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Envision

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Contents

Introduction 2
In Brief 5
Keys, Doors, and Windows 25
Seats and Restraints 49
Storage 97
Instruments and Controls 102
Lighting 155
Infotainment System 163
Climate Controls 240
Driving and Operating 247
Vehicle Care 309
Service and Maintenance 381
Technical Data 393
Customer Information 396
Reporting Safety Defects 406
OnStar 410
Index 420

Introduction

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For vehicles first sold in Canada, substitute the name “General Motors of Canada Company” for Buick Motor Division wherever it appears in this manual.

This manual describes features that may or may not be on the vehicle because of optional equipment that was not purchased on the vehicle, model variants, country specifications, features/applications that may not be available in your region, or changes subsequent to the printing of this owner manual.

Refer to the purchase documentation relating to your specific vehicle to confirm the features.

Keep this manual in the vehicle for quick reference.

Canadian Vehicle Owners

A French language manual can be obtained from your dealer, at www.helminc.com, or from:

Propriétaires Canadiens

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
USA

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.

About Driving the Vehicle

As with other vehicles of this type, failure to operate this vehicle correctly may result in loss of control or an accident. Be sure to read the driving guidelines in this manual in the section called “Driving and Operating” and specifically *Driver Behavior* ⇨ *248*, *Driving Environment* ⇨ *248*, and *Vehicle Design* ⇨ *248*.

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Danger, Warning, and Caution

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

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

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

Caution
Caution indicates a hazard that could result in property or vehicle damage.

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.

: Shown when the owner manual has additional instructions or information.

: Shown when the service manual has additional instructions or information.

: Shown when there is more information on another page — “see page.”

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)

: Brake System Warning Light

: Charging System

: Cruise Control

: Do Not Puncture

: Do Not Service

: Engine Coolant Temperature

: Exterior Lamps

: Flame/Fire Prohibited

: Fog Lamps

: Fuel Gauge

: Fuses

: Headlamp High/Low-Beam Changer

: LATCH System Child Restraints

: Malfunction Indicator Lamp
: Oil Pressure
: OnStar®
: Power
: Remote Vehicle Start
: Safety Belt Reminders
: Steering Wheel Controls
: Tire Pressure Monitor
: Traction Control/StabiliTrak®
: Under Pressure
: Windshield Washer Fluid

In Brief

Instrument Panel
Instrument Panel Overview 6

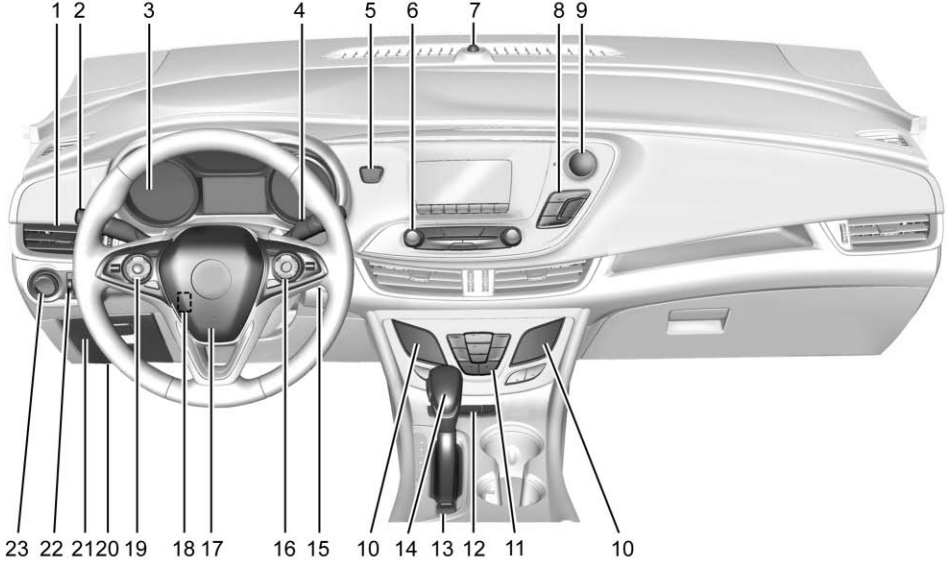
Initial Drive Information
Initial Drive Information 8
Remote Keyless Entry (RKE) System 8
Remote Vehicle Start 9
Door Locks 9
Liftgate 9
Seat Adjustment 10
Memory Features 11
Heated and Cooled Front Seats 11
Head Restraint Adjustment 12
Safety Belts 12
Passenger Sensing System . . . 12
Mirror Adjustment 13
Steering Wheel Adjustment 14
Interior Lighting 14
Exterior Lighting 15
Windshield Wiper/Washer 15
Climate Controls 17
Transmission 17

Vehicle Features
Steering Wheel Controls 18
Cruise Control 18
Driver Information Center (DIC) 19
Forward Collision Alert (FCA) System 19
Front Automatic Braking (FAB) System 19
Lane Keep Assist (LKA) 20
Lane Change Alert (LCA) 20
Surround Vision 20
Rear Vision Camera (RVC) 20
Rear Cross Traffic Alert (RCTA) System 20
Parking Assist 21
Automatic Parking Assist (APA) 21
Power Outlets 21
Universal Remote System 21
Sunroof 22

Performance and Maintenance
Traction Control/Electronic Stability Control 23
Tire Pressure Monitor 23
Engine Oil Life System 23
Driving for Better Fuel Economy 24
Roadside Assistance Program 24

Instrument Panel

Instrument Panel Overview



1. *Air Vents* ⇨ *244*.
2. Turn Signal Lever. See *Turn and Lane-Change Signals* ⇨ *159*.
3. *Instrument Cluster* ⇨ *111*.

   Driver Information Center Display. See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*.
4. *Windshield Wiper/ Washer* ⇨ *104*.

   Rear Window Wiper/ Washer ⇨ *106*.
5. *Hazard Warning Flashers* ⇨ *159*.
6. *AM-FM Radio* ⇨ *170*.
7. Light Sensor. See *Automatic Headlamp System* ⇨ *157*.
8. *Lane Keep Assist (LKA)* ⇨ *296* (If Equipped).

   Assistance Systems for Parking or Backing ⇨ *285* (If Equipped).
9. *Clock* ⇨ *107*.
10. *Heated and Cooled Front Seats* ⇨ *55* (If Equipped).
11. *Dual Automatic Climate Control System* ⇨ *240*.
12. *Traction Control/Electronic Stability Control* ⇨ *273*.
13. *Electric Parking Brake* ⇨ *271*.
14. Shift Lever. See *Automatic Transmission* ⇨ *267*.
15. ENGINE START/STOP Button. See *Ignition Positions* ⇨ *259*.
16. *Steering Wheel Controls* ⇨ *103* (If Equipped).

    Driver Information Center (DIC) Buttons. See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*.
17. *Horn* ⇨ *104*.
18. *Steering Wheel Adjustment* ⇨ *103*.
19. *Cruise Control* ⇨ *275*.

    Adaptive Cruise Control ⇨ *277* (If Equipped).

    Heated Steering Wheel ⇨ *104* (If Equipped).

    Forward Collision Alert (FCA) System ⇨ *290* (If Equipped).
20. Data Link Connector (DLC) (Out of View). See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *119*.
21. *Front Storage* ⇨ *97*.
22. *Instrument Panel Illumination Control* ⇨ *160*.

    Head-Up Display (HUD) ⇨ *133* (If Equipped) (Out of View).
23. *Exterior Lamp Controls* ⇨ *155*.

    Fog Lamps ⇨ *160* (If Equipped).

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 may work up to 60 m (197 ft) away from the vehicle.

Press this button to remove the key. The key can be used to open the driver door.

: Press to unlock the driver door or all doors.

For vehicles with the manual liftgate, press twice within five seconds to unlock the liftgate.

: Press to lock all doors.

Lock and unlock feedback can be personalized.

x2 : If equipped, press twice quickly to open or close the liftgate. Press and release once to stop the liftgate from moving.

: Press and release to initiate vehicle locator. Press and hold for at least three seconds to sound the panic alarm. Press again to cancel the panic alarm.

: Press and release and then immediately press and hold for at least four seconds to start the engine from outside the vehicle using the RKE transmitter.

See *Keys* ⇨ *25* and *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

Remote Vehicle Start

If equipped, the engine can be started from outside of the vehicle.

Starting the Vehicle

1. Press and release on the RKE transmitter.
2. Immediately press and hold for at least four seconds or until the turn signal lamps flash.

Start the vehicle normally after entering.

When the vehicle starts, the parking lamps will turn on.

Remote start can be extended.

Canceling a Remote Start

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

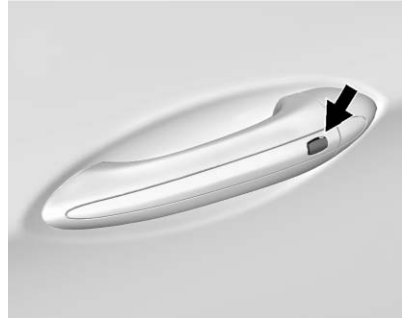
- Press and hold until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Turn the vehicle on and then off.

See *Remote Vehicle Start* ⇨ *32*.

Door Locks

See *Door Locks* ⇨ *33*.

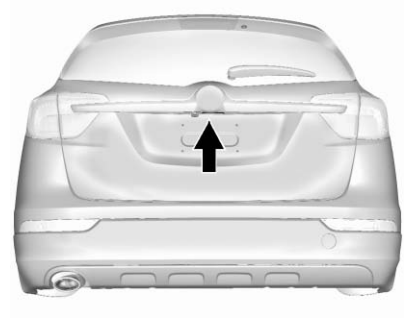
Keyless Access



If equipped with Keyless Access, the RKE transmitter must be within 1 m (3 ft) of the door being opened. Press the button on the door handle to open. The liftgate is also unlocked when the RKE transmitter is within range of the liftgate handle. Press the touch pad underneath the handle and lift.

See “Keyless Access Operation” in *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

Liftgate



To open the liftgate, press on the power door lock switch or press on the Remote Keyless Entry (RKE) transmitter twice to unlock all doors. Press the touch pad on the underside of the liftgate handle and lift up. See *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

Use the pull cup to lower and close the liftgate. Do not press the touch pad while closing the liftgate. This will cause the liftgate to be unlatched.

Power Liftgate Operation

If equipped with a power liftgate, the switch is on the driver door. The vehicle must be in P (Park).

Choose the power liftgate mode by selecting MAX or 3/4. Press on the driver door. The driver door must be unlocked. On the RKE transmitter press twice quickly until the liftgate starts moving.

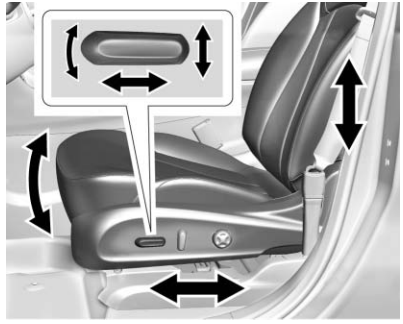
Press any liftgate button while the liftgate is moving to stop it. Pressing again reverses the direction.

To close, press on the bottom of the liftgate next to the pull cup.

To disable the power liftgate function, select OFF on the liftgate switch. See *Liftgate* ⇨ *36*.

Seat Adjustment

Power Seat

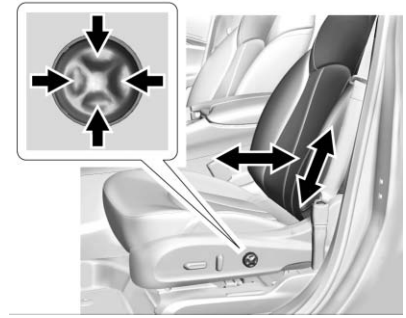


To adjust a power seat:

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

See *Power Seat Adjustment* ⇨ *52*.

Lumbar Support



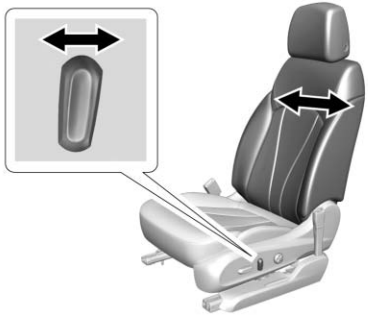
To adjust the lumbar support, if equipped:

- Press the front or rear of the switch to increase or decrease lumbar support.
- Press the top or bottom of the switch to raise or lower the lumbar support.
- Release the switch when the level of support is reached.

See *Lumbar Adjustment* ⇨ *52*.

Reclining Seatbacks

Power Reclining Seatbacks

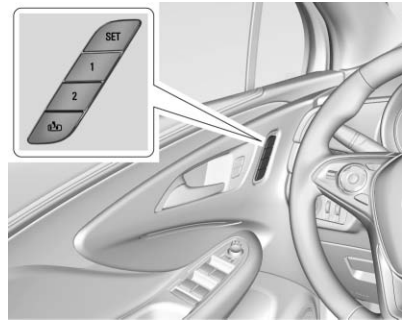


To adjust a power seatback:

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

See *Reclining Seatbacks* ⇨ *53*.

Memory Features

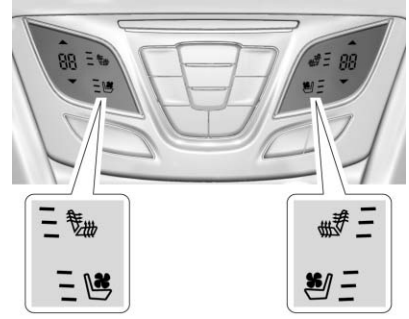


If equipped, the 1, 2, SET, and (Exit) buttons on the driver door are used to manually store and recall memory settings for the driver seat, outside mirrors, and power tilt and telescoping steering column positions.

Automatic Memory Recall and/or Easy Exit Recall features may be enabled in the vehicle personalization menus to automatically recall positions stored to the 1, 2, and buttons.

See *Memory Seats* ⇨ *53* and *Vehicle Personalization* ⇨ *146*.

Heated and Cooled Front Seats



If equipped, the buttons are near the climate controls. To operate, the engine must be running.

Press or to heat the driver or passenger seat cushion and seatback.

If equipped, press or to cool the driver or passenger seat.

Three lights next to the button indicate the temperature setting.

See *Heated and Cooled Front Seats* ⇨ *55*.

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* ⇨ *50* and *Reclining Seatbacks* ⇨ *53*.

Safety Belts

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

- *Safety Belts* ⇨ *58*.
- *How to Wear Safety Belts Properly* ⇨ *59*.
- *Lap-Shoulder Belt* ⇨ *60*.
- *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *85*.

Passenger Sensing System

United States

Canada and Mexico

The passenger sensing system will turn off the front outboard passenger frontal airbag and knee airbag under certain conditions. No other airbag is affected by the passenger sensing system. See *Passenger Sensing System* ⇨ *72*.

The passenger airbag status indicator lights on the overhead console are visible when the vehicle is started. See *Passenger Airbag Status Indicator* ⇨ *118*.

Mirror Adjustment

Interior Mirrors

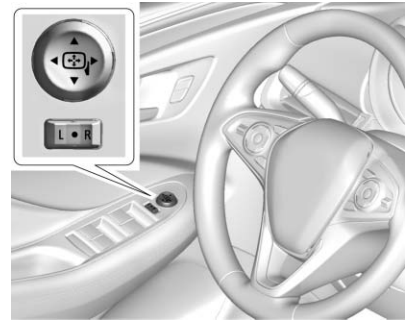
Adjust the rearview mirror for a clear view of the area behind your vehicle.

Automatic Rearview Mirror

If equipped, automatic dimming reduces the glare of headlamps from behind. The dimming feature comes on when the vehicle is started.

Exterior Mirrors

Power Mirrors



To adjust the mirrors:

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.

See *Power Mirrors* ⇨ *43*.

Manual Folding Mirrors

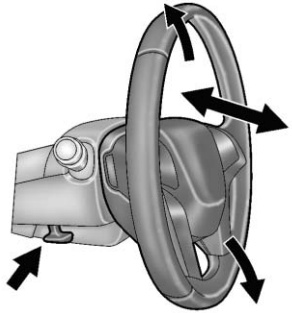
The outside mirrors fold inward to prevent damage when going through an automatic car wash. To fold, push the mirror toward the vehicle. Push outward to return to the original position.

Heated Mirrors

If equipped, press REAR to heat the outside mirrors.

See “Rear Window Defogger” under *Dual Automatic Climate Control System* ⇨ *240*.

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.

Interior Lighting

Dome Lamp

The dome lamp is 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 when a door is opened.

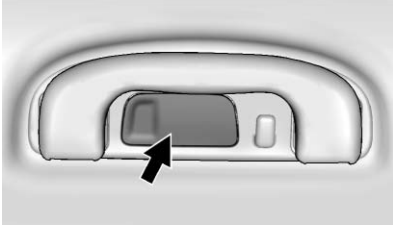
: Turns the lamp on.

Reading Lamps

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

Front Reading Lamps

The reading lamps in the overhead console are operated by touch. Touch the lamp for dim light, touch again for bright light, and touch again to turn the light off.

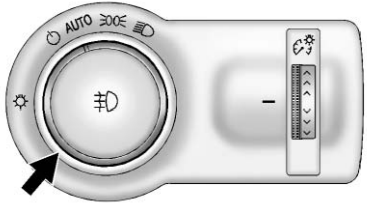


Rear Reading Lamps

Press the lamp lens to turn the rear passenger reading lamps on or off.

