is started. To assist with directional control of the vehicle, the system should always be left on. Trailer Sway Control (TSC) is also on automatically when the vehicle is started. See *Trailer Sway Control (TSC) on page 9-61* for more information.



When the stability control system activates, the Traction Control System (TCS)/StabiliTrak light will flash on the instrument panel. This also occurs when traction control or TSC is activated. A noise may be heard or vibration may be felt in the brake pedal. This is normal. Continue to steer the vehicle in the intended direction.

If there is a problem detected with StabiliTrak, SERVICE STABILITRAK is displayed on the Driver Information Center (DIC) and will stay on. See *Ride Control System Messages on page 5-37*.

When this message is displayed and/or comes on and stays on, the vehicle is safe to drive but the system is not operational. Driving should be adjusted accordingly.

If comes on and stays on, reset the system by:

1. Stopping the vehicle.
2. Turning the engine off and waiting 15 seconds.
3. Starting the engine.

If still comes on and stays on at a speed above 20 km/h (13 mph), see your dealer for service.




is located on the console.

Both StabiliTrak and Traction Control can be turned off if needed by pressing and holding until and come on the instrument panel. This will also disable the TSC feature. When StabiliTrak is turned off, the system will not assist with directional control of the vehicle or limit wheel spin. Driving should be adjusted accordingly. Press and release again to turn the system back on.

If cruise control is being used when StabiliTrak activates, the cruise control will automatically disengage. Press the cruise control button to re-engage when road conditions allow. See *Cruise Control on page 9-36* for more information.

## Limited-Slip Rear Axle

Vehicles with a limited-slip rear axle can give more traction on snow, mud, ice, sand, or gravel. When traction is low, this feature allows the drive wheel with the most traction to move the vehicle. The limited-slip rear axle also gives the driver enhanced control when cornering hard or completing a maneuver, such as a lane change.

## Selective Ride Control

The vehicle may have a ride control system called Selective Ride Control. The setting can be changed at any time. Based on road conditions, steering wheel angle, and the vehicle speed, the system automatically adjusts to provide the best handling while providing a smooth ride. The Tour and Sport modes will feel similar on a smooth road.

To switch from TOUR to SPORT mode, move the shift lever to the left while the transmission is in D (Drive).

**TOUR:** Use for normal city and highway driving. This setting provides a smooth, soft ride.

**SPORT:** Use where road conditions or personal preference demand more control. This setting provides more “feel,” or response to road conditions through increased steering effort and suspension control. Transmission shift points and shift firmness are also enhanced. See *Manual Mode on page 9-26* under Automatic Transmission.

If there is a problem detected with Selective Ride Control, SERVICE SUSPENSION SYSTEM displays on the Driver Information Center (DIC). See *Ride Control System Messages on page 5-37*. Driving should be adjusted accordingly.

# Cruise Control

**⚠ WARNING**

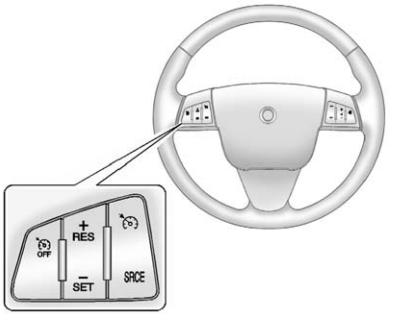
Cruise control can be dangerous where you cannot drive safely at a steady speed. So, do not use the cruise control on winding roads or in heavy traffic.

Cruise control can be dangerous on slippery roads. On such roads, fast changes in tire traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.

With cruise control, a speed of about 40 km/h (25 mph) or more can be maintained without keeping your foot on the accelerator. Cruise control does not work at speeds below about 40 km/h (25 mph).

If the brakes are applied, the cruise control shuts off.

If the vehicle has the StabiliTrak® system and begins to limit wheel spin while using cruise control, the cruise control automatically disengages. See *StabiliTrak® System on page 9-34* or *Traction Control System (TCS) on page 9-32*. When road conditions allow the cruise control to be safely used, you can apply the cruise control again.




**Cruise Control**

**(On/Off):** Press to turn the system on and off.

**+ RES (Resume/Accelerate):** Press briefly to make the vehicle resume to a previously set speed or press and hold to accelerate.

**−SET (Set/Coast):** Press to set the speed and activate cruise control or make the vehicle decelerate.

**OFF (Cancel):** Press to disengage cruise control without erasing the set speed from memory.

### Setting Cruise Control

If the cruise button is on when not in use, it could get bumped and go into cruise when not desired. Keep the cruise control switch off when cruise is not being used.

The cruise control light on the instrument panel cluster comes on after the cruise control has been set to the desired speed.

1. Press .
2. Get up to the desired speed.
3. Press and release the −SET button located on the steering wheel.
4. Take your foot off the accelerator.

### Resuming a Set Speed

If the cruise control is set at a desired speed and then the brakes are applied, the cruise control is disengaged without erasing the set speed from memory.

Once the vehicle speed reaches about 40 km/h (25 mph) or more, press the +RES button on the steering wheel. The vehicle returns to the previous set speed and stays there.

### Increasing Speed While Cruise Control is at a Set Speed

If the cruise control system is already activated,

- Press and hold the +RES button on the steering wheel until the desired speed is reached, then release it.
- To increase vehicle speed in small amounts, press the +RES button. Each time this is done, the vehicle goes about 1.6 km/h (1 mph) faster.

### Reducing Speed While Cruise Control is at a Set Speed

If the cruise control system is already activated,

- Press and hold the −SET button on the steering wheel until the desired lower speed is reached, then release it.

- To slow down in small amounts, press the −SET button on the steering wheel briefly. Each time this is done, the vehicle goes about 1.6 km/h (1 mph) slower.

**Passing Another Vehicle While Using Cruise Control**

Use the accelerator pedal to increase the vehicle speed. When you take your foot off the pedal, the vehicle will slow down to the previous set cruise speed.

**Using Cruise Control on Hills**

How well the cruise control will work on hills depends upon the vehicle speed, load, and the steepness of the hills. When going up steep hills, you might have to step on the accelerator pedal to maintain the vehicle speed. When going downhill, you might have to brake or shift to a lower gear to keep the vehicle speed down. If the brake is applied the cruise control disengages.

**Ending Cruise Control**

There are three ways to end cruise control:

- Step lightly on the brake pedal.
- Press the OFF button on the steering wheel.
- Press the button on the steering wheel.

**Erasing Speed Memory**

The cruise control set speed is erased from memory by pressing the button or if the ignition is turned off.

# Object Detection Systems

## Ultrasonic Parking Assist

If available, the Ultrasonic Front and Rear Parking Assist (UFRPA) system assists the driver with parking and avoiding objects. UFRPA operates at speeds less than 8 km/h (5 mph). The sensors on the front and rear bumper detect objects up to 1.2 m (4 ft) in front of the vehicle, and 2.5 m (8 ft) behind the vehicle, and at least 25 cm (10 in) off the ground.

**⚠ WARNING**

The UFRPA system does not detect pedestrians, bicyclists, animals, or any other objects located below the bumper or that are too close or too far from the vehicle. To prevent injury, death, or vehicle damage, even with UFRPA, always check the area around the vehicle and check all mirrors before moving forward or backing.

### How the System Works

When the vehicle is shifted into R (Reverse) the front and rear sensors are automatically turned on. After the vehicle is shifted out of R (Reverse), the rear sensors are turned off and the front sensors stay on until the vehicle is above a speed of 8 km/h (5 mph). For the front park assist system to be active again without shifting into R (Reverse), the park assist button next to the shift lever must be pressed. See “Turning the System On and Off” later in this section.

UFRPA operates only at speeds less than 8 km/h (5 mph).

When the vehicle is in N (Neutral), the system may be active. If the vehicle is in a car wash, the sensors may detect objects in the car wash. See “Turning the System On and Off” later in this section to turn the system off.

High-toned beeps from the front speakers are for objects detected near the front bumper. Low-toned beeps from the rear speakers are for objects detected near the rear bumper. The interval between the beeps becomes shorter as the vehicle gets closer to the obstacle. When the distance is less than 30 cm (12 in) the beeping is a continuous tone for five seconds.

To be detected, objects must be at least 25 cm (10 in) off the ground and below liftgate level. Objects must also be within 1.2 m (4 ft) in front of the vehicle and 2.5 m (8 ft) from the rear bumper. This distance may be less during warmer or humid weather.

**Front Display**



The front display is located in the instrument panel in the center of the speedometer and has four bars to provide distance and system information.

The following describes how the UFRPA front display lights appear as the vehicle gets closer to a detected object:

| Description | Metric | English |
|---|---|---|
| one amber bar | 1.2 m | 4 ft |
| two amber bars | 1.0 m | 40 in |
| three amber bars | 0.6 m | 23 in |
| three amber bars and one red bar | 0.3 m | 1 ft |

### Objects Detected by Both the Front and Rear Sensors

In general, if objects are detected at the same time near both the front and rear bumpers while backing up, the beeps only sound to indicate that objects are close to the rear bumper.

However, if an object comes within 0.3 m (1 ft) of the front bumper while the vehicle is backing up and at the same time there is another object further than 0.3 m (1 ft) from the rear bumper, then the beeps only sound to indicate the object that is closer to the front bumper.

### Turning the System On and Off

The UFRPA system can be turned on and off by pressing the park assist button located next to the shift lever.



The LED next to the park assist button lights up when the system is on and turns off when it has been disabled.

When the system is off, PARK ASSIST OFF displays on the Driver Information Center (DIC). The message disappears after a short period of time.

UFRPA defaults to the on setting each time the vehicle is started.

### When the System Does Not Seem to Work Properly

The following messages may be displayed on the DIC:

**SERVICE PARKING ASSIST:** If this message occurs, take the vehicle to your dealer to repair the system.

**PARK ASSIST OFF:** If the UFRPA system does not activate due to a temporary condition, the message displays on the DIC. This can occur under the following conditions:

- The driver has disabled the system.
- The ultrasonic sensors are not clean. Keep the vehicle's bumpers free of mud, dirt, snow, ice and slush. For cleaning instructions, see *Exterior Care on page 10-97*.
- The park assist sensors are covered by frost or ice. Frost or ice can form around and behind the sensors and may not always be seen; this can occur after washing the vehicle in cold weather. The message may not clear until the frost or ice has melted.
- A trailer was attached to the vehicle, or an object was hanging out of the liftgate during the last drive cycle. Once the attached object is removed, UFRPA will return to normal operation.
- An object or cover is attached to the front of the vehicle.
- A tow bar is attached to the vehicle.
- The bumper is damaged. Take the vehicle to your dealer to repair the system.
- Other conditions, such as vibrations from a jackhammer or the compression of air brakes on a very large truck, are affecting system performance.

## Rear Vision Camera (RVC)

The vehicle may have a Rear Vision Camera (RVC) system. Read this entire section before using it.

The RVC system can assist the driver when backing up by displaying a view of the area behind the vehicle.

**⚠ WARNING**

The RVC system does not display pedestrians, bicyclists, animals, or any other object located outside the camera's field of view, below the bumper, or under the vehicle.

(Continued)

**WARNING (Continued)**

Do not back the vehicle using only the RVC screen, such as during longer, higher speed backing maneuvers, or where there could be cross-traffic. Perceived distances may be different from actual distances.

Failure to use proper care before backing may result in injury, death, or vehicle damage. Always check before backing by checking behind and around the vehicle.

### Vehicles Without a Navigation System

When the vehicle is on and the driver shifts into R (Reverse), the video image automatically appears on the inside rearview mirror. Once the driver shifts out of R (Reverse), the video image automatically disappears from the inside rearview mirror.

#### Turning the Rear Vision Camera System Off or On

To turn off the RVC system, press and hold ⏻, located on the inside rearview mirror, until the left indicator light turns off. The RVC display is now disabled.

To turn the RVC system on again, press and hold ⏻ until the left indicator light illuminates. The RVC system display is now enabled and the display will appear in the mirror normally.

### Vehicles With a Navigation System

An image appears on the navigation screen with the message “Check Surroundings for Safety” when the vehicle is shifted into R (Reverse). The navigation screen goes to the previous screen after approximately 10 seconds once the vehicle is shifted out of R (Reverse).

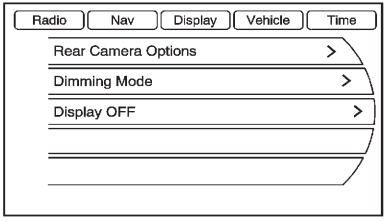
To cancel the delay, do one of the following:

- Press a hard key on the navigation system.
- Shift into P (Park).
- Reach a vehicle speed of 8 km/h (5 mph).

#### Turning the Rear Vision Camera System On or Off

To turn the rear vision camera system on or off:

1. Shift into P (Park).
2. Press the CONFIG button.
3. Select Display.




4. Select Camera. When a checkmark appears next to the Camera option, the RVC system is on.

#### Symbols

The navigation system may have a feature that lets the driver view symbols on the navigation screen while using the rear vision camera. The Ultrasonic Front and Rear Parking Assist (UFRPA) system must not be disabled to use the caution symbols. The error message “Rear Parking Assist Symbols Unavailable” may display if UFRPA has been disabled and the symbols have been turned on. See *Ultrasonic Parking Assist on page 9-38*.

The symbols appear and may cover an object when viewing the navigation screen when an object is detected by the UFRPA system.

To turn the symbols on or off:

1. Shift into P (Park).
2. Press the CONFIG button.
3. Select Display.
4. Select Symbols. When a checkmark appears next to the Symbols option, symbols will appear.

**Guidelines**

The RVC system has a guideline overlay that can help the driver align the vehicle when backing into a parking spot.

To turn the guidelines on or off:

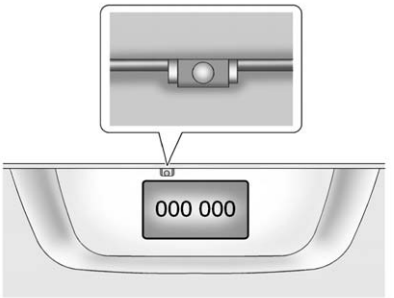
1. Shift into P (Park).
2. Press the CONFIG button.
3. Select Display.
4. Select Guidelines. When a checkmark appears next to the Guidelines option, guidelines will appear.

**Rear Vision Camera Error Messages**

**SERVICE REAR VISION CAMERA SYSTEM:** This message can display when the system is not receiving information it requires from other vehicle systems.

If any other problem occurs or if a problem persists, see your dealer.

## Rear Vision Camera Location

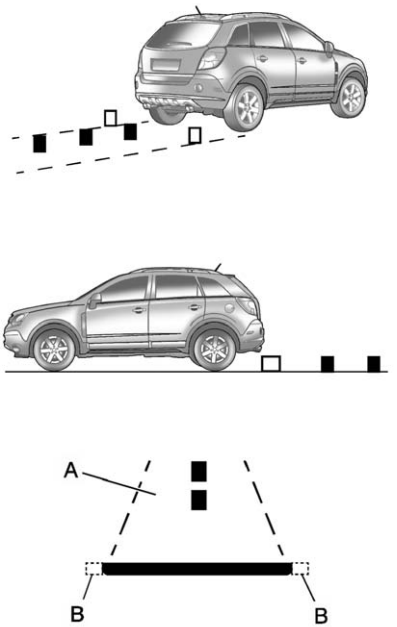



The camera is located above the license plate.

The area displayed by the camera is limited.

It does not display objects that are close to either corner or under the bumper and can vary depending on vehicle orientation or road conditions. The distance of the image that appears on the screen is different from the actual distance.

The following illustration shows the field of view that the camera provides.




A. View displayed by the camera.

B. Corner of the rear bumper.

### When the System Does Not Seem to Work Properly

The rear vision camera system may not work properly or display a clear image if:

- The RVC is turned off. See “Turning the Rear Vision Camera System On or Off” earlier in this section.
- It is dark.
- The sun or the beam of headlamps is shining directly into the camera lens.
- Ice, snow, mud, or anything else builds up on the camera lens. Clean the lens, rinse it with water, and wipe it with a soft cloth.
- The back of the vehicle is in an accident. The position and mounting angle of the camera can change or the camera can be affected. Be sure to have the camera and its position and mounting angle checked at your dealer.

# Fuel

Use of the recommended fuel is an important part of the proper maintenance of this vehicle. To help keep the engine clean and maintain optimum vehicle performance, we recommend the use of gasoline advertised as TOP TIER Detergent Gasoline.

Look for the TOP TIER label on the fuel pump to ensure gasoline meets enhanced detergency standards developed by auto companies. A list of marketers providing TOP TIER Detergent Gasoline can be found at www.toptiergas.com.




The eighth digit of the Vehicle Identification Number (VIN) shows the code letter or number that identifies the vehicle's engine. The VIN is at the top left of the instrument panel. See *Vehicle Identification Number (VIN) on page 12-1*.

Vehicles that have a FlexFuel badge and a yellow fuel cap can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). See *Fuel E85 (85% Ethanol) on page 9-49*. For all other vehicles, use only the unleaded gasoline described under *Recommended Fuel on page 9-46*.

## Recommended Fuel

Use regular unleaded gasoline with a posted octane rating of 87 or higher. If the octane rating is less than 87, an audible knocking noise, commonly referred to as spark knock, might be heard when driving. If this occurs, use a gasoline rated at 87 octane or higher as soon as possible. If heavy knocking is heard when using gasoline rated at 87 octane or higher, the engine needs service.

## Gasoline Specifications (U.S. and Canada Only)

At a minimum, gasoline should meet ASTM specification D 4814 in the United States or CAN/CGSB-3.5 or 3.511 in Canada. Some gasolines contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT). We recommend against the use of gasolines containing MMT. See *Fuel Additives on page 9-48* for additional information.

## California Fuel Requirements

If the vehicle is certified to meet California Emissions Standards, it is designed to operate on fuels that meet California specifications. See the underhood emission control label. If this fuel is not available in states adopting California Emissions Standards, the vehicle will operate satisfactorily on fuels meeting federal specifications, but emission control system performance might be affected. The malfunction indicator lamp could turn on and the vehicle might fail a smog-check test. See *Malfunction Indicator Lamp on page 5-18*. If this occurs, return to your authorized dealer for diagnosis. If it is determined that the condition is caused by the type of fuel used, repairs might not be covered by the vehicle warranty.

## Fuels in Foreign Countries

Never use leaded gasoline or any other fuel not recommended in the previous text on fuel. Costly repairs caused by use of improper fuel would not be covered by the vehicle warranty.

To check the fuel availability, ask an auto club, or contact a major oil company that does business in the country where you will be driving.

## Fuel Additives

To provide cleaner air, all gasolines in the United States are now required to contain additives that help prevent engine and fuel system deposits from forming, allowing the emission control system to work properly. In most cases, nothing should have to be added to the fuel. However, some gasolines contain only the minimum amount of additive required to meet U.S. Environmental Protection Agency regulations. To help keep fuel injectors and intake valves clean and avoid problems due to dirty injectors or valves, look for gasoline that is advertised as TOP TIER Detergent Gasoline. Look for the TOP TIER label on the fuel pump to ensure gasoline meets enhanced detergency standards developed by the auto companies. A list of marketers providing TOP TIER Detergent Gasoline can be found at www.toptiergas.com.

For customers who do not use TOP TIER Detergent Gasoline regularly, one bottle of GM Fuel System Treatment PLUS, added to the fuel tank at every engine oil change, can help clean deposits from fuel injectors and intake valves. GM Fuel System Treatment PLUS is the only gasoline additive recommended by General Motors. It is available at your dealer.

Gasolines containing oxygenates, such as ethers and ethanol, and reformulated gasolines might be available in your area. We recommend that you use these gasolines, if they comply with the specifications described earlier. However, E85 (85% ethanol) and other fuels containing more than 15% ethanol must not be used in vehicles that were not designed for those fuels.

***Notice:*** **This vehicle was not designed for fuel that contains methanol. Do not use fuel containing methanol. It can corrode metal parts in the fuel system and also damage plastic and rubber parts. That damage would not be covered under the vehicle warranty.**

Some gasolines that are not reformulated for low emissions can contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT); ask the attendant where you buy gasoline whether the fuel contains MMT. We recommend against the use of such gasolines. Fuels containing MMT can reduce spark plug life and affect emission control system performance. The malfunction indicator lamp might turn on. If this occurs, return to your dealer for service.

## Fuel E85 (85% Ethanol)

Vehicles that have a FlexFuel badge and a yellow fuel cap can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). For all other vehicles, use only the unleaded gasoline described under *Recommended Fuel on page 9-46*.

We encourage the use of E85 in vehicles that are designed to use it. The ethanol in E85 is a “renewable” fuel, meaning it is made from renewable sources such as corn and other crops.

Many service stations will not have an 85% ethanol fuel (E85) pump available. The U.S. Department of Energy has an alternative fuels website (www.afdc.energy.gov/afdc/locator/stations/) that can help you find E85 fuel. Those stations that do have E85 should have a label indicating ethanol content. Do not use the fuel if the ethanol content is greater than 85%.

At a minimum, E85 should meet ASTM Specification D 5798 or CGSB Specification 3.512. Filling the tank with fuel mixtures that do not meet ASTM or CGSB specifications can affect driveability and could cause the malfunction indicator lamp to come on. As the outside temperature approaches freezing, ethanol fuel distributors should supply winter grade ethanol, the same as with unleaded gasoline.

The starting characteristics of E85 fuel make it unsuitable for use when temperatures fall below −18°C (0°F). In the range of −18°C (0°F) to 0°C (32°F), it may take more time to start the engine.

E85 has less energy per liter (gallon) than gasoline, so you will need to refill the fuel tank more often when using E85 than when you are using gasoline. See *Filling the Tank on page 9-50*.

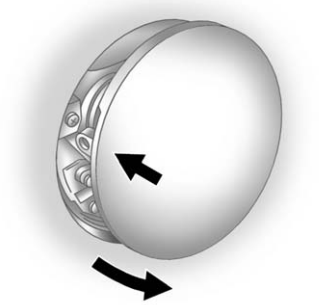
***Notice:*** **Some additives are not compatible with E85 fuel and can harm the vehicle's fuel system. Do not add anything to E85. Damage caused by additives would not be covered by the vehicle warranty.**

***Notice:*** **This vehicle was not designed for fuel that contains methanol. Do not use fuel containing methanol. It can corrode metal parts in the fuel system and also damage plastic and rubber parts. That damage would not be covered under the vehicle warranty.**

## Filling the Tank

**⚠ WARNING**

Fuel vapor burns violently and a fuel fire can cause bad injuries. To help avoid injuries to you and others, read and follow all the instructions on the fuel pump island. Turn off the engine when refueling. Do not smoke near fuel or when refueling the vehicle. Do not use cellular phones. Keep sparks, flames, and smoking materials away from fuel. Do not leave the fuel pump unattended when refueling the vehicle. This is against the law in some places. Do not re-enter the vehicle while pumping fuel. Keep children away from the fuel pump; never let children pump fuel.



The tethered fuel cap is located behind a hinged fuel door on the passenger side of the vehicle.

To open the fuel door, push the rearward center edge in and release and it will open.

To remove the fuel cap, turn it slowly counterclockwise.

While refueling, hang the tethered fuel cap from the hook on the fuel door.

When reinstalling the cap, turn it clockwise until it clicks once, otherwise the malfunction indicator lamp could turn on. See *Malfunction Indicator Lamp on page 5-18*.

**⚠ WARNING**

Fuel can spray out on you if you open the fuel cap too quickly. If you spill fuel and then something ignites it, you could be badly burned. This spray can happen if the tank is nearly full, and is more likely in hot weather. Open the fuel cap slowly and wait for any hiss noise to stop. Then unscrew the cap all the way.

Be careful not to spill fuel. Do not top off or overfill the tank and wait a few seconds after you have finished pumping before removing the nozzle. Clean fuel from painted surfaces as soon as possible. See *Exterior Care on page 10-97*.

When replacing the fuel cap, turn it clockwise until it clicks once. Make sure the cap is fully installed. The diagnostic system can determine if the fuel cap has been left off or improperly installed. This would allow fuel to evaporate into the atmosphere. See *Malfunction Indicator Lamp on page 5-18*.

**⚠ WARNING**

If a fire starts while you are refueling, do not remove the nozzle. Shut off the flow of fuel by shutting off the pump or by notifying the station attendant. Leave the area immediately.

***Notice:*** **If a new fuel cap is needed, be sure to get the right type of cap from your dealer. The wrong type of fuel cap might not fit properly, might cause the malfunction indicator lamp to light, and could damage the fuel tank and emissions system. See *Malfunction Indicator Lamp on page 5-18*.**

## Filling a Portable Fuel Container

**⚠ WARNING**

Never fill a portable fuel container while it is in the vehicle. Static electricity discharge from the container can ignite the fuel vapor. You can be badly burned and the vehicle damaged if this occurs. To help avoid injury to you and others:

- Dispense fuel only into approved containers.
- Do not fill a container while it is inside a vehicle, in a vehicle's trunk, pickup bed, or on any surface other than the ground.

(Continued)

**WARNING (Continued)**

- Bring the fill nozzle in contact with the inside of the fill opening before operating the nozzle. Contact should be maintained until the filling is complete.
- Do not smoke while pumping fuel.
- Do not use a cellular phone while pumping fuel.

# Towing

## General Towing Information

Only use towing equipment that has been designed for the vehicle. Contact your dealer or trailering dealer for assistance with preparing the vehicle for towing a trailer.

See the following trailer towing information in this section:

- For information on driving while towing a trailer, see “Driving Characteristics and Towing Tips.”
- For maximum vehicle and trailer weights, see “Trailer Towing.”
- For information on equipment to tow a trailer, see “Towing Equipment.”

For information on towing a disabled vehicle, see *Towing the Vehicle on page 10-93*. For information on towing the vehicle behind another vehicle such as a motor home, see *Recreational Vehicle Towing on page 10-93*.

## Driving Characteristics and Towing Tips

**⚠ WARNING**

The driver can lose control when pulling a trailer if the correct equipment is not used or the vehicle is not driven properly. For example, if the trailer is too heavy, the brakes may not work well — or even at all.

(Continued)

**WARNING (Continued)**

The driver and passengers could be seriously injured. The vehicle may also be damaged; the resulting repairs would not be covered by the vehicle warranty. Pull a trailer only if all the steps in this section have been followed. Ask your dealer for advice and information about towing a trailer with the vehicle.

The vehicle can tow a trailer when equipped with the proper trailer towing equipment.

For trailering capacity, see *Trailer Towing on page 9-57*. Trailering changes handling, acceleration, braking, durability and fuel economy. With the added weight, the engine, transmission, wheel assemblies and tires are forced to work harder and under greater loads. The trailer also adds wind resistance, increasing the pulling requirements. For safe trailering, correctly use the proper trailering equipment.

The following information has important trailering tips and rules for your safety and that of your passengers. Read this section carefully before pulling a trailer.

## Pulling a Trailer

Here are some important points:

- There are many laws, including speed limit restrictions that apply to trailering. Check for legal requirements.
- Do not tow a trailer at all during the first 1 600 km (1,000 miles) the new vehicle is driven. The engine, axle or other parts could be damaged.
- During the first 800 km (500 miles) that a trailer is towed, do not drive over 80 km/h (50 mph) and do not make starts at full throttle. This reduces wear on the vehicle.
- The vehicle can tow in D (Drive). Use a lower gear if the transmission shifts too often.
- Do not use the Fuel Economy Mode when towing.
- Obey speed limit restrictions. Do not drive faster than the maximum posted speed for trailers, or no more than 90 km/h (55 mph), to reduce wear on the vehicle.

## Driving with a Trailer

Towing a trailer requires experience. Get familiar with handling and braking with the added trailer weight. The vehicle is now longer and not as responsive as the vehicle is by itself.

Check all trailer hitch parts and attachments, safety chains, electrical connectors, lamps, tires and mirror adjustments. If the trailer has electric brakes, start the vehicle and trailer moving and then apply the trailer brake controller by hand to be sure the brakes are working.

During the trip, check regularly to be sure that the load is secure, and the lamps and trailer brakes are working properly.

## Towing with a Stability Control System

When towing, the sound of the stability control system might be heard. The system is reacting to the vehicle movement caused by the trailer, which mainly occurs during cornering. This is normal when towing heavier trailers.

### Following Distance

Stay at least twice as far behind the vehicle ahead as you would when driving the vehicle without a trailer. This can help to avoid situations that require heavy braking and sudden turns.

### Passing

More passing distance is needed when towing a trailer. Because the rig is longer, it is necessary to go farther beyond the passed vehicle before returning to the lane.

### Backing Up

Hold the bottom of the steering wheel with one hand. To move the trailer to the left, move that hand to the left. To move the trailer to the right, move your hand to the right. Always back up slowly and, if possible, have someone guide you.

### Making Turns

***Notice:*** **Making very sharp turns while trailering could cause the trailer to come in contact with the vehicle. The vehicle could be damaged. Avoid making very sharp turns while trailering.**

When turning with a trailer, make wider turns than normal so the trailer will not strike soft shoulders, curbs, road signs, trees or other objects. Use the turn signal well in advance and avoid jerky or sudden maneuvers.

### Turn Signals When Towing a Trailer

The turn signal indicators on the instrument panel flash whenever signaling a turn or lane change. Properly hooked up, the trailer lamps also flash, telling other drivers the vehicle is turning, changing lanes or stopping.

When towing a trailer, the arrows on the instrument panel flash for turns even if the bulbs on the trailer are burned out. Check occasionally to be sure the trailer bulbs are still working.

### Driving on Grades

Reduce speed and shift to a lower gear before starting down a long or steep downgrade. If the transmission is not shifted down, the brakes might have to be used so much that they would get hot and no longer work well.

The vehicle can tow in D (Drive). Use a lower gear if the transmission shifts too often.

When towing at high altitude on steep uphill grades, engine coolant boils at a lower temperature than at normal altitudes. If the engine is turned off immediately after towing at high altitude on steep uphill grades, the vehicle could show signs similar to engine overheating. To avoid this, let the engine run while parked, preferably on level ground, with the transmission in P (Park) for a few minutes before turning the engine off. If the overheat warning comes on, see *Engine Overheating on page 10-18*.

### Parking on Hills

**⚠ WARNING**

Parking the vehicle on a hill with the trailer attached can be dangerous. If something goes wrong, the rig could start to move. People can be injured, and both the vehicle and the trailer can be damaged. When possible, always park the rig on a flat surface.