For more information on interior lighting, see *Instrument Panel Illumination Control* ⇨ *160*.

Exterior Lighting



The exterior lamp control is on the instrument panel on the outboard side of the steering wheel.

Turn the control to the following positions:

⏻ **:** Turns off the exterior lamps. The knob returns to the AUTO position after it is released. Turn to ⏻ again to reactivate the AUTO mode.

AUTO : Automatically turns the exterior lamps on and off, depending on outside lighting.

: Turns on the parking lamps including all lamps, except the headlamps.

: Turns on the headlamps together with the parking lamps and instrument panel lights.

See:

- *Exterior Lamp Controls* ⇨ *155*.
- *Fog Lamps* ⇨ *160*.

Windshield Wiper/Washer

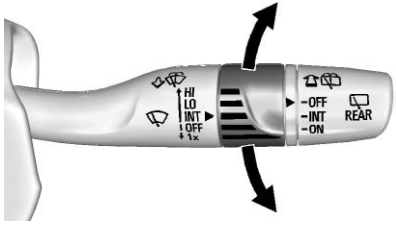
Windshield Wiper with Rainsense (AUTO Shown)

Windshield Wiper with Intermittent Wipes (INT Shown)

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 : Use for intermittent wipes. To adjust wipe frequency, turn the band up for more frequent wipes or down for less frequent wipes. If the vehicle has Rainsense™, see the following Rainsense information.

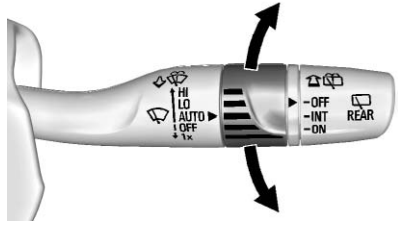
OFF : Use to turn the wipers off.

1x : 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.

Rainsense™



For vehicles with Rainsense:

AUTO : Move the windshield wiper lever to AUTO. Turn the 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 AUTO position to deactivate Rainsense.

Rear Window Wiper/Washer

Turn the end of the windshield wiper lever to operate the rear window wiper/washer.

OFF : Turns the system off.

INT : Intermittent wipes.

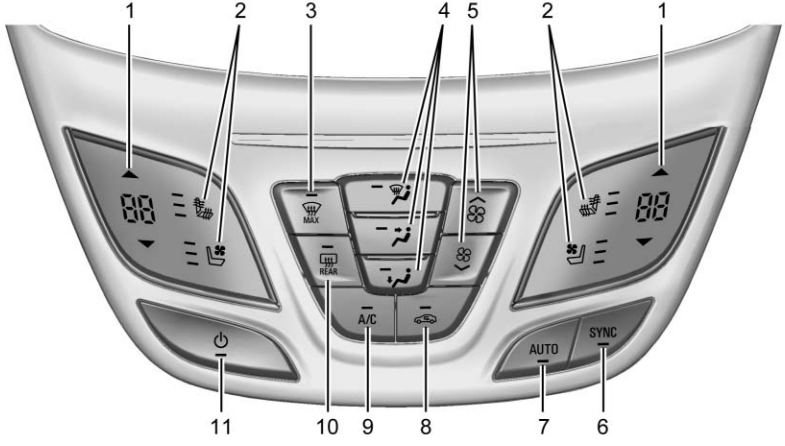
ON : Slow wipes.

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

See *Windshield Wiper/Washer* ⇨ *104* and *Rear Window Wiper/Washer* ⇨ *106*.

Climate Controls

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



1. Driver and Passenger Temperature Controls
2. Heated and Cooled Front Seats (If Equipped)
3. Defrost
4. Air Delivery Mode Controls
5. Fan Control
6. SYNC (Synchronized Temperature)
7. AUTO (Automatic Operation)
8. Recirculation
9. A/C (Air Conditioning)
10. Rear Window Defogger
11. Power

See *Dual Automatic Climate Control System* ⇨ *240* and *Rear Climate Control System* ⇨ *243* (if equipped).

Transmission

Electronic Range Select (ERS) Mode

ERS or manual mode allows for the selection of the range of gear positions. Use this mode when driving downhill to limit the top gear and vehicle speed.

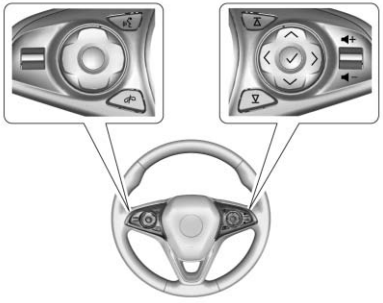
To use this feature:

1. Move the shift lever to L (Low).
2. Press the plus/minus button on the shift lever to increase or decrease the gear range available.

See *Manual Mode* ⇨ *269*.

Vehicle Features

Steering Wheel Controls



For vehicles with audio steering wheel controls, some audio controls can be adjusted at the steering wheel.

: Press to initiate a call or to interact with the available Bluetooth®, OnStar®, or navigation system (if equipped).

: Press to decline an incoming call or end a current call. Press to mute or unmute the infotainment system.

< or >: Press to go to the previous or next area in the display or to the previous or next menu.

∧ or ∨: Press to go up or down in a list. Press to go up or down a page.

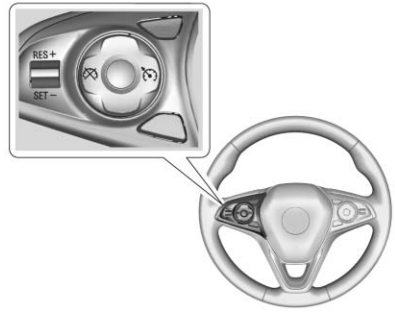
✓: Press to select a highlighted menu item.

⊼ or ⊽: Press to go to the next or previous favorite when listening to the radio. Press to go to the next or previous track when listening to a media source.

+ or − : Press to increase or decrease the volume.

See *Steering Wheel Controls* ⇨ *103*

Cruise Control



: Press to turn cruise control on or off. A white indicator comes on in the instrument cluster when the cruise is turned on.

RES+ : If there is a set speed in memory, press briefly to resume that speed or press and hold to accelerate. If cruise control is already active, use to increase vehicle speed.

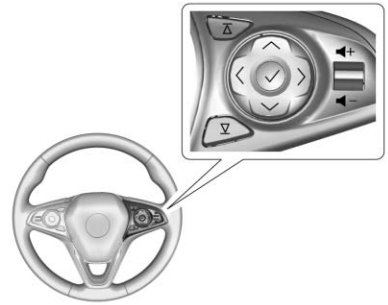
SET− : Press the control down briefly to set the speed and activate cruise control. If cruise control is already active, use to decrease vehicle speed.

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

See *Cruise Control* ⇨ *275* or *Adaptive Cruise Control* ⇨ *277*, if equipped.

Driver Information Center (DIC)

The DIC display is in the instrument cluster. It shows the status of many vehicle systems.



∧ or ∨ : Press to move up or down in a list.

< or > : Press < to open application menus on the left. Press > to open interaction menus on the right.

✓ : Press to open a menu or select a menu item. Press and hold to reset values on certain screens.

See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*.

Forward Collision Alert (FCA) System

If equipped, FCA may help avoid or reduce the harm caused by front-end crashes. FCA provides a green indicator, , when a vehicle is detected ahead. This indicator displays amber if you follow a vehicle much too closely. When approaching a vehicle ahead too quickly, FCA provides a flashing red alert on the windshield and rapidly beeps or pulses the driver seat.

See *Forward Collision Alert (FCA) System* ⇨ *290*.

Front Automatic Braking (FAB) System

If the vehicle has Adaptive Cruise Control (ACC), it also has FAB, which includes Intelligent Brake Assist (IBA). When the system detects a vehicle ahead in your path that is traveling in the same direction that you may be about to crash into, it can provide a boost to braking or automatically brake the

vehicle. This can help avoid or lessen the severity of crashes when driving in a forward gear.

See *Front Automatic Braking (FAB) System* ⇨ *292*.

Lane Keep Assist (LKA)

If equipped, LKA may help avoid crashes due to unintentional lane departures. It may assist by gently turning the steering wheel if the vehicle approaches a detected lane marking without using a turn signal in that direction. It may also provide a Lane Departure Warning (LDW) alert as the lane marking is crossed. The system will not assist or alert if it detects that you are actively steering. Override LKA by turning the steering wheel. LKA uses a camera to detect lane markings between 60 km/h (37 mph) and 180 km/h (112 mph).

See *Lane Departure Warning (LDW)* ⇨ *296* and *Lane Keep Assist (LKA)* ⇨ *296*.

Lane Change Alert (LCA)

If equipped, the LCA system is a lane-changing aid that assists drivers with avoiding lane change crashes that occur with moving vehicles in the side blind zone (or spot) areas or with vehicles rapidly approaching these areas from behind. The LCA warning display will light up in the corresponding outside side mirror and will flash if the turn signal is on. The Side Blind Zone Alert (SBZA) system is included as part of the LCA system.

See *Side Blind Zone Alert (SBZA)* ⇨ *293* and *Lane Change Alert (LCA)* ⇨ *294*.

Surround Vision

If equipped, views around the vehicle display on the center stack to aid with parking and low-speed maneuvers.

See “Surround Vision” under *Assistance Systems for Parking or Backing* ⇨ *285*.

Front Vision Camera

If equipped, a view of the area in front of the vehicle displays on the center stack to aid with parking and low-speed maneuvers.

See “Front Vision Camera” under *Assistance Systems for Parking or Backing* ⇨ *285*.

Rear Vision Camera (RVC)

If equipped, RVC displays a view of the area behind the vehicle on the infotainment display when the vehicle is shifted into R (Reverse) to aid with parking and low-speed backing maneuvers.

See *Assistance Systems for Parking or Backing* ⇨ *285*.

Rear Cross Traffic Alert (RCTA) System

If equipped, the RCTA system uses a triangle with an arrow displayed on the RVC screen to warn of traffic behind your vehicle that may cross

your vehicle's path while in R (Reverse). In addition, beeps will sound, or the driver seat will pulse.

See *Assistance Systems for Parking or Backing* ⇨ *285*.

Parking Assist

If equipped, Rear Parking Assist (RPA) uses sensors on the rear bumper to assist with parking and avoiding objects while in R (Reverse). It operates at speeds less than 8 km/h (5 mph). RPA may display a warning triangle on the Rear Vision Camera screen and a graphic on the instrument cluster to provide the object distance. In addition, multiple beeps or seat pulses may occur if very close to an object.

The vehicle may also have the Front Parking Assist system.

See *Assistance Systems for Parking or Backing* ⇨ *285*.

Automatic Parking Assist (APA)

If equipped, the APA system helps to search for and maneuver the vehicle into parallel or perpendicular parking spots using automatic steering, DIC displays, and beeps. When the vehicle speed is below 30 km/h (18 mph), press P to enable the system.

See “Automatic Parking Assist (APA)” under *Assistance Systems for Parking or Backing* ⇨ *285*.

Power Outlets

The vehicle has four 12-volt accessory power outlets, which can be used to plug in electrical equipment, such as a cell phone or MP3 player.

There are power outlets:

- On the center floor console.
- Inside the center floor console.
- On the rear of the center floor console.
- In the rear cargo area.

To use the outlet, remove the cover.

See *Power Outlets* ⇨ *108*.

Universal Remote System

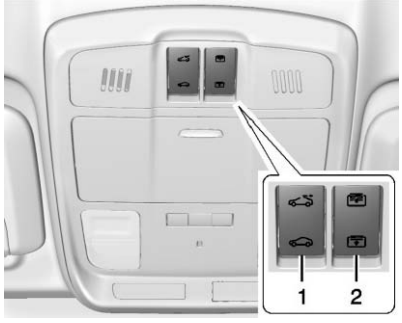
This system provides a way to replace up to three remote control transmitters used to activate devices such as garage door openers, security systems, and home automation devices.

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 with programming the Universal Remote system.

See *Universal Remote System* ⇨ *151*.

Sunroof



1. Sunroof Switch
2. Sunshade Switch

If equipped, the sunroof only operates when the ignition is in ACC/ACCESSORY or ON/RUN, or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP)* ⇨ *264*.

Vent : From the closed position, press the rear of the switch (1) to vent the sunroof.

Open/Close : To open the sunroof, press and hold the rear of the switch (1) until the sunroof reaches the desired position. Press and hold the front of the switch (1) to close it.

Express-Open/Express-Close : To express-open the sunroof, fully press and release the rear of switch (1). Press the switch again to stop it. To express-close the sunroof, fully press and release the front of switch (1). Press the switch again to stop it.

Sunshade : To open or close the sunshade, press and hold the switch (2).

When the sunroof is opened, an air deflector will automatically raise. The air deflector will retract when the sunroof is closed.

If an object is in the path of the sunroof while it is closing, the automatic reversal system will detect the object and stop the sunroof.

See *Sunroof* ⇨ *47*.

Performance and Maintenance

Traction Control/ Electronic Stability Control

The Traction Control System (TCS) limits wheel spin. The system is on when the vehicle is started.

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 TCS, press and release on the center console. The traction off light illuminates in the instrument cluster.
- Press and release again to turn TCS back on. The traction off light in the instrument cluster will turn off.
- To turn off both TCS and StabiliTrak, press and hold until the traction off light and StabiliTrak OFF light illuminate in the instrument cluster.
- Press and release again to turn on both systems. The traction off light and StabiliTrak OFF light in the instrument cluster will turn off.

See *Traction Control/Electronic Stability Control* ⇨ *273*.

Tire Pressure Monitor

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

The low tire pressure warning light alerts 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* ⇨ *255*. The warning light will remain on until the tire pressure is corrected.

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 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. Maintain the correct tire pressures.

See *Tire Pressure Monitor System* ⇨ *347*.

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 controls on the right side of the steering wheel, display REMAINING OIL LIFE on the DIC. See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*. When remaining oil life is low, the CHANGE ENGINE OIL SOON message will appear on the display. See *Engine Oil Messages* ⇨ *139*.
2. Press ✓ on the DIC controls and hold down for a few seconds to clear the CHANGE ENGINE OIL SOON message and 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.

See *Engine Oil Life System* ⇨ *316*.

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 Assistance Program

U.S.: 1-800-252-1112

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

Canada: 1-800-268-6800

New Buick owners are automatically enrolled in the Roadside Assistance Program.

See *Roadside Assistance Program* ⇨ *400*.

Keys, Doors, and Windows

Keys and Locks
Keys 25
Remote Keyless Entry (RKE) System 26
Remote Keyless Entry (RKE) System Operation 26
Remote Vehicle Start 32
Door Locks 33
Power Door Locks 34
Delayed Locking 34
Automatic Door Locks 35
Lockout Protection 35
Safety Locks 35

Doors
Liftgate 36

Vehicle Security
Vehicle Security 41
Vehicle Alarm System 41
Immobilizer 42
Immobilizer Operation 42

Exterior Mirrors
Convex Mirrors 43
Power Mirrors 43
Folding Mirrors 44
Heated Mirrors 44
Automatic Dimming Mirror 44
Reverse Tilt Mirrors 44

Interior Mirrors
Interior Rearview Mirrors 44
Automatic Dimming Rearview Mirror 44

Windows
Windows 45
Power Windows 45
Sun Visors 47

Roof
Sunroof 47

Keys and Locks

Keys

⚠ Warning

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

The key that is part of the Remote Keyless Entry (RKE) transmitter can be used to open the driver door.

Press the button on the RKE transmitter to remove the key.

If it becomes difficult to turn the key, inspect the key blade for debris. Periodically clean with a brush or pick.

See your dealer if a new key is needed.

If locked out of the vehicle, see *Roadside Assistance Program* ⇨ *400*.

With an active OnStar subscription, an OnStar Advisor may remotely unlock the vehicle. See *OnStar Overview* ⇨ *410*.

Remote Keyless Entry (RKE) System

See *Radio Frequency Statement* ⇨ *406*.

If there is a decrease in the Remote Keyless Entry (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 RKE transmitter may work up to 60 m (197 ft) away from the vehicle.

Other conditions can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System* ⇨ *26*.

The following may be available:

(Lock) : Press to lock all doors. The turn signal indicators may flash and/or the horn may sound to indicate locking. See *Vehicle Personalization* ⇨ *146*. If a passenger door is open when is pressed, all doors lock. If the driver door is open when is pressed, all doors lock except the driver door. These settings can be modified. See *Vehicle Personalization* ⇨ *146*.

Pressing may also arm the alarm system. See *Vehicle Alarm System* ⇨ *41*.

(Unlock) : Press to unlock the driver door or all doors. See *Vehicle Personalization* ⇨ *146*. The turn signal indicators may flash to indicate unlocking has occurred. See *Vehicle Personalization* ⇨ *146*.

Pressing may also disarm the alarm system. See *Vehicle Alarm System* ⇨ *41*.

For vehicles with the manual liftgate, press twice within five seconds to unlock the liftgate.

(Power Liftgate Control) : If equipped, press twice quickly to open or close the liftgate. Press and release once to stop the liftgate from moving.