If parking the rig on a hill:

1. Press the brake pedal, but do not shift into P (Park) yet. Turn the wheels into the curb if facing downhill or into traffic if facing uphill.
2. Have someone place chocks under the trailer wheels.
3. When the wheel chocks are in place, release the brake pedal until the chocks absorb the load.
4. Reapply the brake pedal. Then apply the parking brake and shift into P (Park).
5. Release the brake pedal.

### Leaving After Parking on a Hill

1. Apply and hold the brake pedal while you:
   - Start the engine.
   - Shift into a gear.
   - Release the parking brake.
2. Let up on the brake pedal.
3. Drive slowly until the trailer is clear of the chocks.
4. Stop and have someone pick up and store the chocks.

### Maintenance When Trailer Towing

The vehicle needs service more often when pulling a trailer. See this manual's Maintenance Schedule or index for more information. Things that are especially important in trailer operation are automatic transmission fluid, engine oil, axle lubricant, belts, cooling system and brake system. Inspect these before and during the trip.

Check periodically to see that all hitch nuts and bolts are tight.

### Engine Cooling When Trailer Towing

The cooling system may temporarily overheat during severe operating conditions. See *Engine Overheating on page 10-18*.

## Trailer Towing

Before pulling a trailer, there are three important considerations that have to do with weight:

- The weight of the trailer
- The weight of the trailer tongue
- The total weight on the vehicle's tires

### Weight of the Trailer

How heavy can a trailer safely be?

It depends on how the rig is used. For example, speed, altitude, road grades, outside temperature and how much the vehicle is used to pull a trailer are all important.

It can depend on any special equipment on the vehicle, and the amount of tongue weight the vehicle can carry. See “Weight of the Trailer Tongue” later in this section for more information.

Maximum trailer weight is calculated assuming only the driver is in the tow vehicle and it has all the required trailering equipment. The weight of additional optional equipment, passengers and cargo in the tow vehicle must be subtracted from the maximum trailer weight.

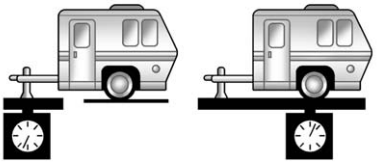
Use the following chart to determine how much the vehicle can weigh, based upon the vehicle model and options.

| Vehicle | Maximum Trailer Weight | GCWR* | Maximum Tongue Weight |
|---|---|---|---|
| 3.6L Engine, FWD without Trailering Package | 1 134 kg (2,500 lbs) | 3 185 kg (7,022 lbs) | 113 kg (250 lbs) |
| 3.6L Engine, FWD with Trailering Package | 1 588 kg (3,500 lbs) | 3 640 kg (8,025 lbs) | 159 kg (350 lbs) |
| 3.6L Engine, AWD without Trailering Package | 1 134 kg (2,500 lbs) | 3 270 kg (7,209 lbs) | 159 kg (350 lbs) |
| 3.6L Engine, AWD with Trailering Package | 1 588 kg (3,500 lbs) | 3 725 kg (8,212 lbs) | 159 kg (350 lbs) |
| *The Gross Combination Weight Rating (GCWR) is the total allowable weight of the completely loaded vehicle and trailer including any passengers, cargo, equipment and conversions. The GCWR for the vehicle should not be exceeded. | | | |

Ask your dealer for trailering information or advice.
See *Customer Assistance Offices (U.S. and Canada) on page 13-5* or *Customer Assistance Offices (Mexico) on page 13-5* for more information.

### Weight of the Trailer Tongue

The tongue load (A) of any trailer is an important weight to measure because it affects the total gross weight of the vehicle. The Gross Vehicle Weight (GVW) includes the curb weight of the vehicle, any cargo carried in it, and the people who will be riding in the vehicle. If there are a lot of options, equipment, passengers or cargo in the vehicle, it will reduce the tongue weight the vehicle can carry, which will also reduce the trailer weight the vehicle can tow. If towing a trailer, the tongue load must be added to the GVW because the vehicle will be carrying that weight, too. See *Vehicle Load Limits on page 9-10* for more information about the vehicle's maximum load capacity.




If a weight-carrying hitch or a weight-distributing hitch is being used, the trailer tongue (A) should weigh 10-15 percent of the total loaded trailer weight (B).

After loading the trailer, weigh the trailer and then the tongue, separately, to see if the weights are proper. If they are not, adjustments might be made by moving some items around in the trailer.

Trailering may be limited by the vehicle's ability to carry tongue weight. Tongue weight cannot cause the vehicle to exceed the GVWR (Gross Vehicle Weight Rating) or the RGAWR (Rear Gross Axle Weight Rating). The effect of additional weight may reduce the trailering capacity more than the total of the additional weight.

It is important that the vehicle does not exceed any of its ratings — GCWR, GVWR, RGAWR, Maximum Trailer Rating or Tongue Weight. The only way to be sure it is not exceeding any of these ratings is to weigh the vehicle and trailer.

### Total Weight on the Vehicle's Tires

Be sure the vehicle's tires are inflated to the upper limit for cold tires. These numbers can be found on the Certification label or see *Vehicle Load Limits on page 9-10* for more information. Make sure not to go over the GVW limit for the vehicle, or the GAWR, including the weight of the trailer tongue. If using a weight distributing hitch, make sure not to go over the rear axle limit before applying the weight distribution spring bars.

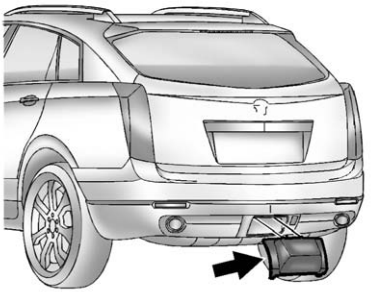
## Towing Equipment

### Hitches

It is important to have the correct hitch equipment. Crosswinds, large trucks going by and rough roads are a few reasons why the right hitch is needed.

- The rear bumper on the vehicle is not intended for hitches. Do not attach rental hitches or other bumper-type hitches to it. Use only a frame-mounted hitch that does not attach to the bumper.
- Will any holes be made in the body of the vehicle when the trailer hitch is installed? If there are, then be sure to seal the holes later when the hitch is removed. If the holes are not sealed, dirt, water, and deadly carbon monoxide (CO) from the exhaust can get into the vehicle. See *Engine Exhaust on page 9-23*.

**Hitch Cover**



The vehicle may have a hitch cover. To remove the hitch cover:

1. Turn the fasteners on the lower tabs 90 degrees counterclockwise.
2. Lift the lower edge of the cover about 45 degrees.
3. Pull the cover downward to disengage the upper attachments.

To reinstall the hitch cover:

1. Hold the cover at a 45 degree angle to the vehicle and push the upper tabs in the hitch cover into the slots in the fascia.
2. Move the bottom of the cover forward until the lower tabs line up with the lower fascia slots.
3. Snap the hitch cover into place by pushing the upper corners forward.
4. Turn the fasteners on the lower tabs 90 degrees clockwise to lock the cover in place.

### Safety Chains

Always attach chains between the vehicle and the trailer. Cross the safety chains under the tongue of the trailer to help prevent the tongue from contacting the road if it becomes separated from the hitch. Always leave just enough slack so the rig can turn. Never allow safety chains to drag on the ground.

### Trailer Brakes

A loaded trailer that weighs more than 450 kg (1,000 lbs) needs to have its own brake system that is adequate for the weight of the trailer. Be sure to read and follow the instructions for the trailer brakes so they are installed, adjusted and maintained properly.

Because the vehicle has anti-lock brakes, do not tap into the vehicle's brake system. If you do, both brake systems will not work well, or at all.

## Trailer Sway Control (TSC)

The vehicle has a Trailer Sway Control (TSC) feature as part of the StabiliTrak system. If TSC detects that the trailer is swaying, the vehicle's brakes are automatically applied.



When TSC is applying the brakes, the TCS/StabiliTrak indicator light flashes to notify the driver to reduce speed. If the trailer continues to sway, StabiliTrak will reduce engine torque to help slow the vehicle.

TSC will not function if StabiliTrak is turned off. See *StabiliTrak® System on page 9-34* for more information.

# Conversions and Add-Ons

## Add-On Electrical Equipment

***Notice:*** **Do not add anything electrical to the vehicle unless you check with your dealer first. Some electrical equipment can damage the vehicle and the damage would not be covered by the vehicle's warranty. Some add-on electrical equipment can keep other components from working as they should.**

Add-on equipment can drain the vehicle's 12-volt battery, even if the vehicle is not operating.

The vehicle has an airbag system. Before attempting to add anything electrical to the vehicle, see *Servicing the Airbag-Equipped Vehicle on page 3-34* and *Adding Equipment to the Airbag-Equipped Vehicle on page 3-35*.

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## General Information

For service and parts needs, visit your dealer. You will receive genuine GM parts and GM-trained and supported service people.

Genuine GM parts have one of these marks:

## California Proposition 65 Warning

Most motor vehicles, including this one, contain and/or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Engine exhaust, many parts and systems, many fluids, and some component wear by-products contain and/or emit these chemicals.

## California Perchlorate Materials Requirements

Certain types of automotive applications, such as airbag initiators, safety belt pretensioners, and lithium batteries contained in Remote Keyless Entry transmitters, may contain perchlorate materials. Special handling may be necessary. For additional information, see www.dtsc.ca.gov/hazardouswaste/perchlorate.

## Accessories and Modifications

Adding non-dealer accessories or making modifications to the vehicle can affect vehicle performance and safety, including such things as airbags, braking, stability, ride and handling, emissions systems, aerodynamics, durability, and electronic systems like antilock brakes, traction control, and stability control. These accessories or modifications could even cause malfunction or damage not covered by the vehicle warranty.

Damage to vehicle components resulting from modifications or the installation or use of non-GM certified parts, including control module or software modifications, is not covered under the terms of the vehicle warranty and may affect remaining warranty coverage for affected parts.

GM Accessories are designed to complement and function with other systems on the vehicle. See your dealer to accessorize the vehicle using genuine GM Accessories installed by a dealer technician.

Also, see *Adding Equipment to the Airbag-Equipped Vehicle on page 3-35*.

# Vehicle Checks

## Doing Your Own Service Work

**⚠ WARNING**

It can be dangerous to work on your vehicle if you do not have the proper knowledge, service manual, tools, or parts. Always follow owner manual procedures and consult the service manual for your vehicle before doing any service work.

If doing some of your own service work, use the proper service manual. It tells you much more about how to service the vehicle than this manual can.

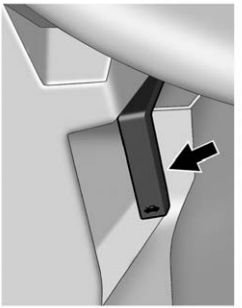
To order the proper service manual, see *Service Publications Ordering Information on page 13-18*.

This vehicle has an airbag system. Before attempting to do your own service work, see *Servicing the Airbag-Equipped Vehicle on page 3-34*.

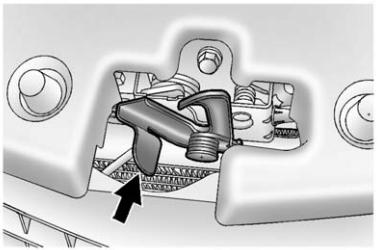
Keep a record with all parts receipts and list the mileage and the date of any service work performed. See *Maintenance Records on page 11-15*.

## Hood

To open the hood:



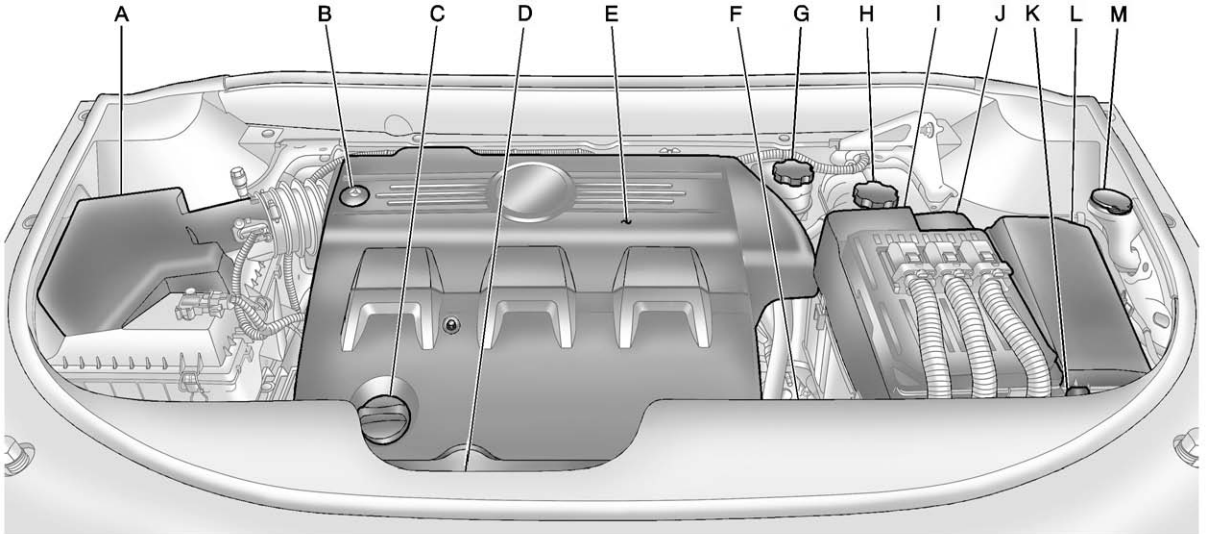
1. Pull the release handle with the above symbol on it. It is located below the instrument panel to the left of the steering wheel.



2. Move the secondary hood release lever up to release the striker. The lever is located near the middle of the hood.
3. Lift the hood.

Before closing the hood, be sure all the filler caps are on properly.

## Engine Compartment Overview



A. *Engine Air Cleaner/Filter on page 10-12*.

B. Power Steering Reservoir and Cap (Under Engine Cover). See *Power Steering Fluid on page 10-20*.

C. Engine Oil Fill Cap. See *Engine Oil on page 10-8*.

D. Engine Oil Dipstick (Out of View). See *Engine Oil on page 10-8*.

E. *Engine Cover on page 10-7*.

F. Transmission Fluid Cap and Dipstick (Out of View). See *Automatic Transmission Fluid on page 10-12*.

G. Brake Master Cylinder Reservoir. See *Brakes on page 10-22*.

H. Engine Coolant Surge Tank and Pressure Cap. See *Engine Coolant on page 10-15*.

I. Battery (Out of View). See *Battery on page 10-24*.

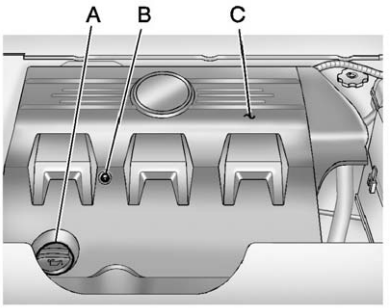
J. Remote Positive (+) Terminal. See *Jump Starting on page 10-88*.

K. Remote Negative (−) Terminal (Out of View). See *Jump Starting on page 10-88*.

L. *Engine Compartment Fuse Block on page 10-42*.

M. Windshield Washer Fluid Reservoir. See *Washer Fluid on page 10-21*.

## Engine Cover




A. Oil Fill Cap

B. Engine Cover Bolt

C. Engine Cover

To remove:

1. Remove the oil fill cap (A).
2. Remove the engine cover bolt (B).
3. Raise the engine cover (C) to release from the retainers.
4. Lift and remove the engine cover.
5. Reverse Steps 1 through 4 to reinstall engine cover.

## Engine Oil

To ensure proper engine performance and long life, careful attention must be paid to engine oil. Following these simple, but important steps will help protect your investment:

- Always use engine oil approved to the proper specification and of the proper viscosity grade. See “Selecting the Right Engine Oil” in this section.
- Check the engine oil level regularly and maintain the proper oil level. See “Checking Engine Oil” and “When to Add Engine Oil” in this section.
- Change the engine oil at the appropriate time. See *Engine Oil Life System on page 10-10*.
- Always dispose of engine oil properly. See “What to Do with Used Oil” in this section.

### Checking Engine Oil

It is a good idea to check the engine oil level at each fuel fill. In order to get an accurate reading, the vehicle must be on level ground. The engine oil dipstick handle is a yellow loop. See *Engine Compartment Overview on page 10-6* for the location of the engine oil dipstick.

1. If the engine has been running recently, turn off the engine and allow several minutes for the oil to drain back into the oil pan. Checking the oil level too soon after engine shutoff will not provide an accurate oil level reading.
2. Pull out the dipstick and clean it with a paper towel or cloth, then push it back in all the way. Remove it again, keeping the tip down, and check the level.

### When to Add Engine Oil

If the oil is below the cross-hatched area at the tip of the dipstick, add 1 L (1 qt) of the recommended oil and then recheck the level. See "Selecting the Right Engine Oil" in this section for an explanation of what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications on page 12-2*.

***Notice:*** **Do not add too much oil. Oil levels above or below the acceptable operating range shown on the dipstick are harmful to the engine. If you find that you have an oil level above the operating range, i.e., the engine has so much oil that the oil level gets above the cross-hatched area that shows the proper operating range, the engine could be damaged. You should drain out the excess oil or limit driving of the vehicle and seek a service professional to remove the excess amount of oil.**

See *Engine Compartment Overview on page 10-6* for the location of the engine oil fill cap.

Add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back in when through.

### Selecting the Right Engine Oil

Selecting the right engine oil depends on both the proper oil specification and viscosity grade. See *Recommended Fluids and Lubricants on page 11-13*.

**Specification**

Use and ask for licensed engine oils with the dexos1™ approved certification mark. Engine oils meeting the requirements for the vehicle should have the dexos1 approved certification mark. This certification mark indicates that the oil has been approved to the dexos1 specification.

***Notice:*** **Failure to use the recommended engine oil or equivalent can result in engine damage not covered by the vehicle warranty. Check with your dealer or service provider on whether the oil is approved to the dexos1 specification.**

**Viscosity Grade**

SAE 5W-30 is the best viscosity grade for the vehicle. Do not use other viscosity grade oils such as SAE 10W-30, 10W-40, or 20W-50.

If in an area of extreme cold, where the temperature falls below −20°F (−29°C), an SAE 0W-30 oil should be used. An oil of this viscosity grade will provide easier cold starting for the engine at extremely low temperatures. When selecting an oil of the appropriate viscosity grade, always select an oil that meets the dexos1 specification or equivalent. See “Specification” for more information.

### Engine Oil Additives/Engine Oil Flushes

Do not add anything to the oil. The recommended oils with the dexos specification and displaying the dexos certification mark are all that is needed for good performance and engine protection.

Engine oil system flushes are not recommended and could cause engine damage not covered by the vehicle warranty.

### What to Do with Used Oil

Used engine oil contains certain elements that can be unhealthy for your skin and could even cause cancer. Do not let used oil stay on your skin for very long. Clean your skin and nails with soap and water, or a good hand cleaner. Wash or properly dispose of clothing or rags containing used engine oil. See the manufacturer's warnings about the use and disposal of oil products.

Used oil can be a threat to the environment. If you change your own oil, be sure to drain all the oil from the filter before disposal. Never dispose of oil by putting it in the trash or pouring it on the ground, into sewers, or into streams or bodies of water. Recycle it by taking it to a place that collects used oil.

## Engine Oil Life System

### When to Change Engine Oil

This vehicle has a computer system that indicates when to change the engine oil and filter. This is based on a combination of factors which include engine revolutions, engine temperature, and miles driven. Based on driving conditions, the mileage at which an oil change is indicated can vary considerably. For the oil life system to work properly, the system must be reset every time the oil is changed.

When the system has calculated that oil life has been diminished, it indicates that an oil change is necessary. A CHANGE ENGINE OIL SOON message comes on.

See *Engine Oil Messages on page 5-35*. Change the oil as soon as possible within the next 1 000 km (600 mi). It is possible that, if driving under the best conditions, the oil life system might indicate that an oil change is not necessary for up to a year. The engine oil and filter must be changed at least once a year and at this time the system must be reset. Your dealer has trained service people who will perform this work and reset the system. It is also important to check the oil regularly over the course of an oil drain interval and keep it at the proper level.

If the system is ever reset accidentally, the oil must be changed at 5 000 km (3,000 mi) since the last oil change. Remember to reset the oil life system whenever the oil is changed.

### How to Reset the Engine Oil Life System

Reset the system whenever the engine oil is changed so that the system can calculate the next engine oil change. To reset the system:

1. Using the DIC MENU button and thumbwheel on the turn signal lever, display REMAINING OIL LIFE on the DIC. See *Driver Information Center (DIC) on page 5-27* and *Engine Oil Messages on page 5-35*.
2. Press the SET/CLR button to reset the oil life at 100%.

   Be careful not to reset the oil life display accidentally at any time other than after the oil is changed. It cannot be reset accurately until the next oil change.

The oil life system can also be reset as follows:

1. Turn the ignition on with the engine off.
2. Fully press and release the accelerator pedal three times within five seconds.

   If the CHANGE ENGINE OIL SOON message is not on, the system is reset.

The system is reset when the CHANGE ENGINE OIL SOON message is off.

If the CHANGE ENGINE OIL SOON message comes back on when the vehicle is started, the engine oil life system has not been reset. Repeat the procedure.

## Automatic Transmission Fluid

### How to Check Automatic Transmission Fluid

It is not necessary to check the transmission fluid level. A transmission fluid leak is the only reason for fluid loss. If a leak occurs, take the vehicle to your dealer and have it repaired as soon as possible.

There is a special procedure for checking and changing the transmission fluid. Because this procedure is difficult, you should have this done at your dealer. Contact your dealer for additional information or the procedure can be found in the service manual. To purchase a service manual, see *Service Publications Ordering Information on page 13-18*.

Change the fluid and filter at the intervals listed in *Maintenance Schedule on page 11-4*, and be sure to use the fluid listed in *Recommended Fluids and Lubricants on page 11-13*.

## Engine Air Cleaner/Filter

See *Engine Compartment Overview on page 10-6* for the location of the engine air cleaner/filter.

### When to Inspect the Engine Air Cleaner/Filter

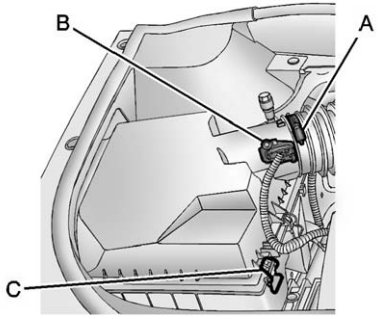
Inspect the air cleaner/filter at the scheduled maintenance intervals and replace it at the first oil change after each 80 000 km (50,000 mi) interval. See *Maintenance Schedule on page 11-4* for more information. If driving in dusty/dirty conditions, inspect the filter at each engine oil change.

### How to Inspect the Engine Air Cleaner/Filter

To inspect the air cleaner/filter, remove the filter from the vehicle and lightly shake the filter to release loose dust and dirt. If the filter remains covered with dirt, a new filter is required. Never use compressed air to clean the filter.

To inspect or replace the engine air cleaner/filter:

1. Open the hood. See *Hood on page 10-5*.
2. Locate the air filter housing on the front of the passenger side of the engine compartment. See *Engine Compartment Overview on page 10-6*.

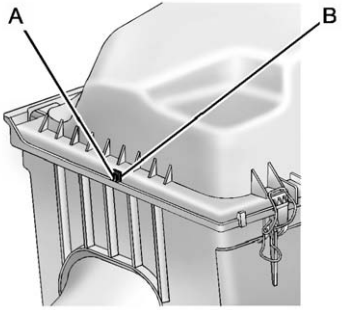



A. Air Duct Clamp

B. Electrical Connector

C. Retaining Clips

3. Disconnect the outlet duct by loosening the air duct clamp (A).
4. Disconnect the electrical connector (B).
5. Lift the 3 retaining clips (C) on the air filter housing.
6. Tilt and lift the cover slightly upwards and slide the cover away from outside edge of the vehicle. Remove the air filter.




A. Cover Cut Outs

B. Air Filter Tabs

7. To install the air filter, place filter inside box where the pleats fit in between the tabs located inside the lower box. Ensure that the cover cut outs (A) on both sides match the air filter tabs (B) on both sides.
8. Replace air cleaner cover by inserting the 4 tabs into the 4 slots. Lower cover to meet bottom of box. Place the 3 clips on retention features and clip closed.
9. Retighten the air duct clamp.
10. Reconnect the electrical connector.

**⚠ WARNING**

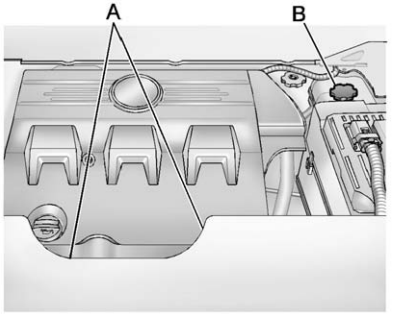
Operating the engine with the air cleaner/filter off can cause you or others to be burned. The air cleaner not only cleans the air; it helps to stop flames if the engine backfires. Use caution when working on the engine and do not drive with the air cleaner/filter off.

***Notice:*** **If the air cleaner/filter is off, dirt can easily get into the engine, which could damage it. Always have the air cleaner/filter in place when you are driving.**

***Notice:*** **Installing an air cleaner different than the one recommended in Maintenance Replacement Parts may cause engine damage not covered by the vehicle warranty.**

## Cooling System

When it is safe to lift the hood:




A. Engine Cooling Fan (Out of View)

B. Engine Coolant Surge Tank and Pressure Cap

**⚠ WARNING**

An electric engine cooling fan under the hood can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fan.

If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down. The vehicle should be parked on a level surface.

The coolant level should be between the MIN and MAX lines. If it is not, the vehicle may have a leak at the radiator hoses, heater hoses, radiator, water pump, or somewhere else in the cooling system.

**⚠ WARNING**

Heater and radiator hoses, and other engine parts, can be very hot. Do not touch them. If you do, you can be burned.

Do not run the engine if there is a leak. If you run the engine, it could lose all coolant. That could cause an engine fire, and you could be burned. Get any leak fixed before you drive the vehicle.

If there seems to be no leak, with the engine on, check to see if the electric engine cooling fan is running. If the engine is overheating, the fan should be running. If it is not, the vehicle needs service. Turn off the engine.

***Notice:*** **Using coolant other than DEX-COOL® can cause premature engine, heater core, or radiator corrosion. In addition, the engine coolant could require changing sooner, at 50 000 km (30,000 mi) or 24 months, whichever occurs first. Any repairs would not be covered by the vehicle warranty. Always use DEX-COOL (silicate-free) coolant in the vehicle.**

## Engine Coolant

The cooling system in the vehicle is filled with DEX-COOL® engine coolant. This coolant is designed to remain in the vehicle for 5 years or 240 000 km (150,000 mi), whichever occurs first.

The following explains the cooling system and how to check and add coolant when it is low. If there is a problem with engine overheating, see *Engine Overheating on page 10-18*

### What to Use

**⚠ WARNING**

Adding only plain water or some other liquid to the cooling system can be dangerous. Plain water and other liquids, can boil before the proper coolant mixture will. The coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant.

Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant. If using this mixture, nothing else needs to be added. This mixture:

- Gives freezing protection down to −37°C (−34°F), outside temperature.
- Gives boiling protection up to 129°C (265°F), engine temperature.
- Protects against rust and corrosion.
- Will not damage aluminum parts.
- Helps keep the proper engine temperature.

***Notice:*** **If an improper coolant mixture is used, the engine could overheat and be badly damaged. The repair cost would not be covered by the vehicle warranty. Too much water in the mixture can freeze and crack the engine, radiator, heater core, and other parts.**

Never dispose of engine coolant by putting it in the trash, pouring it on the ground, or into sewers, streams, or bodies of water. Have the coolant changed by an authorized service center, familiar with legal requirements regarding used coolant disposal. This will help protect the environment and your health.

### Checking Coolant

The vehicle must be on a level surface when checking the coolant level.

Check to see if coolant is visible in the coolant surge tank. If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down. If coolant is visible but the coolant level is not at the indicated mark, add a 50/50 mixture of clean, drinkable water and DEX-COOL coolant at the coolant surge tank, but be sure the cooling system is cool before this is done. See *Engine Overheating on page 10-18* for more information.

The coolant surge tank is located in the engine compartment on the driver side of the vehicle. See *Engine Compartment Overview on page 10-6* for more information on location.

### How to Add Coolant to the Coolant Surge Tank

***Notice:*** **This vehicle has a specific coolant fill procedure. Failure to follow this procedure could cause the engine to overheat and be severely damaged.**

If no problem is found, check to see if coolant is visible in the coolant surge tank. If coolant is visible but the coolant level is not at the indicated level mark, add a 50/50 mixture of clean, drinkable water and DEX-COOL coolant at the coolant surge tank, but be sure the cooling system, including the coolant surge tank pressure cap, is cool before you do it.

**⚠ WARNING**

Steam and scalding liquids from a hot cooling system can blow out and burn you badly. They are under pressure, and if you turn the coolant surge tank pressure cap — even a little — they can come out at high speed. Never turn the cap when the cooling system, including the coolant surge tank pressure cap, is hot. Wait for the cooling system and coolant surge tank pressure cap to cool if you ever have to turn the pressure cap.

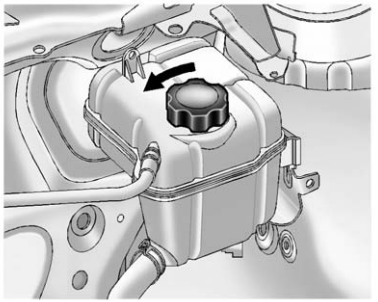
**⚠ WARNING**

Adding only plain water or some other liquid to the cooling system can be dangerous. Plain water and other liquids, can boil before the proper coolant mixture will. The coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant.

***Notice:*** **In cold weather, water can freeze and crack the engine, radiator, heater core and other parts. Use the recommended coolant and the proper coolant mixture.**

**⚠ WARNING**

You can be burned if you spill coolant on hot engine parts. Coolant contains ethylene glycol and it will burn if the engine parts are hot enough. Do not spill coolant on a hot engine.



1. Remove the coolant surge tank pressure cap when the cooling system, including the coolant surge tank pressure cap and upper radiator hose, is no longer hot.

   Turn the pressure cap slowly counterclockwise about one-quarter of a turn. If you hear a hiss, wait for that to stop. This will allow any pressure still left to be vented out the discharge hose.

2. Then keep turning the pressure cap slowly and remove it.

3. Fill the coolant surge tank with the proper DEX-COOL coolant mixture to the indicated level mark.
4. With the coolant surge tank pressure cap off, start the engine and let it run until you can feel the upper radiator hose getting hot. Watch out for the engine cooling fan.