(Vehicle Locator/Panic Alarm) : Press and release one time to initiate vehicle locator. The exterior lamps flash and the horn chirps three times. Press and hold for at least three seconds to sound the panic alarm. The horn sounds and the turn signals flash until is pressed again or the key is placed in the ignition and turned to ON/RUN.

(Remote Start) : Press and release and then immediately press and hold for at least four seconds to start the engine from outside the vehicle using the RKE transmitter.

Keyless Access Operation

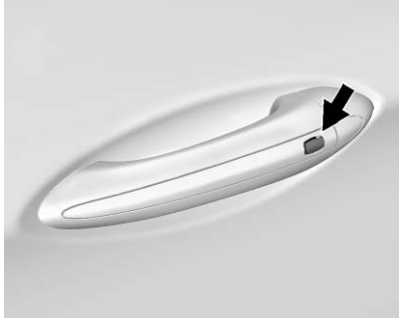
The Keyless Access system lets you lock and unlock the doors and access the liftgate without removing the RKE transmitter from your pocket, purse, briefcase, etc. The RKE transmitter should be within 1 m (3 ft) of the door or liftgate being opened. If equipped, there will be buttons on the outside front door handles.

Keyless Access can be programmed to unlock all doors on the first lock/unlock press from the driver door. See *Vehicle Personalization* ⇨ *146*.

Keyless Unlocking/Locking from the Driver Door

When the doors are locked and the RKE transmitter is within 1 m (3 ft) of the driver door handle, pressing

the lock/unlock button on the driver door handle will unlock the driver door. If the lock/unlock button is pressed again within five seconds, all passenger doors will unlock. Pull the door handle to unlatch the door.



Driver Side Shown, Passenger Side Similar

Pressing the lock/unlock button will cause all doors to lock if any of the following occur:

- It has been more than five seconds since the first lock/unlock button press.
- Two lock/unlock button presses were used to unlock all doors.
- Any vehicle door has opened and all doors are now closed.

Keyless Unlocking/Locking from the Passenger Doors

When the doors are locked and the RKE transmitter is within 1 m (3 ft) of the passenger door handle, pressing the lock/unlock button on the passenger door handle will unlock all doors.

Pressing the lock/unlock button will cause all doors to lock if any of the following occur:

- The lock/unlock button was used to unlock all doors.
- Any vehicle door has opened and all doors are now closed.

Passive Locking

If equipped with Keyless Access, the vehicle will lock several seconds after all doors are closed if the vehicle is off and at least one transmitter has been removed or none remain in the vehicle.

If other electronic devices interfere with the RKE transmitter signal, the vehicle may not detect the RKE transmitter inside the vehicle.
If passive locking is enabled, the doors may lock with the RKE transmitter inside the vehicle. Do not leave the RKE transmitter in an unattended vehicle.

Temporary Disable of the Passive Locking Feature

Temporarily disable passive locking by pressing and holding 🔓 on the interior door switch with a door open for at least four seconds, or until three chimes are heard. Passive locking will then remain disabled until 🔒 on the interior door is pressed, or until the vehicle is turned on.

To customize the doors to automatically lock when exiting the vehicle, see *Vehicle Personalization* ⇨ *146*.

Remote Left In Vehicle Alert

When the vehicle is turned off and a remote is left in the vehicle, the horn will chirp three times after all doors are closed. To turn on or off see *Vehicle Personalization* ⇨ *146*.

Keyless Liftgate Opening

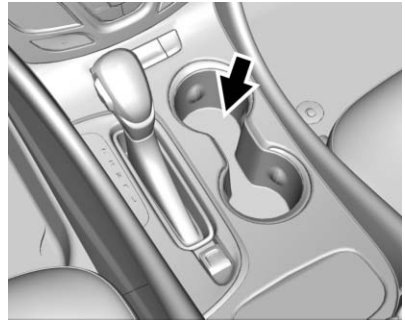
When the doors are locked, press the touch pad to open the liftgate if the RKE transmitter is within 1 m (3 ft).

Programming Transmitters to the Vehicle

Only RKE 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. Any remaining transmitters will need to be reprogrammed. Each vehicle can have up to eight transmitters matched to it.

Programming with a Recognized Transmitter

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 front cupholder.
2. Insert the vehicle key of the new transmitter into the key lock cylinder on the outside of the driver door and turn the key to the unlock position five times within 10 seconds.

   The Driver Information Center (DIC) displays READY FOR REMOTE #2, 3, 4 or 5.
3. Place the new transmitter in the front cupholder
4. Press the ENGINE START/STOP button. When the transmitter is learned, the DIC will show that it is ready to program the next transmitter.
5. Remove the transmitter from the transmitter pocket and press 🔓.

   To program additional transmitters, repeat Steps 3–5.

   When all additional transmitters are programmed, press and hold the ENGINE START/STOP button for 12 seconds to exit programming mode.

Programming without a Recognized Transmitter

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 to be programmed must be with you.

1. Insert the vehicle key of the transmitter into the key lock cylinder on the outside of the driver door and turn the key to the unlock position five times within 10 seconds.

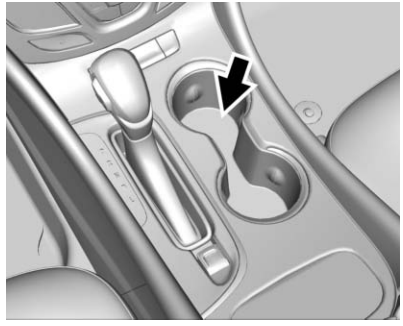
   The Driver Information Center (DIC) displays REMOTE LEARN PENDING, PLEASE WAIT.

2. Wait for 10 minutes until the DIC displays PRESS ENGINE START BUTTON TO LEARN and then press the ENGINE START/STOP button.

   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 front cupholder.
5. Press the ENGINE START/STOP button. When the transmitter is learned the DIC will show that it is ready to program the next transmitter.
6. Remove the transmitter from the cupholder and press 🔓.

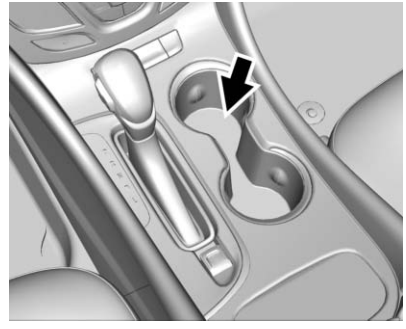
   To program additional transmitters, repeat Steps 4–6.

   When all additional transmitters are programmed, press and hold the ENGINE START/STOP button for 12 seconds to exit programming mode.

Starting the Vehicle with a Low Transmitter Battery

If the transmitter battery is weak or if there is interference with the signal, the DIC may display NO REMOTE DETECTED or NO REMOTE KEY WAS DETECTED PLACE KEY IN TRANSMITTER POCKET THEN START YOUR VEHICLE. See *Key and Lock Messages* ⇨ *140*.

To start the vehicle:



1. Place the transmitter in the front cupholder.

2. With the vehicle in P (Park) or N (Neutral), press the brake pedal and the ENGINE START/STOP button.

   Replace the transmitter battery as soon as possible.

Battery Replacement

Replace the battery if the REPLACE BATTERY IN REMOTE KEY message displays in the DIC. See *Key and Lock Messages* ⇨ *140*.

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

The battery is not rechargeable. To replace the battery:

1. Press the button on the transmitter to access the key.

2. Separate the two halves of the transmitter using a flat tool inserted into the bottom of the transmitter.

3. Remove the battery by pushing on the battery and sliding it toward the bottom of the transmitter.
4. Insert the new battery, positive side facing the back cover. Push the battery down until it is held in place. Replace with a CR2032 or equivalent battery.
5. Snap the battery cover back on to the transmitter.

Remote Vehicle Start

If equipped with the remote start feature, the climate control system will come on when the vehicle is started remotely depending on the outside temperature.

The rear defog and heated and cooled seats, if equipped, may also come on. See *Heated and Cooled Front Seats* ⇨ *55* and *Vehicle Personalization* ⇨ *146*.

Laws in some communities may restrict the use of remote starters. Check local regulations for any requirements on remote starting of vehicles.

Do not use remote start if the vehicle is low on fuel.

The vehicle cannot be remote started if:

- The transmitter is in the vehicle.
- The hood is not closed.
- There is an emission control system malfunction and the malfunction indicator lamp is on.

The engine will turn off during a remote vehicle start if:

- The coolant temperature gets too high.
- The oil pressure gets low.

The RKE transmitter range may be reduced while the vehicle is running.

Other conditions can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System* ⇨ *26* or *Vehicle Personalization* ⇨ *146*.

Starting the Engine Using Remote Start

1. Press and release 🔒.
2. Immediately press and hold 🔒 until the turn signal lamps flash or for at least four seconds.

   When the vehicle starts, the parking lamps will turn on. The doors will be locked and the climate control system may come on.

   The engine will continue to run for 10 minutes. After 30 seconds, repeat Steps 1 and 2 if a 10-minute time extension is desired.

Place the ignition in ON/RUN/START to operate the vehicle.

Extending Engine Run Time

The engine run time can be extended by 10 minutes, for a total of 20 minutes, if during the first 10 minutes Steps 1 and 2 are repeated while the engine is still running. An extension can be requested, 30 seconds after starting.

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

The vehicle's ignition must be turned on and then back off to use remote start again.

Canceling a Remote Start

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

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

Door Locks

⚠ Warning

Unlocked doors can be dangerous.

- Passengers, especially children, can easily open the doors and fall out of a moving vehicle. When a door is locked, the handle will not open it. The chance of being thrown out of the vehicle in a crash is

(Continued)

Warning (Continued)

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.
- Outsiders can easily enter through an unlocked door when you slow down or stop the vehicle. Locking the doors can help prevent this from happening.

To lock or unlock the doors from outside the vehicle:

- Press 🔒 or 🔓 on the Remote Keyless Entry (RKE) transmitter.
- Use the key in the driver door.

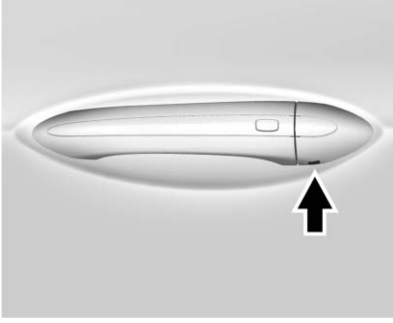
To lock or unlock the doors from inside the vehicle:

- Press 🔒 or 🔓 on the power door lock switch.
- Pushing down the manual lock knob on the driver door will lock all doors. Pushing down the manual lock knob on a passenger door will lock only that door.
- Pulling an interior door handle will unlock the door. Pulling the door handle again unlatches it.

Keyless Access

If equipped, the RKE transmitter must be within 1 m (3 ft) of the door being opened. Press the button on the door handle to open. See “Keyless Access Operation” in *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

Key Cylinder Access



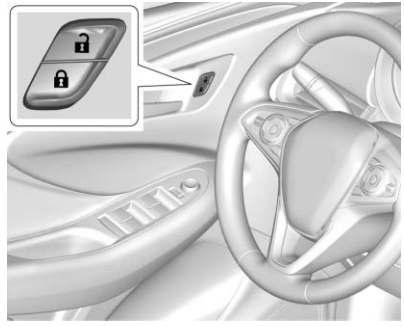
To access the key cylinder:

1. Pull the door handle to the open position.
2. Insert the key into the slot on the bottom of the cap and pry outward.
3. Move the cap rearward and remove.

Replace the cap by snapping on the tabs.

Power Door Locks

Press 🔒 or 🔓 on the Remote Keyless Entry (RKE) transmitter. See *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.



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

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

Delayed Locking

This feature delays the actual locking of the doors until five seconds after all doors are closed.

Delayed locking can only be turned on when the Unlocked Door Anti Lock Out feature has been turned off.

When 🔒 is pressed on the power door lock switch with the door open, a chime will sound three times indicating that delayed locking is active.

The doors will then lock automatically five seconds after all doors are closed. If a door is reopened before five seconds have elapsed, the five-second timer will reset once all the doors are closed again.

Press 🔒 on the door lock switch again, or press 🔒 on the RKE transmitter, to override this feature and lock the doors immediately.

Delayed locking can be programmed through the Driver Information Center (DIC). See *Vehicle Personalization* ⇨ *146*.

Automatic Door Locks

The doors will lock automatically when all doors are closed, the ignition is on, and the vehicle is shifted out of P (Park).

To unlock the doors:

- Press on the power door lock switch.
- Shift the transmission into P (Park).

Automatic door locking cannot be disabled. Automatic door unlocking can be programmed. See *Vehicle Personalization* ⇨ *146*.

Lockout Protection

If the vehicle is in ACC/ ACCESSORY or ON/RUN/START and the power door lock switch is pressed with the driver door open, all the doors will lock and only the driver door will unlock.

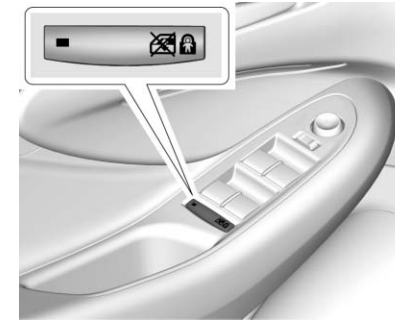
If the vehicle is off and locking is requested while a door is open, when all doors are closed the vehicle will check for RKE transmitters inside. If an RKE transmitter is detected and the number of RKE transmitters inside has not reduced, the driver door will unlock and the horn will chirp three times.

Lockout Protection can be manually overridden with the driver door open by pressing and holding on the power door lock switch.

Unlocked Door Anti Lockout

If Unlocked Door Anti Lockout is turned on and the vehicle is off, the driver door is open, and locking is requested, all the doors will lock and only the driver door will unlock. The Unlocked Door Anti Lockout feature can be turned on or off using the vehicle personalization menus. See *Vehicle Personalization* ⇨ *146*.

Safety Locks



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

Press to activate the rear door safety locks. The indicator light comes on when activated.

Press again to deactivate the safety locks.

If an inside rear door handle is being pulled at the same time a safety lock is deactivated, only that door will remain locked and the indicator light may flash. Release

the handle, then press the safety lock twice to deactivate the safety locks.

The rear window lockout is also enabled. See *Power Windows* ⇨ *45*.

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.
- Adjust the climate control system to a setting that brings in only outside air

(Continued)

Warning (Continued)

and set the fan speed to the highest setting. See "Climate Control Systems" in the Index.

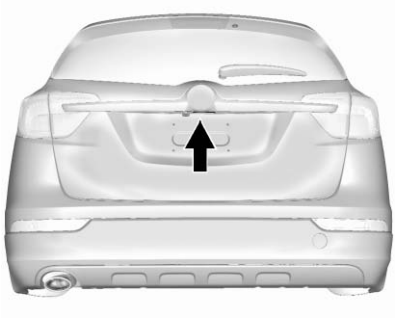
- If the vehicle is equipped with a power liftgate, disable the power liftgate function.

See *Engine Exhaust* ⇨ *266*.

Caution

To avoid damage to the liftgate or liftgate glass, make sure the area above and behind the liftgate is clear before opening it.

Manual Liftgate



To open the liftgate, press 🔓 on the power door lock switch or press 🔓 on the RKE transmitter twice to unlock all doors. Press the touch pad on the underside of the liftgate handle and lift up.

Use the pull cup to lower and close the liftgate. Do not press the touch pad while closing the liftgate. This will cause the liftgate to be unlatched.

If equipped with Keyless Access, the liftgate can be opened when locked if the RKE transmitter is within 1 m (3 ft) of the touch pad. See *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

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.

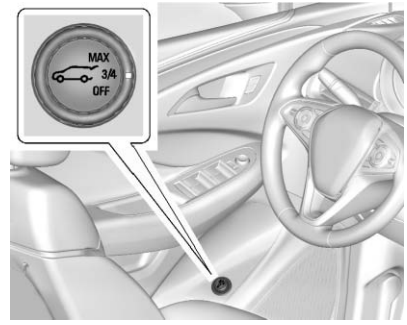
Power Liftgate Operation

⚠ 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.

Caution

Driving with an open and unsecured liftgate may result in damage to the power liftgate components.



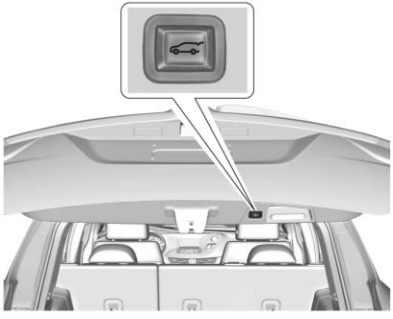
If equipped with a power liftgate, the switch is on the driver door. The vehicle must be in P (Park).

The modes are:

- MAX: Opens to maximum height.
- 3/4: Opens to a reduced height that can be set from 3/4 to fully open. Use to prevent the liftgate from opening into overhead obstructions such as a garage door or roof-mounted cargo. The liftgate can be manually opened all the way.
- OFF: Opens manually only.

To power open or close the liftgate, select MAX or 3/4 mode.

- Press ⊼ twice quickly on the RKE transmitter until the liftgate moves.
- Press on the driver door.
- Press the touch pad on the outside liftgate handle after unlocking all doors. If equipped with Keyless Access, the RKE transmitter must be within 1 m (3 ft).



- Press on the bottom of the liftgate next to the pull cup to close.

Press any liftgate button or the touch pad while the liftgate is moving to stop it. Pressing again restarts the operation in the reverse direction. The touch pad on the liftgate handle cannot be used to close the liftgate.

Caution
Manually forcing the liftgate to open or close during a power cycle can damage the vehicle. Allow the power cycle to complete.

The power liftgate may be temporarily disabled under extreme low temperatures, or after repeated power cycling over a short period of time. If this occurs, the liftgate can still be operated manually.

If the vehicle is shifted out of P (Park) while the power function is in progress, the liftgate will continue to completion. If the vehicle is accelerated before the liftgate has completed moving, the liftgate may stop or reverse direction. Check for DIC messages and make sure the liftgate is closed and latched before driving.

Falling Liftgate Detection

The power liftgate will automatically close if the support strut has lost pressure. See your dealer for service before using the power 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 and move a short distance away from the obstacle. 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, manually close the liftgate which will allow normal power operation functions to resume.

If the vehicle is locked while the liftgate is closing, and an obstacle is encountered that prevents the

liftgate from completely closing, the horn will sound as an alert that the liftgate did not close.

Pinch sensors are on the side edges of the liftgate. If an object is caught between the liftgate and the vehicle 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 3/4 Mode

To change the position the liftgate stops at when opening:

1. Select MAX or 3/4 mode 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 needed.
3. Press and hold next to the pull cup on the outside of the liftgate until the turn signals flash and a beep sounds. This indicates the setting has been recorded.

The liftgate cannot be set below a minimum programmable height. If there is no light flash or sound, then the height adjustment may be too low.

Manual Operation

Select OFF to manually operate the liftgate. See “Manual Liftgate” at the beginning of this section.

Caution
Attempting to move the liftgate too quickly and with excessive force may result in damage to the vehicle.

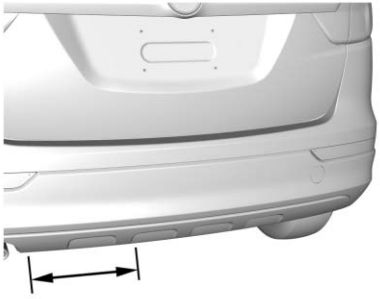
Operate the liftgate manually with a smooth motion and moderate speed. The system includes a feature which limits the manual closing speed to protect the components.

Hands-Free Operation

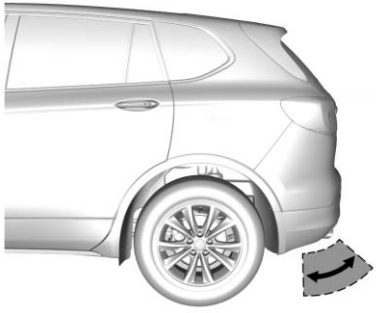
If equipped, the liftgate may be operated with a kicking motion under the rear bumper.

The liftgate will not operate if the RKE transmitter is not within 1 m (3 ft).

The hands-free feature will not work while the liftgate is moving. To stop the liftgate while in motion use one of the liftgate switches.



Length of Kick Zone



To operate, kick your foot straight up in one swift motion under the left corner of the rear bumper, then pull it back.

Caution

Splashing water may cause the liftgate to open. Keep the RKE transmitter away from the rear bumper detection area or turn the liftgate mode to OFF when cleaning or working near the rear bumper to avoid accidental opening.

- Do not sweep your foot side to side.
- Do not keep your foot under the bumper; the liftgate will not activate.
- Do not touch the liftgate until it has stopped moving.
- This feature may temporarily be disabled under some conditions. If the liftgate does not respond to the kick, open or close the liftgate by another method or start the vehicle. The feature will be re-enabled.

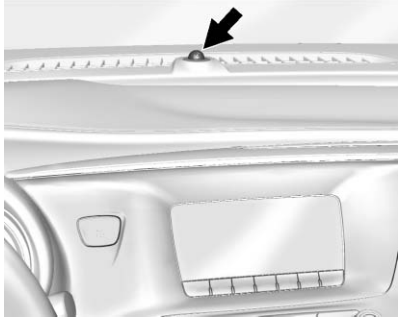
When closing the liftgate using this feature, there will be a short delay. The rear lights will flash and a chime will sound. Step away from the liftgate before it starts moving.

Vehicle Security

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

Vehicle Alarm System

This vehicle has an anti-theft alarm system.



The indicator light, on the instrument panel near the windshield, indicates the status of the system:

Off : Alarm system is disarmed.

On Solid : Vehicle is secured during the delay to arm the system.

Fast Flash : Vehicle is unsecured. A door, the hood, or the liftgate is open.

Slow Flash : Alarm system is armed.

Arming the Alarm System

1. Turn off the vehicle.
2. Lock the vehicle in one of three ways:
   - Use the RKE transmitter.
   - Use the Keyless Access system.
   - With a door open, press the inside 🔒.
3. After 30 seconds the alarm system will arm, and the indicator light will begin to slowly flash indicating the alarm system is operating.

   Pressing 🔒 on the RKE transmitter a second time will bypass the 30-second delay and immediately arm the alarm system.

The vehicle alarm system will not arm if the doors are locked with the key.

If the driver door is opened without first unlocking with the RKE transmitter, the horn will chirp and the lights will flash to indicate pre-alarm. If the vehicle is not started, or the door is not unlocked by pressing 🔓 on the RKE transmitter during the 10-second pre-alarm, the alarm will be activated.

The alarm will also be activated if a door, the hood, or the liftgate is opened without first disarming the system. When the alarm is activated, 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.

Disarming the Alarm System

To disarm the alarm system or turn off the alarm if it has been activated:

- Press 🔓 on the RKE transmitter.

- Unlock the vehicle using the Keyless Access system.
- Start the vehicle.

To avoid setting off the alarm by accident:

- Lock the vehicle after all occupants have exited.
- Always unlock the vehicle with the RKE transmitter, or use the Keyless Access system.

Unlocking the driver door with the key will not disarm the system or turn off the alarm.

How to Detect a Tamper Condition

If 🔓 is pressed on the RKE transmitter and the horn chirps and the lights flash three times, an alarm occurred previously while the alarm system was armed.

If the alarm has been activated, a message will appear on the DIC. See *Security Messages* ⇨ *143*.

Immobilizer

See *Radio Frequency Statement* ⇨ *406*.

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 transmitter leaves the vehicle.

The immobilization system is disarmed when the ignition button is pushed in and a valid transmitter is found in the vehicle.

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

The system has one or more transmitters matched to an immobilizer control unit in your vehicle. Only a correctly matched 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 vehicle off and try again.

If the RKE transmitter appears to be undamaged, try another transmitter. Or, you may try placing the transmitter in the transmitter pocket in the front cupholder. See “Starting the Vehicle with a Low Transmitter Battery” under *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

If the engine does not start with the other transmitter or when the transmitter is in the pocket in the front cupholder, your vehicle needs service. See your dealer who can service the theft-deterrent system and have a new transmitter programmed to the vehicle.

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

Exterior Mirrors

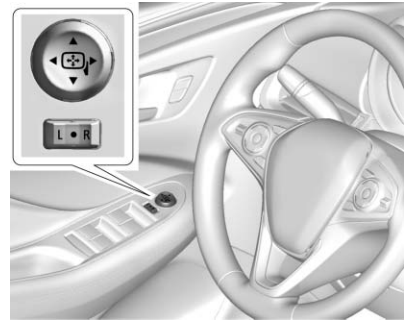
Convex Mirrors

⚠ 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



To adjust the mirrors:

1. Move the selector switch to the 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.

Turn Signal Indicator

The vehicle may also have a turn signal indicator on the mirror. An arrow on the mirror flashes in the direction of the turn or lane change.

Folding Mirrors

Manual Folding Mirrors

The mirrors can be 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.

Heated Mirrors

REAR **:** Press to heat the mirrors.

See “Rear Window Defogger” under *Dual Automatic Climate Control System* ⇨ *240*.

Automatic Dimming Mirror

If equipped, the vehicle has an automatic dimming outside mirror(s). The mirror(s) will adjust for the glare of headlamps behind you.

Reverse Tilt Mirrors

If equipped with memory seats, the passenger and/or driver mirror tilts to a preselected position when the vehicle is in R (Reverse). This allows the curb to be seen when parallel parking.

The mirror(s) return to the original position when:

- The vehicle is shifted out of R (Reverse), or remains in R (Reverse) for about 30 seconds.
- The ignition is turned off.
- The vehicle is driven in R (Reverse) above a set speed.

To turn this feature on or off, see *Vehicle Personalization* ⇨ *146*.

Interior Mirrors

Interior Rearview Mirrors

Adjust the rearview mirror for a clear view of the area behind the vehicle.

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

Automatic Dimming Rearview Mirror

If equipped, automatic dimming reduces the glare of headlamps from behind. The dimming feature comes on when the vehicle is started.

Windows

⚠ Warning

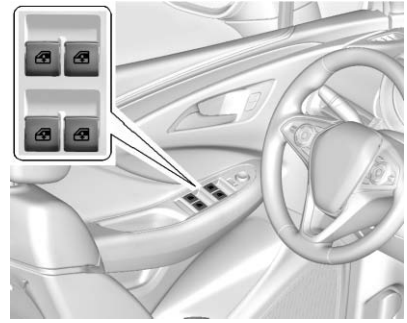
Never leave a child, a helpless adult, or a pet alone in a vehicle, especially with the windows closed in warm or hot weather. They can be overcome by the extreme heat and suffer permanent injuries or even death from heat stroke.

The vehicle aerodynamics are designed to improve fuel economy performance. This may result in a pulsing sound when either rear window is down and the front windows are up. To reduce the sound, open either a front window or the sunroof, if equipped.

Power Windows

⚠ Warning

Children could be seriously injured or killed if caught in the path of a closing window. Never leave keys in a vehicle with children. When there are children in the rear seat, use the window lockout button to prevent operation of the windows. See *Keys* ⇨ *25*.



The driver door has switches that control all windows. Each passenger door switch only controls that window. The power windows work when the ignition is in ON/RUN or ACC/ACCESSORY, or in Retained Accessory Power (RAP). See *Retained Accessory Power (RAP)* ⇨ *264*.

Press the switch to lower the window. Pull the switch up to raise it.

Express-Down Windows

Windows that have the express-down feature allow the windows to be lowered without

holding the switch. Press the window switch fully and release it to activate the express-down feature. The express mode can be canceled at any time by briefly pressing or pulling the switch.

Express-Up Window

If equipped, the driver window express-up feature allows the window to be raised without holding the switch. Pull the window switch up fully and release it to activate the express-up feature. The express-up feature can be canceled at any time by briefly pressing or pulling the switch.

Programming the Power Windows

If the battery on the vehicle has been recharged or disconnected, or is not working, the driver power window may need to be reprogrammed for the express-up feature to work.

To reprogram the power windows:

1. Close all doors.
2. Place the ignition in ACC/ACCESSORY or ON/RUN.
3. From any open position, pull the power window switch up until the window is fully closed.
4. Hold the switch up for approximately two seconds after the window is fully closed.

The window is now reprogrammed.

Express Window Anti-Pinch Feature

If any object is in the path of the window when express-up is active, the window stops at the obstacle and auto-reverses to a preset factory position. Weather conditions such as severe icing also cause the window to auto-reverse. The window returns to normal operation once the obstacle or condition is removed.

Express Window Anti-Pinch Override

⚠ Warning

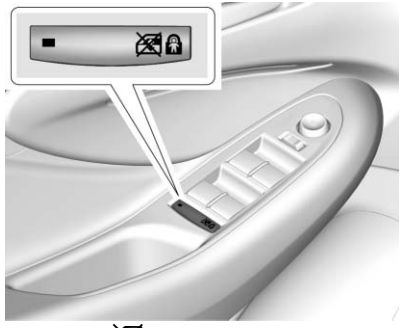
If express override is activated, the window will not reverse automatically. You or others could be injured and the window could be damaged. Before you use express override, make sure that all people and obstructions are clear of the window path.

The anti-pinch feature can be overridden in a supervised mode. Hold the window switch in the partially or fully pulled up position. The window goes up for as long as the switch is held. Once the switch is released, the express mode is reactivated.

In this mode, the window can still close on an object in its path. Use care when using the override mode.

Window Lockout

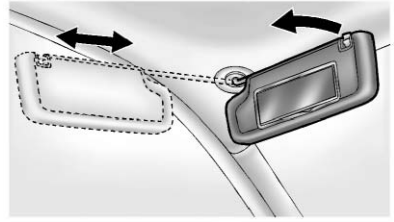
This feature prevents the rear passenger windows from operating, except from the driver position.



- Press to activate the rear window locks. An indicator light will illuminate when the feature is on.
- Press again to deactivate the rear window locks.

The safety locks are also enabled. See *Safety Locks* ⇨ *35*.

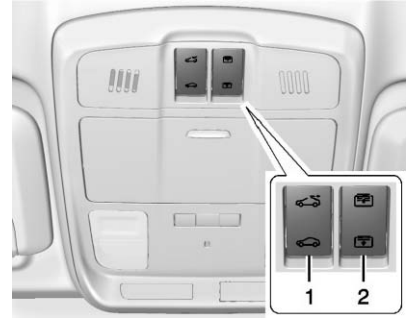
Sun Visors



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

Roof

Sunroof



1. Sunroof Switch
2. Sunshade Switch

If equipped, the sunroof only operates when the ignition is in ACC/ACCESSORY or ON/RUN, or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP)* ⇨ *264*.

Vent : From the closed position, press the rear of the switch (1) to vent the sunroof.

Open/Close : To open the sunroof, press and hold the rear of the switch (1) until the sunroof reaches the desired position. Press and hold the front of the switch (1) to close it.

Express-Open/Express-Close : To express-open the sunroof, fully press and release the rear of the switch (1). Press the switch again to stop it. To express-close the sunroof, fully press and release the front of the switch (1). Press the switch again to stop it.

Sunshade : To open or close the sunshade, press and hold the rear or front of the switch (2) until the sunshade reaches the desired position.

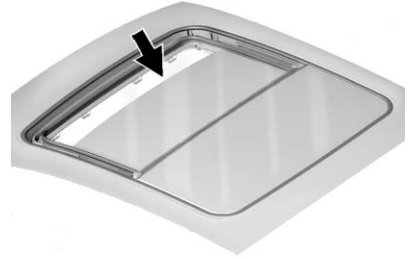
To express-open or express-close the sunshade, fully press and release the rear or front of switch (2). Press the switch again to stop it.

When the sunroof is opened, an air deflector will automatically raise. The air deflector will retract when the sunroof is closed.

Automatic Reversal System

The sunroof/sunshade is equipped with an automatic reversal system that is only active when the sunroof/sunshade is being operated in express mode. If an object is in the path of the sunroof/sunshade while it is express-closing, the reversal system will detect the object and stop.

In the event of closing difficulties like frost or other conditions, it is possible to override the reversal system. To override the reversal system, close in manual mode. To stop the movement, release the switch.



Dirt and debris may collect on the sunroof seal or in the track. This could cause an issue with sunroof operation or noise. It could also plug 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.

If water is seen dripping into the water drainage system, this is normal.

Seats and Restraints

Head Restraints
Head Restraints 50

Front Seats
Power Seat Adjustment 52
Lumbar Adjustment 52
Thigh Support Adjustment 52
Reclining Seatbacks 53
Memory Seats 53
Heated and Cooled Front Seats 55

Rear Seats
Rear Seats 56
Rear Seat Armrest 57
Heated Rear Seats 58

Safety Belts
Safety Belts 58
How to Wear Safety Belts Properly 59
Lap-Shoulder Belt 60
Safety Belt Use During Pregnancy 63
Safety Belt Extender 64
Safety System Check 64
Safety Belt Care 64
Replacing Safety Belt System Parts after a Crash 65

Airbag System
Airbag System 65
Where Are the Airbags? 67
When Should an Airbag Inflate? 69
What Makes an Airbag Inflate? 70
How Does an Airbag Restrain? 70
What Will You See after an Airbag Inflates? 71
Passenger Sensing System . . . 72
Servicing the Airbag-Equipped Vehicle 76
Adding Equipment to the Airbag-Equipped Vehicle 77
Airbag System Check 77
Replacing Airbag System Parts after a Crash 78

Child Restraints
Older Children 78
Infants and Young Children 80
Child Restraint Systems 82
Where to Put the Restraint 84
Lower Anchors and Tethers for Children (LATCH System) 85
Replacing LATCH System Parts After a Crash 91
Securing Child Restraints (Rear Seat) 92
Securing Child Restraints (Front Passenger Seat) 94

Head Restraints

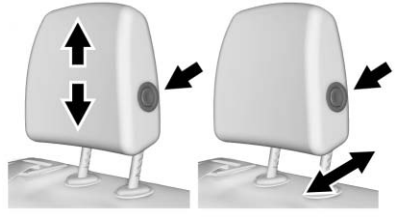
Front Seats

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

⚠ 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.



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.

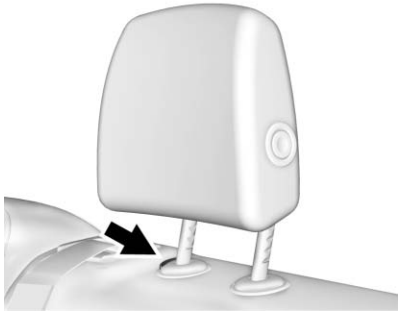
To adjust the head restraint forward and rearward, press the button located on the side facing of the head restraint and move it forward or rearward until the desired locking position is reached. Try to move the head restraint after the button is released to make sure that it is locked in place.