   By this time, the coolant level inside the coolant surge tank may be lower. If the level is lower, add more of the proper DEX-COOL® coolant mixture to the coolant surge tank until the level reaches the indicated level mark.
5. Then replace the pressure cap. Be sure the pressure cap is hand-tight.

Check the level in the coolant surge tank when the cooling system has cooled down. If the coolant is not at the proper level, repeat Steps 1 through 3 and reinstall the pressure cap. If the coolant still is not at the proper level when the system cools down again, see your dealer.

## Engine Overheating

The vehicle has an indicator to warn of engine overheating.

There is an engine coolant temperature warning light on the vehicle's instrument panel. See *Engine Coolant Temperature Gauge on page 5-14*.

If the decision is made not to lift the hood when this warning appears, but instead get service help right away. See *Roadside Service (U.S. and Canada) on page 13-8* or *Roadside Service (Mexico) on page 13-10*.

If the decision is made to lift the hood, make sure the vehicle is parked on a level surface.

Then check to see if the engine cooling fans are running. If the engine is overheating, both fans should be running. If they are not, do not continue to run the engine and have the vehicle serviced.

***Notice:*** **Engine damage from running the engine without coolant is not covered by the warranty.**

***Notice:*** **If the engine catches fire because of being driven with no coolant, the vehicle can be badly damaged. The costly repairs would not be covered by the vehicle warranty.**

### If Steam Is Coming from the Engine Compartment

**⚠ WARNING**

Steam from an overheated engine can burn you badly, even if you just open the hood. Stay away from the engine if you see or hear steam coming from it. Just turn it off and get everyone away from the vehicle until it cools down. Wait until there is no sign of steam or coolant before you open the hood.

If you keep driving when the engine is overheated, the liquids in it can catch fire. You or others could be badly burned. Stop the engine if it overheats, and get out of the vehicle until the engine is cool.

### If No Steam Is Coming from the Engine Compartment

If an engine overheat warning is displayed but no steam can be seen or heard, the problem may not be too serious. Sometimes the engine can get a little too hot when the vehicle:

- Climbs a long hill on a hot day
- Stops after high-speed driving
- Idles for long periods in traffic
- Tows a trailer

If the overheat warning displays with no sign of steam:

1. Turn the air off.
2. Turn the heater on to the highest temperature and to the highest fan speed. Open the windows as necessary.
3. In heavy traffic, let the engine idle in N (Neutral) while stopped. If it is safe to do so, pull off the road, shift to P (Park) or N (Neutral) and let the engine idle.

If the temperature overheat gauge is no longer in the overheat zone or an overheat warning no longer displays, the vehicle can be driven. Continue to drive the vehicle slowly for about 10 minutes. Keep a safe vehicle distance from the vehicle in front. If the warning does not come back on, continue to drive normally.

If the warning continues, pull over, stop, and park the vehicle right away.

If there is no sign of steam, idle the engine for three minutes while parked. If the warning is still displayed, turn off the engine until it cools down.

## Power Steering Fluid



See *Engine Compartment Overview on page 10-6* for reservoir location.

### When to Check Power Steering Fluid

It is not necessary to regularly check power steering fluid unless a leak is suspected in the system or unusual noise is heard. A fluid loss in this system could indicate a problem. Have the system inspected and repaired.

### How to Check Power Steering Fluid

***Notice:*** **Extremely small amounts of contamination can cause steering system damage and cause it to not work properly. Do not allow contaminants to contact the fluid side of the reservoir cap/dipstick or to enter the reservoir.**

To check the power steering fluid:

1. Turn the engine off and let the engine compartment cool down.
2. Remove the engine cover, if required. See *Engine Cover on page 10-7*.
3. Wipe the cap and the top of the reservoir clean.
4. Unscrew the cap and wipe the dipstick with a clean rag.
5. Replace the cap and completely tighten it.
6. Remove the cap again and look at the fluid level on the dipstick.

The level should be within the HOT mark. If necessary, add only enough fluid to bring the level within the mark.

### What to Use

To determine what kind of fluid to use, see *Recommended Fluids and Lubricants on page 11-13*. Always use the proper fluid.

## Washer Fluid

### What to Use

When windshield washer fluid is needed, be sure to read the manufacturer's instructions before use. If operating the vehicle in an area where the temperature may fall below freezing, use a fluid that has sufficient protection against freezing.

### Adding Washer Fluid

The WASHER FLUID LOW ADD FLUID message appears on the Driver Information Center (DIC) when the fluid level is low.



Open the cap with the washer symbol on it. Add washer fluid up to the fill mark. See *Engine Compartment Overview on page 10-6* for reservoir location.

***Notice***

- **When using concentrated washer fluid, follow the manufacturer's instructions for adding water.**
- **Do not mix water with ready-to-use washer fluid. Water can cause the solution to freeze and damage the washer fluid tank and other parts of the washer system.**
- **Fill the washer fluid tank only three-quarters full when it is very cold. This allows for fluid expansion if freezing occurs, which could damage the tank if it is completely full.**
- **Do not use engine coolant (antifreeze) in the windshield washer. It can damage the windshield washer system and paint.**

## Brakes

This vehicle has disc brakes. Disc brake pads have built-in wear indicators that make a high-pitched warning sound when the brake pads are worn and new pads are needed. The sound can come and go or be heard all the time the vehicle is moving, except when applying the brake pedal firmly.

**⚠ WARNING**

The brake wear warning sound means that soon the brakes will not work well. That could lead to a crash. When the brake wear warning sound is heard, have the vehicle serviced.

***Notice:*** **Continuing to drive with worn-out brake pads could result in costly brake repair.**

Some driving conditions or climates can cause a brake squeal when the brakes are first applied or lightly applied. This does not mean something is wrong with the brakes.

Properly torqued wheel nuts are necessary to help prevent brake pulsation. When tires are rotated, inspect brake pads for wear and evenly tighten wheel nuts in the proper sequence to torque specifications in *Capacities and Specifications on page 12-2*.

Brake linings should always be replaced as complete axle sets.

### Brake Pedal Travel

See your dealer if the brake pedal does not return to normal height, or if there is a rapid increase in pedal travel. This could be a sign that brake service might be required.

### Brake Adjustment

Every time the brakes are applied, with or without the vehicle moving, the brakes adjust for wear.

### Replacing Brake System Parts

The braking system on a vehicle is complex. Its many parts have to be of top quality and work well together if the vehicle is to have really good braking. The vehicle was designed and tested with top-quality brake parts. When parts of the braking system are replaced, be sure to get new, approved replacement parts. If this is not done, the brakes might not work properly. For example, installing disc brake pads that are wrong for the vehicle, can change the balance between the front and rear brakes — for the worse. The braking performance expected can change in many other ways if the wrong replacement brake parts are installed.

## Brake Fluid



The brake master cylinder reservoir is filled with DOT 3 brake fluid as indicated on the reservoir cap. See *Engine Compartment Overview on page 10-6* for the location of the reservoir.

There are only two reasons why the brake fluid level in the reservoir might go down:

- The brake fluid level goes down because of normal brake lining wear. When new linings are installed, the fluid level goes back up.
- A fluid leak in the brake hydraulic system can also cause a low fluid level. Have the brake hydraulic system fixed, since a leak means that sooner or later the brakes will not work well.

Do not top off the brake fluid. Adding fluid does not correct a leak. If fluid is added when the linings are worn, there will be too much fluid when new brake linings are installed. Add or remove brake fluid, as necessary, only when work is done on the brake hydraulic system.

**⚠ WARNING**

If too much brake fluid is added, it can spill on the engine and burn, if the engine is hot enough. You or others could be burned, and the vehicle could be damaged. Add brake fluid only when work is done on the brake hydraulic system.

When the brake fluid falls to a low level, the brake warning light comes on. See *Brake System Warning Light on page 5-21*.

**What to Add**

Use only new DOT 3 brake fluid from a sealed container. See *Recommended Fluids and Lubricants on page 11-13*.

Always clean the brake fluid reservoir cap and the area around the cap before removing it. This helps keep dirt from entering the reservoir.

**⚠ WARNING**

With the wrong kind of fluid in the brake hydraulic system, the brakes might not work well. This could cause a crash. Always use the proper brake fluid.

***Notice***

- **Using the wrong fluid can badly damage brake hydraulic system parts. For example, just a few drops of mineral-based oil, such as engine oil, in the brake hydraulic system can damage brake hydraulic system parts so badly that they will have to be replaced. Do not let someone put in the wrong kind of fluid.**
- **If brake fluid is spilled on the vehicle's painted surfaces, the paint finish can be damaged. Be careful not to spill brake fluid on the vehicle. If you do, wash it off immediately.**

## Battery

Refer to the replacement number shown on the original battery label when a new battery is needed. See *Engine Compartment Overview on page 10-6* for battery location.

**⚠ WARNING**

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

### Vehicle Storage

**⚠ WARNING**

Batteries have acid that can burn you and gas that can explode. You can be badly hurt if you are not careful. See *Jump Starting on page 10-88* for tips on working around a battery without getting hurt.

Infrequent Usage: Remove the black, negative (−) cable from the battery to keep the battery from running down.

Extended Storage: Remove the black, negative (−) cable from the battery or use a battery trickle charger.

## All-Wheel Drive

### Transfer Case

#### When to Check and Change Lubricant

The transfer case is filled with oil during manufacture, which then does not require changing. It is not necessary to regularly check the transfer case fluid unless there is a leak suspected or an unusual noise is heard. A fluid loss could indicate a problem. It is recommended to have the transfer case serviced at your dealer.

## Starter Switch Check

**⚠ WARNING**

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle.
2. Firmly apply both the parking brake and the regular brake. See *Parking Brake on page 9-30*.

   Do not use the accelerator pedal, and be ready to turn off the engine immediately if it starts.
3. Try to start the engine in each gear. The vehicle should start only in P (Park) or N (Neutral). If the vehicle starts in any other position, contact your dealer for service.

## Automatic Transmission Shift Lock Control Function Check

**⚠ WARNING**

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle. It should be parked on a level surface.
2. Firmly apply the parking brake. See *Parking Brake on page 9-30*.

   Be ready to apply the regular brake immediately if the vehicle begins to move.
3. With the engine off, turn the ignition on, but do not start the engine. Without applying the regular brake, try to move the shift lever out of P (Park) with normal effort. If the shift lever moves out of P (Park), contact your dealer for service.

## Park Brake and P (Park) Mechanism Check

**⚠ WARNING**

When you are doing this check, the vehicle could begin to move. You or others could be injured and property could be damaged. Make sure there is room in front of the vehicle in case it begins to roll. Be ready to apply the regular brake at once should the vehicle begin to move.

Park on a fairly steep hill, with the vehicle facing downhill. Keeping your foot on the regular brake, set the parking brake.

- To check the parking brake's holding ability: With the engine running and the transmission in N (Neutral), slowly remove foot pressure from the regular brake pedal. Do this until the vehicle is held by the parking brake only.
- To check the P (Park) mechanism's holding ability: With the engine running, shift to P (Park). Then release the parking brake followed by the regular brake.

Contact your dealer if service is required.

## Wiper Blade Replacement

Windshield wiper blades should be inspected for wear or cracking. See *Maintenance Schedule on page 11-4* for more information.

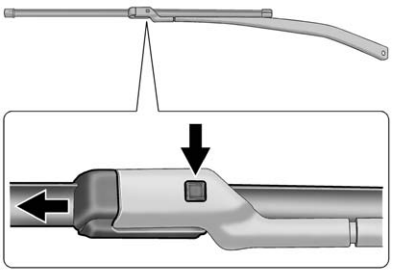
It is a good idea to clean or replace the wiper blade assembly on a regular basis or when worn. For proper windshield wiper blade length and type, see *Maintenance Replacement Parts on page 11-14*.

***Notice:*** **Allowing the wiper arm to touch the windshield when no wiper blade is installed could damage the windshield. Any damage that occurs would not be covered by your warranty. Do not allow the wiper arm to touch the windshield.**

### Front Wiper Blade Replacement

To replace the wiper blade assembly:

1. Pull the windshield wiper assembly away from the windshield.



2. Press the button in the middle of the wiper arm connector, and pull the wiper blade away from the arm connector.
3. Remove the wiper blade.
4. Reverse steps 1 through 3 for wiper blade replacement.

### Rear Wiper Blade Replacement

The rear wiper blade and wiper arm have a cover for protection. The cover must be removed before the wiper blade can be replaced.

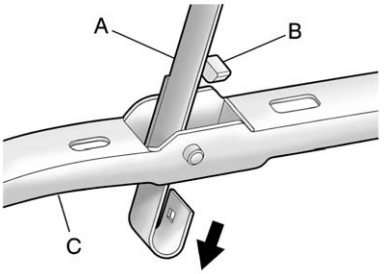
To remove the cover:



1. Slide a plastic tool under cover and push upward to unsnap.
2. Slide cover towards wiper blade tip to unhook from blade assembly.
3. Remove the cover.
4. After wiper blade replacement, ensure that cover hook slides into slot in blade assembly.
5. Snap cover down to secure.

To remove the wiper blade:

1. Lift the wiper arm away from the windshield.




A. Wiper Arm
B. Release Lever
C. Blade Assembly

2. Push the release lever (B) to disengage the hook and push the wiper arm (A) out of the blade assembly (C).
3. Push the new blade assembly securely on the wiper arm until the release lever clicks into place.
4. Replace wiper cover.

## Headlamp Aiming

The headlamp aiming system has been preset at the factory.

If the vehicle is damaged in an accident, the aim of the headlamps can be affected and adjustment could be necessary.

It is recommended that a dealer adjust the headlamps. To re-aim the headlamps yourself, use the following procedure.

The vehicle should be properly prepared as follows:

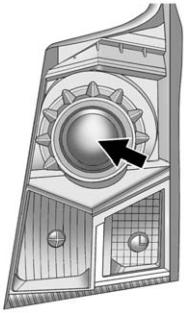
- The vehicle should be placed so the headlamps are 7.6 m (25 ft) from a light-colored wall.
- The vehicle must have all four tires on a level surface which is level all the way to the wall.

- The vehicle should be placed so it is perpendicular to the wall.
- The vehicle should not have any snow, ice, or mud on it.
- The vehicle should be fully assembled and all other work stopped while headlamp aiming is being performed.
- The vehicle should be normally loaded with a full tank of fuel and one person or 75 kg (160 lbs) sitting on the driver seat.
- Tires should be properly inflated.

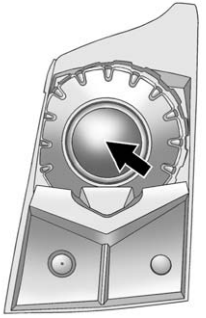
Headlamp aiming is done with the vehicle's low-beam headlamps. The high-beam headlamps will be correctly aimed if the low-beam headlamps are aimed properly.

To adjust the vertical aim:

1. Open the hood. See *Hood on page 10-5* for more information.

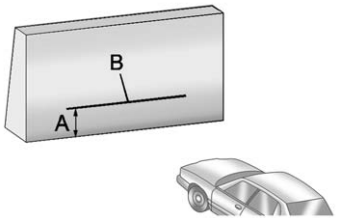


**Base Vehicle**



**Up-level Vehicle**

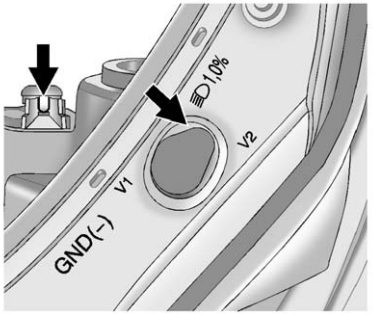
2. Locate the aim point at the center inner projector condensing lens of the low-beam headlamp, not the outer lens.
3. Measure the distance from the ground to the aim dot on the low-beam headlamp. Record the distance.




4. At the wall, measure from the ground upward (A) to the recorded distance from Step 3 and mark it.
5. Draw or tape a horizontal line (B) on the wall the width of the vehicle at the height of the mark in Step 4.

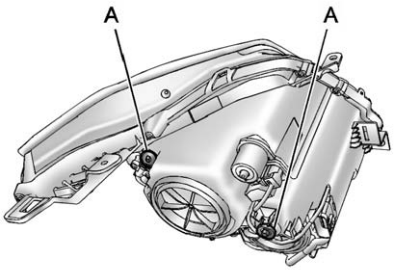
***Notice:*** **Do not cover a headlamp to improve beam cut-off when aiming. Covering a headlamp may cause excessive heat build-up which may cause damage to the headlamp.**

6. Turn on the low-beam headlamps and place a piece of cardboard or equivalent in front of the headlamp not being adjusted. This allows only the beam of light from the headlamp being adjusted to be seen on the flat surface.




7. Locate the vertical headlamp adjusters, which are under the hood near each headlamp assembly.

   For the vehicle equipped with a base level lamp (halogen bulb), there will be one vertical headlamp adjuster (V1).

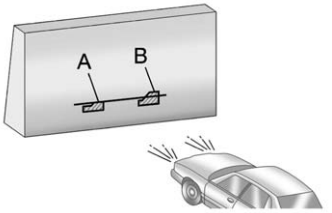



For the vehicle equipped with an up-level headlamp (HID), there will be two vertical headlamp adjusters for V1 and V2 (A).

Some vehicles have funnel-shaped caps on the adjusters for easier access of a Number 2 Phillips screwdriver to turn the adjusters.

8. For the base vehicle, turn the vertical adjuster (V1) until the headlamp beam is aimed to the horizontal tape line. Turn it clockwise or counterclockwise to raise or lower the angle of the beam.

   For the up-level vehicle, turn the vertical adjusters (V1 and V2) simultaneously until the headlamp beam is aimed to the horizontal tape line. Turn them clockwise or counterclockwise to raise or lower the angle of the beam.




9. Make sure that the light from the headlamp is positioned at the bottom edge of the horizontal tape line. The lamp on the left (A) shows the correct headlamp aim. The lamp on the right (B) shows the incorrect headlamp aim.
10. Repeat Steps 7–9 for the opposite headlamp.

# Bulb Replacement

For the proper type of replacement bulbs, see *Replacement Bulbs on page 10-40*.

For any bulb changing procedure not listed in this section, contact your dealer.

## Halogen Bulbs

**⚠ WARNING**

Halogen bulbs have pressurized gas inside and can burst if you drop or scratch the bulb. You or others could be injured. Be sure to read and follow the instructions on the bulb package.

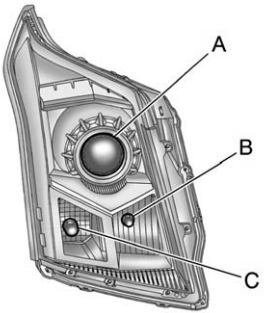
## High Intensity Discharge (HID) Lighting

**⚠ WARNING**

The low beam high intensity discharge lighting system operates at a very high voltage. If you try to service any of the system components, you could be seriously injured. Have your dealer or a qualified technician service them.

After an HID headlamp bulb has been replaced, the beam might be a slightly different shade than it was originally. This is normal.

## Headlamps

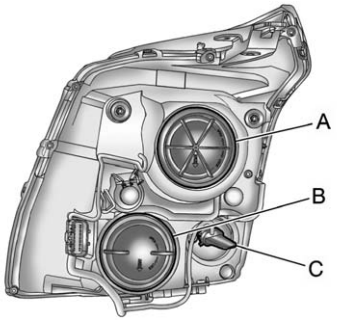



**Base Headlamp Assembly (Front View Passenger Side)**

A. Low-Beam Headlamp/Daytime Running Lamp (DRL)

B. High-Beam Headlamp

C. Turn Signal Lamp

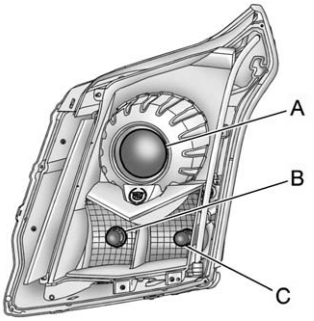



**Base Headlamp Assembly (Rear View Passenger Side)**

A. Low-Beam Headlamp/Daytime Running Lamp (DRL)

B. High-Beam Headlamp

C. Turn Signal Lamp

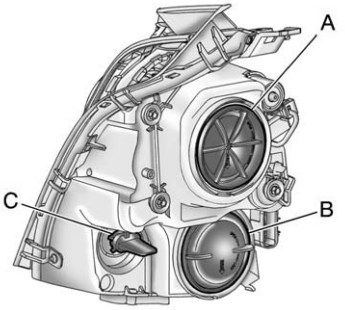



**Uplevel Headlamp Assembly (Front View Driver Side)**

A. High/Low-Beam Headlamp (To be replaced at dealer only)

B. Daytime Running Lamp (DRL)

C. Turn Signal Lamp




**Uplevel Headlamp Assembly (Rear View Driver Side)**

A. High/Low-Beam Headlamp (To be replaced at dealer only)

B. Daytime Running Lamp (DRL)

C. Turn Signal Lamp

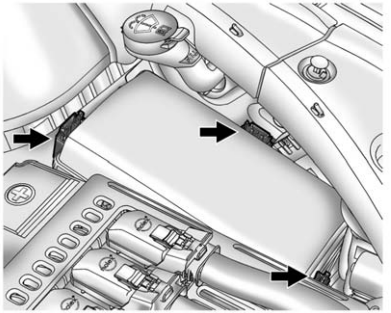
### Driver Side

The removal of the underhood electrical center is required for the replacement of one of these bulbs:

1. Open the hood. See *Hood on page 10-5*.

**⚠ WARNING**

Liquids from environment or spillage and/or tools placed on top of or used in the underhood electrical center while the cover is removed can pose a risk of electrical shock/burn to anyone in the vicinity. These conditions can also cause damage to electrical components on the vehicle. Keep liquids and tools away from the underhood electrical center when the cover is removed.

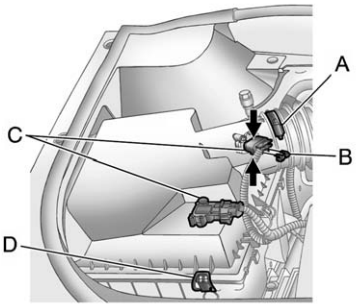


2. Unlatch three clips and lift up the underhood electrical center cover to remove.

### Passenger Side

The removal of the air filter/cleaner assembly and base is required for the replacement of one of these bulbs:

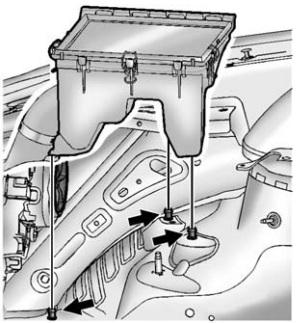
1. Open the hood. See *Hood on page 10-5*.




A. Air Duct Clamp
B. Connector Lock
C. Sensor Connectors
D. Retaining Clips

2. Disconnect the outlet duct by loosening the air duct clamp (A).

3. Remove the connector lock (B) located at the bottom of the sensor connector (C).
4. Press on the top and bottom of the sensor connectors (C) and remove.
5. Lift the three retaining clips (D) on the air filter housing.
6. Turn and tilt cover slightly upwards and slide cover away from outside edge of vehicle. Lift the cover away from base.

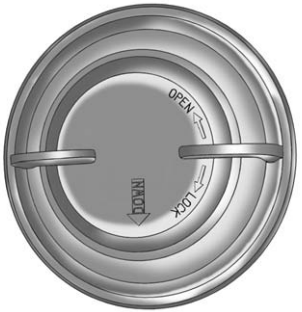


7. Lift the air cleaner/filter base to disengage from three pins.

**Low-Beam Headlamps/Daytime Running Lamps (DRL), High-Beam Headlamps (Base)**




1. From the back side of the headlamp assembly, remove the top cap to replace the low-beam headlamp/DRL bulb.



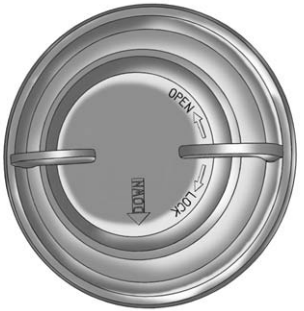

2. From the back side of the headlamp assembly, remove the bottom cap to replace the high-beam headlamp bulb.
3. Disconnect electrical connector.
4. Remove the bulb socket from the headlamp assembly.
5. Replace the bulb in the bulb socket.
6. Install the bulb socket in the headlamp assembly.
7. Connect the electrical connector.

8. Install the cap with the down arrow pointing down in the back of the headlamp assembly.
9. For driver side, reinstall the underhood electrical center cover by latching three clips.
10. For passenger side, reinstall the air filter/cleaner assembly base by pushing to seat. Verify the base is seated securely, then install the engine air filter/cleaner assembly.

### High/Low-Beam Headlamps (Uplevel)

The high/low beam headlamps on the uplevel are High Intensity Discharge (HID) and should be replaced at the dealer.

### Daytime Running Lamp (DRL) (Uplevel)




1. From the back side of the headlamp assembly, remove the bottom cap to replace the DRL bulb.
2. Disconnect electrical connector.
3. Remove the DRL bulb socket from the headlamp assembly.
4. Replace the bulb in the bulb socket.
5. Install the bulb socket in the headlamp assembly.
6. Connect the electrical connector.
7. Install the cap with the down arrow pointing down in the back of the headlamp assembly.
8. For driver side, reinstall the underhood electrical center cover by latching three clips.
9. For passenger side, reinstall the air filter/cleaner assembly base by pushing to seat. Verify the base is seated securely, then install the engine air filter/cleaner assembly.

### Front Turn Signal Lamp (Base and Uplevel)

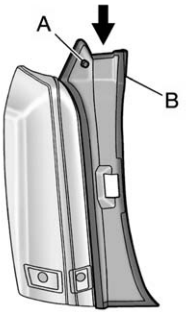
To replace the Front Turn Signal Lamp:

1. Remove the turn signal lamp bulb socket from the headlamp assembly.
2. Remove the turn signal lamp bulb from the socket.
3. Replace the bulb in the bulb socket.
4. Install the bulb socket in the headlamp assembly.
5. For driver side, reinstall the underhood electrical center cover by latching three clips.
6. For passenger side, reinstall the air filter/cleaner assembly base by pushing to seat . Verify the base is seated securely, then install the engine air filter/ cleaner assembly.

## Turn Signal Lamps

To replace one of these bulbs:

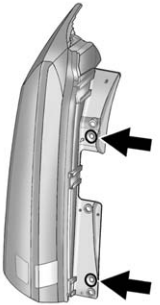
1. Open the liftgate. See *Liftgate on page 2-14*.



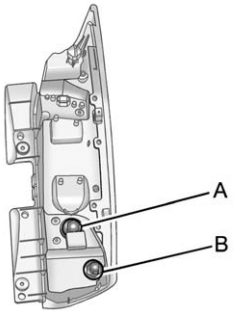

A. Push Pin

B. Taillamp Cover

2. Pull on push pin (A) to release the taillamp cover (B).
3. Remove the taillamp cover from the lamp assembly by pulling rearward from the top to unfasten from snap tabs.



4. Remove the two screws from the taillamp assembly.
5. Pull the taillamp assembly straight back to remove.




A. Turn Signal Lamp

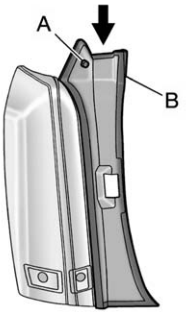
B. Back-Up Bulb/Socket

6. Turn the turn signal lamp (A) bulb socket counterclockwise to remove it from the taillamp assembly.
7. Pull the bulb straight out from the socket.
8. Press a new bulb into the socket, insert it into the taillamp assembly and turn the bulb socket clockwise until it clicks.
9. Reinstall the taillamp assembly and tighten the screws.
10. Reinstall the taillamp cover by snapping it into place.
11. Push the push pin to secure the taillamp cover.

## Back-Up Lamps

To replace one of these bulbs:

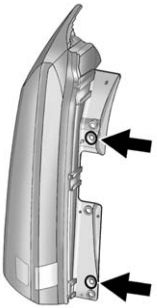
1. Open the liftgate. See *Liftgate on page 2-14*.



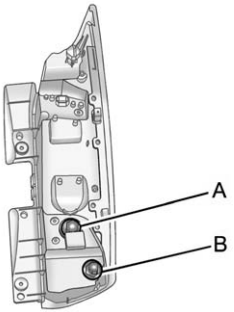

A. Push Pin

B. Taillamp Cover

2. Pull on push pin (A) to release the taillamp cover (B).
3. Remove the taillamp cover from the lamp assembly by pulling rearward from the top to unfasten from snap tabs.



4. Remove the two screws from the taillamp assembly.
5. Pull the taillamp assembly straight back to remove.




A. Turn Signal Lamp

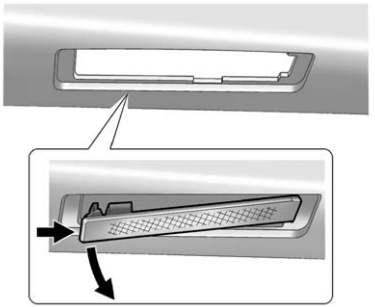
B. Back–Up Bulb/Socket Assembly

6. Disconnect the wire harness from the back–up bulb/socket (B).
7. Turn the back–up bulb socket counterclockwise to remove it from the taillamp assembly.
8. Install a new bulb/socket assembly into the taillamp assembly and turn the bulb/socket clockwise until it clicks.
9. Reinstall the taillamp assembly and tighten the screws.
10. Reinstall the taillamp cover by snapping it into place.
11. Push the push pin to secure the taillamp cover.

## License Plate Lamp

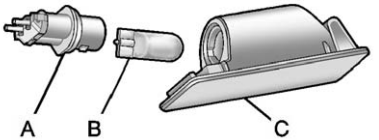
To replace one of these bulbs:

1. Open the liftgate. See *Liftgate on page 2-14* for more information.



**Passenger Side Shown, Driver Side Similar**

2. Push the left end of the lamp assembly towards the right.
3. Turn the lamp assembly down to remove from liftgate.




A. Bulb Socket

B. Bulb

C. Lamp Assembly

4. Turn the bulb socket (A) counterclockwise to remove from lamp assembly (C).
5. Pull the bulb (B) straight out of the bulb socket.
6. Push the replacement bulb straight into the bulb socket and turn the bulb socket clockwise to install into lamp assembly.
7. Turn the lamp assembly into the liftgate engaging the clip side first.
8. Push on the lamp side opposite the clip until the lamp assembly snaps into place.

## Replacement Bulbs

| Exterior Lamp | Bulb Number |
|---|---|
| Back-up Lamp | Hyperclick PH16W |
| Daytime Running Lamp | 7443 |
| Headlamp High-Beam | 9005 |
| Headlamp Low-Beam | H10 |
| License Plate Lamp | 194LL |
| Turn Signal Front | 7440 |
| Tail/Turn Signal Rear | W21W |

For replacement bulbs not listed here, contact your dealer.

# Electrical System

## Electrical System Overload

The vehicle has fuses and circuit breakers to protect against an electrical system overload.

When the current electrical load is too heavy, the circuit breaker opens and closes, protecting the circuit until the current load returns to normal or the problem is fixed. This greatly reduces the chance of circuit overload and fire caused by electrical problems.

Fuses and circuit breakers protect power devices in the vehicle.

Replace a bad fuse with a new one of the identical size and rating.

If there is a problem on the road and a fuse needs to be replaced, the same amperage fuse can be borrowed. Choose some feature of the vehicle that is not needed to use and replace it as soon as possible.

### Headlamp Wiring

An electrical overload may cause the lamps to go on and off, or in some cases to remain off. Have the headlamp wiring checked right away if the lamps go on and off or remain off.

### Windshield Wipers

If the wiper motor overheats due to heavy snow or ice, the windshield wipers will stop until the motor cools and will then restart.

Although the circuit is protected from electrical overload, overload due to heavy snow or ice may cause wiper linkage damage. Always clear ice and heavy snow from the windshield before using the windshield wipers.

If the overload is caused by an electrical problem and not snow or ice, be sure to get it fixed.

## Fuses and Circuit Breakers

The wiring circuits in the vehicle are protected from short circuits by a combination of fuses and circuit breakers. This greatly reduces the chance of damage caused by electrical problems.

To check a fuse, look at the silver-colored band inside the fuse. If the band is broken or melted, replace the fuse. Be sure to replace a bad fuse with a new one of the identical size and rating.

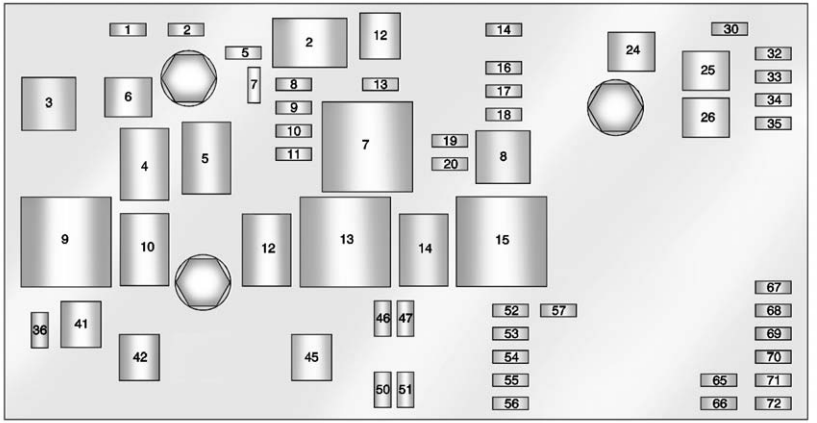
Fuses of the same amperage can be temporarily borrowed from another fuse location, if a fuse goes out. Replace the fuse as soon as you can.

To identify and check fuses, circuit breakers, and relays, see *Engine Compartment Fuse Block on page 10-42* and *Rear Compartment Fuse Block on page 10-46*.

## Engine Compartment Fuse Block

To remove the fuse block cover, press the clips on the cover and lift it straight up.

***Notice:*** **Spilling liquid on any electrical component on the vehicle may damage it. Always keep the covers on any electrical component.**




**Engine Compartment Fuse Block**

The vehicle may not be equipped with all of the fuses, relays, and features shown.

| J-Case Fuses | Usage |
|---|---|
| 6 | Wiper |
| 12 | Vacuum Pump |

| J-Case Fuses | Usage |
|---|---|
| 24 | Antilock Brake System Pump |
| 25 | Rear Electrical Center 1 |

| J-Case Fuses | Usage |
|---|---|
| 26 | Rear Electrical Center 2 |
| 41 | Cooling Fan 2 |
| 42 | Starter |
| 45 | Cooling Fan 1 |

| Mini Fuses | Usage |
|---|---|
| 1 | Engine Control Module Battery |
| 2 | Transmission Control Module Battery |
| 5 | Engine Control Module Run Crank |
| 7 | Post–Catalytic Converter O2 Sensor |
| 8 | Pre–Catalytic Converter O2 Sensor |

| Mini Fuses | Usage |
|---|---|
| 9 | Engine Control Module Powertrain |
| 10 | Fuel Injectors–Even |
| 11 | Fuel Injectors-Odd |
| 13 | Washer |
| 14 | Heated Steering Wheel |
| 16 | Instrument Panel Cluster/Malfunction Indicator Lamp/ Ignition |
| 17 | Air Quality Sensor |
| 18 | Headlamp Washer |
| 19 | Transmission Control Module Run Crank |
| 20 | Rear Electrical Center Run Crank |
| 30 | Switch Back Light |

| Mini Fuses | Usage |
|---|---|
| 32 | Battery Sense (Regulated Voltage Control) |
| 33 | Adaptive Forward Lighting/Adaptive Headlamp Leveling Module |
| 34 | Body Control Module 7 |
| 35 | Electronic Brake Control Module |
| 36 | Air Conditioning Compressor Clutch |
| 46 | Low-Beam Headlamp-Right |
| 47 | Low-Beam Headlamp-Left |
| 50 | Front Fog Lamps |
| 51 | Horn |
| 52 | Fuel System Control Module |
| 53 | Headlamp Level |

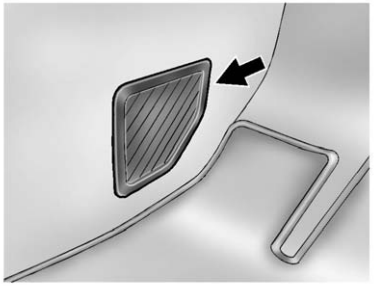
| Mini Fuses | Usage |
|---|---|
| 54 | Sensing Diagnostic Module Ignition |
| 55 | High-Beam Headlamp-Right |
| 56 | High-Beam Headlamp-Left |
| 57 | Ignition Steering Column Lock |
| 65 | Trailer Right Stoplamp |
| 66 | Trailer Left Stoplamp |
| 67 | Spare |
| 68 | Spare |
| 69 | Spare |
| 70 | Spare |
| 71 | Spare |
| 72 | Spare |

| Mini Relays | Usage |
|---|---|
| 7 | Powertrain |
| 9 | Cooling Fan 2 |
| 13 | Cooling Fan 1 |
| 15 | Run/Crank |

| Micro Relays | Usage |
|---|---|
| 2 | Vacuum Pump |
| 4 | Wiper Control |
| 5 | Wiper Speed |
| 10 | Starter |
| 12 | Cool Fan 3 |
| 14 | Low Beam/HID |

| U Micro Relays | Usage |
|---|---|
| 3 | Air Conditioning Compressor Clutch |
| 8 | Headlamp Washer |

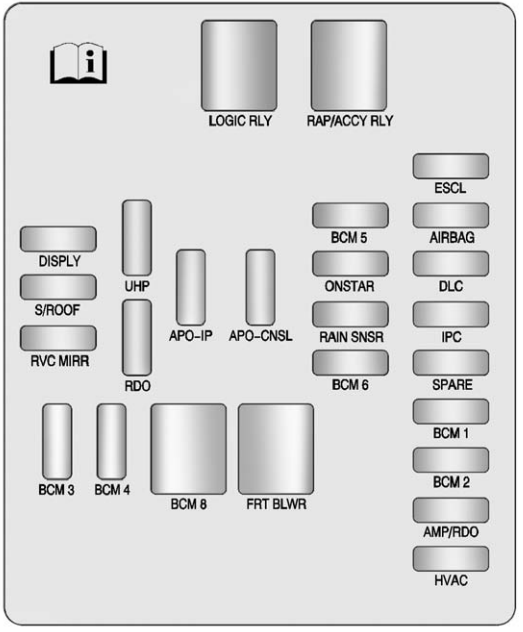
## Instrument Panel Fuse Block



The instrument panel fuse block is located in the center console between the driver and passenger seats. To access the fuses, open the fuse panel door from the passenger side by pulling it out.

To reinstall the door, push the door back into its original location.

The vehicle may not be equipped with all of the fuses, relays and features shown.




**Instrument Panel Fuse Block**

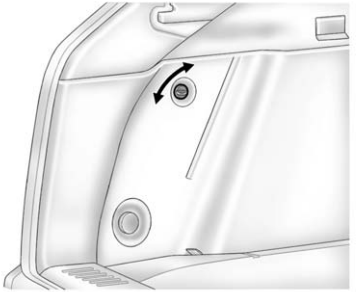
| Mini Fuses | Usage |
|---|---|
| DISPLY | Display |
| S/ROOF | Sunroof |
| RVC MIRR | Rear Vision Camera Mirror |
| UHP | Universal Handsfree Phone |
| RDO | Radio |
| APO- IP | Auxiliary Power Outlet- Instrument Panel |
| APO- CNSL | Auxiliary Power Outlet- Floor Console |
| BCM 3 | Body Control Module 3 |
| BCM 4 | Body Control Module 4 |
| BCM 5 | Body Control Module 5 |
| ONSTAR | OnStar® System (If Equipped) |

| Mini Fuses | Usage |
|---|---|
| RAIN SNSR | Rain Sensor |
| BCM 6 | Body Control Module 6 |
| ESCL | Electronic Steering Column Lock |
| AIRBAG | Sensing and Diagnostic Module |
| DLC | Data Link Connector |
| IPC | Instrument Panel Cluster |
| SPARE | Not Used |
| BCM 1 | Body Control Module 1 |
| BCM 2 | Body Control Module 2 |
| AMP/RDO | Amplifier/Radio |
| HVAC | Heating Ventilation & Air Conditioning |

| J-Case Fuses | Usage |
|---|---|
| BCM 8 | Body Control Module 8 |
| FRT BLWR | Front Blower |

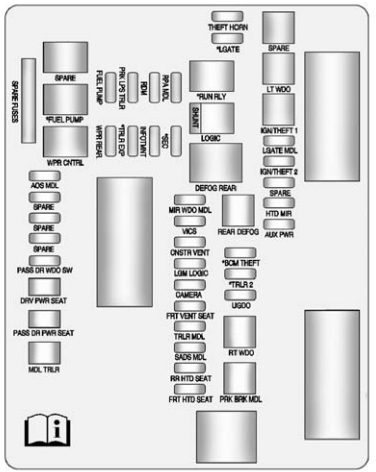
| Relays | Usage |
|---|---|
| LOGIC RLY | Logistics Relay |
| RAP/ ACCY RLY | Retained Accessory Power/ Accessory Relay |

## Rear Compartment Fuse Block



The rear compartment fuse block is located in the cargo area, on the driver side of the vehicle behind the lower trim panel. To open, turn the latch with a flat bladed tool and pull the trim panel from the edges to fold it down.

The vehicle may not be equipped with all of the fuses, relays, and features shown.




**Rear Compartment Fuse Block**

| Fuses | Usage |
|---|---|
| SPARE FUSES | Spare Fuses |
| AOS MDL | Automatic Occupant Sensing Module |
| SPARE | Not Used |
| SPARE | Not Used |
| SPARE | Not Used |
| PASS DR WDO SW | Passenger Door Window Switch |
| DRV PWR SEAT | Driver Power Seat |
| PASS DR PWR SEAT | Passenger/Driver Power Seats |
| MDL TRLR | Trailer Module |
| RPA MDL | Rear Parking Assist Module |
| RDM | Rear Drive Module |
| PRK LPS TRLR | Trailer Park Lamps |
| FUEL PUMP | Fuel Pump |

| Fuses | Usage |
|---|---|
| * SEC | Security |
| INFOTMNT | Infotainment |
| * TRLR EXP | Trailer Export |
| WPR REAR | Rear Wiper |
| MIR WDO MDL | Mirror Window Module |
| VICS | Vehicle Information Communications System (Export) |
| CNSTR VENT | Canister Vent |
| LGM LOGIC | Lift Gate Module Logic |
| CAMERA | Rear Vision Camera |
| FRT VENT SEAT | Front Ventilated Seats |
| TRLR MDL | Trailer Module |
| SADS MDL | Semi Active Damping System Module |

| Fuses | Usage |
|---|---|
| RR HTD SEAT | Rear Heated Seats |
| FRT HTD SEAT | Front Heated Seats |
| THEFT HORN | Theft Horn |
| * LGATE | Liftgate |
| SHUNT | Shunt |
| REAR DEFOG | Rear Defog |
| * BCM THEFT | Body Control Module Theft |
| * TRLR 2 | Trailer 2 |
| UGDO | Universal Garage Door Opener |

| Fuses | Usage |
|---|---|
| RT WDO | Right Window |
| PRK BRK MDL | Park Brake Module |
| SPARE | Not Used |
| LT WDO | Left Window |
| IGN/ THEFT 1 | Ignition/Theft 1 |
| LGATE MDL | Liftgate Module |
| IGN/ THEFT 2 | Ignition/Theft 2 |
| SPARE | Not Used |
| HTD MIR | Heated Mirror |
| AUX PWR | Auxiliary Power Outlet |

| Relays | Usage |
|---|---|
| SPARE | Not Used |
| * FUEL PUMP | Fuel Pump |
| WPR CONTRL | Wiper Control |
| * RUN RLY | Run Relay |
| LOGIC | Logistic Relay (Export) |
| DEFOG REAR | Rear Window Defogger |

*Denotes uplevel content.

# Wheels and Tires

## Tires

Every new GM vehicle has high-quality tires made by a leading tire manufacturer. See the warranty manual for information regarding the tire warranty and where to get service. For additional information refer to the tire manufacturer.

**⚠ WARNING**

- Poorly maintained and improperly used tires are dangerous.
- Overloading the tires can cause overheating as a result of too much flexing. There could be a blowout and a serious crash. See *Vehicle Load Limits on page 9-10*.

(Continued)

**WARNING (Continued)**

- Underinflated tires pose the same danger as overloaded tires. The resulting crash could cause serious injury. Check all tires frequently to maintain the recommended pressure. Tire pressure should be checked when the tires are cold.
- Overinflated tires are more likely to be cut, punctured, or broken by a sudden impact— such as when hitting a pothole. Keep tires at the recommended pressure.
- Worn or old tires can cause a crash. If the tread is badly worn, replace them.
- Replace any tires that have been damaged by impacts with potholes, curbs, etc.

(Continued)

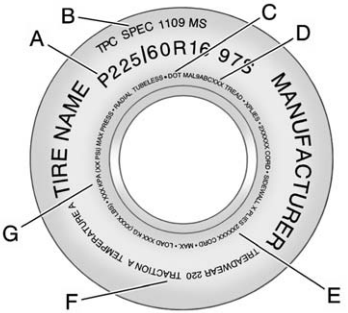
**WARNING (Continued)**

- Improperly repaired tires can cause a crash. Only the dealer or an authorized tire service center should repair, replace, dismount, and mount the tires.
- Do not spin the tires in excess of 56 km/h (35 mph) on slippery surfaces such as snow, mud, ice, etc. Excessive spinning may cause the tires to explode.

See *Tire Pressure for High-Speed Operation on page 10-57* for inflation pressure adjustment for high-speed driving.

## Tire Sidewall Labeling

Useful information about a tire is molded into its sidewall. The examples show a typical passenger vehicle tire and a compact spare tire sidewall.




**Passenger (P-Metric) Tire Example**

**(A) Tire Size:** The tire size is a combination of letters and numbers used to define a particular tire's width, height, aspect ratio, construction type, and service description. See the "Tire Size" illustration later in this section for more detail.

**(B) TPC Spec (Tire Performance Criteria Specification):** Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

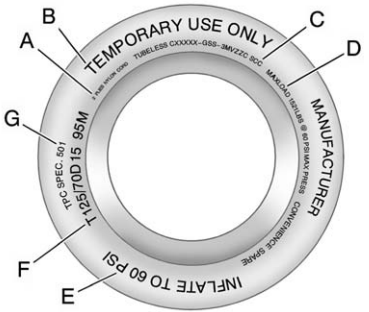
**(C) DOT (Department of Transportation):** The Department of Transportation (DOT) code indicates that the tire is in compliance with the U.S. Department of Transportation Motor Vehicle Safety Standards.

**(D) Tire Identification Number (TIN):** The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

**(E) Tire Ply Material:** The type of cord and number of plies in the sidewall and under the tread.

**(F) Uniform Tire Quality Grading (UTQG):** Tire manufacturers are required to grade tires based on three performance factors: treadwear, traction, and temperature resistance. For more information see *Uniform Tire Quality Grading on page 10-67*.

**(G) Maximum Cold Inflation Load Limit:** Maximum load that can be carried and the maximum pressure needed to support that load.




**Compact Spare Tire Example**

**(A) Tire Ply Material:** The type of cord and number of plies in the sidewall and under the tread.

**(B) Temporary Use Only:** The compact spare tire or temporary use tire has a tread life of approximately 5 000 km (3,000 mi) and should not be driven at speeds over 105 km/h (65 mph). The compact spare tire is for emergency use when a regular road tire has lost air and gone flat. If the vehicle has a compact spare tire, see *Compact Spare Tire on page 10-88* and *If a Tire Goes Flat on page 10-71*.

**(C) Tire Identification Number (TIN):** The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

**(D) Maximum Cold Inflation Load Limit:** Maximum load that can be carried and the maximum pressure needed to support that load.

**(E) Tire Inflation:** The temporary use tire or compact spare tire should be inflated to 420 kPa (60 psi). For more information on tire pressure and inflation see *Tire Pressure on page 10-56*.

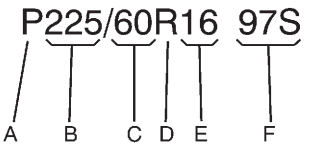
**(F) Tire Size:** A combination of letters and numbers define a tire's width, height, aspect ratio, construction type, and service description. The letter T as the first character in the tire size means the tire is for temporary use only.

**(G) TPC Spec (Tire Performance Criteria Specification):** Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

## Tire Designations

### Tire Size

The following is an example of a typical passenger vehicle tire size.




**(A) Passenger (P-Metric) Tire:** The United States version of a metric tire sizing system. The letter P as the first character in the tire size means a passenger vehicle tire engineered to standards set by the U.S. Tire and Rim Association.

**(B) Tire Width:** The three-digit number indicates the tire section width in millimeters from sidewall to sidewall.

**(C) Aspect Ratio:** A two-digit number that indicates the tire height-to-width measurements. For example, if the tire size aspect ratio is 60, as shown in item C of the illustration, it would mean that the tire's sidewall is 60 percent as high as it is wide.

**(D) Construction Code:** A letter code is used to indicate the type of ply construction in the tire. The letter R means radial ply construction; the letter D means diagonal or bias ply construction; and the letter B means belted-bias ply construction.

**(E) Rim Diameter:** Diameter of the wheel in inches.

**(F) Service Description:** These characters represent the load index and speed rating of the tire. The load index represents the load carrying capacity a tire is certified to carry. The speed rating is the maximum speed a tire is certified to carry a load.

## Tire Terminology and Definitions

**Air Pressure:** The amount of air inside the tire pressing outward on each square inch of the tire. Air pressure is expressed in kPa (kilopascal) or psi (pounds per square inch).

**Accessory Weight:** The combined weight of optional accessories. Some examples of optional accessories are automatic transmission, power steering, power brakes, power windows, power seats, and air conditioning.

**Aspect Ratio:** The relationship of a tire's height to its width.

**Belt:** A rubber coated layer of cords that is located between the plies and the tread. Cords may be made from steel or other reinforcing materials.

**Bead:** The tire bead contains steel wires wrapped by steel cords that hold the tire onto the rim.

**Bias Ply Tire:** A pneumatic tire in which the plies are laid at alternate angles less than 90 degrees to the centerline of the tread.

**Cold Tire Pressure:** The amount of air pressure in a tire, measured in kPa (kilopascal) or psi (pounds per square inch) before a tire has built up heat from driving. See *Tire Pressure on page 10-56*.

**Curb Weight:** The weight of a motor vehicle with standard and optional equipment including the maximum capacity of fuel, oil, and coolant, but without passengers and cargo.

**DOT Markings:** A code molded into the sidewall of a tire signifying that the tire is in compliance with the U.S. Department of Transportation (DOT) Motor Vehicle Safety Standards. The DOT code includes the Tire Identification Number (TIN), an alphanumeric designator which can also identify the tire manufacturer, production plant, brand, and date of production.

**GVWR:** Gross Vehicle Weight Rating. See *Vehicle Load Limits on page 9-10*.

**GAWR FRT:** Gross Axle Weight Rating for the front axle. See *Vehicle Load Limits on page 9-10*.

**GAWR RR:** Gross Axle Weight Rating for the rear axle. See *Vehicle Load Limits on page 9-10*.

**Intended Outboard Sidewall:** The side of an asymmetrical tire, that must always face outward when mounted on a vehicle.

**Kilopascal (kPa):** The metric unit for air pressure.

**Light Truck (LT-Metric) Tire:** A tire used on light duty trucks and some multipurpose passenger vehicles.

**Load Index:** An assigned number ranging from 1 to 279 that corresponds to the load carrying capacity of a tire.

**Maximum Inflation Pressure:** The maximum air pressure to which a cold tire can be inflated. The maximum air pressure is molded onto the sidewall.

**Maximum Load Rating:** The load rating for a tire at the maximum permissible inflation pressure for that tire.

**Maximum Loaded Vehicle Weight:** The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

**Normal Occupant Weight:** The number of occupants a vehicle is designed to seat multiplied by 68 kg (150 lbs). See *Vehicle Load Limits on page 9-10*.

**Occupant Distribution:** Designated seating positions.

**Outward Facing Sidewall:** The side of an asymmetrical tire that has a particular side that faces outward when mounted on a vehicle. The side of the tire that contains a whitewall, bears white lettering, or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same moldings on the other sidewall of the tire.

**Passenger (P-Metric) Tire:** A tire used on passenger cars and some light duty trucks and multipurpose vehicles.

**Recommended Inflation Pressure:** Vehicle manufacturer's recommended tire inflation pressure as shown on the tire placard. See *Tire Pressure on page 10-56* and *Vehicle Load Limits on page 9-10*.

**Radial Ply Tire:** A pneumatic tire in which the ply cords that extend to the beads are laid at 90 degrees to the centerline of the tread.

**Rim:** A metal support for a tire and upon which the tire beads are seated.

**Sidewall:** The portion of a tire between the tread and the bead.

**Speed Rating:** An alphanumeric code assigned to a tire indicating the maximum speed at which a tire can operate.

**Traction:** The friction between the tire and the road surface. The amount of grip provided.

**Tread:** The portion of a tire that comes into contact with the road.

**Treadwear Indicators:** Narrow bands, sometimes called wear bars, that show across the tread of a tire when only 1.6 mm (1/16 in) of tread remains. See *When It Is Time for New Tires on page 10-64*.

**UTQGS (Uniform Tire Quality Grading Standards):** A tire information system that provides consumers with ratings for a tire's traction, temperature, and treadwear. Ratings are determined by tire manufacturers using government testing procedures. The ratings are molded into the sidewall of the tire. See *Uniform Tire Quality Grading on page 10-67*.

**Vehicle Capacity Weight:** The number of designated seating positions multiplied by 68 kg (150 lbs) plus the rated cargo load. See *Vehicle Load Limits on page 9-10*.

**Vehicle Maximum Load on the Tire:** Load on an individual tire due to curb weight, accessory weight, occupant weight, and cargo weight.

**Vehicle Placard:** A label permanently attached to a vehicle showing the vehicle capacity weight and the original equipment tire size and recommended inflation pressure. See “Tire and Loading Information Label” under *Vehicle Load Limits on page 9-10*.

## Tire Pressure

Tires need the correct amount of air pressure to operate effectively.

***Notice:*** **Neither tire underinflation nor overinflation is good. Underinflated tires, or tires that do not have enough air, can result in:**

- **Tire overloading and overheating which could lead to a blowout.**
- **Premature or irregular wear.**
- **Poor handling.**
- **Reduced fuel economy.**

**Overinflated tires, or tires that have too much air, can result in:**

- **Unusual wear.**
- **Poor handling.**
- **Rough ride.**
- **Needless damage from road hazards.**

The Tire and Loading Information label on the vehicle indicates the original equipment tires and the correct cold tire inflation pressures. The recommended pressure is the minimum air pressure needed to support the vehicle's maximum load carrying capacity.

For additional information regarding how much weight the vehicle can carry, and an example of the Tire and Loading Information label, see *Vehicle Load Limits on page 9-10*. How the vehicle is loaded affects vehicle handling and ride comfort. Never load the vehicle with more weight than it was designed to carry.

### When to Check

Check the tires once a month or more. Do not forget the compact spare tire, if the vehicle has one. The cold compact spare should be at 420 kPa (60 psi). See *Compact Spare Tire on page 10-88*.

### How to Check

Use a good quality pocket-type gauge to check tire pressure. Proper tire inflation cannot be determined by looking at the tire. Check the tire inflation pressure when the tires are cold, meaning the vehicle has not been driven for at least three hours or no more than 1.6 km (1 mi).

Remove the valve cap from the tire valve stem. Press the tire gauge firmly onto the valve to get a pressure measurement.

If the cold tire inflation pressure matches the recommended pressure on the Tire and Loading Information label, no further adjustment is necessary. If the inflation pressure is low, add air until the recommended pressure is reached. If the inflation pressure is high, press on the metal stem in the center of the tire valve to release air.

Recheck the tire pressure with the tire gauge.

Return the valve caps on the valve stems to prevent leaks and keep out dirt and moisture.

## Tire Pressure for High-Speed Operation

**⚠ WARNING**

Driving at high speeds, 160 km/h (100 mph) or higher, puts an additional strain on tires. Sustained high-speed driving causes excessive heat buildup and can cause sudden tire failure. You could have a crash and you or others could be killed. Some high-speed rated tires require inflation pressure adjustment for high-speed operation. When speed limits and road conditions are such that a vehicle can be driven at high speeds, make sure the tires are rated for high-speed operation, in excellent condition, and set to the correct cold tire inflation pressure for the vehicle load.

Vehicles with P235/65R18, P235/55R20, or 235/55R20 size tires require inflation pressure adjustment when driving the vehicle at speeds of 160 km/h (100 mph) or higher. Set the cold inflation pressure to the maximum inflation pressure shown on the tire sidewall, or 260 kPa (38 psi), whichever is lower. Return the tires to the recommended cold tire inflation pressure when high-speed driving has ended. See *Vehicle Load Limits on page 9-10* and *Tire Pressure on page 10-56*.

The maximum load and inflation pressure is molded on the tire sidewall, in small letters, near the rim flange. It will read something like this: Maximum load 690 kg (1521 lbs) 300 kPa (44 psi) Max. Press.

## Tire Pressure Monitor System

The Tire Pressure Monitor System (TPMS) uses radio and sensor technology to check tire pressure levels. The TPMS sensors monitor the air pressure in your tires and transmit tire pressure readings to a receiver located in the vehicle.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.

Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

See *Tire Pressure Monitor Operation on page 10-59* for additional information.

### Federal Communications Commission (FCC) Rules and with Industry Canada Standards

See *Radio Frequency Statement on page 13-23* for information regarding Part 15 of the Federal Communications Commission (FCC) Rules and with Industry Canada Standards RSS-GEN/210/220/310.

## Tire Pressure Monitor Operation

This vehicle may have a Tire Pressure Monitor System (TPMS). The TPMS is designed to warn the driver when a low tire pressure condition exists. TPMS sensors are mounted onto each tire and wheel assembly, excluding the spare tire and wheel assembly. The TPMS sensors monitor the air pressure in the tires and transmit the tire pressure readings to a receiver located in the vehicle.



When a low tire pressure condition is detected, the TPMS illuminates the low tire pressure warning light located on the instrument cluster. If the warning light comes on, stop as soon as possible and inflate the tires to the recommended pressure shown on the tire loading information label. See *Vehicle Load Limits on page 9-10*.

A message to check the pressure displays in the Driver Information Center (DIC). The low tire pressure warning light and the DIC warning message come on at each ignition cycle until the tires are inflated to the correct inflation pressure.

Using the DIC, tire pressure levels can be viewed. For additional information and details about the DIC operation and displays see *Driver Information Center (DIC) on page 5-27*.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This could be an early indicator that the air pressure is getting low and needs to be inflated to the proper pressure.

A Tire and Loading Information label shows the size of the original equipment tires and the correct inflation pressure for the tires when they are cold. See *Vehicle Load Limits on page 9-10*, for an example of the Tire and Loading Information label and its location. Also see *Tire Pressure on page 10-56*.

The TPMS can warn about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection on page 10-62*, *Tire Rotation on page 10-63* and *Tires on page 10-49*.

***Notice:*** **Tire sealant materials are not all the same. A non-approved tire sealant could damage the TPMS sensors. TPMS sensor damage caused by using an incorrect tire sealant is not covered by the vehicle warranty. Always use only the GM-approved tire sealant available through your dealer or included in the vehicle.**

Factory-installed Tire Inflator Kits use a GM approved liquid tire sealant. Using non-approved tire sealants could damage the TPMS sensors. See *Tire Sealant and Compressor Kit on page 10-73* for information regarding the inflator kit materials and instructions.

### TPMS Malfunction Light and Message

The TPMS will not function properly if one or more of the TPMS sensors are missing or inoperable. When the system detects a malfunction, the low tire pressure warning light flashes for about one minute and then stays on for the remainder of the ignition cycle. A DIC warning message also displays. The malfunction light and DIC warning message come on at each ignition cycle until the problem is corrected. Some of the conditions that can cause these to come on are:

- One of the road tires has been replaced with the spare tire. The spare tire does not have a TPMS sensor. The malfunction light and the DIC message should go off after the road tire is replaced and the sensor matching process is performed successfully. See "TPMS Sensor Matching Process" later in this section.
- The TPMS sensor matching process was not done or not completed successfully after rotating the tires. The malfunction light and the DIC message should go off after successfully completing the sensor matching process. See "TPMS Sensor Matching Process" later in this section.
- One or more TPMS sensors are missing or damaged. The malfunction light and the DIC message should go off when the TPMS sensors are installed and the sensor matching process is performed successfully. See your dealer for service.