The front seat outboard head restraints are not removable.

Rear Seats

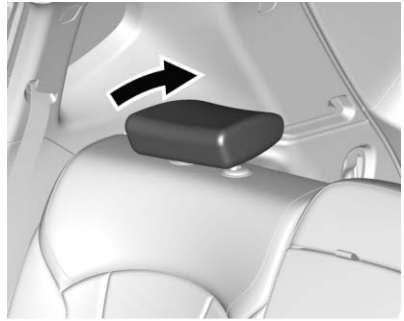
The vehicle's rear seats have adjustable head restraints in the outboard seating positions.

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 it is locked in place.

Always adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head.



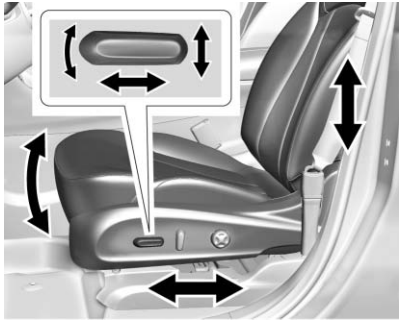
The rear outboard head restraints are designed to be folded. The head restraint can be folded backward to allow for better visibility when the rear seat is unoccupied. To fold the head restraint, press the button on the side of the head restraint.

When an occupant is in the seat, always return the head restraint to the upright position. Pull the head restraint up and push it backward until it locks into place. Push and pull on the head restraint to make sure that it is locked.

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)* ⇨ *85*.

Front Seats

Power Seat Adjustment



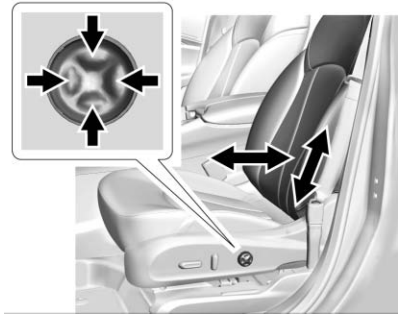
To adjust a power seat:

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

To adjust the seatback, see *Reclining Seatbacks* ⇨ *53*.

To adjust the lumbar support, see *Lumbar Adjustment* ⇨ *52*.

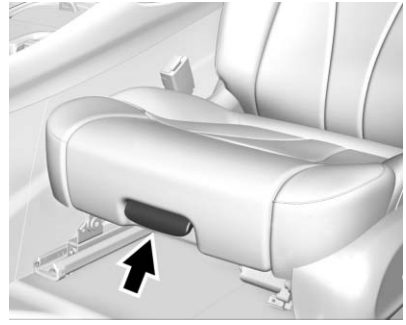
Lumbar Adjustment



To adjust the lumbar support, if equipped:

- Press the front or rear of the switch to increase or decrease lumbar support.
- Press the top or bottom of the switch to raise or lower the lumbar support.
- Release the switch when the level of support is reached.

Thigh Support Adjustment



If equipped, 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.

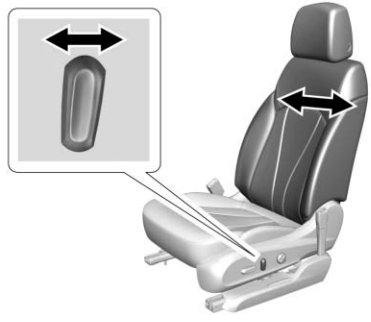
The shoulder belt will not be against your body. Instead, it will be in front of you. In a crash, you could go into it, receiving neck or other injuries.

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.

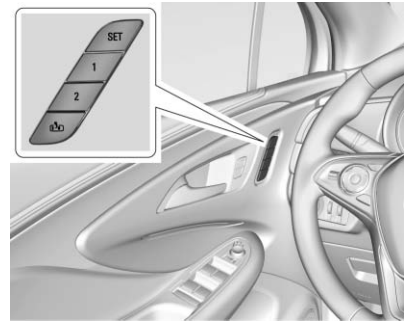
Power Reclining Seatbacks



To adjust a power seatback:

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

Memory Seats



If equipped, the 1, 2, SET, and (Exit) buttons on the driver door are used to manually store and recall memory settings for the driver seat, outside mirrors, and power tilt and telescoping steering column positions.

Storing Memory Positions

To store positions to the 1 and 2 buttons:

1. Place the ignition in ON/RUN or ACC/ACCESSORY.
2. Adjust the driver seat, outside mirrors, and the power tilt and telescoping steering column.
3. Press and release SET. A beep will sound.
4. Immediately press and hold 1 until two beeps sound.
5. Repeat Steps 1–4 for a second driver using 2.

To store positions to the (Exit) button and easy exit features, repeat steps 1–4 using to store your positions for getting out of the vehicle.

Manually Recalling Memory Positions

Press and hold 1, 2, or (Exit) to manually recall the previously stored memory positions. Releasing 1, 2, or before the stored positions are reached stops the recall.

Automatically Recalling Memory Positions (Auto Memory Recall)

When the Auto (Automatic) Memory Recall feature is enabled in the vehicle personalization menu, the current driver's previously stored 1 or 2 positions are recalled by placing the ignition in ON/RUN or ACC/ACCESSORY.

See "Auto Memory Recall" under "Comfort and Convenience" in *Vehicle Personalization* ⇨ *146*.

To stop recall movement, press one of the memory, power mirror, or power seat controls.

RKE transmitters are not labeled with a number. If your memory seat position is saved to 1 or 2 but this position is not automatically recalling, then store your positions to the other button or switch RKE transmitters with the other driver.

Easy Exit Recall

When the Easy Exit Recall feature is enabled in the vehicle personalization menu, the positions previously stored to the (Exit) button are automatically recalled when getting out of the vehicle.

See *Vehicle Personalization* ⇨ *146*.

Obstructions

If something has blocked the driver seat and/or power tilt and telescoping steering column while recalling a memory position, the recall may stop. Remove the obstruction. Then do one of the following:

- If manually or automatically recalling the memory position, press and hold the appropriate manual control for the memory item that is not recalling for two seconds. Try recalling again by pressing the appropriate memory button.
- If recalling the exit position, press and hold the appropriate manual control for the exit

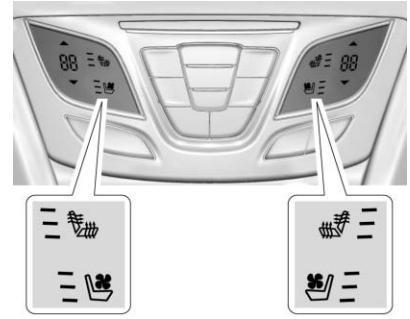
feature not recalling for two seconds. Then try recalling the exit position again.

If the memory position is still not recalling, see your dealer for service.

Heated and Cooled Front Seats

⚠ Warning

If you cannot feel temperature change or pain to the skin, the seat heater may cause burns. 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.



If equipped, the buttons are near the climate controls. To operate, the engine must be running.

Press or to heat the driver or passenger seat cushion and seatback.

The passenger seat may take longer to heat up.

Press or to cool the driver or passenger seat.

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

If the heated seats are on high, the level may automatically be lowered after approximately 30 minutes.

Remote Start Auto Heated and Cooled Seats

The heated and cooled seats can be programmed to turn on automatically during a remote vehicle start when conditions allow. The heated seat function can be programmed to come on when ENGINE START/STOP is pressed under certain conditions. Press the heated or cooled seat button to use the heated or cooled seats after the vehicle is started.

The heated and cooled seat button lights will not turn on during a remote start.

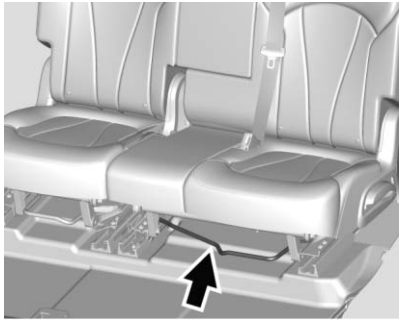
The temperature of an unoccupied seat may be reduced.

To program the heated and cooled seat features, see *Vehicle Personalization* ⇨ *146*.

Rear Seats

Rear Seat Adjustment

The second row seats slide forward for more room.



To adjust the seat position, lift the lever below the seat cushion and slide the seat forward or backward.

Split Folding Seatbacks

Either side of the rear seatback can be folded down for more cargo space.

Manually Folding the Seatbacks

Caution

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.

Sliding Seatback

To fold a sliding seatback:

1. Place the front seatbacks in the upright position. See *Reclining Seatbacks* ⇨ *53*.
2. Fold the rear seat head restraints. See *Head Restraints* ⇨ *50*.

3. Pull on the lever on the side of the seatback to unlock it and fold the seatback forward.
4. Verify the seat is locked in the folded position by pushing down on the seatback.
5. Repeat the steps for the other seatback, if desired.

Automatically Folding the Seatbacks

If equipped, to automatically fold the seatback:

1. Place the front seatbacks in the upright position. See *Reclining Seatbacks* ⇨ *53*.

2. Fold the rear seat head restraints. See *Head Restraints* ⇨ *50*.

3. Pull the lever to activate the automatic folding feature.
4. Verify the seat is locked in the folded position by pushing down on the seatback.

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.

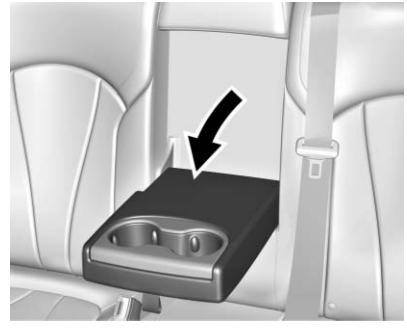
⚠ Warning

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 sliding seatback:

1. Pull on the lever on the side of the seat cushion to release the seatback from its locked position.
2. Push the seatback rearward until it locks in the upright position.
3. Make sure the rear safety belts are in the belt guide and are not twisted or caught between the seat cushion and the seatback.

Rear Seat Armrest



If equipped, the rear seat has an armrest in the center of the seatback. Lower the armrest to access the cupholders.

To fold, lift the armrest up and push it rearward until it is flush with the seatback.

Heated Rear Seats

⚠ WARNING

If you cannot feel temperature change or pain to the skin, the seat heater may cause burns. See the Warning under *Heated and Cooled Front Seats* ⇨ *55*.

If equipped, the buttons are 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. An indicator on the climate control 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.

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.

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

(Continued)

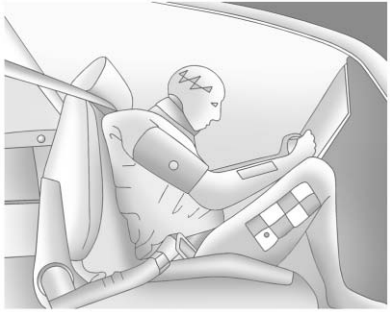
Warning (Continued)

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* ⇨ *117*.

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.

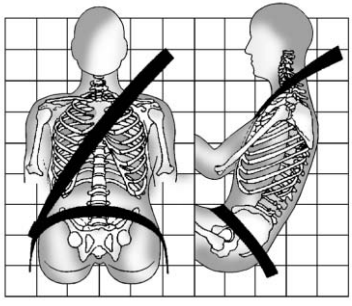
How to Wear Safety Belts Properly

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* ⇨ *78* or *Infants and Young Children* ⇨ *80*. 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.

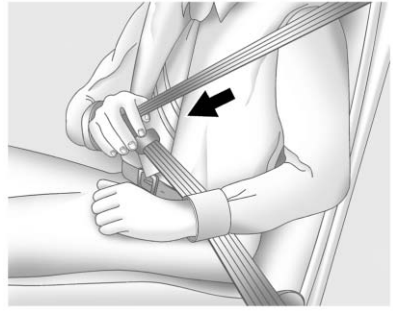
- Never allow the lap or shoulder belt to become loose or twisted.
- Never wear the shoulder belt under both arms or behind your back.
- Never route the lap or shoulder belt over an armrest.

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.



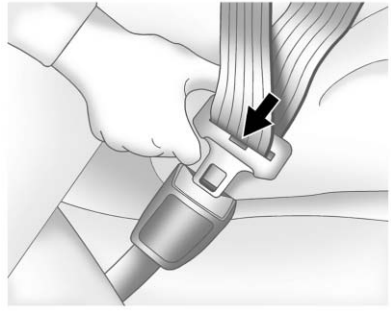
2. Pick up the latch plate and pull the belt across you. Do not let it get twisted.

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.

Engaging the child restraint locking feature in the front outboard seating position may affect the passenger sensing system. See *Passenger Sensing System* ⇨ *72*.

If the webbing locks in the latch plate before it reaches the buckle, tilt the latch plate flat to unlock.

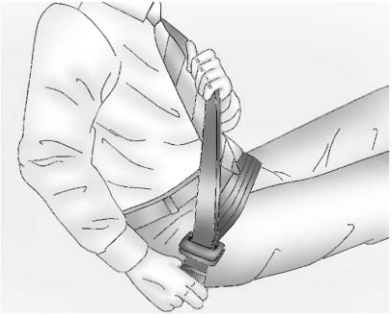


3. Push the latch plate into the buckle until it clicks.

   Pull up on the latch plate to make sure it is secure. If the belt is not long enough, see *Safety Belt Extender* ⇨ *64*.

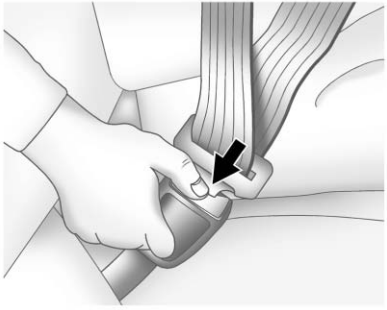
   Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.

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, push the button on the buckle. The belt should return to its stowed position. Slide the latch plate up the safety belt webbing when the safety belt is not in use. The latch plate should rest on the stitching on the safety belt, near the guide loop on the side wall.

Always stow the safety belt slowly. If the safety belt webbing returns quickly to the stowed position, the retractor may lock and cannot be pulled out. If this happens, pull the safety belt straight out firmly to unlock the webbing, and then release it. If the webbing is still locked in the retractor, see your dealer.

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 front outboard passenger seating positions.

Adjust the height so 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* ⇨ *59*.

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

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

Safety Belt Pretensioners

This vehicle has safety belt pretensioners for the 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, near frontal, or rear crash if the threshold conditions for pretensioner activation are met. Safety belt pretensioners can also help tighten the safety belts in a side crash or a rollover event.

Pretensioners work only once. If the pretensioners activate in a crash, the pretensioners and probably other parts of the vehicle's safety belt system will need to be replaced. See *Replacing Safety Belt System Parts after a Crash* ⇨ *65*.

Do not sit on the outboard safety belt while entering or exiting the vehicle or at any time while sitting in the seat. Sitting on the safety belt can damage the webbing and hardware.

Rear Safety Belt Comfort Guides

Rear safety belt comfort 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, the comfort guide positions the belt away from the neck and head.

Comfort guides are available through your dealer for the rear outboard seating positions. Instructions are included with the guide.

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 restraints. To wear it, attach it to the regular safety belt. For more information, 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* ⇨ *117*.

Keep safety belts clean and dry. See *Safety Belt Care* ⇨ *64*.

Safety Belt Care

Keep belts clean and dry.

⚠ Warning

Do not bleach or dye safety belt webbing. It may severely weaken the webbing. In a crash, they might not be able to provide adequate protection. Clean and rinse safety belt webbing only with mild soap and lukewarm water. Allow the webbing to dry.

Safety belts should be properly cared for and maintained.

Safety belt hardware should be kept dry and free of dust or debris. As necessary exterior hard surfaces and safety belt webbing may be lightly cleaned with mild soap and water. Ensure there is not excessive dust or debris in the mechanism. If dust or debris exists in the system please see the dealer. Parts may need to be replaced to ensure proper functionality of the system.

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* ⇨ *118*.

Airbag System

The vehicle has the following airbags:

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

All vehicle airbags have the word AIRBAG on the trim or on a 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 knee airbags, the word AIRBAG is on the lower part of the instrument panel.

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?* ⇨ *69*.

Wearing your safety belt during a crash helps reduce your 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. The safety belts and the front outboard passenger airbags are most effective when you are sitting well back and upright in the seat with both feet on the floor.

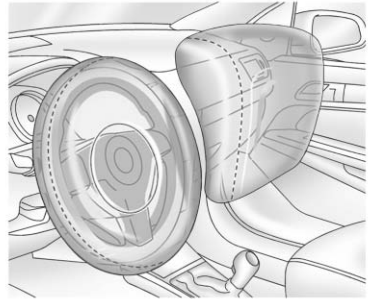
Occupants should not lean on or sleep against the door or side windows in seating positions with seat-mounted side impact airbags and/or roof-rail airbags.

⚠ Warning

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Always secure children properly in the vehicle. To read how, see *Older Children* ⇨ *78* or *Infants and Young Children* ⇨ *80*.