- Replacement tires or wheels do not match the original equipment tires or wheels. Tires and wheels other than those recommended could prevent the TPMS from functioning properly. See *Buying New Tires on page 10-65*.
- Operating electronic devices or being near facilities using radio wave frequencies similar to the TPMS could cause the TPMS sensors to malfunction.

If the TPMS is not functioning properly, it cannot detect or signal a low tire condition. See your dealer for service if the TPMS malfunction light and DIC message come on and stay on.

### TPMS Sensor Matching Process

Each TPMS sensor has a unique identification code. The identification code needs to be matched to a new tire/wheel position after rotating the vehicle's tires or replacing one or more of the TPMS sensors. Also, the TPMS sensor matching process should be performed after replacing a spare tire with a road tire containing the TPMS sensor. The malfunction light and the DIC message should go off at the next ignition cycle. The sensors are matched to the tire/wheel positions, using a TPMS relearn tool, in the following order: driver side front tire, passenger side front tire, passenger side rear tire, and driver side rear. See your dealer for service or to purchase a relearn tool.

There are two minutes to match the first tire/wheel position, and five minutes overall to match all four tire/wheel positions. If it takes longer, the matching process stops and must be restarted.

The TPMS sensor matching process is:

1. Set the parking brake.
2. Place the vehicle power mode in ON/RUN/START. See *Ignition Positions on page 9-17*.
3. Select the vehicle information menu using the menu button.
4. Select the tire pressure screen using the up/down thumbwheel.
5. Press and hold SET/CLR to begin the sensor matching process.

6. Press SET/CLR to confirm selection. The horn sounds twice to signal the receiver is in relearn mode and TIRE LEARNING ACTIVE message displays on the DIC screen.
7. Start with the driver side front tire.
8. Place the relearn tool against the tire sidewall, near the valve stem. Then press the button to activate the TPMS sensor. A horn chirp confirms that the sensor identification code has been matched to this tire and wheel position.
9. Proceed to the passenger side front tire, and repeat the procedure in Step 8.
10. Proceed to the passenger side rear tire, and repeat the procedure in Step 8.
11. Proceed to the driver side rear tire, and repeat the procedure in Step 8. The horn sounds two times to indicate the sensor identification code has been matched to the driver side rear tire, and the TPMS sensor matching process is no longer active. The TIRE LEARNING ACTIVE message on the DIC display screen goes off.
12. Press STOP to turn the ignition off.
13. Set all four tires to the recommended air pressure level as indicated on the Tire and Loading Information label.

## Tire Inspection

We recommend that the tires, including the spare tire, if the vehicle has one, be inspected for signs of wear or damage at least once a month.

Replace the tire if:

- The indicators at three or more places around the tire can be seen.
- There is cord or fabric showing through the tire's rubber.
- The tread or sidewall is cracked, cut, or snagged deep enough to show cord or fabric.

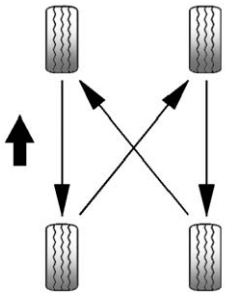
- The tire has a bump, bulge, or split.
- The tire has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

## Tire Rotation

Tires should be rotated every 12 000 km (7,500 mi). See *Maintenance Schedule on page 11-4*.

Tires are rotated to achieve a uniform wear for all tires. The first rotation is the most important.

Any time unusual wear is noticed, rotate the tires as soon as possible and check the wheel alignment. Also check for damaged tires or wheels. See *When It Is Time for New Tires on page 10-64* and *Wheel Replacement on page 10-69*.



Use this rotation pattern when rotating the tires.

Do not include the compact spare tire in the tire rotation.

Adjust the front and rear tires to the recommended inflation pressure on the Tire and Loading Information label after the tires have been rotated. See *Tire Pressure on page 10-56* and *Vehicle Load Limits on page 9-10*.

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation on page 10-59*.

Check that all wheel nuts are properly tightened. See “Wheel Nut Torque” under *Capacities and Specifications on page 12-2*.

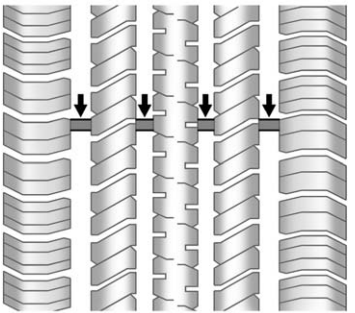
**⚠ WARNING**

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.

Lightly coat the center of the wheel hub with wheel bearing grease after a wheel change or tire rotation to prevent corrosion or rust build-up. Do not get grease on the flat wheel mounting surface or on the wheel nuts or bolts.

## When It Is Time for New Tires

Factors such as maintenance, temperatures, driving speeds, vehicle loading, and road conditions affect the wear rate of the tires.



Treadwear indicators are one way to tell when it is time for new tires. Treadwear indicators appear when the tires have only 1.6 mm (1/16 in) or less of tread remaining.

See *Tire Inspection on page 10-62* and *Tire Rotation on page 10-63* for more information.

The rubber in tires ages over time. This also applies for the spare tire, if the vehicle has one, even if it is never used. Multiple conditions including temperatures, loading conditions, and inflation pressure maintenance affect how fast aging takes place. Tires will typically need to be replaced due to wear before they may need to be replaced due to age. Consult the tire manufacturer for more information on when tires should be replaced.

### Vehicle Storage

Tires age when stored normally mounted on a parked vehicle. Park a vehicle that will be stored for at least a month in a cool, dry, clean area away from direct sunlight to slow aging. This area should be free of grease, gasoline, or other substances that can deteriorate rubber.

Parking for an extended period can cause flat spots on the tires that may result in vibrations while driving. When storing a vehicle for at least a month, remove the tires or raise the vehicle to reduce the weight from the tires.

## Buying New Tires

GM has developed and matched specific tires for the vehicle. The original equipment tires installed were designed to meet General Motors Tire Performance Criteria Specification (TPC Spec) system rating. When replacement tires are needed, GM strongly recommends buying tires with the same TPC Spec rating.

GM's exclusive TPC Spec system considers over a dozen critical specifications that impact the overall performance of the vehicle, including brake system performance, ride and handling, traction control, and tire pressure monitoring performance.

GM's TPC Spec number is molded onto the tire's sidewall near the tire size. If the tires have an all-season tread design, the TPC Spec number will be followed by MS for mud and snow. See *Tire Sidewall Labeling on page 10-50* for additional information.

GM recommends replacing all the tires at the same time. Uniform tread depth on all tires will help to maintain the performance of the vehicle. Braking and handling performance may be adversely affected if all the tires are not replaced at the same time. See *Tire Inspection on page 10-62* and *Tire Rotation on page 10-63* for information on proper tire rotation.

**⚠ WARNING**

Tires could explode during improper service. Attempting to mount or dismount a tire could cause injury or death. Only your dealer or authorized tire service center should mount or dismount the tires.

**⚠ WARNING**

Mixing tires of different sizes, brands, or types may cause loss of control of the vehicle, resulting in a crash or other vehicle damage. Use the correct size, brand, and type of tires on all wheels.

**⚠ WARNING**

Using bias-ply tires on the vehicle may cause the wheel rim flanges to develop cracks after many miles of driving. A tire and/or wheel could fail suddenly and cause a crash. Use only radial-ply tires with the wheels on the vehicle.

If the vehicle tires must be replaced with a tire that does not have a TPC Spec number, make sure they are the same size, load range, speed rating, and construction (radial) as the original tires.

Vehicles that have a tire pressure monitoring system could give an inaccurate low-pressure warning if non-TPC Spec rated tires are installed. See *Tire Pressure Monitor System on page 10-58*.

The Tire and Loading Information label indicates the original equipment tires on the vehicle. See *Vehicle Load Limits on page 9-10* for the label location and more information about the Tire and Loading Information label.

## Different Size Tires and Wheels

If wheels or tires are installed that are a different size than the original equipment wheels and tires, vehicle performance, including its braking, ride and handling characteristics, stability, and resistance to rollover may be affected. If the vehicle has electronic systems such as antilock brakes, rollover airbags, traction control, and electronic stability control, the performance of these systems can also be affected.

**⚠ WARNING**

If different sized wheels are used, there may not be an acceptable level of performance and safety if tires not recommended for those wheels are selected. This increases the chance of a crash and serious injury. Only use GM specific wheel and tire systems developed for the vehicle, and have them properly installed by a GM certified technician.

See *Buying New Tires on page 10-65* and *Accessories and Modifications on page 10-4*.

## Uniform Tire Quality Grading

Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example:

**Treadwear 200 Traction AA Temperature A**

The following information relates to the system developed by the United States National Highway Traffic Safety Administration (NHTSA), which grades tires by treadwear, traction, and temperature performance. This applies only to vehicles sold in the United States.

The grades are molded on the sidewalls of most passenger car tires. The Uniform Tire Quality Grading (UTQG) system does not apply to deep tread, winter tires, compact spare tires, tires with nominal rim diameters of 10 to 12 inches (25 to 30 cm), or to some limited-production tires.

While the tires available on General Motors passenger cars and light trucks may vary with respect to these grades, they must also conform to federal safety requirements and additional General Motors Tire Performance Criteria (TPC) standards.

All Passenger Car Tires Must Conform to Federal Safety Requirements In Addition To These Grades.

**Treadwear**

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and a half (1½) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices and differences in road characteristics and climate.

**Traction – AA, A, B, C**

The traction grades, from highest to lowest, are AA, A, B, and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance. Warning: The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning, or peak traction characteristics.

**Temperature – A, B, C**

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law. Warning: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

## Wheel Alignment and Tire Balance

The tires and wheels were aligned and balanced at the factory to provide the longest tire life and best overall performance. Adjustments to wheel alignment and tire balancing will not be necessary on a regular basis. However, check the alignment if there is unusual tire wear or if the vehicle is pulling to one side or the other. If the vehicle vibrates when driving on a smooth road, the tires and wheels might need to be rebalanced. See your dealer for proper diagnosis.

## Wheel Replacement

Replace any wheel that is bent, cracked, or badly rusted or corroded. If wheel nuts keep coming loose, the wheel, wheel bolts, and wheel nuts should be replaced. If the wheel leaks air, replace it. Some aluminum wheels can be repaired. See your dealer if any of these conditions exist.

Your dealer will know the kind of wheel that is needed.

Each new wheel should have the same load-carrying capacity, diameter, width, offset, and be mounted the same way as the one it replaces.

Replace wheels, wheel bolts, wheel nuts, or Tire Pressure Monitor System (TPMS) sensors with new GM original equipment parts.

**⚠ WARNING**

Using the wrong replacement wheels, wheel bolts, or wheel nuts can be dangerous. It could affect the braking and handling of the vehicle. Tires can lose air, and cause loss of control, causing a crash. Always use the correct wheel, wheel bolts, and wheel nuts for replacement.

***Notice:*** **The wrong wheel can also cause problems with bearing life, brake cooling, speedometer or odometer calibration, headlamp aim, bumper height, vehicle ground clearance, and tire or tire chain clearance to the body and chassis.**

### Used Replacement Wheels

**⚠ WARNING**

Replacing a wheel with a used one is dangerous. How it has been used or how far it has been driven may be unknown. It could fail suddenly and cause a crash. When replacing wheels, use a new GM original equipment wheel.

## Tire Chains

**⚠ WARNING**

Do not use tire chains. There is not enough clearance. Tire chains used on a vehicle without the proper amount of clearance can cause damage to the brakes, suspension, or other vehicle parts. The area damaged by the tire chains could cause loss of control and a crash.

Use another type of traction device only if its manufacturer recommends it for the vehicle's tire size combination and road conditions. Follow that manufacturer's instructions. To avoid vehicle damage, drive slow and readjust or remove the traction device if it contacts the vehicle. Do not spin the wheels. If traction devices are used, install them on the front tires.

## If a Tire Goes Flat

It is unusual for a tire to blow out while driving, especially if the tires are maintained properly. See *Tires on page 10-49*. If air goes out of a tire, it is much more likely to leak out slowly. But if there is ever a blowout, here are a few tips about what to expect and what to do:

If a front tire fails, the flat tire creates a drag that pulls the vehicle toward that side. Take your foot off the accelerator pedal and grip the steering wheel firmly. Steer to maintain lane position, and then gently brake to a stop, well off the road, if possible.

A rear blowout, particularly on a curve, acts much like a skid and may require the same correction as used in a skid. Stop pressing the accelerator pedal and steer to straighten the vehicle. It may be very bumpy and noisy. Gently brake to a stop, well off the road, if possible.

**⚠ WARNING**

Driving on a flat tire will cause permanent damage to the tire. Re-inflating a tire after it has been driven on while severely underinflated or flat may cause a blowout and a serious crash. Never attempt to re-inflate a tire that has been driven on while severely underinflated or flat. Have your dealer or an authorized tire service center repair or replace the flat tire as soon as possible.

**⚠ WARNING**

Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place, well off the road, if possible. Turn on the hazard warning flashers. See *Hazard Warning Flashers on page 6-5*.

**⚠ WARNING**

Changing a tire can be dangerous. The vehicle can slip off the jack and roll over or fall causing injury or death. Find a level place to change the tire. To help prevent the vehicle from moving:

1. Set the parking brake firmly.
2. Put an automatic transmission in P (Park) or a manual transmission in 1 (First) or R (Reverse).
3. Turn off the engine and do not restart while the vehicle is raised.

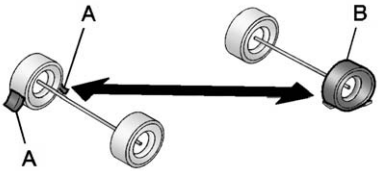
(Continued)

**WARNING (Continued)**

4. Do not allow passengers to remain in the vehicle.
5. Place wheel blocks on both sides of the tire at the opposite corner of the tire being changed.

This vehicle may come with a jack and spare tire or a tire sealant and compressor kit. To use the jacking equipment to change a spare tire safely, follow the instructions below. Then see *Tire Changing on page 10-81*. To use the tire sealant and compressor kit, see *Tire Sealant and Compressor Kit on page 10-73*.

When the vehicle has a flat tire (B), use the following example as a guide to assist you in the placement of wheel blocks (A).




A. Wheel Block

B. Flat Tire

The following information explains how to repair or change a tire.

## Tire Sealant and Compressor Kit

**⚠ WARNING**

Idling a vehicle in an enclosed area with poor ventilation is dangerous. Engine exhaust may enter the vehicle. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death. Never run the engine in an enclosed area that has no fresh air ventilation. For more information, see *Engine Exhaust on page 9-23*.

**⚠ WARNING**

Overinflating a tire could cause the tire to rupture and you or others could be injured. Be sure to read and follow the tire sealant and compressor kit instructions and inflate the tire to its recommended pressure. Do not exceed the recommended pressure.

**⚠ WARNING**

Storing the tire sealant and compressor kit or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store the tire sealant and compressor kit in its original location.

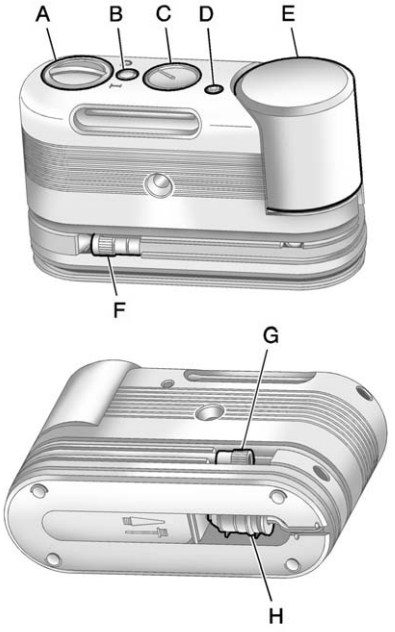
If this vehicle has a tire sealant and compressor kit, there may not be a spare tire, tire changing equipment, and on some vehicles there may not be a place to store a tire.

The tire sealant and compressor can be used to temporarily seal punctures up to 6 mm (0.25 in) in the tread area of the tire. It can also be used to inflate an under inflated tire.

If the tire has been separated from the wheel, has damaged sidewalls, or has a large puncture, the tire is too severely damaged for the tire sealant and compressor kit to be effective. See *Roadside Service (U.S. and Canada) on page 13-8* or *Roadside Service (Mexico) on page 13-10*.

Read and follow all of the tire sealant and compressor kit instructions.

The kit includes:




A. Selector Switch (Sealant/Air or Air Only)
B. On/Off Button
C. Pressure Gauge
D. Pressure Deflation Button
E. Tire Sealant Canister
F. Sealant/Air Hose (Clear)
G. Air Only Hose (Black)
H. Power Plug

### Tire Sealant

Read and follow the safe handling instructions on the label adhered to the sealant canister.

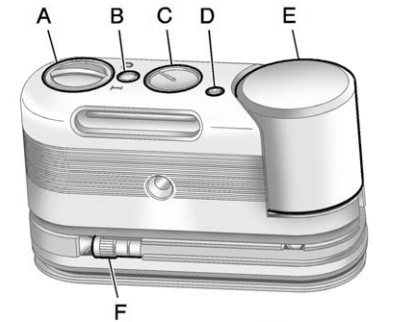
Check the tire sealant expiration date on the sealant canister. The sealant canister should be replaced before its expiration date.

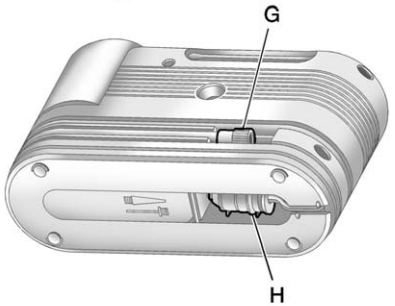
Replacement sealant canisters are available at your local dealer. See “Removal and Installation of the Sealant Canister” following.

There is only enough sealant to seal one tire. After usage, the sealant canister and sealant/air hose assembly must be replaced. See “Removal and Installation of the Sealant Canister” following.

### Using the Tire Sealant and Compressor Kit to Temporarily Seal and Inflate a Punctured Tire

Follow the directions closely for correct sealant usage.




When using the tire sealant and compressor kit during cold temperatures, warm the kit in a heated environment for five minutes. This will help to inflate the tire faster.

If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place. Turn on the hazard warning flashers. See *Hazard Warning Flashers on page 6-5*.

See *If a Tire Goes Flat on page 10-71* for other important safety warnings.

Do not remove any objects that have penetrated the tire.

1. Remove the tire sealant and compressor kit from its storage location. See *Storing the Tire Sealant and Compressor Kit on page 10-80*.
2. Unwrap the sealant/air hose (F) and the power plug (H).
3. Place the kit on the ground.

   Make sure the tire valve stem is positioned close to the ground so the hose will reach it.
4. Remove the valve stem cap from the flat tire by turning it counterclockwise.
5. Attach the sealant/air hose (F) onto the tire valve stem. Turn it clockwise until it is tight.
6. Plug the power plug (H) into the accessory power outlet in the vehicle. Unplug all items from other accessory power outlets. See *Power Outlets on page 5-9*.

   If the vehicle has an accessory power outlet, do not use the cigarette lighter.

   If the vehicle only has a cigarette lighter, use the cigarette lighter.

   Do not pinch the power plug cord in the door or window.
7. Start the vehicle. The vehicle must be running while using the air compressor.
8. Press and turn the selector switch (A) counterclockwise to the Sealant + Air position.

9. Press the on/off button (B) to turn the tire sealant and compressor kit on.

   The compressor will inject sealant and air into the tire.

   The pressure gauge (C) will initially show a high pressure while the compressor pushes the sealant into the tire. Once the sealant is completely dispersed into the tire, the pressure will quickly drop and start to rise again as the tire inflates with air only.

10. Inflate the tire to the recommended inflation pressure using the pressure gauge (C). The recommended inflation pressure can be found on the Tire and Loading Information label. See *Tire Pressure on page 10-56*.

    The pressure gauge (C) may read higher than the actual tire pressure while the compressor is on. Turn the compressor off to get an accurate pressure reading. The compressor may be turned on/off until the correct pressure is reached.

***Notice:*** **If the recommended pressure cannot be reached after approximately 25 minutes, the vehicle should not be driven farther. The tire is too severely damaged and the tire sealant and compressor kit cannot inflate the tire. Remove the power plug from the accessory power outlet and unscrew the inflating hose from the tire valve. See *Roadside Service (U.S. and Canada) on page 13-8* or *Roadside Service (Mexico) on page 13-10*.**

11. Press the on/off button (B) to turn the tire sealant and compressor kit off.

    The tire is not sealed and will continue to leak air until the vehicle is driven and the sealant is distributed in the tire, therefore, Steps 12–18 must be done immediately after Step 11.

    Be careful while handling the tire sealant and compressor kit as it could be warm after usage.

12. Unplug the power plug (H) from the accessory power outlet in the vehicle.

13. Turn the sealant/air hose (F) counterclockwise to remove it from the tire valve stem.

14. Replace the tire valve stem cap.
15. Replace the sealant/air hose (F), and the power plug (H) back in their original location.




16. If the flat tire was able to inflate to the recommended inflation pressure, remove the maximum speed label from the sealant canister (E) and place it in a highly visible location. Do not exceed the speed on this label until the damaged tire is repaired or replaced.
17. Return the equipment to its original storage location in the vehicle.
18. Immediately drive the vehicle 8 km (5 mi) to distribute the sealant in the tire.
19. Stop at a safe location and check the tire pressure. Refer to Steps 1–11 under “Using the Tire Sealant and Compressor Kit without Sealant to Inflate a Tire (Not Punctured).”

    If the tire pressure has fallen more than 68 kPa (10 psi) below the recommended inflation pressure, stop driving the vehicle. The tire is too severely damaged and the tire sealant cannot seal the tire.

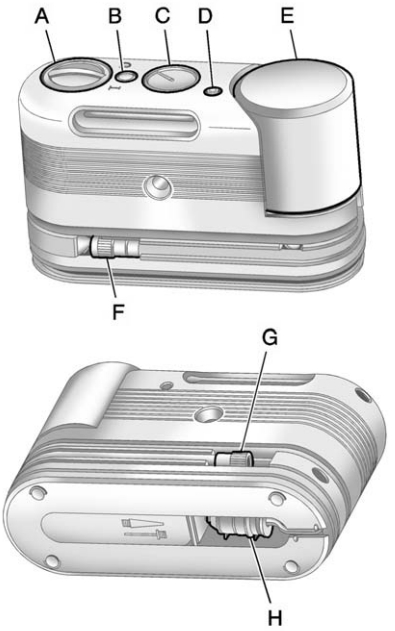
    See *Roadside Service (U.S. and Canada) on page 13-8* or *Roadside Service (Mexico) on page 13-10*.

    If the tire pressure has not dropped more than 68 kPa (10 psi) from the recommended inflation pressure, inflate the tire to the recommended inflation pressure.
20. Wipe off any sealant from the wheel, tire, and vehicle.
21. Dispose of the used sealant canister (E) and sealant/air hose (F) assembly at a local dealer or in accordance with local state codes and practices.

22. Replace with a new canister assembly available from your dealer.
23. After temporarily sealing the tire using the tire sealant and compressor kit, take the vehicle to an authorized dealer within 161 km (100 mi) of driving to have the tire repaired or replaced.

### Using the Tire Sealant and Compressor Kit without Sealant to Inflate a Tire (Not Punctured)

To use the air compressor to inflate a tire with air only and not sealant:




If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place. Turn on the hazard warning flashers. See *Hazard Warning Flashers on page 6-5*.

See *If a Tire Goes Flat on page 10-71* for other important safety warnings.

1. Remove the tire sealant and compressor kit from its storage location. See *Storing the Tire Sealant and Compressor Kit on page 10-80*.
2. Unwrap the air only hose (G) and the power plug (H).
3. Place the kit on the ground.

   Make sure the tire valve stem is positioned close to the ground so the hose will reach it.

4. Remove the tire valve stem cap from the flat tire by turning it counterclockwise.
5. Attach the air only hose (G) onto the tire valve stem by turning it clockwise until it is tight.
6. Plug the power plug (H) into the accessory power outlet in the vehicle. Unplug all items from other accessory power outlets. See *Power Outlets on page 5-9*.

   If the vehicle has an accessory power outlet, do not use the cigarette lighter.

   If the vehicle only has a cigarette lighter, use the cigarette lighter.

   Do not pinch the power plug cord in the door or window.
7. Start the vehicle. The vehicle must be running while using the air compressor.
8. Press and turn the selector switch (A) clockwise to the Air Only position.
9. Press the on/off button (B) to turn the compressor on.

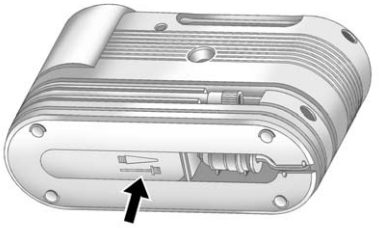
   The compressor will inflate the tire with air only.
10. Inflate the tire to the recommended inflation pressure using the pressure gauge (C). The recommended inflation pressure can be found on the Tire and Loading Information label. See *Tire Pressure on page 10-56*.

    The pressure gauge (C) may read higher than the actual tire pressure while the compressor is on. Turn the compressor off to get an accurate reading. The compressor may be turned on/off until the correct pressure is reached.

    If you inflate the tire higher than the recommended pressure you can adjust the excess pressure by pressing the pressure deflation button (D) until the proper pressure reading is reached.

    This option is only functional when using the air only hose (G).
11. Press the on/off button (B) to turn the tire sealant and compressor kit off.

    Be careful while handling the tire sealant and compressor kit as it could be warm after usage.
12. Unplug the power plug (H) from the accessory power outlet in the vehicle.
13. Disconnect the air only hose (G) from the tire valve stem, by turning it counterclockwise, and replace the tire valve stem cap.
14. Replace the air only hose (G) and the power plug (H) and cord back in its original location.
15. Place the equipment in the original storage location in the vehicle.



The tire sealant and compressor kit has an accessory adapter located in a compartment on the bottom of its housing that may be used to inflate air mattresses, balls, etc.

### Removal and Installation of the Sealant Canister

To remove the sealant canister:

1. Unwrap the sealant hose.
2. Press the canister release button.
3. Pull up and remove the canister.
4. Replace with a new canister which is available from your dealer.
5. Push the new canister into place.

## Storing the Tire Sealant and Compressor Kit



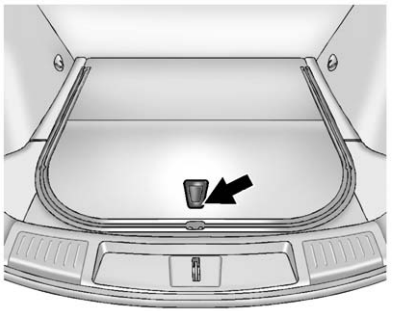
This vehicle may have a tire sealant and compressor kit in place of a jack or spare tire. It is located in a foam container in the rear compartment storage area. If the vehicle has a cargo cover, see *Cargo Management System on page 4-4* for instructions on how to access the tire sealant and compressor kit.

## Tire Changing

### Removing the Spare Tire and Tools

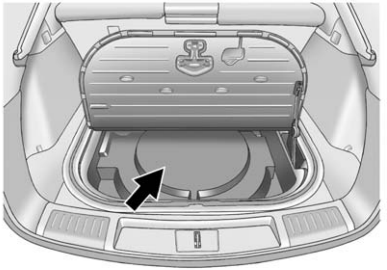
To access the spare tire and tools:

1. Open the liftgate. See *Liftgate on page 2-14*.

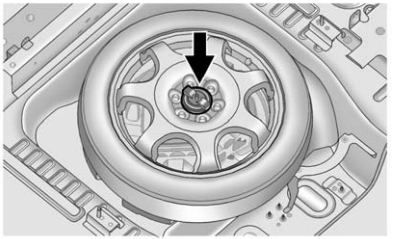


2. Press on the bottom of the handle assembly to unlatch it and lift up on the handle.

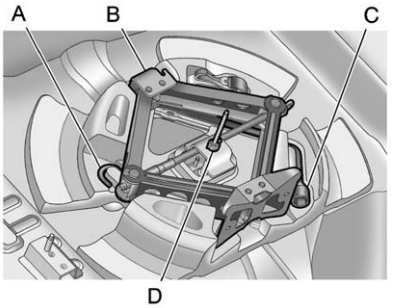
   The prop rod locks into place when open.



3. Remove the spare tire cover.



4. Remove the nut retaining the spare tire.
5. Remove the spare tire and place it next to the tire being changed.



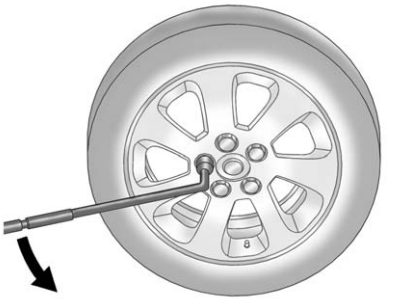

6. Remove the wing nut (D).
7. Remove the extension (A), jack (B) and wheel wrench (C) and place them near the tire being changed.

### Removing the Flat Tire and Installing the Spare Tire

Take off the wheel cover or center cap, if the vehicle has one, to reach the wheel bolts.

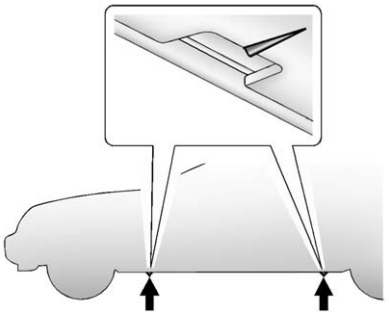
1. Do a safety check before proceeding. See *If a Tire Goes Flat on page 10-71* for more information.
2. Turn the wheel wrench counterclockwise to loosen and remove the wheel nut caps.

   Do not try to remove plastic caps from the cover or center cap.
3. Pull the cover or center cap away from the wheel. Store the wheel cover in the cargo area until you have the flat tire repaired or replaced.



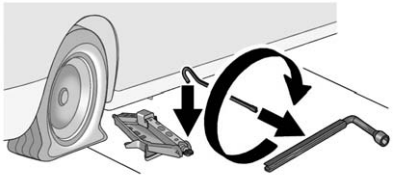
4. Turn the wheel wrench counterclockwise to loosen all the wheel nuts, but do not remove them yet.
5. Place the jack near the flat tire.

***Notice:*** **Make sure that the jack lift head is in the correct position or you may damage your vehicle. The repairs would not be covered by your warranty.**



6. Position the jack lift head at the jack location nearest the flat tire.

   The jacking location is indicated by a V-shaped notch in the plastic molding. The jack must not be used in any other position.