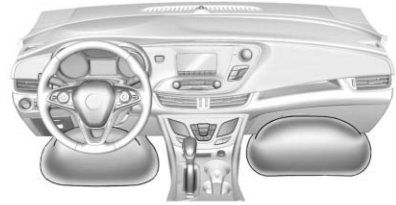
There is an airbag readiness light on the instrument cluster, which shows the airbag symbol. The system checks the airbag electrical system for malfunctions. The light tells you if there is an electrical problem. See *Airbag Readiness Light* ⇨ *118* for more information.

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.



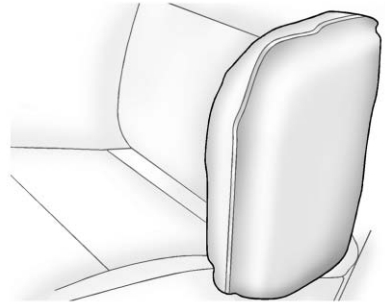
The driver knee airbag is below the steering column. The front outboard passenger knee airbag is below the glove box.

Driver Side Shown, Passenger Side Similar

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

Driver Side Shown, Passenger Side Similar

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



Rear Seat Driver Side Shown, Passenger Side Similar

The second row seat-mounted side impact airbags are in the sides of the seatback closest to the door.

⚠ 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

(Continued)

Warning (Continued)

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?

This vehicle is equipped with airbags. See *Airbag System* ⇨ *65*. Airbags are designed to inflate if the impact exceeds the specific airbag system's 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. The vehicle has electronic sensors that help the airbag system determine the severity of the impact. Deployment thresholds can vary with specific vehicle design.

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.

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.

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

In addition, the vehicle has advanced technology frontal airbags. Advanced technology frontal airbags adjust the restraint according to crash severity or occupant interaction.

The vehicle also has a seat position sensor that enables the sensing system to monitor the position of the front outboard passenger seat. The passenger seat position sensor and the passenger safety belt buckle provide information that is used to adjust the deployment of the front outboard passenger frontal airbag.

Knee airbags are designed to inflate in moderate to severe frontal or near frontal impacts. Knee airbags are not designed to inflate during vehicle rollovers, in rear impacts, or in many side impacts.

The passenger seat position sensor and the passenger safety belt buckle also provide information that

is used to determine if the passenger knee airbag should inflate.

Seat-mounted side impact airbags are designed to inflate in moderate to severe side crashes depending on the location of the impact. Seat-mounted side impact airbags are not designed to inflate in frontal impacts, near frontal impacts, rollovers, or rear impacts.
A seat-mounted side impact airbag is designed to inflate on the side of the vehicle that is struck.

Roof-rail airbags are designed to inflate in moderate to severe side crashes depending on the location of the impact. In addition, these roof-rail airbags are designed to inflate during a rollover or in a severe frontal impact. Roof-rail airbags are not designed to inflate in rear impacts. Both roof-rail airbags will inflate when either side of the vehicle is struck, if the sensing system predicts that the vehicle is about to roll over on its side, 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 the 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 locations, see *Where Are the Airbags?* ⇨ *67*.

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?* ⇨ *69*.

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, knee, 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?* ⇨ 67.

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 and hazard warning flashers, and shut off the fuel system after the airbags inflate. The feature may also activate, without airbag inflation, after an event that exceeds a predetermined threshold. 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* ⇨ *407* and *Event Data Recorders* ⇨ *408*.
- 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, will be visible during the system check. When the system check is complete, either the word ON or OFF, or the symbol for on and off will be visible. See *Passenger Airbag Status Indicator* ⇨ *118*.

The passenger sensing system turns off the front outboard passenger frontal airbag and knee 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 and safety belt. The sensors are designed to detect the presence of a properly seated occupant and determine if the front outboard

passenger frontal airbag and knee airbag should be allowed to inflate or not.

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

Whenever possible, children aged 12 and under should be secured in a rear seating position.

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 inflates.

⚠ 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 deploy under some unusual circumstance, even though the airbag(s) are off.

Never put a rear-facing child restraint in the front seat, even if the airbag is off. If securing 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 child restraints in the rear seat. Consider using another vehicle to transport the child when a rear seat is not available.

The passenger sensing system is designed to turn off the front outboard passenger frontal airbag and knee airbag if:

- The front outboard passenger seat is unoccupied.
- The system determines that an infant is present in a child restraint.
- A front outboard passenger takes his/her weight off of the seat for a period of time.
- 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 knee airbag, the off indicator will light and stay lit as a reminder that the airbags are off. See *Passenger Airbag Status Indicator* ⇨ *118*.

The passenger sensing system is designed to turn on the front outboard passenger frontal airbag and knee 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, including children in child restraints, and for very small adults, the passenger sensing system may or may not turn off the front outboard passenger frontal airbag and knee 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

(Continued)

Warning (Continued)

avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light* ⇨ *118* for more information, including important safety information.

If the On Indicator Is Lit for a Child Restraint

The passenger sensing system is designed to turn off the front outboard passenger frontal airbag and knee airbag if the system determines that an infant is present in 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 Child Restraints (Rear Seat)* ⇨ *92* or *Securing Child Restraints (Front Passenger Seat)* ⇨ *94*.

   Make sure the safety belt retractor is locked by pulling the shoulder belt all the way out of the retractor when installing the child restraint, even if the child restraint is equipped with a safety belt lock-off. When the retractor lock is set, the belt can be tightened but not pulled out of the retractor.
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* ⇨ *50*.

6. Restart the vehicle.

   The passenger sensing system may or may not turn off the airbags for a child in a child restraint depending upon the child's size. It is better to secure the child restraint in a rear seat. Never put a rear-facing child restraint in the front seat, even if the on indicator is not lit.

If the Off Indicator Is Lit for an Adult-Sized 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 or that the child restraint locking feature is engaged. Use the following steps to allow the system to detect that person and enable the front outboard passenger frontal airbag and knee 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. If the shoulder portion of the belt is pulled out all the way, the child restraint locking feature will be engaged. This may unintentionally cause the passenger sensing system to turn the airbags off for some adult-sized occupants. If this happens, unbuckle the belt, let the belt go back all the way, and then buckle the belt again without pulling the belt out all the way.
6. Restart the vehicle and have the person remain in this position for two to three minutes after the on indicator is lit.

⚠ Warning

If the front outboard passenger airbag is turned off for an adult-sized occupant, the airbag will not be able to inflate and help protect that person in a crash, resulting in an increased risk of serious injury or even death. An adult-sized occupant should not ride in the front outboard passenger seat, if the passenger airbag off 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* ⇨ *77* for more information about modifications that can affect how the system operates.

The on indicator may be lit if an object, such as a briefcase, handbag, grocery bag, laptop, or other electronic device, is put on an unoccupied seat. If this is not desired, remove the object from the seat.

⚠ Warning

Stowing of articles under the passenger seat or between the passenger seat cushion and

(Continued)

Warning (Continued)

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* ⇨ *405*.

⚠ 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

(Continued)

Warning (Continued)

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 any parts of the front seats, safety belts, airbag sensing and diagnostic module, steering wheel, instrument panel, any of the airbag modules, ceiling or pillar garnish trim, overhead console, front sensors, side impact sensors, or airbag wiring.

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 for the front outboard passenger position, which includes sensors that are part of the 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* ⇨ *72*.

If the vehicle has rollover roof-rail airbags, see *Different Size Tires and Wheels* ⇨ *354* for additional important information.

If you have to modify your vehicle 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* ⇨ *398*.

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* ⇨ *118*.

Caution

If an airbag covering is damaged, opened, or broken, the airbag may not work properly. Do not

(Continued)

Caution (Continued)

open or break the airbag coverings. If there are any opened or broken airbag coverings, have the airbag covering and/or airbag module replaced. For the location of the airbags, see *Where Are the Airbags?* ⇨ *67*. 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 properly 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

(Continued)

Warning (Continued)

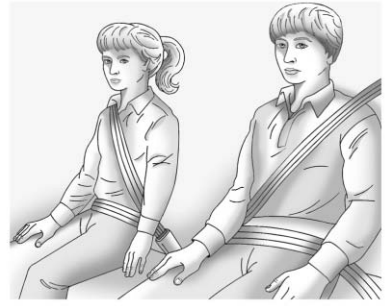
inspected and any necessary replacements made as soon as possible.

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* ⇨ *118*.

Child Restraints

Older Children



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

The manufacturer 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, if available. See “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt* ⇨ *60*. If a comfort guide is not available, or 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.

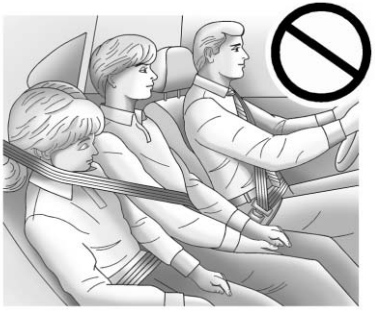
Also see “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt* ⇨ *60*.

According to accident statistics, children are safer when properly restrained 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. The child might also slide under the lap belt. The belt force would then be applied right on the abdomen.

(Continued)

Warning (Continued)

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. The shoulder belt can tighten but cannot be loosened if it is locked. The shoulder belt locks when it is pulled all the way out of the retractor. It unlocks when the shoulder belt is allowed to go all the way back into the retractor, but it cannot do this if it is wrapped around a child's neck. If the shoulder belt is locked and tightened around a child's neck, the only way to loosen the belt is to cut it.

Never leave children unattended in a vehicle and never allow children to play with the safety belts.

Every time infants and young children ride in vehicles, they should have the protection provided by appropriate child restraints. Neither the vehicle's safety belt system nor its airbag system is designed for them.

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 or child 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 front outboard 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. If you must secure a forward-facing child restraint in the front outboard 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 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.

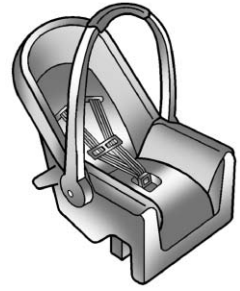
⚠ Warning

To reduce the risk of neck and head injury in a crash, infants and toddlers should be secured in a rear-facing child restraint until age two, or until they reach the maximum height and weight limits of their child restraint.

⚠ 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



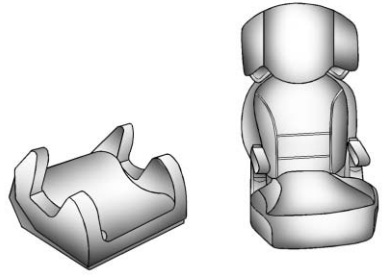
Rear-Facing Infant Seat

A rear-facing infant seat 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.

Forward-Facing Child Seat

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



Booster Seats

A booster seat 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

(Continued)

Warning (Continued)

restraint properly in the vehicle using the vehicle's 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)* ⇨ *85*. 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 an appropriate child restraint secured in a rear seating position.

Whenever possible, children aged 12 and under should be secured in a rear seating position.

Never put a rear-facing child restraint 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 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 front passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the 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

(Continued)

Warning (Continued)

the 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* ⇨ *72* for additional information.

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.

Child restraints and booster seats vary considerably in size, and some may fit in certain seating positions better than others.

Depending on where you place the child restraint and the size of the child restraint, you may not be able to access adjacent safety belts 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 a child restraint is installed, be sure to follow the instructions that came with the child restraint system and secure the child restraint system 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 the vehicle — even when no child is in it.

Lower Anchors and Tethers for Children (LATCH System)

The LATCH system secures a child restraint during driving or in a crash. LATCH attachments on the child restraint are used to attach the child restraint to the anchors in the vehicle. The LATCH system is designed to make installation of a child restraint easier.

In order to use the LATCH system in your vehicle, you need a child restraint that has LATCH attachments. LATCH-compatible rear-facing and forward-facing child seats can be properly installed using either the LATCH anchors or the vehicle's safety belts. Do not use both the safety belts and the LATCH anchorage system to secure a rear-facing or forward-facing child seat.

Booster seats use the vehicle's safety belts to secure the child in the booster seat. If the manufacturer recommends that the booster seat be secured with the LATCH system, this can be done as long as the booster seat can be positioned properly and there is no interference with the proper positioning of the lap-shoulder belt on the child.

Make sure to follow the instructions that came with the child restraint, and also the instructions in this manual.

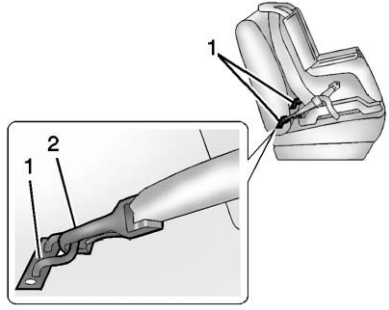
When installing a child restraint with a top tether, you must also use either the lower anchors or the safety belts to properly secure the child restraint. A child restraint must never be installed using only the top tether.

The LATCH anchorage system can be used until the combined weight of the child plus the child restraint is 29.5 kg (65 lbs). Use the safety belt alone instead of the LATCH anchorage system once the combined weight is more than 29.5 kg (65 lbs).

The following explains how to attach a child restraint with these attachments in the vehicle.

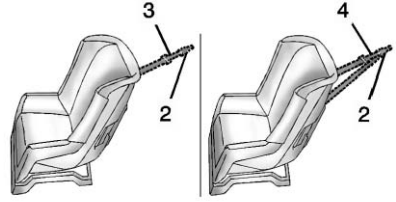
Not all vehicle seating positions or child restraints have lower anchors and attachments or top tether anchors and attachments. In this case, the safety belt must be used (with top tether where available) to secure the child restraint. See *Securing Child Restraints (Rear Seat)* ⇨ *92* or *Securing Child Restraints (Front Passenger Seat)* ⇨ *94*.

Lower Anchors



Lower anchors (1) 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 (2).

Top Tether Anchor



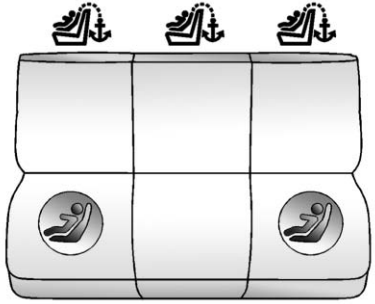
A top tether (3, 4) anchors the top of the child restraint to the vehicle. A top tether anchor is built into the vehicle. The top tether attachment hook (2) on the child restraint connects to the top tether anchor in the vehicle in order to reduce the forward movement and rotation of the child restraint during driving or in a crash.

Your child restraint may have a single tether (3) or a dual tether (4). Either will have a single attachment hook (2) 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



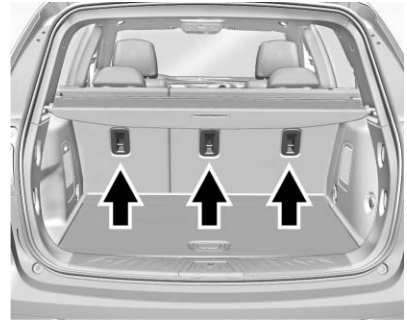
Rear Seat

: Seating positions with top tether anchors.

: Seating positions with two lower anchors.

To assist 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 in locating the top tether anchors, the top tether anchor symbol is near the top tether anchors.



Top Tether Anchors

The top tether anchors for each rear seating position are on the back of the rear seatback. The rear compartment storage panel/cover might need to be adjusted to access the anchors. Be sure to use an anchor 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* ⇨ *84* for additional information.

Securing a Child Restraint with 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's safety belts to secure the restraint, following the instructions

(Continued)

Warning (Continued)

that came with the child restraint and the instructions in this manual.

⚠ Warning

To reduce the risk of serious or fatal injuries during a crash, 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.

⚠ Warning

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck. The

(Continued)

Warning (Continued)

shoulder belt can tighten but cannot be loosened if it is locked. The shoulder belt locks when it is pulled all the way out of the retractor. It unlocks when the shoulder belt is allowed to go all the way back into the retractor, but it cannot do this if it is wrapped around a child's neck. If the shoulder belt is locked and tightened around a child's neck, the only way to loosen the belt is to cut it.

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, and tighten the belt behind the child restraint after the child restraint has been installed.

Caution

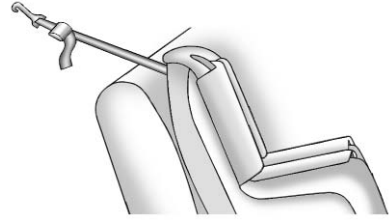
Do not let the LATCH attachments rub against the vehicle's safety belts. This may damage these parts. If necessary, move buckled safety belts to avoid rubbing the LATCH attachments.

Do not fold the rear seatback when the seat is occupied. 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.

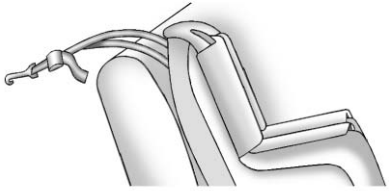
If you need to secure more than one child restraint in the rear seat, see *Where to Put the Restraint* ⇨ *84*.

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 the 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.