7. Insert the hooked end of the extension handle through the jack and the flat end through the wheel wrench.

**⚠ WARNING**

Getting under a vehicle when it is lifted on a jack is dangerous. If the vehicle slips off the jack, you could be badly injured or killed. Never get under a vehicle when it is supported only by a jack.

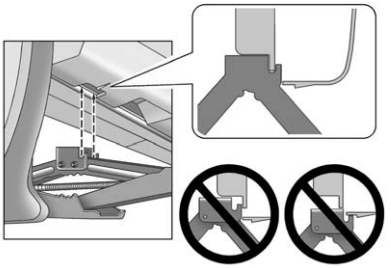
**⚠ WARNING**

Raising the vehicle with the jack improperly positioned can damage the vehicle and even make the vehicle fall. To help avoid personal injury and vehicle damage, be sure to fit the jack lift head into the proper location before raising the vehicle.

**⚠ WARNING**

Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

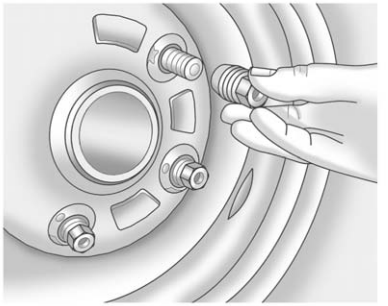
8. Turn the extension with the wheel wrench clockwise to raise the jack lift head until the jack just fits under the vehicle.



9. Raise the vehicle by turning the wheel wrench clockwise until the slots in the jack head fit into the metal flange located behind the triangle on the plastic moulding.

***Notice:*** **Using a jack to raise the vehicle without positioning it correctly could damage your vehicle. When raising your vehicle on a jack, be sure to position it correctly under the frame and avoid contact with the plastic molding.**

10. Put the compact spare tire near you.

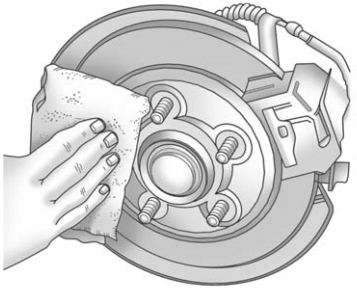


Remove all of the wheel nuts.

11. Remove the flat tire.

**⚠ WARNING**

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.



12. Remove any rust or dirt from the wheel bolts, mounting surfaces, and spare wheel.
13. Place the compact spare tire on the wheel-mounting surface.

**⚠ WARNING**

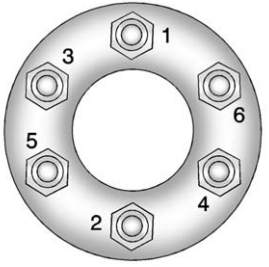
Never use oil or grease on bolts or nuts because the nuts might come loose. The vehicle's wheel could fall off, causing a crash.

14. Reinstall the wheel nuts. Tighten each nut by hand until the wheel is held against the hub.
15. Lower the vehicle by turning the jack handle counterclockwise.

**⚠ WARNING**

Wheel nuts that are improperly or incorrectly tightened can cause the wheels to become loose or come off. The wheel nuts should be tightened with a torque wrench to the proper torque specification after replacing. Follow the torque specification supplied by the aftermarket manufacturer when using accessory locking wheel nuts. See *Capacities and Specifications on page 12-2* for original equipment wheel nut torque specifications.

***Notice:*** **Improperly tightened wheel nuts can lead to brake pulsation and rotor damage. To avoid expensive brake repairs, evenly tighten the wheel nuts in the proper sequence and to the proper torque specification. See *Capacities and Specifications on page 12-2* for the wheel nut torque specification.**




16. Tighten the wheel nuts firmly in a crisscross sequence, as shown.
17. Lower the jack all the way and remove the jack from under the vehicle.
18. Tighten the wheel nuts firmly with the wheel wrench.

When reinstalling the wheel cover or center cap on the full-size tire, tighten all five plastic caps hand snug with the aid of the wheel wrench and tighten them with the wheel wrench an additional one-quarter of a turn.

***Notice:*** **Wheel covers will not fit on the vehicle's compact spare. If you try to put a wheel cover on the compact spare, the cover or the spare could be damaged.**

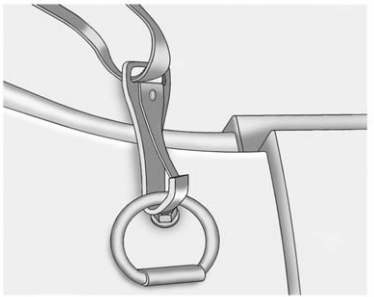
### Storing a Flat or Spare Tire and Tools

**⚠ WARNING**

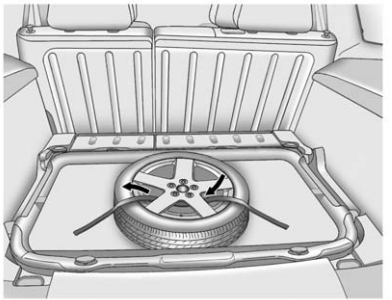
Storing a jack, a tire, or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store all these in the proper place.

To store the flat or spare tire and tools:

1. Open the liftgate. See *Liftgate on page 2-14* for more information.
2. Put back all tools as they were stored in the rear storage compartment and put the compartment cover back on. For more information, see “Storing the Compact Spare Tire and Tools” next in this section.
3. Install the cargo cover. For more information, see *Cargo Management System on page 4-4*.
4. Place the tire, lying flat, in the rear storage compartment.



5. Attach the strap to the cargo tie-down in the rear of the vehicle.



6. Route the strap through the wheel, as shown.
7. Attach the strap to the other cargo tie-down in the rear of the vehicle.
8. Tighten the strap.

The compact spare is for temporary use only. Replace the compact spare tire with a full-size tire as soon as you can.

## Compact Spare Tire

**⚠ WARNING**

Driving with more than one compact spare tire at a time could result in loss of braking and handling. This could lead to a crash and you or others could be injured. Use only one compact spare tire at a time.

If this vehicle has a compact spare tire, it was fully inflated when the vehicle was new; however, it can lose air after a time. Check the inflation pressure regularly. It should be 420 kPa (60 psi).

Stop as soon as possible and check that the spare tire is correctly inflated after installing the spare on the vehicle. The compact spare is designed to perform well at speeds up to 105 km/h (65 mph) for distances up to 5 000 km (3,000 mi), so a trip can be completed and the full-size tire repaired or replaced when possible. However, the compact spare tire will last longer and be in good shape if it is replaced as soon as possible.

***Notice:*** **When the compact spare is installed, do not take the vehicle through an automatic car wash with guide rails. The compact spare can get caught on the rails which can damage the tire, wheel, and other parts of the vehicle.**

Do not use the compact spare on other vehicles.

Do not mix the compact spare tire or wheel with other wheels or tires. They will not fit. Keep the spare tire and its wheel together.

***Notice:*** **Tire chains will not fit the compact spare. Using them can damage the vehicle and can damage the chains too. Do not use tire chains on the compact spare.**

# Jump Starting

For more information about the vehicle battery, see *Battery on page 10-24*.

If the vehicle battery has run down, you may want to use another vehicle and some jumper cables to start your vehicle. Be sure to use the following steps to do it safely.

**⚠ WARNING**

Batteries can hurt you. They can be dangerous because:

- They contain acid that can burn you.
- They contain gas that can explode or ignite.
- They contain enough electricity to burn you.

If you do not follow these steps exactly, some or all of these things can hurt you.

***Notice:*** **Ignoring these steps could result in costly damage to the vehicle that would not be covered by the warranty.**

**Trying to start the vehicle by pushing or pulling it will not work, and it could damage the vehicle.**

1. Check the other vehicle. It must have a 12-volt battery with a negative ground system.

***Notice:*** **Only use a vehicle that has a 12-volt system with a negative ground for jump starting. If the other vehicle does not have a 12-volt system with a negative ground, both vehicles can be damaged.**

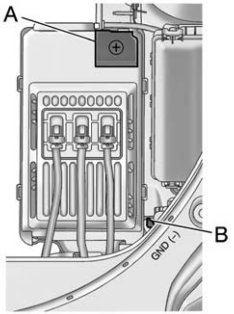
2. Get the vehicles close enough so the jumper cables can reach, but be sure the vehicles are not touching each other. If they are, it could cause a ground connection you do not want. You would not be able to start your vehicle, and the bad grounding could damage the electrical systems.

   To avoid the possibility of the vehicles rolling, set the parking brake firmly on both vehicles involved in the jump start procedure. Put the transmission in P (Park) before setting the parking brake.

***Notice:*** **If any accessories are left on or plugged in during the jump starting procedure, they could be damaged. The repairs would not be covered by the vehicle warranty. Whenever possible, turn off or unplug all accessories on either vehicle when jump starting the vehicle.**

3. Turn off the ignition on both vehicles. Unplug unnecessary accessories plugged into the cigarette lighter or the accessory power outlet. Turn off the radio and all lamps that are not needed. This will avoid sparks, helping save both batteries and the radio.
4. Open the hood on the other vehicle and locate the positive (+) and negative (−) terminal locations on that vehicle.

   Open the hood on your vehicle and find the remote positive (+) and remote negative (−) jump starting terminals.




Your vehicle is equipped with a remote positive (+) terminal (A) and a remote negative (−) terminal (B). The remote positive (+) terminal is located in the engine compartment on the driver side of the vehicle, above the rear of the battery.

The remote negative (−) terminal is a stud located in the engine compartment on the driver side of the vehicle, on the front tie bar. See *Engine Compartment Overview on page 10-6* for more information on location.

To uncover the remote positive (+) terminal, lift open the access panel on the battery cover indicated by the (+) sign.

**⚠ WARNING**

An electric fan can start up even when the engine is not running and can injure you. Keep hands, clothing and tools away from any underhood electric fan.

**⚠ WARNING**

Using an open flame near a battery can cause battery gas to explode. People have been hurt doing this, and some have been blinded. Use a flashlight if you need more light.

Be sure the battery has enough water. You do not need to add water to the battery installed in your new vehicle. But if a battery has filler caps, be sure the right amount of fluid is there. If it is low, add water to take care of that first. If you do not, explosive gas could be present.

Battery fluid contains acid that can burn you. Do not get it on you. If you accidentally get it in your eyes or on your skin, flush the place with water and get medical help immediately.

**⚠ WARNING**

Fans or other moving engine parts can injure you badly. Keep your hands away from moving parts once the engine is running.

5. Check that the jumper cables do not have loose or missing insulation. If they do, you could get a shock. The vehicles could also be damaged.

   Before you connect the cables, here are some basic things you should know. Positive (+) will go to positive (+) or to a remote positive (+) terminal if the vehicle has one. Negative (−) will go to a heavy, unpainted metal engine part or to a remote negative (−) terminal if the vehicle has one.

   Do not connect positive (+) to negative (−) or you will get a short that would damage the battery and maybe other parts.

   Do not connect the negative (−) cable to the negative (−) terminal on the dead battery because this can cause sparks.

6. Connect the red positive (+) cable to the positive (+) terminal on the vehicle with the dead battery. Use a remote positive (+) terminal if the vehicle has one.

7. Do not let the other end touch metal. Connect it to the positive (+) terminal of the good battery. Use a remote positive (+) terminal if the vehicle has one.

8. Now connect the black negative (−) cable to the negative (−) terminal of the good battery. Use a remote negative (−) terminal if the vehicle has one.

   Do not let the other end touch anything until the next step. The other end of the negative (−) cable does not go to the dead battery. It goes to a heavy, unpainted metal engine part or to a remote negative (−) terminal on the vehicle with the dead battery.

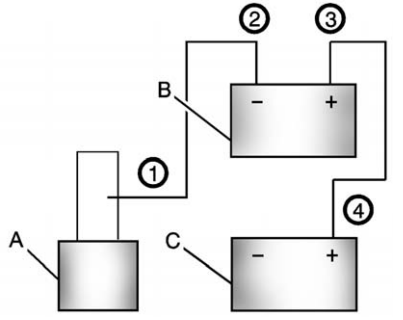
9. Connect the other end of the negative (−) cable away from the dead battery, but not near engine parts that move. The electrical connection is just as good there, and the chance of sparks getting back to the battery is much less.

   Your vehicle has a remote (−) terminal for this purpose.

10. Now start the vehicle with the good battery and run the engine for a while.

11. Try to start the vehicle that had the dead battery. If it will not start after a few tries, it probably needs service.

***Notice:*** **If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by the vehicle warranty. Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.**




**Jumper Cable Removal**

A. Heavy, Unpainted Metal Engine Part or Remote Negative (−) Terminal

B. Good Battery or Remote Positive (+) and Remote Negative (−) Terminals

C. Dead Battery or Remote Positive (+) Terminal

To disconnect the jumper cables from both vehicles, do the following:

1. Disconnect the black negative (−) cable from the vehicle that had the dead battery.
2. Disconnect the black negative (−) cable from the vehicle with the good battery.
3. Disconnect the red positive (+) cable from the vehicle with the good battery.
4. Disconnect the red positive (+) cable from the other vehicle.
5. Close the access panel on the battery cover, if applicable.

# Towing

## Towing the Vehicle

***Notice:*** **To avoid damage, the disabled vehicle should be towed with all four wheels off the ground. Care must be taken with vehicles that have low ground clearance and/or special equipment. Always flatbed on a car carrier.**

Consult your dealer or a professional towing service if the disabled vehicle must be towed. See *Roadside Service (U.S. and Canada) on page 13-8* or *Roadside Service (Mexico) on page 13-10*.

To tow the vehicle behind another vehicle for recreational purposes, such as behind a motor home, see “Recreational Vehicle Towing” in this section.

## Recreational Vehicle Towing

Recreational vehicle towing means towing the vehicle behind another vehicle – such as behind a motor home. The two most common types of recreational vehicle towing are known as dinghy towing and dolly towing. Dinghy towing is towing the vehicle with all four wheels on the ground. Dolly towing is towing the vehicle with two wheels on the ground and two wheels up on a device known as a dolly.

Here are some important things to consider before recreational vehicle towing:

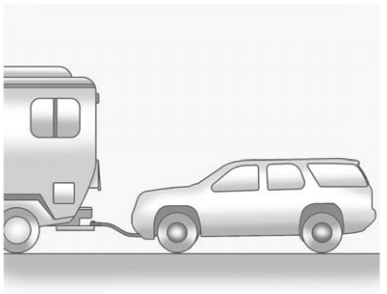
- What is the towing capacity of the towing vehicle? Be sure to read the tow vehicle manufacturer's recommendations.
- What is the distance that will be travelled? Some vehicles have restrictions on how far and how long they can tow.
- Is the proper towing equipment going to be used? See your dealer or trailering professional for additional advice and equipment recommendations.
- Is the vehicle ready to be towed? Just as preparing the vehicle for a long trip, make sure the vehicle is prepared to be towed.

## Dinghy Towing

Front-wheel-drive and all-wheel-drive vehicles may be dinghy towed from the front. These vehicles can also be towed by placing them on a platform trailer with all four wheels off of the ground. For other towing options, see “Dolly Towing” following in this section.

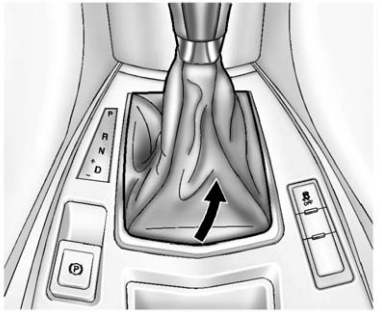
***Notice:*** **If 105 km/h (65 mph) is exceeded while towing the vehicle, it could be damaged. Never exceed 105 km/h (65 mph) while towing the vehicle.**

For vehicles being dinghy towed, the vehicle should be run at the beginning of each day and at each RV fuel stop for about five minutes. This will ensure proper lubrication of transmission components.

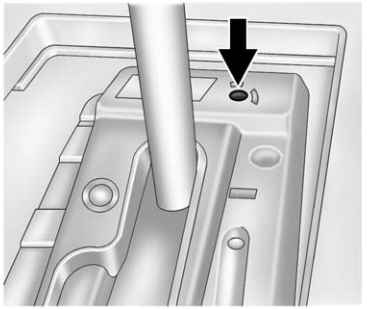


To tow the vehicle from the front with all four wheels on the ground:

1. Position the vehicle that will be towed and secure it to the towing vehicle.




2. Remove the shift lever boot by pulling up on the rear of the trim plate.



3. Use a small screw driver or tool to press and hold the manual release button on the front right.
4. Put the vehicle in N (Neutral).

***Notice:*** **If the vehicle is towed without performing each of the steps listed under "Dinghy Towing," the automatic transmission could be damaged. Be sure to follow all steps of the dinghy towing procedure prior to and after towing the vehicle.**

Once the destination has been reached:

1. Shift the vehicle to P (Park).
2. Reinstall the shift lever boot by inserting the front edge and pressing the rear of the trim plate until it snaps into place.
3. Start the engine and let it idle for more than three minutes before driving the vehicle.

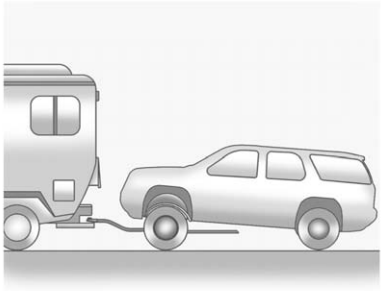
***Notice:*** **Too much or too little fluid can damage the transmission. Be sure that the transmission fluid is at the proper level before towing with all four wheels on the ground.**

***Notice:*** **Do not tow a vehicle with the front drive wheels on the ground if one of the front tires is a compact spare tire. Towing with two different tire sizes on the front of the vehicle can cause severe damage to the transmission.**

### Dolly Towing (All-Wheel-Drive Vehicles)

All-wheel-drive vehicles should not be towed with two wheels on the ground. To properly tow these vehicles, they should be placed on a platform trailer with all four wheels off of the ground or dinghy towed from the front. See Dinghy Towing earlier in this section.

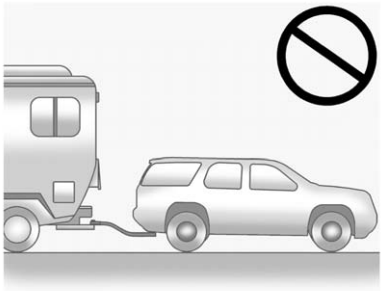
### Dolly Towing (Front-Wheel-Drive Vehicles)

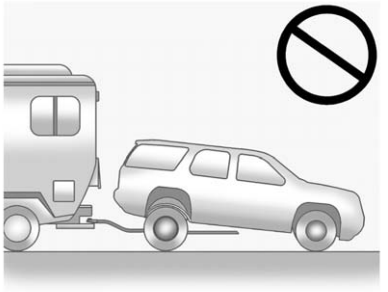


To tow the vehicle from the front with the rear wheels on the ground, do the following:

1. Put the front wheels on a dolly.
2. Move the shift lever to P (Park). See *Shifting Into Park on page 9-21*.
3. Set the parking brake.
4. Secure the vehicle to the dolly.
5. Follow the dolly manufacturer's instructions for preparing the vehicle and dolly for towing.
6. Release the parking brake.

### Towing the Vehicle From the Rear





***Notice:*** **Towing the vehicle from the rear could damage it. Also, repairs would not be covered by the vehicle warranty. Never have the vehicle towed from the rear.**

# Appearance Care

## Exterior Care

### Washing the Vehicle

To preserve the vehicle's finish, wash it often and out of direct sunlight.

***Notice:*** **Do not use petroleum based, acidic, or abrasive cleaning agents as they can damage the vehicle's paint, metal, or plastic parts. If damage occurs, it would not be covered by the vehicle's warranty. Approved cleaning products can be obtained from your dealer. Follow all manufacturer directions regarding correct product usage, necessary safety precautions, and appropriate disposal of any vehicle care product.**

***Notice:*** **Avoid using high pressure washes closer than 30 cm (12 in) to the surface of the vehicle. Use of power washers exceeding 8,274 kPa (1,200 psi) can result in damage or removal of paint and decals.**

Rinse the vehicle well, before washing and after, to remove all cleaning agents completely. If they are allowed to dry on the surface, they could stain.

Dry the finish with a soft, clean chamois or an all-cotton towel to avoid surface scratches and water spotting.

### Finish Care

Application of aftermarket clearcoat sealant/wax materials is not recommended. If painted surfaces are damaged, see your dealer to have the damage assessed and repaired. Foreign materials such as calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, etc., can damage the vehicle's finish if they remain on painted surfaces. Wash the vehicle as soon as possible. If necessary, use non-abrasive cleaners that are marked safe for painted surfaces to remove foreign matter.

Occasional hand waxing or mild polishing should be done to remove residue from the paint finish. See your dealer for approved cleaning products.

***Notice:*** **Machine compounding or aggressive polishing on a basecoat/clearcoat paint finish may damage it. Use only non-abrasive waxes and polishes that are made for a basecoat/clearcoat paint finish on the vehicle.**

To keep the paint finish looking new, keep the vehicle garaged or covered whenever possible.

**Protecting Exterior Bright Metal Parts**

Regularly clean bright metal parts with water or chrome polish on chrome or stainless steel trim, if necessary.

For aluminum, never use auto or chrome polish, steam, or caustic soap to clean. A coating of wax, rubbed to a high polish, is recommended for all bright metal parts.

## Cleaning Exterior Lamps/Lenses and Emblems

Use only lukewarm or cold water, a soft cloth, and a car washing soap to clean exterior lamps and lenses. Follow instructions under "Washing the Vehicle" later in this section.

## Windshield and Wiper Blades

Clean the outside of the windshield with glass cleaner.

Clean rubber blades using a lint-free cloth or paper towel soaked with windshield washer fluid or a mild detergent. Wash the windshield thoroughly when cleaning the blades. Bugs, road grime, sap, and a buildup of vehicle wash/wax treatments may cause wiper streaking.

Replace the wiper blades if they are worn or damaged. Damage can be caused by extreme dusty conditions, sand, salt, heat, sun, snow, and ice.

### Weatherstrips

Apply silicone grease on weatherstrips to make them last longer, seal better, and not stick or squeak. See *Recommended Fluids and Lubricants on page 11-13*.

### Tires

Use a stiff brush with tire cleaner to clean the tires.

***Notice:*** **Using petroleum-based tire dressing products on the vehicle may damage the paint finish and/or tires. When applying a tire dressing, always wipe off any overspray from all painted surfaces on the vehicle.**

### Wheels and Trim — Aluminum or Chrome

Use a soft, clean cloth with mild soap and water to clean the wheels. After rinsing thoroughly with clean water, dry with a soft, clean towel. A wax may then be applied.

***Notice:*** **Chrome wheels and other chrome trim may be damaged if the vehicle is not washed after driving on roads that have been sprayed with magnesium, calcium, or sodium chloride. These chlorides are used on roads for conditions such as ice and dust. Always wash the chrome with soap and water after exposure.**

***Notice:*** **To avoid surface damage, do not use strong soaps, chemicals, abrasive polishes, cleaners, brushes, or cleaners that contain acid on aluminum or chrome-plated wheels. Use only approved cleaners. Also, never drive a vehicle with aluminum or chrome-plated wheels through an automatic car wash that uses silicone carbide tire cleaning brushes. Damage could occur and the repairs would not be covered by the vehicle warranty.**

### Steering, Suspension, and Chassis Components

Visually inspect front and rear suspension and steering system for damaged, loose, or missing parts or signs of wear. Inspect the power steering for proper hook-up, binding, leaks, cracks, chafing, etc. Visually check constant velocity joints, rubber boots, and axle seals for leaks.

### Body Component Lubrication

Lubricate all key lock cylinders, hood hinges, liftgate hinges, and the steel fuel door hinge unless the components are plastic. Applying silicone grease on weatherstrips with a clean cloth will make them last longer, seal better, and not stick or squeak.

### Underbody Maintenance

Use plain water to flush dirt and debris from the vehicle's underbody. Your dealer or an underbody car washing system can do this. If not removed, rust and corrosion can develop.

### Sheet Metal Damage

If the vehicle is damaged and requires sheet metal repair or replacement, make sure the body repair shop applies anti-corrosion material to parts repaired or replaced to restore corrosion protection.

Original manufacturer replacement parts will provide the corrosion protection while maintaining the vehicle warranty.

### Finish Damage

Quickly repair minor chips and scratches with touch-up materials available from your dealer to avoid corrosion. Larger areas of finish damage can be corrected in your dealer's body and paint shop.

### Chemical Paint Spotting

Airborne pollutants can fall upon and attack painted vehicle surfaces causing blotchy, ring-shaped discolorations, and small, irregular dark spots etched into the paint surface.

## Interior Care

To prevent dirt particle abrasions, regularly clean the vehicle's interior. Immediately remove any soils. Note that newspapers or dark garments that can transfer color to home furnishings can also permanently transfer color to the vehicle's interior.

Use a soft bristle brush to remove dust from knobs and crevices on the instrument cluster. Using a mild soap solution, immediately remove hand lotions, sunscreen, and insect repellant from all interior surfaces or permanent damage may result.

Your dealer may have products for cleaning the interior. Use cleaners specifically designed for the surfaces being cleaned to prevent permanent damage. To prevent overspray, apply all cleaners directly to the cleaning cloth. Cleaners should be removed quickly. Never allow cleaners to remain on the surface being cleaned for extended periods of time.

Cleaners may contain solvents that can become concentrated in the interior. Before using cleaners, read and adhere to all safety instructions on the label. While cleaning the interior, maintain adequate ventilation by opening the doors and windows.

To prevent damage, do not clean the interior using the following cleaners or techniques:

- Never use a razor or any other sharp object to remove a soil from any interior surface.
- Never use a brush with stiff bristles.
- Never rub any surface aggressively or with excessive pressure.
- Do not use laundry detergents or dishwashing soaps with degreasers. For liquid cleaners, use approximately 20 drops per 3.78 L (1 gal) of water. A concentrated soap solution will leave a residue that creates streaks and attracts dirt. Do not use solutions that contain strong or caustic soap.
- Do not heavily saturate the upholstery when cleaning.
- Do not use solvents or cleaners containing solvents.

### Interior Glass

To clean, use a terry cloth fabric dampened with water. Wipe droplets left behind with a clean dry cloth. Commercial glass cleaners may be used, if necessary, after cleaning the interior glass with plain water.

***Notice:*** **To prevent scratching, never use abrasive cleaners on automotive glass. Abrasive cleaners or aggressive cleaning may damage the rear window defogger.**

### Fabric/Carpet

Start by vacuuming the surface using a soft brush attachment. If a rotating brush attachment is being used during vacuuming, only use it on the floor carpet. Before cleaning, gently remove as much of the soil as possible using one of the following techniques:

- Gently blot liquids with a paper towel. Continue blotting until no more soil can be removed.
- For solid soils, remove as much as possible prior to vacuuming.

To clean:

1. Saturate a clean lint-free colorfast cloth with water or club soda. Microfiber cloth is recommended to prevent lint transfer to the fabric or carpet.
2. Remove excess moisture by gently wringing until water does not drip from the cleaning cloth.

3. Start on the outside edge of the soil and gently rub toward the center. Fold the cleaning cloth to a clean area frequently to prevent forcing the soil in to the fabric.
4. Continue gently rubbing the soiled area until there is no longer any color transfer from the soil to the cleaning cloth.
5. If the soil is not completely removed, use a mild soap solution followed only by club soda or plain water.

If the soil is not completely removed, it may be necessary to use a commercial upholstery cleaner or spot lifter. Test a small hidden area for colorfastness before using a commercial upholstery cleaner or spot lifter. If ring formation occurs, clean the entire fabric or carpet.

Following the cleaning process, a paper towel can be used to blot excess moisture.

### Instrument Panel, Vinyl, and Other Plastic Surfaces

Use a soft microfiber cloth dampened with water to remove dust and loose dirt. For a more thorough cleaning, use a soft microfiber cloth dampened with a mild soap solution.

***Notice:*** **Soaking or saturating leather, especially perforated leather, as well as other interior surfaces, may cause permanent damage. Wipe excess moisture from these surfaces after cleaning and allow them to dry naturally. Never use heat, steam, spot lifters or spot removers. Do not use cleaners that contain silicone or wax-based products. Cleaners containing these solvents can permanently change the appearance and feel of leather or soft trim and are not recommended.**

Do not use cleaners that increase gloss, especially on the instrument panel. Reflected glare can decrease visibility through the windshield under certain conditions.

***Notice:*** **Use of air fresheners may cause permanent damage to plastics and painted surfaces. If an air freshener comes in contact with any plastic or painted surface in the vehicle, blot immediately and clean with a soft cloth dampened with a mild soap solution. Damage caused by air fresheners would not be covered by the vehicle warranty.**

## Floor Mats

**⚠ WARNING**

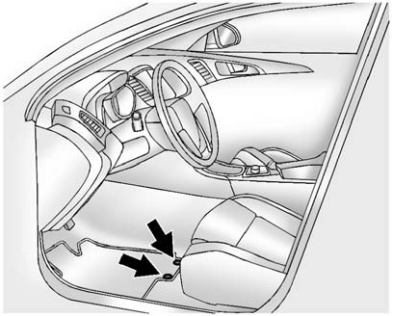
If a floor mat is the wrong size or is not properly installed, it can interfere with the pedals. Interference with the pedals can cause unintended acceleration and/or increased stopping distance which can cause a crash and injury. Make sure the floor mat does not interfere with the pedals.

Use the following guidelines for proper floor mat usage.

- The original equipment floor mats were designed for your vehicle. If the floor mats need replacing, it is recommended that certified floor mats be purchased. Non-certified floor mats may not fit properly and may interfere with the pedals. Always check that the floor mats do not interfere with the pedals.
- Use the floor mat with the correct side up. Do not turn it over.
- Do not place anything on top of the driver side floor mat.
- Use only a single floor mat on the driver side.
- Do not place one floor mat on top of another.

### Removing and Replacing the Floor Mats

The driver side floor mat is held in place by two button-type retainers. The passenger side floor mat is held in place by one button-type retainer.



1. Pull up on the rear of the floor mat to unlock each retainer and remove.
2. Reinstall by lining up the floor mat retainer openings over the carpet retainers and snapping into position.
3. Make sure the floor mat is properly secured and verify that it does not interfere with the pedals.