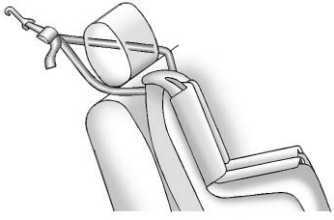
   If the head restraint interferes with the proper installation of the child restraint, the head restraint may be removed. See "Head Restraint Removal and Reinstallation" at the end of this section.
   1.3. Attach and tighten the lower attachments on the child restraint to the lower anchors.
2. If the child restraint manufacturer recommends that the top tether be attached, adjust the top tether to its full length and attach it to the anchor, if equipped. Refer to the child restraint instructions and the following steps:
   2.1. Find the top tether anchor.
   2.2. If you have an adjustable head restraint, raise the head restraint.
   2.3. Route, attach, and tighten the top tether according to your child restraint instructions and the following instructions:



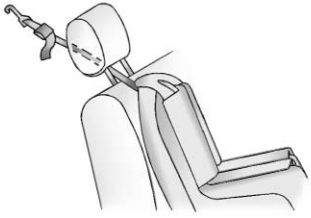
If the position you are using does not have a headrest or head restraint and you are using a single tether, route the tether over the seatback.



If the position you are using does not have a headrest or head restraint and you are using a dual tether, route the tether over the seatback.



If the position you are using has an adjustable headrest or head restraint and your are using a dual tether, raise the headrest or head restraint and route the tether under the headrest or head restraint and around the headrest or head restraint posts.



If the position being used has an adjustable headrest or head restraint and a single tether is being used, route the tether between the headrest or head restraint posts.

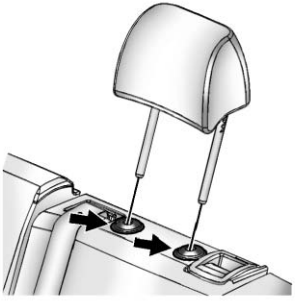
3. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the LATCH path and attempt to move it side to side and back and forth. There should be no more than 2.5 cm (1 in) of movement, for proper installation.

Head Restraint Removal and Reinstallation

The second row outboard head restraints can be removed if they interfere with the proper installation of the child restraint.

To remove the head restraint:

1. Partially fold the seatback forward. See *Rear Seats* ⇨ *56* for additional information.

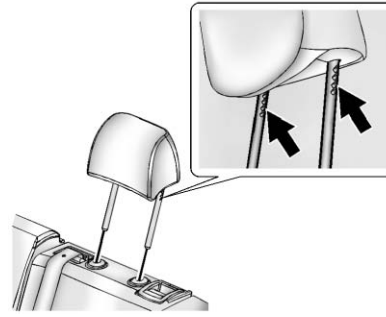


2. Press both buttons on the head restraint posts at the same time, and pull up on the head restraint.
3. Store the head restraint in the cargo area of the vehicle.
4. When the child restraint is removed, reinstall the head restraint before the seating position is used.

⚠ 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 on the posts must face the driver side of the vehicle.
2. Push the head restraint down.
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.

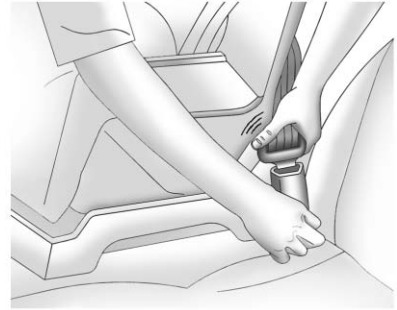
If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *85* for how and where to install the child restraint using LATCH. If a child restraint is secured in the vehicle using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *85* 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.

If the child restraint or vehicle seat position 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* ⇨ *84*.

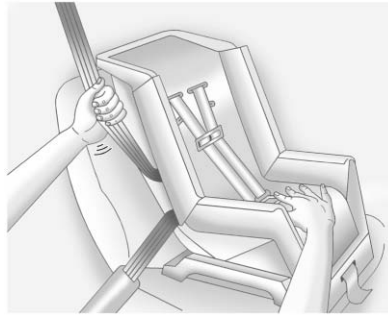
1. Put the child restraint on the seat.
2. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.



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)* ⇨ *85* 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.

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* ⇨ *84*.

In addition, the vehicle has a passenger sensing system which is designed to turn off the front outboard passenger frontal airbag and knee airbag under certain conditions. See *Passenger Sensing System* ⇨ *72* and *Passenger Airbag Status Indicator* ⇨ *118* for more information on this, including important safety information.

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 front outboard passenger frontal airbag inflates.

(Continued)

Warning (Continued)

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 front outboard 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 deploy 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

(Continued)

Warning (Continued)

back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System* ⇨ *72* for additional information.

If the child restraint uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ *85* 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.

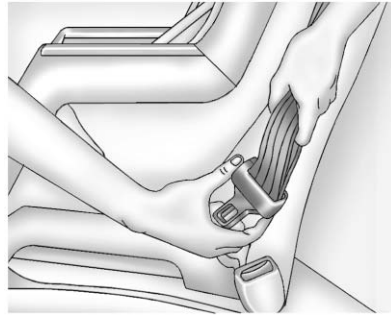
When using the lap-shoulder belt to secure the child restraint in this position, follow the instructions that came with the child restraint and the following instructions:

1. Move the seat rearward as far back as it will go and raise the seat upward as far up as it will go, before securing the forward-facing child restraint. Move the seat upward or the seatback to an upright position, if needed, to get a tight installation of the child restraint.

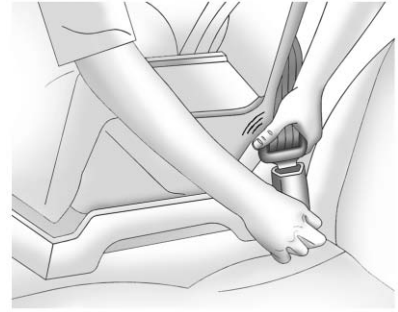
   When the passenger sensing system has turned off the front outboard passenger frontal airbag and knee airbag, the off indicator on the passenger airbag status indicator should light and stay lit when you start the vehicle. See *Passenger Airbag Status Indicator* ⇨ *118*.

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.



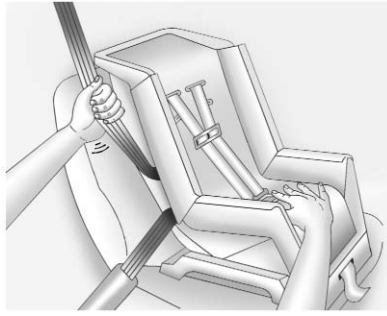
   Tilt the latch plate to adjust the belt if needed.



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.

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 off symbol is not lit, see “If the On Indicator Is Lit for a Child Restraint” under *Passenger Sensing System* ⇨ *72*.

To remove the child restraint, unbuckle the vehicle's safety belt and let it go back all the way.

Storage

Storage Compartments
Storage Compartments 97
Glove Box 97
Cupholders 97
Front Storage 97
Sunglasses Storage 97
Rear Storage 98
Center Console Storage 98

Additional Storage Features
Cargo Cover 99
Cargo Tie-Downs 99
Convenience Net 100

Roof Rack System
Roof Rack System 100

Storage Compartments

⚠ Warning

Do not store heavy or sharp objects in storage compartments. In a crash, these objects may cause the cover to open and could result in injury.

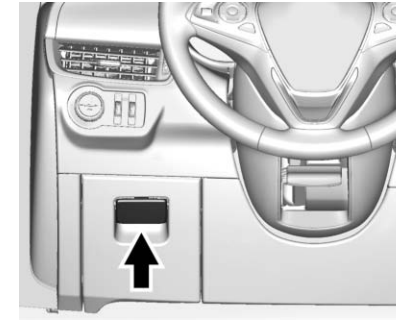
Glove Box

Open the glove box by lifting up on the lever.

Cupholders

Two cupholders are in the center console. Cupholders may be located in the second row seat armrest. To access, pull the armrest down.

Front Storage

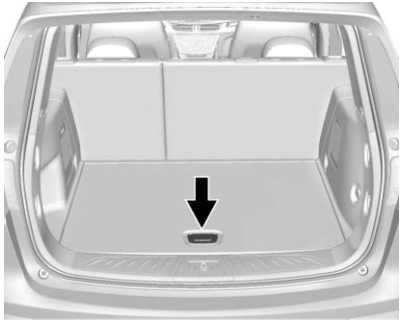


There is storage next to the steering wheel. Lift the handle to access.

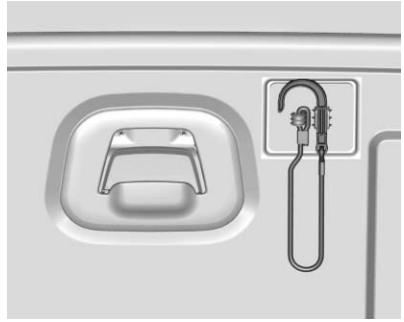
Sunglasses Storage

If equipped, sunglasses storage is on the overhead console. Press the fixed button on the cover and release to access.

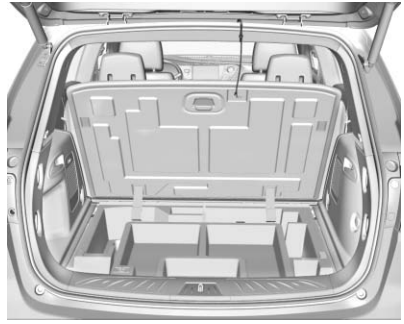
Rear Storage



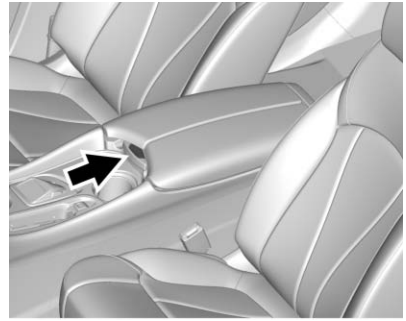
There is storage in the floor of the rear cargo area. Lift the handle to access. There is a removable divider to help organize.



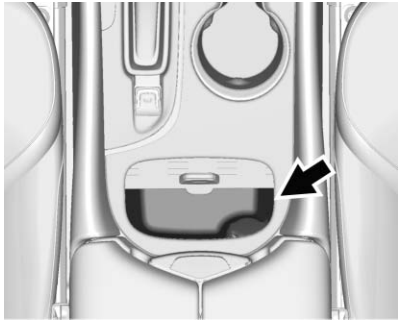
Use the hook underneath to hold open the cargo floor cover.



Center Console Storage



Press the button to access the storage in the center console. If equipped there is an auxiliary jack, an SD card reader, and a single or dual USB port inside.



There is a small covered bin directly in front of the center console. Use the handle to open the covered bin. There is a power outlet inside.

Additional Storage Features

Cargo Cover

⚠ 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.

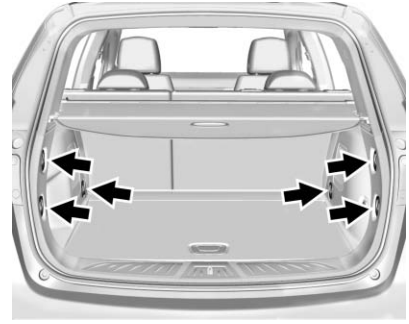
⚠ Warning

Do not place objects on the cargo cover. Sudden stops or turns can cause objects to be thrown in the vehicle. You or others could be injured.

If equipped, use the cargo cover to cover items in the rear of the vehicle.

To remove the cover from the vehicle, pull both ends toward each other. To reinstall, place each end of the cover in the holes behind the rear seat.

Cargo Tie-Downs



The vehicle may be equipped with six cargo tie-downs in the rear compartment.

Convenience Net

This vehicle may have a convenience net 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.

If equipped, the roof 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.

Caution

Loading cargo on the roof rack that weighs more than 100 kg (220 lb) or hangs over the rear or sides of the vehicle may damage the vehicle. Load cargo so that it rests evenly between the crossrails, 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* ⇨ *255*.

Instruments and Controls

Controls

Steering Wheel Adjustment . . . 103
Steering Wheel Controls 103
Heated Steering Wheel 104
Horn 104
Windshield Wiper/Washer 104
Rear Window Wiper/ Washer 106
Headlamp Washer 107
Clock 107
Power Outlets 108

Warning Lights, Gauges, and Indicators

Warning Lights, Gauges, and Indicators 110
Instrument Cluster 111
Speedometer 114
Odometer 114
Trip Odometer 114
Tachometer 114
Fuel Gauge 115
Engine Coolant Temperature Gauge 116
Safety Belt Reminders 117
Airbag Readiness Light 118
Passenger Airbag Status Indicator 118
Charging System Light 119
Malfunction Indicator Lamp (Check Engine Light) 119
Brake System Warning Light 121
Electric Parking Brake Light 122
Service Electric Parking Brake Light 122
Antilock Brake System (ABS) Warning Light 122
Lane Keep Assist (LKA) Light 123
Vehicle Ahead Indicator 123
Traction Off Light 123
StabiliTrak® OFF Light 124
Traction Control System (TCS)/ StabiliTrak® Light 124
Engine Coolant Temperature Warning Light 124
Tire Pressure Light 125
Engine Oil Pressure Light 125
Low Fuel Warning Light 126
Security Light 126
High-Beam On Light 126
Adaptive Forward Lighting (AFL) Light 126
Front Fog Lamp Light 127
Lamps On Reminder 127
Cruise Control Light 127
Door Ajar Light 128

Information Displays

Driver Information Center (DIC) (Base Level) 128
Driver Information Center (DIC) (Uplevel) 131
Head-Up Display (HUD) 133

Vehicle Messages

Vehicle Messages 136
Battery Voltage and Charging Messages 137
Brake System Messages 137
Cruise Control Messages 137
Door Ajar Messages 138
Engine Cooling System Messages 139
Engine Oil Messages 139
Engine Power Messages 140
Fuel System Messages 140
Key and Lock Messages 140
Object Detection System Messages 141
Ride Control System Messages 143
Airbag System Messages 143
Security Messages 143
Steering System Messages 143

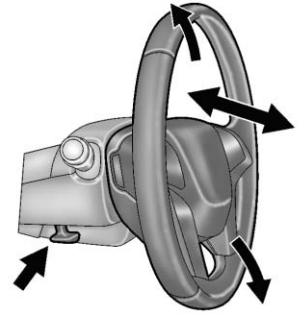
Tire Messages 144
Transmission Messages 144
Washer Fluid Messages 145
Window Messages 145

Vehicle Personalization
Vehicle Personalization 146

Universal Remote System
Universal Remote System 151
Universal Remote System Programming 151
Universal Remote System Operation 154

Controls

Steering Wheel Adjustment

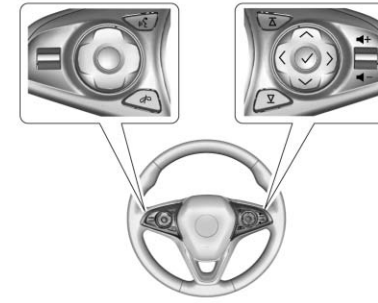


To adjust the steering wheel:

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



For vehicles with audio steering wheel controls, some audio controls can be adjusted at the steering wheel.

(Press to Talk) : Press to initiate a call or to interact with the available Bluetooth®, OnStar®, or navigation system (if equipped).

(End Call) : Press to decline an incoming call or end a current call. Press to mute or unmute the infotainment system.

< or > (Previous or Next) : Press to go to the previous or next area in the display or to the previous or next menu.

∧ or ∨ (Next or Previous) : Press to go up or down in a list. Press to go up or down a page.

✓ (Select) : Press to select a highlighted menu item.

⊼ or ⊽ (Next or Previous Favorite) : Press to go to the next or previous favorite when listening to the radio. Press to go to the next or previous track when listening to a media source.

🔈 + or 🔈 − (Volume) : Press to increase or decrease the volume.

Heated Steering Wheel

**: If equipped with a heated steering wheel, press to turn on or off. A light near 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

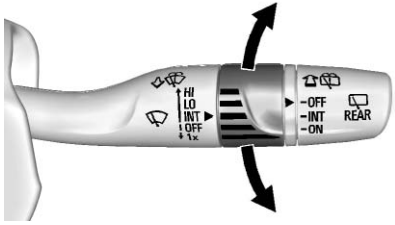
Windshield Wiper with Rainsense (AUTO Shown)

Windshield Wiper with Intermittent Wipes (INT Shown)

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 : Use for intermittent wipes or Rainsense™, if equipped and enabled. To adjust wipe frequency, turn the band up for more frequent wipes or down for less frequent wipes. If Rainsense™ is enabled, see “Rainsense” later in this section.

OFF : Use to turn the wipers off.

1x : 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* ⇨ *329*.

Heavy snow or ice can overload the wiper motor.

Wipe Parking

If the ignition is changed to LOCK/OFF while the wipers are on LO, HI, 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.

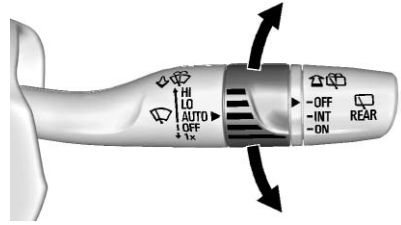
If the ignition is changed to LOCK/OFF while the wipers are performing wipes due to windshield washing or Rainsense, the wipers continue to run until they reach the base of the windshield.

Rainsense™

If equipped 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.

When Rainsense is enabled, the normal intermittent control operates as a sensitivity control.

Keep this area of the windshield clear of debris to allow for best system performance.



AUTO : Move the windshield wiper lever to AUTO. Turn the 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 AUTO position to deactivate Rainsense.

To enable or disable this feature, see “Rainsense Wipers” under *Vehicle Personalization* ⇨ *146*.

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 manual windshield wipers.