## ✍ NOTES

# Service and Maintenance

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## General Information

Your vehicle is an important investment. This section describes the required maintenance for the vehicle. Follow this schedule to help protect against major repair expenses resulting from neglect or inadequate maintenance. It may also help to maintain the value of the vehicle if it is sold. It is the responsibility of the owner to have all required maintenance performed.

Your dealer has trained technicians who can perform required maintenance using genuine replacement parts. They have up-to-date tools and equipment for fast and accurate diagnostics. Many dealers have extended evening and Saturday hours, courtesy transportation, and online scheduling to assist with service needs.

Your dealer recognizes the importance of providing competitively priced maintenance and repair services. With trained technicians, the dealer is the place for routine maintenance such as oil changes and tire rotations and additional maintenance items like tires, brakes, batteries, and wiper blades.

***Notice:*** **Damage caused by improper maintenance can lead to costly repairs and may not be covered by the vehicle warranty. Maintenance intervals, checks, inspections, recommended fluids, and lubricants are important to keep the vehicle in good working condition.**

The Tire Rotation and Required Services are the responsibility of the vehicle owner. It is recommended to have your dealer perform these services every 12 000 km/7,500 mi. Proper vehicle maintenance helps to keep the vehicle in good working condition, improves fuel economy, and reduces vehicle emissions.

Because of the way people use vehicles, maintenance needs vary. There may need to be more frequent checks and services. The Additional Required Services - Normal are for vehicles that:

- Carry passengers and cargo within recommended limits on the Tire and Loading Information label. See *Vehicle Load Limits on page 9-10*.
- Are driven on reasonable road surfaces within legal driving limits.
- Use the recommended fuel. See *Recommended Fuel on page 9-46*.

Refer to the information in the Maintenance Schedule Additional Required Services - Normal chart.

The Additional Required Services - Severe are for vehicles that are:

- Mainly driven in heavy city traffic in hot weather.
- Mainly driven in hilly or mountainous terrain.
- Frequently towing a trailer.
- Used for high speed or competitive driving.
- Used for taxi, police, or delivery service.

Refer to the information in the Maintenance Schedule Additional Required Services - Severe chart.

**⚠ WARNING**

Performing maintenance work can be dangerous and can cause serious injury. Perform maintenance work only if the required information, proper tools, and equipment are available. If they are not, see your dealer to have a trained technician do the work. See *Doing Your Own Service Work on page 10-4*.

## Cadillac Premium Care Maintenance

Your vehicle comes with the Cadillac Premium Care Maintenance. It is a maintenance program that covers select maintenance services during the first 4 years or 80 000 km (50,000 mi), whichever comes first.

Cadillac Premium Care Maintenance covers routine maintenance services, when scheduled in accordance with the owner manual, including:

- Oil changes based on the vehicle's oil life monitor system.
- Tire rotation every 12 000 km (7,500 mi).
- Engine air cleaner filter replacement.
- Passenger compartment air filter replacement.
- Multi-point vehicle inspection (MPVI) performed by a qualified technician.

Cadillac requires that all Cadillac Premium Care Maintenance services be performed by a Cadillac authorized service dealer.

# Maintenance Schedule

## Owner Checks and Services

### At Each Fuel Stop

- Check the engine oil level. See *Engine Oil on page 10-8*.

### Once a Month

- Check the tire inflation pressures. See *Tire Pressure on page 10-56*.
- Inspect the tires for wear. See *Tire Inspection on page 10-62*.
- Check the windshield washer fluid level. See *Washer Fluid on page 10-21*.

## Engine Oil Change

When the CHANGE ENGINE OIL SOON message displays, have the engine oil and filter changed within the next 1 000 km/600 mi. If driven under the best conditions, the engine oil life system might not indicate the need for vehicle service for more than a year. The engine oil and filter must be changed at least once a year and the oil life system must be reset. Your trained dealer technician can perform this work. If the engine oil life system is reset accidentally, service the vehicle within 5 000 km/3,000 mi since the last service. Reset the oil life system when the oil is changed. See *Engine Oil Life System on page 10-10*.

## Tire Rotation and Required Services Every 12 000 km/7,500 mi

Rotate the tires, if recommended for the vehicle, and perform the following services. See *Tire Rotation on page 10-63*.

- Check engine oil level and oil life percentage. If needed, change engine oil and filter, and reset oil life system. See *Engine Oil on page 10-8* and *Engine Oil Life System on page 10-10*.
- Check engine coolant level. See *Engine Coolant on page 10-15*.
- Check windshield washer fluid level. See *Washer Fluid on page 10-21*.

- Visually inspect windshield wiper blades for wear, cracking, or contamination. See *Exterior Care on page 10-97*. Replace worn or damaged wiper blades. See *Wiper Blade Replacement on page 10-27*.
- Check tire inflation pressures. See *Tire Pressure on page 10-56*.
- Inspect tire wear. See *Tire Inspection on page 10-62*.
- Visually check for fluid leaks.
- Inspect engine air cleaner filter. See *Engine Air Cleaner/Filter on page 10-12*.
- Inspect brake system.
- Visually inspect steering, suspension, and chassis components for damaged, loose, or missing parts or signs of wear. See *Exterior Care on page 10-97*.
- Check restraint system components. See *Safety System Check on page 3-21*.
- Visually inspect fuel system for damage or leaks.
- Visually inspect exhaust system and nearby heat shields for loose or damaged parts.
- Lubricate body components. See *Exterior Care on page 10-97*.
- Check starter switch. See *Starter Switch Check on page 10-25*.
- Check automatic transmission shift lock control function. See *Automatic Transmission Shift Lock Control Function Check on page 10-26*.
- Check parking brake and automatic transmission park mechanism. See *Park Brake and P (Park) Mechanism Check on page 10-26*.
- Check accelerator pedal for damage, high effort, or binding. Replace if needed.
- Visually inspect gas strut for signs of wear, cracks, or other damage. Check the hold open ability of the strut. See your dealer if service is required.
- Check tire sealant expiration date, if equipped. See *Tire Sealant and Compressor Kit on page 10-73*.
- Inspect sunroof track and seal, if equipped. See *Sunroof on page 2-27*.

| **Maintenance Schedule Additional Required Services – Normal** | 12 000 km/7,500 mi | 24 000 km/15,000 mi | 36 000 km/22,500 mi | 48 000 km/30,000 mi | 60 000 km/37,500 mi | 72 000 km/45,000 mi | 84 000 km/52,500 mi | 96 000 km/60,000 mi | 108 000 km/67,500 mi | 120 000 km/75,000 mi | 132 000 km/82,500 mi | 144 000 km/90,000 mi | 156 000 km/97,500 mi | 168 000 km/105,000 mi | 180 000 km/112,500 mi | 192 000 km/120,000 mi | 204 000 km/127,500 mi | 216 000 km/135,000 mi | 228 000 km/142,500 mi | 240 000 km/150,000 mi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Replace passenger compartment air filter, if equipped. (a) | | | ✓ | | | ✓ | | | ✓ | | | ✓ | | | ✓ | | | ✓ | | |
| Inspect evaporative control system. (b) | | | | | | ✓ | | | | | | ✓ | | | | | | ✓ | | |
| Replace engine air cleaner filter. (c) | | | | | | ✓ | | | | | | ✓ | | | | | | ✓ | | |
| Replace spark plugs. Inspect spark plug wires. | | | | | | | | | | | | | ✓ | | | | | | | |
| Change automatic transmission fluid, if equipped. If filter is serviceable, change filter. | | | | | | | | | | | | | ✓ | | | | | | | |
| Change transfer case fluid, if equipped with AWD. (d) | | | | | | | | | | | | | ✓ | | | | | | | |
| Drain, flush, and fill engine cooling system. (e) | | | | | | | | | | | | | | | | | | | | ✓ |
| Visually inspect accessory drive belts. (f) | | | | | | | | | | | | | | | | | | | | ✓ |

**Footnotes — Maintenance Schedule Additional Required Services — Normal**

**a)** Or every two years, whichever comes first. More frequent replacement may be needed if the vehicle is driven in areas with heavy traffic, areas with poor air quality, or areas with high dust levels. Replacement may also be needed if there is a reduction in air flow, excessive window fogging, or odors.

**b)** Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition. Check that the purge valve, if the vehicle has one, works properly. Replace as needed.

**c)** Or every four years, whichever comes first.

**d)** Do not directly power wash the transfer case output seals. High pressure water can overcome the seals and contaminate the transfer case fluid. Contaminated fluid will decrease the life of the transfer case and should be replaced.

**e)** Or every five years, whichever comes first. See *Cooling System on page 10-14*.

**f)** Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

| **Maintenance Schedule Additional Required Services – Severe** | 12 000 km/7,500 mi | 24 000 km/15,000 mi | 36 000 km/22,500 mi | 48 000 km/30,000 mi | 60 000 km/37,500 mi | 72 000 km/45,000 mi | 84 000 km/52,500 mi | 96 000 km/60,000 mi | 108 000 km/67,500 mi | 120 000 km/75,000 mi | 132 000 km/82,500 mi | 144 000 km/90,000 mi | 156 000 km/97,500 mi | 168 000 km/105,000 mi | 180 000 km/112,500 mi | 192 000 km/120,000 mi | 204 000 km/127,500 mi | 216 000 km/135,000 mi | 228 000 km/142,500 mi | 240 000 km/150,000 mi |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Replace passenger compartment air filter, if equipped. (a) | | | ✓ | | | ✓ | | | ✓ | | | ✓ | | | ✓ | | | ✓ | | |
| Inspect evaporative control system. (b) | | | | | | ✓ | | | | | | ✓ | | | | | | ✓ | | |
| Replace engine air cleaner filter. (c) | | | | | | ✓ | | | | | | ✓ | | | | | | ✓ | | |
| Change automatic transmission fluid, if equipped. If filter is serviceable, change filter. | | | | | | ✓ | | | | | | ✓ | | | | | | ✓ | | |
| Change transfer case fluid, if equipped with AWD. (d) | | | | | | ✓ | | | | | | ✓ | | | | | | ✓ | | |
| Replace spark plugs. Inspect spark plug wires. | | | | | | | | | | | | | ✓ | | | | | | | |
| Drain, flush, and fill engine cooling system. (e) | | | | | | | | | | | | | | | | | | | | ✓ |
| Visually inspect accessory drive belts. (f) | | | | | | | | | | | | | | | | | | | | ✓ |

**Footnotes — Maintenance Schedule Additional Required Services — Severe**

**a)** Or every two years, whichever comes first.

**b)** Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition. Check that the purge valve, if the vehicle has one, works properly. Replace as needed.

**c)** Or every four years, whichever comes first.

**d)** Do not directly power wash the transfer case output seals. High pressure water can overcome the seals and contaminate the transfer case fluid. Contaminated fluid will decrease the life of the transfer case and should be replaced.

**e)** Or every five years, whichever comes first. See *Cooling System on page 10-14*.

**f)** Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

# Special Application Services

- Severe Commercial Use Vehicles Only: Lubricate chassis components every 5 000 km/3,000 mi.
- Have underbody flushing service performed once a year.

# Additional Maintenance and Care

Your vehicle is an important investment and caring for it properly may help to avoid future costly repairs. To maintain vehicle performance, additional maintenance services may be required. It is recommended that your dealer perform these services — their trained dealer technicians know your vehicle best. Your dealer can also perform a thorough assessment with a multi-point inspection to recommend when your vehicle may need attention. The following list is intended to explain the services and conditions to look for that may indicate services are required.

**Battery**

The battery supplies power to start the engine and operate any additional electrical accessories.

- To avoid break-down or failure to start the vehicle, maintain a battery with full cranking power.
- Trained dealer technicians have the diagnostic equipment to test the battery and ensure that the connections and cables are corrosion-free.

**Belts**

- Belts may need replacing if they squeak or show signs of cracking or splitting.
- Trained dealer technicians can inspect the belts and recommend replacement when necessary.

**Brakes**

Brakes stop the vehicle and are crucial to safe driving.

- Signs of brake wear may include chirping, grinding, or squealing noises, or difficulty stopping.
- Trained dealer technicians have access to tools and equipment to inspect the brakes and recommend quality parts engineered for the vehicle.

**Fluids**

Proper fluid levels and approved fluids protect the vehicle's systems and components. See *Recommended Fluids and Lubricants on page 11-13* for GM approved fluids.

- Engine oil and windshield washer fluid levels should be checked at every fuel fill.
- Instrument cluster lights may come on to indicate that fluids may be low and need to be filled.

**Hoses**

Hoses transport fluids and should be regularly inspected to ensure that there are no cracks or leaks. With a multi-point inspection, your dealer can inspect the hoses and advise if replacement is needed.

**Lamps**

Properly working headlamps, taillamps, and brake lamps are important to see and be seen on the road.

- Signs that the headlamps need attention include dimming, failure to light, cracking, or damage. The brake lamps need to be checked periodically to ensure that they light when braking.
- With a multi-point inspection, your dealer can check the lamps and note any concerns.

**Shocks and Struts**

Shocks and struts help aid in control for a smoother ride.

- Signs of wear may include steering wheel vibration, bounce/sway while braking, longer stopping distance, or uneven tire wear.
- As part of the multi-point inspection, trained dealer technicians can visually inspect the shocks and struts for signs of leaking, blown seals, or damage, and can advise when service is needed.

**Tires**

Tires need to be properly inflated, rotated, and balanced. Maintaining the tires can save money, fuel, and can reduce the risk of tire failure.

- Signs that the tires need to be replaced include three or more visible treadwear indicators; cord or fabric showing through the rubber; cracks or cuts in the tread or sidewall; or a bulge or split in the tire.
- Trained dealer technicians can inspect and recommend the right tires. Your dealer can also provide tire/wheel balancing services to ensure smooth vehicle operation at all speeds. Your dealer sells and services name brand tires.

**Vehicle Care**

To help keep the vehicle looking like new, vehicle care products are available from your dealer. For information on how to clean and protect the vehicle's interior and exterior, see *Interior Care on page 10-100* and *Exterior Care on page 10-97*.

**Wheel Alignment**

Wheel alignment is critical for ensuring that the tires deliver optimal wear and performance.

- Signs that the alignment may need to be adjusted include pulling, improper vehicle handling, or unusual tire wear.
- Your dealer has the required equipment to ensure proper wheel alignment.

**Windshield**

For safety, appearance, and the best viewing, keep the windshield clean and clear.

- Signs of damage include scratches, cracks, and chips.
- Trained dealer technicians can inspect the windshield and recommend proper replacement if needed.

**Wiper Blades**

Wiper blades need to be cleaned and kept in good condition to provide a clear view.

- Signs of wear include streaking, skipping across the windshield, and worn or split rubber.
- Trained dealer technicians can check the wiper blades and replace them when needed.

# Recommended Fluids, Lubricants, and Parts

## Recommended Fluids and Lubricants

| Usage | Fluid/Lubricant |
|---|---|
| Engine Oil | Use only engine oil licensed to the dexos1 specfication, or equivalent, of the proper SAE viscosity grade. ACDelco dexos1 Synthetic Blend is recommended. See *Engine Oil on page 10-8*. |
| Engine Coolant | 50/50 mixture of clean, drinkable water and use only DEX-COOL Coolant. See *Engine Coolant on page 10-15*. |
| Hydraulic Brake System | DOT 3 Hydraulic Brake Fluid (GM Part No. 88863461, in Canada 88863462). |
| Hydraulic Power Steering System | DEXRON®-VI Automatic Transmission Fluid. |
| Automatic Transmission | DEXRON®-VI Automatic Transmission Fluid. |
| Chassis Lubrication | Chassis Lubricant (GM Part No. 12377985, in Canada 88901242) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB. |
| Key Lock Cylinders | Multi-Purpose Lubricant, Superlube (GM Part No. 12346241, in Canada 10953474). |
| Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor, and Release Pawl | Lubriplate Lubricant Aerosol (GM Part No. 12346293, in Canada 992723) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB. |

| Usage | Fluid/Lubricant |
|---|---|
| Hood and Door Hinges | Multi-Purpose Lubricant, Superlube (GM Part No. 12346241, in Canada 10953474). |
| Power Liftgate Actuator Ball Joint | Multi-Purpose Lubricant (GM Part No. 89021668, in Canada 89021674). |
| Weatherstrip Conditioning | Weatherstrip Lubricant (GM Part No. 3634770, in Canada 10953518) or Dielectric Silicone Grease (GM Part No. 12345579, in Canada 992887). |

## Maintenance Replacement Parts

Replacement parts identified below by name, part number, or specification can be obtained from your dealer.

| Part | GM Part Number | ACDelco Part Number |
|---|---|---|
| Engine Air Cleaner/Filter | 20897358 | A3147C |
| Engine Oil Filter | 89017525 | PF63 |
| Passenger Compartment Air Filter Element | 13271191 | CF176 |
| Spark Plugs | 12622561 | 41–109 |
| Wiper Blades | | |
| Driver Side – 65.0 cm (25.6 in) | 25979378 | — |
| Passenger Side – 42.5 cm (16.7 in) | 25979379 | — |
| Rear – 30.0 cm (11.8 in) | 20825882 | — |

## Maintenance Records

After the scheduled services are performed, record the date, odometer reading, who performed the service, and the type of services performed in the boxes provided. Retain all maintenance receipts.

| Date | Odometer Reading | Serviced By | Maintenance Stamp | Services Performed |
|---|---|---|---|---|
| | | | | |
| | | | | |
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# Technical Data

**Vehicle Identification**
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Service Parts Identification Label . . . . . 12-1

**Vehicle Data**
Capacities and Specifications . . . . . 12-2
Engine Drive Belt Routing . . . 12-3

# Vehicle Identification

## Vehicle Identification Number (VIN)







This legal identifier is in the front corner of the instrument panel, on the left side of the vehicle. It can be seen through the windshield from outside. The VIN also appears on the Vehicle Certification and Service Parts labels and certificates of title and registration.

### Engine Identification

The eighth character in the VIN is the engine code. This code identifies the vehicle's engine, specifications, and replacement parts. See “Engine Specifications” under *Capacities and Specifications on page 12-2* for the vehicle's engine code.

## Service Parts Identification Label

This label, on the inside of the rear side cargo management cover, has the following information:

- Vehicle Identification Number (VIN).
- Model designation.
- Paint information.
- Production options and special equipment.

Do not remove this label from the vehicle.

# Vehicle Data

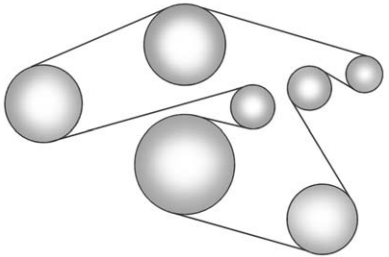
## Capacities and Specifications

| Application | Capacities | |
|---|---|---|
| | Metric | English |
| Air Conditioning Refrigerant R134a | For the air conditioning system refrigerant charge amount, see the refrigerant label located under the hood. See your dealer for more information. | |
| Engine Cooling System | | |
| 3.6L V6 Engine | 12.8 L | 13.5 qt |
| Engine Oil with Filter | 5.7 L | 6.0 qt |
| Fuel Tank | 79.5 L | 21.0 gal |
| Transmission Fluid | 5.0 L | 5.3 qt |
| Wheel Nut Torque | 150 N•m | 110 ft lb |
| *See *Automatic Transmission Fluid on page 10-12* for information on checking fluid level. | | |
| All capacities are approximate. When adding, be sure to fill to the approximate level, as recommended in this manual. Recheck fluid level after filling. | | |

**Engine Specifications**

| Engine | VIN Code | Transmission | Spark Plug Gap |
|---|---|---|---|
| 3.6L V6 (LFX) | 3 | Automatic | 1.10 mm (0.043 in) |

## Engine Drive Belt Routing



## ✍ NOTES

# Customer Information

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# Customer Information

## Customer Satisfaction Procedure (U.S. and Canada)

Your satisfaction and goodwill are important to your dealer and to Cadillac. Normally, any concerns with the sales transaction or the operation of the vehicle will be resolved by your dealer's sales or service departments. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur. If your concern has not been resolved to your satisfaction, the following steps should be taken:

**STEP ONE:** Discuss your concern with a member of dealership management. Normally, concerns can be quickly resolved at that level. If the matter has already been reviewed with the sales, service or parts manager, contact the owner of your dealership or the general manager.

**STEP TWO:** If after contacting a member of dealership management, it appears your concern cannot be resolved by your dealership without further help, in the U.S., call the Cadillac Customer Assistance Center at 1-800-458-8006. In Canada, call the Canadian Cadillac Customer Care Centre at 1-888-446-2000.

We encourage you to call the toll-free number in order to give your inquiry prompt attention. Have the following information available to give the Customer Assistance representative:

- Vehicle Identification Number (VIN). This is available from the vehicle registration or title, or the plate at the top left of the instrument panel and visible through the windshield.
- Dealership name and location.
- Vehicle delivery date and present mileage.

When contacting Cadillac, remember that your concern will likely be resolved at a dealer's facility. That is why we suggest following Step One first.

**STEP THREE — U.S. Owners:** Both General Motors and your dealer are committed to making sure you are completely satisfied with the new vehicle. However, if you continue to remain unsatisfied after following the procedure outlined in Steps One and Two, you can file with the Better Business Bureau (BBB) Auto Line® Program to enforce your rights.

The BBB Auto Line Program is an out-of-court program administered by the Council of Better Business Bureaus to settle automotive disputes regarding vehicle repairs or the interpretation of the New Vehicle Limited Warranty. Although you may be required to resort to this informal dispute resolution program prior to filing a court action, use of the program is free of charge and your case will generally be heard within 40 days. If you do not agree with the decision given in your case, you may reject it and proceed with any other venue for relief available to you.

You may contact the BBB Auto Line Program using the toll-free telephone number or write them at the following address:

BBB Auto Line Program
Council of Better Business Bureaus, Inc.
4200 Wilson Boulevard
Suite 800
Arlington, VA 22203-1838

Telephone: 1-800-955-5100
www.dr.bbb.org/goauto

This program is available in all 50 states and the District of Columbia. Eligibility is limited by vehicle age, mileage, and other factors. General Motors reserves the right to change eligibility limitations and/or discontinue its participation in this program.

**STEP THREE — Canadian Owners:** In the event that you do not feel your concerns have been addressed after following the procedure outlined in Steps One and Two, General Motors of Canada Limited wants you to be aware of its participation in a no-charge mediation/arbitration program. General Motors of Canada Limited has committed to binding arbitration of owner disputes involving factory-related vehicle service claims. The program provides for the review of the facts involved by an impartial third party arbiter, and may include an informal hearing before the arbiter. The program is designed so that the entire dispute settlement process, from the time you file your complaint to the final decision, should be completed in approximately 70 days.

We believe our impartial program offers advantages over courts in most jurisdictions because it is informal, quick, and free of charge.

For further information concerning eligibility in the Canadian Motor Vehicle Arbitration Plan (CAMVAP), call toll-free 1-800-207-0685, or call the General Motors Customer Care Centre, 1-800-263-3777 (English), 1-800-263-7854 (French), or write to:

Mediation/Arbitration Program
c/o Customer Care Centre
General Motors of Canada Limited
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

The inquiry should be accompanied by the Vehicle Identification Number (VIN).

## Customer Satisfaction Procedure (Mexico)




Did you get the Warranty Extension Plan? This plan is recommended by General Motors to supplement the warranty included with the new vehicle purchase.

See your dealer for details.

## Customer Assistance Procedure

Owner satisfaction and goodwill are very important to your dealer and General Motors.

Normally, any problem with the transaction, sale, or usage of the vehicle must be handled by your dealer sales or service departments. However, we recognize that despite the good intentions of all parties involved, sometimes a misunderstanding may occur.

If you have a problem that has not been satisfactorily handled through the normal means, we suggest the following steps:

**STEP ONE**

Explain your case to your dealer service agent, service manager, dealer sales agent, or sales manager, depending on your case.

Make sure that they have all necessary information. They are interested in your continual satisfaction.

**STEP TWO**

If you are not satisfied, please contact the general manager or your dealership owner to ask for their help. If they are not able to resolve your case, ask them to contact the right people at General Motors for support, if needed.

**STEP THREE**

If your case is not resolved in a reasonable amount of time by your dealer, please call the General Motors Customer Assistance Center (CAC) and provide the following information:

- Name
- Address
- Phone number
- Model year
- Brand
- Vehicle Identification Number (VIN)
- Mileage
- Delivery date
- Description of the problem
- Dealership name
- Dealership address

See *Customer Assistance Offices (U.S. and Canada) on page 13-5* or *Customer Assistance Offices (Mexico) on page 13-5*.

## Customer Assistance Offices (U.S. and Canada)

Cadillac encourages customers to call the toll-free number for assistance. However, if a customer wishes to write or e-mail Cadillac, the letter should be addressed to:

### United States

Cadillac Customer Assistance Center
Cadillac Motor Car Division
P.O. Box 33169
Detroit, MI 48232-5169
www.Cadillac.com

1-800-458-8006
1-800-833-2622 (For Text Telephone devices (TTYs))
Roadside Service: 1-800-882-1112

From Puerto Rico:

1-800-496-9992 (English)
1-800-496-9993 (Spanish)

From U.S. Virgin Islands:

1-800-496-9994

### Canada

General Motors of Canada Limited
Canadian Cadillac Customer Care Centre, Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7
www.gm.ca

1-888-446-2000
1-800-263-3830 (For Text Telephone devices (TTYs))
Roadside Service: 1-800-882-1112

### Overseas

Please contact the local General Motors Business Unit.

### Mexico, Central America and Caribbean Islands/Countries (Except Puerto Rico and U.S. Virgin Islands)

General Motors de Mexico, S. de R.L. de C.V.
Customer Assistance Center
Av. Ejercito Nacional #843
Col. Granada
C.P. 11520, Mexico, D.F.

01-800-466-0805
Long Distance: 011-52-53 29 0805

## Customer Assistance Offices (Mexico)

To contact the Customer Assistance Center (CAC), use the phone numbers listed in this section. Customer assistance is available Monday through Friday, 08:00 to 20:00 hours, and Saturdays from 08:00 to 15:00 hours.

All e-mail inquiries to the Customer Assistance Center (CAC) should be sent to: cac.cadillac@gm.com.

**Mexico**

**From Mexico City**

5329-0816

**From Other Mexico Locations**

01-800-466-0816

**United States and Canada**

1-866-466-8195

**Costa Rica**

00-800-052-1005

**Guatemala**

1-800-999-5252

**Panama**

00-800-052-0001

**Dominican Republic**

1-888-751-5301

**El Salvador**

800-6273

**Honduras**

800-0122-6101

## Customer Assistance for Text Telephone (TTY) Users (U.S. and Canada)

To assist customers who are deaf, hard of hearing, or speech-impaired and who use Text Telephones (TTYs), Cadillac has TTY equipment available at its Customer Assistance Center. Any TTY user can communicate with Cadillac by dialing: 1-800-833-2622. TTY users in Canada can dial 1-800-263-3830.

## Online Owner Center

**Manage your vehicle (U.S.) at cadillac.com. Click on "Owners," then "Manage my Cadillac/Owners Login."**

Information and services customized for your specific vehicle — all in one convenient place.

- Digital owner manual, warranty information, and more.
- Storage for online service and maintenance records.
- Cadillac dealer locator for service nationwide.
- Exclusive privileges and offers.
- Recall notices for your specific vehicle.
- OnStar and GM Cardmember Services Earnings summaries.

**Other Helpful Links:**

Cadillac — www.cadillac.com

Cadillac Merchandise — www.cadillaccollection.com

Help Center — www.cadillac.com/pages/mds/helpcenter/faq.do

- FAQ (Frequently Asked Questions)
- Contact Us

### Cadillac Owner Centre (Canada) cadillacowner.ca

Take a trip to the Cadillac Owner Centre:

- Chat live with online help representatives.
- Use the Vehicle Tools section.
- Access third party enthusiast sites and social media networks.
- Locate owner resources such as lease-end, financing, and warranty information.
- Retrieve your favorite articles, quizzes, tips and multimedia galleries organized into the Features and Auto Care Sections.
- Download the owner manual for your vehicle, quickly and easily.
- Find the Cadillac-recommended maintenance services for your vehicle.

## GM Mobility Reimbursement Program (U.S. and Canada)

GM MOBILITY℠

This program is available to qualified applicants for cost reimbursement of eligible aftermarket adaptive equipment required for the vehicle, such as hand controls or a wheelchair/scooter lift for the vehicle.

For more information on the limited offer, visit www.gmmobility.com or call the GM Mobility Assistance Center at 1-800-323-9935. Text Telephone (TTY) users, call 1-800-833-9935.

General Motors of Canada also has a Mobility Program. Call 1-800-GM-DRIVE (463-7483) for details. TTY users call 1-800-263-3830.

## Roadside Service (U.S. and Canada)

U.S.: **1-800-224-1400**

Canada: **1-800-882-1112**.

Text Telephone (TTY) Users (U.S. Only): **1-888-889-2438**.

Service is available 24 hours a day, 365 days a year.

### Calling for Service

When calling Roadside Service, have the following information ready:

- Your name, home address, and home telephone number.
- Telephone number of your location.
- Location of the vehicle.
- Model, year, color, and license plate number of the vehicle.
- Odometer reading, Vehicle Identification Number (VIN), and delivery date of the vehicle.
- Description of the problem.

### Coverage

Services are provided up to 5 years/160 000 km (100,000 mi), whichever comes first.

In the U.S., anyone driving the vehicle is covered. In Canada, a person driving the vehicle without permission from the owner is not covered.

Roadside Service is not a part of the New Vehicle Limited Warranty. Cadillac and General Motors of Canada Limited reserve the right to make any changes or discontinue the Roadside Service program at any time without notification.

Cadillac and General Motors of Canada Limited reserve the right to limit services or payment to an owner or driver if they decide the claims are made too often, or the same type of claim is made many times.

### Cadillac Owner Privileges™

- **Emergency Fuel Delivery:** Delivery of enough fuel for the vehicle to get to the nearest service station.
- **Lock-Out Service:** Service to unlock the vehicle if you are locked out. A remote unlock may be available if you have OnStar. For security reasons, the driver must present identification before this service is given.
- **Emergency Tow from a Public Road or Highway:** Tow to the nearest Cadillac dealer for warranty service, or if the vehicle was in a crash and cannot be driven. Assistance is also given when the vehicle is stuck in the sand, mud, or snow.
- **Flat Tire Change:** Service to change a flat tire with spare tire. The spare tire, if equipped, must be in good condition and properly inflated. It is your responsibility for the repair or replacement of the tire if it is not covered by the warranty.
- **Battery Jump Start:** Service to jump start a dead battery.
- **Trip Routing Service:** Detailed maps of North America are provided when requested either with the most direct route or the most scenic route. Additional travel information is also available. Allow three weeks for delivery.
- **Trip Interruption Benefits and Service:** If your trip is interrupted due to a warranty failure, incidental expenses may be reimbursed during the 5 years/160 000 km (100,000 mi) Powertrain warranty period. Items considered are hotel, meals, and rental car.

### Cadillac Technician Roadside Service (U.S. Only)

Cadillac's exceptional Roadside Service is more than an auto club or towing service. It provides every Cadillac owner in the United States with the advantage of contacting a Cadillac advisor and, where available, a Cadillac trained dealer technician who can provide on-site service.

A dealer technician will travel to your location within a 30 mile radius of a participating Cadillac dealership. If beyond this radius, we will arrange to have your car towed to the nearest Cadillac dealership. Each technician travels with a specially equipped service vehicle complete with the necessary Cadillac parts and tools required to handle most roadside repairs.

### Services Not Included in Roadside Service

- Impound towing caused by violation of any laws.
- Legal fines.
- Mounting, dismounting, or changing of snow tires, chains, or other traction devices.
- Towing or services for vehicles driven on a non-public road or highway.

### Services Specific to Canadian-Purchased Vehicles

- **Fuel delivery:** Reimbursement is approximately $5 Canadian. Diesel fuel delivery may be restricted. Propane and other fuels are not provided through this service.
- **Lock-Out Service:** Vehicle registration is required.
- **Trip Routing Service:** Limit of six requests per year.
- **Trip Interruption Benefits and Service:** Pre-authorization, original detailed receipts, and a copy of the repair orders are required. Once authorization has been received, the Roadside Service advisor will help you make arrangements and explain how to receive payment.
- **Alternative Service:** If assistance cannot be provided right away, the Roadside Service advisor may give you permission to get local emergency road service. You will receive payment, up to $100, after sending the original receipt to Roadside Service. Mechanical failures may be covered, however any cost for parts and labor for repairs not covered by the warranty are the owner responsibility.

## Roadside Service (Mexico)

As a new owner, your vehicle is automatically enrolled in the Roadside Assistance program. The services are available at no cost under the terms and conditions of the program. The Roadside Assistance program is not part of, or included, in the coverage provided by the new vehicle limited warranty.

Roadside Assistance provides assistance to the driver and passengers while driving the vehicle within your city of residence or on any passable road in Mexico, the United States, and Canada. Services are subject to the limitations described in the following pages. Program coverage varies by country.

Roadside Assistance is available 24 hours a day, 365 days of the year.

This program expires two years from the date of the invoice for the vehicle, regardless of vehicle mileage and changes in vehicle ownership.

For more information about the renewal of this program at the end of its term, contact the Cadillac Customer Assistance Center at 01-800-466-0805.

**Services Provided**

- **Flat Tire Change**: If unable to change a flat tire, Roadside Assistance will provide towing service to the nearest authorized Cadillac dealership. It is the owner's responsibility for the repair or replacement of the tire. This service is limited to the transfer of the vehicle to the repair facility.
- **Emergency Fuel Delivery**: Delivery of enough fuel for the vehicle to get to the nearest service station.
- **Lock-Out Service**: Service to unlock the vehicle if you are locked out.
- **Battery Jump Start**: Service to jump start a dead battery.
- ***Emergency Messages**: Transmission of urgent phone messages.
- ***Emergency Calls**: Call for emergency services.
- ***Dealership Location Assistance**: Information regarding addresses and telephone numbers for Cadillac dealers.
- **Emergency Towing**: Tow to the nearest dealer for warranty service if the vehicle cannot be driven.

  If the vehicle is involved in an accident during the commission of a crime, administrative violation, or breach of traffic regulations, Roadside Assistance will not provide service.

  When the vehicle is not accessible to be towed, all maneuvers required to access it will be at the owner's expense.

  If the vehicle is in another city outside of your residence, Roadside Assistance is limited to moving the vehicle to the nearest dealer. If you would like the vehicle moved to a different dealer, you will be asked to cover the difference in cost at the time of the move.

  If the vehicle cannot be received by the nearest Cadillac dealer due to scheduling conflicts, the vehicle will be taken to a safe place where it will remain for up to 48 hours until it can be taken to the dealer. If the storage costs exceed the amount authorized, the owner is responsible to pay the difference at the time of service. Contact Roadside Assistance for more information on authorized amounts.

- ***Trip Interruption**: This service is provided if you are prevented from further usage of your vehicle while traveling and it is not possible for the nearest Cadillac dealership to repair the vehicle the same day, requiring the vehicle to stay at the dealership for a night or more. If this happens, in addition to the previously listed services and prior to confirmation by the dealership, you are entitled to choose one of the following alternatives, within the limits of existing Roadside Assistance program guidelines. If the costs exceed the amount authorized for these services, you must pay the difference at the time of service.

  Roadside Assistance will coordinate hotel accommodations for all vehicle travelers for up to two nights.

  A rental car will be provided for up to two days and the vehicle must be returned to its original destination, excluding vehicles with a carrying capacity greater than 3.5 tons.

  Complimentary Transportation: If you prefer to continue your trip to the intended destination or return to your place of residence, and the trip requires more than eight hours driving on the road, transportation for the driver and passengers by first class bus or coach commercial airline will be provided to a location chosen by Roadside Assistance, depending on availability at the chosen destination. Restrictions apply based on vehicle specifications.

  If you are on the road, taxi service to the nearest bus station or airport will be provided.

- ***Complimentary Transportation for Vehicle Pick Up**: Transportation to pick up your vehicle after repairs are complete. Once the dealer has reported that the vehicle has been repaired, Roadside Assistance will provide bus or commercial airline one-way service (subject to availability) for the person designated by you to collect your vehicle at the dealership's location if you or the designated person are not in the same town or city as the dealership.

*These services are not provided for U.S. or Canada residents. All services provided in the U.S. and Canada are at the owner's expense and will be reimbursed by Roadside Assistance.

**Services Not Included in Roadside Assistance**

Roadside Assistance does not cover or reimburse services for the following:

- Events caused by fraud or bad faith by the driver.
- Vehicle immobilization situations due to a major force or unforeseen circumstances, such as natural phenomena of an extraordinary nature, earthquakes, volcanic eruptions, and other cyclonic storms.
- Vehicle immobilization situations arising from car accidents caused by the driver of the vehicle or third parties. This means any occurrence that causes physical injury to the occupants and/or the vehicle caused by external forces.
- Acts of terrorism, riot or uproar, armed forces or police actions which prevent timely delivery of assistance services.
- Food service, beverages, telephone calls, or other extra costs. Accommodation costs apply only to Mexico per the terms and conditions of the Roadside Assistance program.
- Any damage to the vehicle without intent, derived from the services provided.
- Cost of towing a trailer when choosing a Cadillac dealer that is nearest to the temporary storage facility for the disabled vehicle.
- Cost of all maneuvers required to access the vehicle when it is not available to be towed.
- Cost of fuel provided.

Routine vehicle repair costs are not covered by the Roadside Assistance program. For more information, see your new vehicle warranty.

**Contacting Roadside Assistance**

Roadside Assistance services are of no cost to you and available 24 hours a day, 365 days a year. Costs are only incurred in situations that exceed the limits of the program, some of which are listed previously in this section.

To contact Roadside Assistance by phone, use the following numbers:

**Mexico**

01-800-466-0805

**United States**

1-866-466-8906

**Canada**

1-800-268-6800

**E-mail**

asistencia.cadillac@gm.com

*Cadillac reserves the right to make any changes or discontinue the Roadside Assistance program at any time without notification.*

## Scheduling Service Appointments (U.S. and Canada)

When the vehicle requires warranty service, contact your dealer and request an appointment. By scheduling a service appointment and advising the service consultant of your transportation needs, your dealer can help minimize your inconvenience.

If the vehicle cannot be scheduled into the service department immediately, keep driving it until it can be scheduled for service, unless, of course, the problem is safety related. If it is, please call your dealership, let them know this, and ask for instructions.

If your dealer requests you to bring the vehicle for service, you are urged to do so as early in the work day as possible to allow for same-day repair.

## Courtesy Transportation Program (U.S. and Canada)

To enhance your ownership experience, we and our participating dealers are proud to offer Courtesy Transportation, a customer support program for vehicles with the Bumper-to-Bumper (Base Warranty Coverage period in Canada), extended powertrain, and/or hybrid-specific warranties in both the U.S. and Canada.

Several Courtesy Transportation options are available to assist in reducing inconvenience when warranty repairs are required.

Courtesy Transportation is not a part of the New Vehicle Limited Warranty. A separate booklet entitled “Limited Warranty and Owner Assistance Information” furnished with each new vehicle provides detailed warranty coverage information.

### Transportation Options

Warranty service can generally be completed while you wait. However, if you are unable to wait, GM helps to minimize inconvenience by providing several transportation options. Depending on the circumstances, your dealer can offer one of the following:

#### Shuttle Service

Shuttle service is the preferred means of offering Courtesy Transportation. Dealers may provide shuttle service to get you to your destination with minimal interruption of your daily schedule. This includes one-way or round-trip shuttle service within reasonable time and distance parameters of your dealer's area.

**Public Transportation or Fuel Reimbursement**

If the vehicle requires overnight warranty repairs, and public transportation is used instead of your dealer's shuttle service, the expense must be supported by original receipts and can only be up to the maximum amount allowed by GM for shuttle service. In addition, for U.S. customers, should you arrange transportation through a friend or relative, limited reimbursement for reasonable fuel expenses may be available. Claim amounts should reflect actual costs and be supported by original receipts. See your dealer for information regarding the allowance amounts for reimbursement of fuel or other transportation costs.

**Courtesy Rental Vehicle**

Your dealer may arrange to provide you with a courtesy rental vehicle or reimburse you for a rental vehicle that you obtain if the vehicle is kept for an overnight warranty repair. Rental reimbursement will be limited and must be supported by original receipts. This requires that you sign and complete a rental agreement and meet state/provincial, local, and rental vehicle provider requirements. Requirements vary and may include minimum age requirements, insurance coverage, credit card, etc. You are responsible for fuel usage charges and may also be responsible for taxes, levies, usage fees, excessive mileage, or rental usage beyond the completion of the repair.

It may not be possible to provide a like vehicle as a courtesy rental.

## Additional Program Information

All program options, such as shuttle service, may not be available at every dealer. Please contact your dealer for specific information about availability. All Courtesy Transportation arrangements will be administered by appropriate dealer personnel.

*General Motors reserves the right to unilaterally modify, change, or discontinue Courtesy Transportation at any time and to resolve all questions of claim eligibility pursuant to the terms and conditions described herein at its sole discretion.*

## Collision Damage Repair (U.S. and Canada)

If the vehicle is involved in a collision and it is damaged, have the damage repaired by a qualified technician using the proper equipment and quality replacement parts. Poorly performed collision repairs diminish the vehicle resale value, and safety performance can be compromised in subsequent collisions.

### Collision Parts

Genuine GM Collision parts are new parts made with the same materials and construction methods as the parts with which the vehicle was originally built. Genuine GM Collision parts are the best choice to ensure that the vehicle's designed appearance, durability, and safety are preserved. The use of Genuine GM parts can help maintain the GM New Vehicle Limited Warranty.

Recycled original equipment parts may also be used for repair. These parts are typically removed from vehicles that were total losses in prior crashes. In most cases, the parts being recycled are from undamaged sections of the vehicle. A recycled original equipment GM part may be an acceptable choice to maintain the vehicle's originally designed appearance and safety performance; however, the history of these parts is not known. Such parts are not covered by the GM New Vehicle Limited Warranty, and any related failures are not covered by that warranty.

Aftermarket collision parts are also available. These are made by companies other than GM and may not have been tested for the vehicle. As a result, these parts may fit poorly, exhibit premature durability/corrosion problems, and may not perform properly in subsequent collisions. Aftermarket parts are not covered by the GM New Vehicle Limited Warranty, and any vehicle failure related to such parts is not covered by that warranty.

### Repair Facility

GM also recommends that you choose a collision repair facility that meets your needs before you ever need collision repairs. Your dealer may have a collision repair center with GM-trained technicians and state-of-the-art equipment, or be able to recommend a collision repair center that has GM-trained technicians and comparable equipment.

## Insuring the Vehicle

Protect your investment in the GM vehicle with comprehensive and collision insurance coverage. There are significant differences in the quality of coverage afforded by various insurance policy terms. Many insurance policies provide reduced protection to the GM vehicle by limiting compensation for damage repairs by using aftermarket collision parts. Some insurance companies will not specify aftermarket collision parts. When purchasing insurance, we recommend that you ensure that the vehicle will be repaired with GM original equipment collision parts. If such insurance coverage is not available from your current insurance carrier, consider switching to another insurance carrier.

If the vehicle is leased, the leasing company may require you to have insurance that ensures repairs with Genuine GM Original Equipment Manufacturer (OEM) parts or Genuine Manufacturer replacement parts. Read the lease carefully, as you may be charged at the end of the lease for poor quality repairs.

## If a Crash Occurs

If there has been an injury, call emergency services for help. Do not leave the scene of a crash until all matters have been taken care of. Move
the vehicle only if its position puts you in danger, or you are instructed to move it by a police officer.

Give only the necessary information to police and other parties involved in the crash.

For emergency towing see *Roadside Service (U.S. and Canada) on page 13-8* or *Roadside Service (Mexico) on page 13-10*.

Gather the following information:

- Driver name, address, and telephone number.
- Driver license number.
- Owner name, address, and telephone number.
- Vehicle license plate number.
- Vehicle make, model, and model year.
- Vehicle Identification Number (VIN).
- Insurance company and policy number.
- General description of the damage to the other vehicle.

Choose a reputable repair facility that uses quality replacement parts. See “Collision Parts” earlier in this section.

If the airbag has inflated, see *What Will You See after an Airbag Inflates? on page 3-28*.

### Managing the Vehicle Damage Repair Process

In the event that the vehicle requires damage repairs, GM recommends that you take an active role in its repair. If you have a pre-determined repair facility of choice, take the vehicle there, or have it towed there. Specify to the facility that any required replacement collision parts be original equipment parts, either new Genuine GM parts or recycled original GM parts. Remember, recycled parts will not be covered by the GM vehicle warranty.

Insurance pays the bill for the repair, but you must live with the repair. Depending on your policy limits, your insurance company may initially value the repair using aftermarket parts. Discuss this with the repair professional, and insist on Genuine GM parts. Remember, if the vehicle is leased, you may be obligated to have the vehicle repaired with Genuine GM parts, even if your insurance coverage does not pay the full cost.

If another party's insurance company is paying for the repairs, you are not obligated to accept a repair valuation based on that insurance company's collision policy repair limits, as you have no contractual limits with that company. In such cases, you can have control of the repair and parts choices as long as the cost stays within reasonable limits.

## Service Publications Ordering Information

### Service Manuals

Service Manuals have the diagnosis and repair information on the engines, transmission, axle, suspension, brakes, electrical, steering, body, etc.

### Service Bulletins

Service Bulletins give additional technical service information needed to knowledgeably service General Motors cars and trucks. Each bulletin contains instructions to assist in the diagnosis and service of the vehicle.

### Owner Information

Owner publications are written specifically for owners and intended to provide basic operational information about the vehicle. The Owner Manual includes the Maintenance Schedule for all models.

In-Portfolio: Includes a Portfolio, Owner Manual, and Warranty Booklet.

RETAIL SELL PRICE: $35.00 (U.S.) plus handling and shipping fees.

Without Portfolio: Owner Manual only.

RETAIL SELL PRICE: $25.00 (U.S.) plus handling and shipping fees.

### Current and Past Models

Technical Service Bulletins and Manuals are available for current and past model GM vehicles.

**ORDER TOLL FREE:**
**1-800-551-4123 Monday – Friday**
**8:00 AM – 6:00 PM Eastern Time**

For Credit Card Orders Only (VISA-MasterCard-Discover), visit Helm, Inc. at: www.helminc.com.

Or write to:

Helm, Incorporated
Attention: Customer Service
47911 Halyard Drive
Plymouth, MI 48170

Prices are subject to change without notice and without incurring obligation. Allow ample time for delivery.

All listed prices are quoted in U.S. funds. Make checks payable in U.S. funds.

# Reporting Safety Defects

## Reporting Safety Defects to the United States Government

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying General Motors.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign.

However, NHTSA cannot become involved in individual problems between you, your dealer, or General Motors.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to *http://www.safercar.gov;* or write to:

Administrator, NHTSA
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from *http://www.safercar.gov*.

## Reporting Safety Defects to the Canadian Government

If you live in Canada, and you believe that the vehicle has a safety defect, notify Transport Canada immediately, and notify General Motors of Canada Limited. Call Transport Canada at 1-800-333-0510 or write to:

Transport Canada
Road Safety Branch
80 rue Noel
Gatineau, QC J8Z 0A1

## Reporting Safety Defects to General Motors

In addition to notifying NHTSA (or Transport Canada) in a situation like this, notify General Motors.

Call 1-800-458-8006, or write:

Cadillac Customer Assistance Center
Cadillac Motor Car Division
P.O. Box 33169
Detroit, MI 48232-5169

In Canada, call 1-888-446-2000, or write:

Canadian Cadillac Customer Care Centre, Mail Code: CA1-163-005
General Motors of Canada Limited
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

# Vehicle Data Recording and Privacy

This GM vehicle has a number of sophisticated computers that record information about the vehicle's performance and how it is driven. For example, the vehicle uses computer modules to monitor and control engine and transmission performance, to monitor the conditions for airbag deployment and deploy airbags in a crash, and, if so equipped, to provide antilock braking to help the driver control the vehicle. These modules may store data to help your dealer technician service the vehicle. Some modules may also store data about how you operate the vehicle, such as rate of fuel consumption or average speed. These modules may also retain the owner's personal preferences, such as radio presets, seat positions, and temperature settings.

## Event Data Recorders

This vehicle has an Event Data Recorder (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an airbag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in the vehicle were operating.
- Whether or not the driver and passenger safety belts were buckled/fastened.
- How far, if at all, the driver was pressing the accelerator and/or brake pedal.
- How fast the vehicle was traveling.

This data can help provide a better understanding of the circumstances in which crashes and injuries occur.

***Important:*** EDR data is recorded by the vehicle only if a non-trivial crash situation occurs; no data is recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) is recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

GM will not access this data or share it with others except: with the consent of the vehicle owner or, if the vehicle is leased, with the consent of the lessee; in response to an official request by police or similar government office; as part of GM's defense of litigation through the discovery process; or, as required by law. Data that GM collects or receives may also be used for GM research needs or may be made available to others for research purposes, where a need is shown and the data is not tied to a specific vehicle or vehicle owner.

## OnStar®

If the vehicle is equipped with an active OnStar system, that system may also record data in crash or near crash-like situations. The OnStar Terms and Conditions provides information on data collection and use and is available at www.onstar.com (U.S.) or www.onstar.ca (Canada), or by pressing the button and speaking to an advisor. See *OnStar Overview on page 14-1*.

## Navigation System

If the vehicle has a navigation system, use of the system may result in the storage of destinations, addresses, telephone numbers, and other trip information. Refer to the navigation manual for information on stored data and for deletion instructions.

## Radio Frequency Identification (RFID)

RFID technology is used in some vehicles for functions such as tire pressure monitoring and ignition system security, as well as in connection with conveniences such as key fobs for remote door locking/unlocking and starting, and in-vehicle transmitters for garage door openers. RFID technology in GM vehicles does not use or record personal information or link with any other GM system containing personal information.

## Radio Frequency Statement

This vehicle has systems that operate on a radio frequency that comply with Part 15 of the Federal Communications Commission (FCC) rules and with Industry Canada Standards RSS-GEN/210/220/310.

Operation is subject to the following two conditions:

1. The device may not cause harmful interference.
2. The device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to any of these systems by other than an authorized service facility could void authorization to use this equipment.

## ✍ NOTES

# OnStar

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## OnStar Overview



If equipped, this vehicle has a comprehensive, in-vehicle system that can connect to a live Advisor for Emergency, Security, Navigation, Connection, and Diagnostic Services.

The OnStar system status light is next to the OnStar buttons. If the status light is:

- Solid Green: System is ready.
- Flashing Green: On a call.
- Red: Indicates a problem.

Push or call 1-888-4-ONSTAR (1-888-466-7827) to speak to an Advisor.

Push to:

- Make a call, end a call, or answer an incoming call.
- Give OnStar Hands-Free Calling voice commands.
- Give OnStar Turn-by-Turn Navigation voice commands. Requires the available Directions and Connections service plan.

Push to connect to a live Advisor to:

- Verify account information or update contact information.
- Get driving directions. Requires the available Directions and Connections service plan.
- Receive On-Demand Diagnostics for a check on the vehicle's key operating systems.
- Receive Roadside Assistance.

Push to get a priority connection to an Emergency Advisor available 24/7 to:

- Get help for an emergency.
- Be a Good Samaritan or respond to an AMBER Alert.
- Get crisis assistance and evacuation routes.

# OnStar Services

## Emergency

With Automatic Crash Response, the built-in system can automatically connect to help in a crash even if you cannot ask for it.

Push to connect to an Emergency Advisor. GPS technology is used to identify the vehicle location and can provide critical information to emergency personnel. The Advisor is also trained to offer critical assistance in emergency situations.

## Security

OnStar provides services like Stolen Vehicle Assistance, Remote Ignition Block, and Roadside Assistance, if the vehicle is equipped with these services. OnStar can unlock the vehicle doors remotely, if it is equipped with automatic door locks, and can help police locate the vehicle if it is stolen.

## Navigation

OnStar navigation requires the Directions and Connections service plan.

Push to receive directions or have them sent to the vehicle navigation screen. Destinations can also be forwarded to the vehicle from Google Maps™ or MapQuest.com. The OnStar mapping database is continuously updated. Visit www.onstar.com for coverage maps.

### Turn-by-Turn Navigation

1. Push to connect to a live Advisor.
2. Request directions.
3. Directions are downloaded to the vehicle.
4. Follow the voice-guided commands.

## Using Voice Commands During a Planned Route

### Cancel Route

1. Push . System responds: “OnStar ready,” then a tone. Say “Cancel route.” System responds: “Would you like to cancel route directions to your destination?”
2. Say “Yes.” System responds: “OK, route canceled.”
3. Say “Goodbye.” Exits voice commands.

### Route Preview

1. Push . System responds: “OnStar ready,” then a tone.
2. Say “Route Preview.” System responds with the next three maneuvers.
3. Say “Goodbye.” Exits voice commands.

### Repeat

1. Push . System responds: “OnStar ready,” then a tone.
2. Say “Repeat.” System responds with the last direction given, then responds with “OnStar ready,” then a tone.
3. Say “Goodbye.” Exits voice commands.

### Get My Destination

1. Push . System responds: “OnStar ready,” then a tone.
2. Say “Get my destination.” System responds with miles to the destination, then responds with “OnStar ready,” then a tone.
3. Say “Goodbye.” Exits voice commands.

## Other Navigation Services Available from OnStar

**OnStar eNav:** Allows subscribers to send destinations from Google Maps and MapQuest.com to their Turn-by-Turn Navigation or screen-based navigation system. When ready, the directions will be downloaded to the vehicle.

**Destination Download:**

Push , then request the Advisor to download directions to the navigation system in the vehicle. After the call ends, push the “Go” button on the navigation screen to begin driving directions.

Destinations can also be downloaded on the go. For information about eNav, Destination Download, and coverage maps visit www.onstar.com.

## Connections

OnStar Hands-Free Calling allows calls to be made and received from the vehicle. The vehicle can also be controlled from a cell phone through the OnStar mobile app. See www.onstar.com for coverage maps.

### Hands-Free Calling

1. Push . System responds: “OnStar ready.”
2. Say “Dial.” System responds: “Please say the name or number to call.”
3. Say the entire number without pausing, including a “1” and the area code. System responds: “OK calling.”

### Retrieve My Number

1. Push . System responds: “OnStar ready.”
2. Say “My Number.” System responds: “Your OnStar Hands-Free Calling number is.”

### End a Call

Push . System responds: “Call ended.”

### Store a Name Tag for Speed Dialing

1. Push . System responds: “OnStar ready.”
2. Say “Store.” System responds: “Please say the number you would like to store.”
3. Say the entire number without pausing. System responds: “Please say the name tag.”
4. Pick a name tag. “System responds: ”About to store <name tag>. Does that sound OK?”
5. Say “Yes” or “No” to try again. System responds: “OK, storing <name tag>.”

### Place a Call Using a Stored Number

1. Push . System responds: “OnStar ready.”
2. Say “Call <name tag>.” System responds: “OK, calling <name tag>.”

### Verify Minutes and Expiration

Push and say “minutes” then “verify” to check how many minutes remain and their expiration date.

### OnStar Mobile App

With an iPhone® or Android™-based mobile device, an OnStar mobile app can be downloaded. The vehicle can be remote started, if equipped, or the doors can be unlocked from anywhere there is cell phone service. It can also check the fuel level, tire pressure, and oil life. It can connect to an OnStar Advisor anytime. For OnStar mobile app compatibility or further information, see www.onstar.com.

## Diagnostics

OnStar Vehicle Diagnostics will perform a vehicle check every month. It will check the engine, transmission, antilock brakes, and major vehicle systems. It also checks the tire pressures, if the vehicle is equipped with the Tire Pressure Monitoring System. If a diagnostics check is needed between e-mails, push , and an Advisor can run a check.

# OnStar Additional Information

### Transferring Service

Push to request account transfer eligibility information. The Advisor can assist in canceling or removing account information. If OnStar receives information that vehicle ownership has changed, OnStar may send a voice message to the vehicle, requesting updated account information.

### Reactivation for Subsequent Owners

Push and follow the prompts to speak to an Advisor as soon as possible after acquiring the vehicle. The Advisor will update vehicle records and will explain the OnStar service offers and options available.

### How OnStar Service Works

Automatic Crash Response, Emergency Services, Crisis Assist, Stolen Vehicle Assistance, Vehicle Diagnostics, Remote Door Unlock, Roadside Assistance, Turn-by-Turn Navigation, and Hands-Free Calling are available on most vehicles. Not all OnStar services are available everywhere or on all vehicles. For more information, a full description of OnStar services, system limitations, and OnStar terms and conditions, see www.onstar.com (U.S.) or www.onstar.ca (Canada); contact OnStar at 1-888-4-ONSTAR (1-888-466-7827) or TTY 1-877-248-2080; or push to speak with an Advisor.

OnStar services require a vehicle electrical system, wireless service, and GPS satellite technologies to be available and operating for features to function properly. These systems may not operate if the battery is discharged or disconnected.

OnStar service cannot work unless your vehicle is in a place where OnStar has an agreement with a wireless service provider for service in that area, and the wireless service provider has coverage, network capacity, reception, and technology compatible with OnStar's service. Service involving location information about the vehicle cannot work unless GPS signals are available, unobstructed, and compatible with the OnStar hardware. OnStar service may not work if the OnStar equipment is not properly installed or it has not been properly maintained. If equipment or software is added, connected, or modified, OnStar service may not work. Other problems beyond OnStar's control may prevent service such as hills, tall buildings, tunnels, weather, electrical system design and architecture of the vehicle, damage to the vehicle in a crash, or wireless phone network congestion or jamming.

See *Radio Frequency Statement on page 13-23* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

## Services for People with Disabilities

Advisors provide services to help subscribers with physical disabilities and medical conditions.

Push  for help with:

- Locating a gas station with an attendant to pump gas.
- Finding a hotel, restaurant, etc., that meets accessibility needs.
- Providing directions to the closest hospital or pharmacy in urgent situations.

### TTY Users

OnStar has the ability to communicate to the deaf, hard-of-hearing, or speech-impaired customers while in the vehicle. The available dealer-installed TTY system can provide in-vehicle access to all of the OnStar services, except Virtual Advisor and OnStar Turn-by-Turn Navigation.

### Onstar.com

The website provides access to account information, manages the OnStar subscription, and allows viewing of videos of each service. Get subscription plan pricing and sign up for OnStar Vehicle Diagnostics. Click on the “My Account” tab on the home page.

### OnStar Personal Identification Number (PIN)

A PIN is needed to access some of the OnStar services, like Remote Door Unlock and Stolen Vehicle Assistance. You will be prompted to change the PIN the first time when speaking with an Advisor. To change the OnStar PIN, call OnStar and provide the Advisor with the current number.

### Warranty

OnStar equipment may be warranted as part of the new-vehicle limited warranty. The manufacturer of the vehicle furnishes detailed warranty information.

### Languages

The vehicle can be programmed to respond in French or Spanish. Push  and ask an Advisor. Advisors can speak French or Spanish.

### Potential Issues

Some OnStar services are disabled after five days. OnStar cannot perform Remote Door Unlock or Stolen Vehicle Assistance after the vehicle has been off continuously for five days. After five days, OnStar can contact Roadside Assistance and a locksmith to help gain access to the vehicle.

### Global Positioning System (GPS)

- Obstruction of the GPS can occur in a large city with tall buildings; in parking garages; around airports; in tunnels, underpasses, or parking garages; or in an area with very dense trees. If GPS signals are not available, the OnStar system should still operate to call OnStar. However, OnStar could have difficulty identifying the exact location.

- In emergency situations, OnStar can use the last stored GPS location to send to emergency responders.
- A temporary loss of GPS can cause loss of the ability to send a Turn-by-Turn Navigation route. The Advisor may give a verbal route or may ask for a call back after the vehicle is driven into an open area.

### Cellular and GPS Antennas

Avoid placing items over or near the antenna to prevent blocking cellular and GPS signal reception. Cellular reception is required for OnStar to send remote signals to the vehicle.

### Unable to Connect to OnStar Message

If there is limited cellular coverage or the cellular network has reached maximum capacity, this message may come on. Push  to try the call again or try again after driving a few miles into another cellular area.

### Vehicle and Power Issues

OnStar services require a vehicle electrical system, wireless service, and GPS satellite technologies to be available and operating for features to function properly. These systems may not operate if the battery is discharged or disconnected.

### Add-on Electrical Equipment

The OnStar system is integrated into the electrical architecture of the vehicle. Do not add any electrical equipment. See *Add-On Electrical Equipment on page 9-61*. Added electrical equipment may interfere with the operation of the OnStar system and cause it to not operate.

### Privacy

The complete OnStar Privacy Statement may be found at www.onstar.com. Privacy-sensitive users of wireless communications are cautioned that the privacy of any information sent via wireless cellular communications cannot be assured. Third parties may unlawfully intercept or access transmissions and private communications without consent.

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