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* ⇨ *324* 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 ignition must be in the ACC/ ACCESSORY or ON/RUN position to operate the rear window wiper/ washer.

Rear Wiper with Rainsense Shown, without Rainsense Similar

Turn the end of the windshield wiper lever to operate the rear window wiper/washer.

OFF : Turns the system off.

INT : Intermittent wipes.

ON : Slow wipes.

: Push the windshield wiper lever forward to spray washer fluid on the rear window. The lever automatically returns to its original position when released.

⚠ 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.

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 turned on or off. See *Vehicle Personalization* ⇨ *146*.

The windshield washer reservoir is used for the windshield and rear window. Check the fluid level if either washer is not working. See *Washer Fluid* ⇨ *324*.

Headlamp Washer

If equipped 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 washers will spray again after five windshield wash cycles.

To refill the windshield washer fluid, see *Washer Fluid* ⇨ *324*.

Clock

Setting the Digital Clock

The infotainment system controls are used to access the time and date settings through the menu system. See “Using the System” in the infotainment manual.

To set the time:

1. Touch SETTINGS from the Home Page, then touch Time and Date.
2. Touch Set Time and touch ∧ or ∨ to increase or decrease hours, minutes, and AM or PM. Touch 12–24 Hr for 12 or 24 hour clock.
3. Touch ⬅ to go back to the previous menu.

Auto Set requires an OnStar subscription.

If auto timing is set, the time displayed on the clock may not update immediately when driving into a new time zone.

To set the date:

1. Touch SETTINGS from the Home Page, then touch Time and Date.
2. Touch Set Date and touch ∧ or ∨ to increase or decrease month, day, or year.

3. Touch ⬅ to go back to the previous menu.

To set the clock display:

1. Touch SETTINGS and touch Time and Date.
2. Touch Clock Display and touch OFF or ON to turn the clock display off or on.
3. Touch ⬅ to go back to the previous menu.

Setting the Analog Clock

The clock on the center stack is not connected to any other vehicle system. To adjust the time:

1. Press and hold the button next to the clock to quickly advance the time.
2. Press and release the button to increase the time by one-minute intervals.

Power Outlets

The vehicle has four 12-volt accessory power outlets, which can be used to plug in electrical equipment, such as a cell phone or MP3 player.

There are power outlets:

- On the center floor console.
- Inside the center floor console.
- On the rear of the center floor console.
- In the rear cargo area.

To use the outlet, remove the cover.

Caution

Leaving electrical equipment plugged in for an extended period of time while the vehicle is off will drain the battery. Always unplug electrical equipment when not in use and do not plug in equipment that exceeds the maximum 20 amp rating.

⚠ Warning

Power is always supplied to the rear cargo power outlet. Do not leave electrical equipment plugged in when the vehicle is not in use because the vehicle could catch fire and cause injury or death.

Certain accessory plugs may not be compatible with the accessory power outlet and could overload vehicle and 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* ⇨ *308* or *Add-On Electrical Equipment* ⇨ *308*.

Caution

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.

Power Outlet 110/120 Volt Alternating Current

If equipped, this power outlet can be used to plug in electrical equipment that uses a maximum limit of 400 watts.

The power outlet is on the rear of the center console.

An indicator light on the outlet turns on to show it is in use. The light comes on when the ignition is in ON/RUN and equipment requiring less than 400 watts is plugged into the outlet, and no system fault is detected.

The indicator light does not come on when the ignition is in LOCK/OFF or if the equipment is not fully seated into the outlet.

If equipment is connected using more than 400 watts or a system fault is detected, a protection circuit shuts off the power supply and the indicator light turns off. To reset the circuit, unplug the item and plug it back in or turn the Retained Accessory Power (RAP) off and then back on. See *Retained Accessory Power (RAP)* ⇨ *264*. The power restarts when equipment using 400 watts or less is plugged into the outlet and a system fault is not detected.

The power outlet is not designed for the following and may not work properly if they are plugged in:

- Equipment with high initial peak wattage, such as compressor-driven refrigerators and electric power tools.
- Other equipment requiring an extremely stable power supply, such as microcomputer-controlled electric blankets and touch sensor lamps.
- Medical equipment.

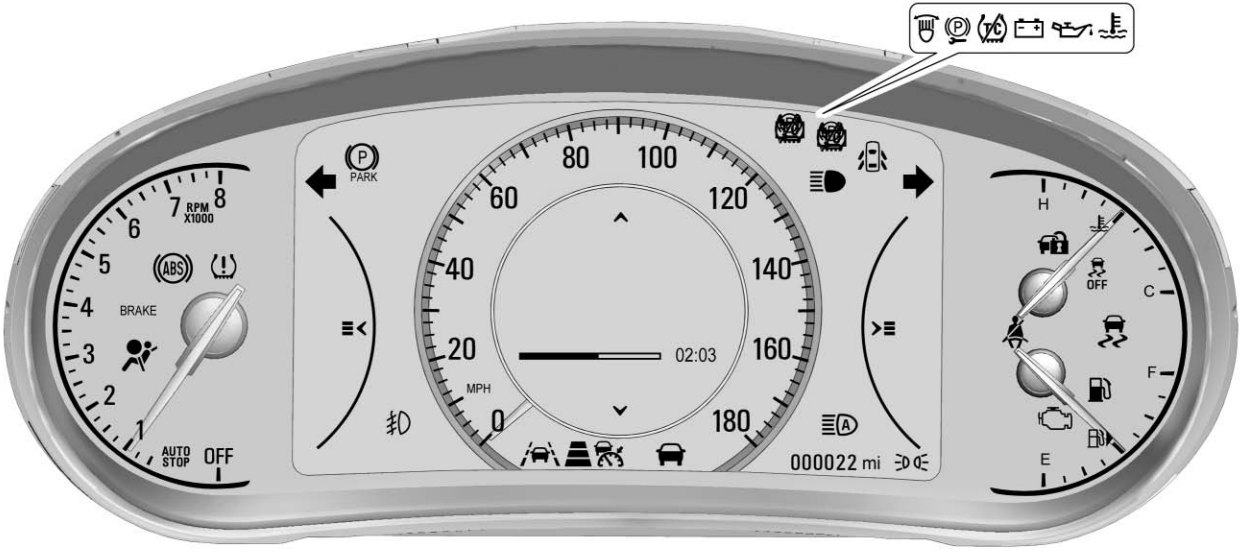
Warning Lights, Gauges, and Indicators

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.

Some warning lights come on briefly when the engine is started to indicate they are working. 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. Waiting to do repairs can be costly and even dangerous.

Instrument Cluster

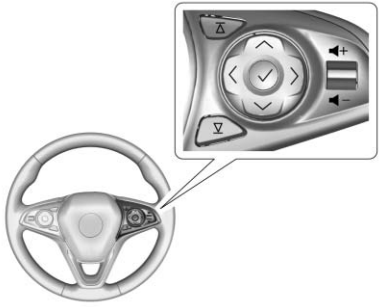
Base Level English Shown, Metric Similar



Uplevel English Shown, Metric Similar

Cluster Menu

There is an interactive display area in the center of the instrument cluster.



Use the right steering wheel control to open and scroll through the different items and displays.

Press < to access the cluster applications. Use ∧ or ∨ to scroll through the list of available applications. Not all applications will be available on all vehicles.

- Info App. This is where you can view the selected Driver Information Center (DIC) displays. See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*.
- Audio
- Phone
- Navigation
- Settings

Audio

Press ✓ to select the Audio app, then press > to enter the Audio menu. In the Audio menu, browse for music, select from the favorites, or change the audio source.

Phone

Press ✓ to select the Phone app, then press > to enter the Phone menu. In the Phone menu, if there is no active phone call, view recent calls, scroll through contacts, or select from the favorites. If there is an active call, mute or unmute the phone or switch to handset or handsfree operation.

Navigation

Press ✓ to select the Navigation app, then press > to enter the Navigation menu. If there is no active route, you can resume the last route and turn the voice prompts on/off. If there is an active route, press ✓ to cancel route guidance or turn the voice prompts on/off.

Settings

Press ✓ to select the Settings app. Use ∧ or ∨ to scroll through items in the Settings menu.

Units : Press > while Units is displayed to enter the Units menu. Choose US or Metric units by pressing ✓ while the desired item is highlighted.

Info Pages : Press > while Info Pages is displayed to enter the Info Pages menu and select the items to be displayed in the Info App. See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*.

Speed Warning : The Speed Warning display allows the driver to set a speed that they do not want to exceed. To set the Speed Warning, press > when Speed Warning is displayed. Press ∧ or ∨ to adjust the value. Press ✓ to set the speed. Once the speed is set, this feature can be turned off by pressing ✓ while viewing this page. If the selected speed limit is exceeded, a pop-up warning is displayed with a chime.

Software Information (Uplevel Cluster) : Displays the open source software information.

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.

Trip Odometer

The trip odometer shows how far the vehicle has been driven since the trip odometer was last reset.

The trip odometer is accessed and reset through the Driver Information Center (DIC). See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*.

Tachometer

The tachometer displays the engine speed in revolutions per minute (rpm).

For vehicles with the Stop/Start system, when the ignition is in ON/RUN, the tachometer indicates the vehicle status. When pointing to AUTO STOP, the engine is off but the vehicle is on and can move. The engine could auto start at any time. When the indicator points to OFF, the vehicle is off.

When the engine is on, the tachometer will indicate the engine’s revolutions per minute (rpm). The tachometer may vary by several hundred rpm’s, during Auto Stop mode, when the engine is shutting off and restarting.

A slight bump may be felt when the transmission is determining the most fuel efficient operating range.

Caution

If the engine is operated with the rpm’s in the warning area at the high end of the tachometer, the vehicle could be damaged, and the damage would not be covered

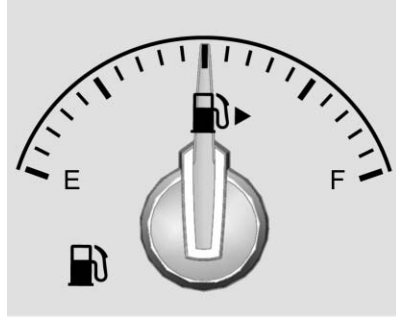
(Continued)

Caution (Continued)

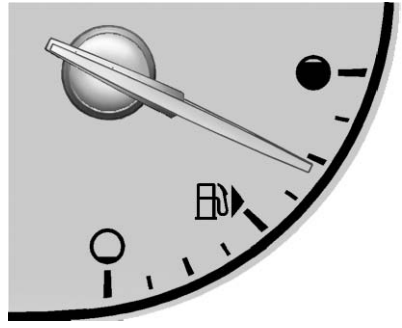
by the vehicle warranty. Do not operate the engine with the rpm's in the warning area.

Fuel Gauge

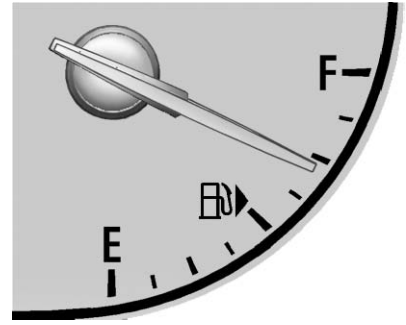
Base Level Metric



Base Level English



Uplevel Metric



Uplevel English

When the ignition is on, the fuel gauge shows about how much fuel is left in the tank.

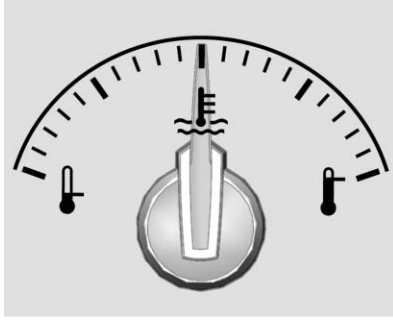
An arrow on the fuel gauge indicates the side of the vehicle the fuel door is on.

When the vehicle's fuel level becomes low, a message appears in the Driver Information Center (DIC) and a single chime sounds. See *Fuel System Messages* ⇨ *140*.

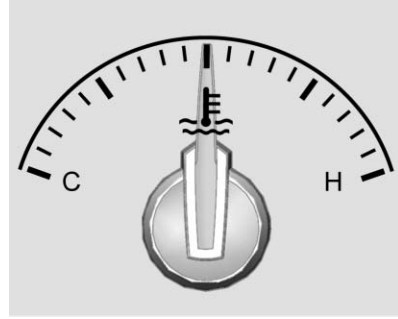
Here are four things that some owners ask about. None of these show a problem with the fuel gauge:

- 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 will go back to empty when the ignition is turned off.

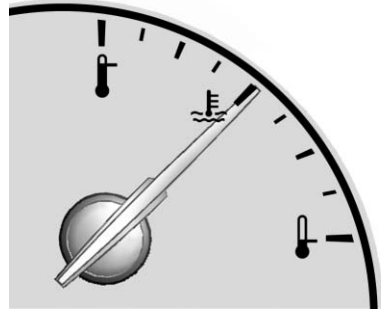
Engine Coolant Temperature Gauge



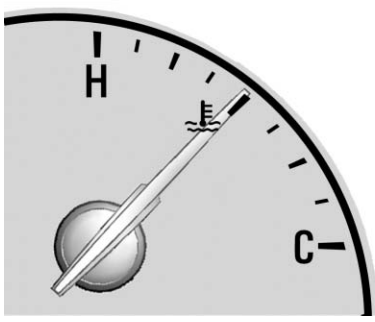
Base Level Metric



Base Level English



Uplevel Metric



Uplevel English

This gauge shows the engine coolant temperature.

If the indicator needle moves to the hot side of the gauge toward the shaded area, the engine is too hot.

If the vehicle has been operated under normal driving conditions, 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 cluster.

When the vehicle is started, this light flashes and a chime may come on to remind the driver 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 while the vehicle is moving.

If the driver safety belt is buckled, neither the light nor the chime comes on.

Passenger Safety Belt Reminder Light

The vehicle may also have a passenger safety belt reminder light.

When the vehicle is started, this light flashes and a chime may come on to remind passengers to fasten their safety belt. Then the light stays on solid until the belt is buckled.

This cycle continues several times if the front passenger remains or becomes unbuckled while the vehicle is moving.

If the front 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.

Airbag Readiness Light

This light shows if there is an electrical problem with the airbag system. The system check includes the airbag sensor(s), the 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* ⇨ *65*.

The airbag readiness light comes on for several seconds when the vehicle is started. If the light does not come on then, have it 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.

If there is a problem with the airbag system, a Driver Information Center (DIC) message may also come on. See *Airbag System Messages* ⇨ *143*.

Passenger Airbag Status Indicator

The vehicle has a passenger sensing system. See *Passenger Sensing System* ⇨ *72* 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. Then, after several more seconds, the status indicator will light either ON or OFF, or the on or off symbol to let you know the status of the front outboard passenger frontal airbag and knee airbag.

If the word ON or the on symbol is lit on the passenger airbag status indicator, it means that the front

outboard passenger frontal airbag and knee airbag are allowed to inflate.

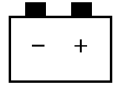
If the word OFF or the off symbol is lit on the airbag status indicator, it means that the passenger sensing system has turned off the front outboard passenger frontal airbag and knee airbag.

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* ⇨ *118* 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 could be a problem with the electrical charging system. Have it checked by your dealer. Driving while this light is on could drain the battery.

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 (Check Engine Light)

This light is part of the vehicle's emission control on-board diagnostic system. If this light is on while the engine is running, a malfunction has been detected and the vehicle may require service. The light should come on to show that it is working when the ignition is in Service Only Mode. See *Ignition Positions* ⇨ *259*.

Malfunctions are often indicated by the system before any problem is noticeable. Being aware of the light and seeking service promptly when it comes on may prevent damage.

Caution

If the vehicle is driven continually with this light on, the emission control system may not work as well, the fuel economy may be lower, and the vehicle may not run smoothly. This could lead to costly repairs that might not be covered by the vehicle warranty.

Caution

Modifications to the engine, transmission, exhaust, intake, or fuel system, or the use of replacement tires that do not meet the original tire specifications, can cause this light to come on. This could lead to costly repairs not covered by the vehicle warranty. This could also affect the vehicle's ability to pass an Emissions Inspection/ Maintenance test. See *Accessories and Modifications* ⇨ *310*.

If the light is flashing : A malfunction has been detected that could damage the emission control system and increase vehicle emissions. Diagnosis and service may be required.

To help prevent damage, reduce vehicle speed and avoid hard accelerations and uphill grades. If towing a trailer, reduce the amount of cargo being hauled as soon as possible.

If the light continues to flash, find a safe place to park. Turn the vehicle off and wait at least 10 seconds before restarting the engine. If the light is still flashing, follow the previous guidelines and see your dealer for service as soon as possible.

If the light is on steady : A malfunction has been detected. Diagnosis and service may be required.

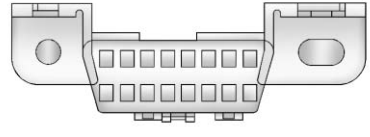
Check the following:

- A loose or missing fuel cap may cause the light to come on. See *Filling the Tank* ⇨ *299*. A few driving trips with the cap properly installed may turn the light off.
- Poor fuel quality can cause inefficient engine operation and poor driveability, which may go away once the engine is warmed up. If this occurs, change the fuel brand. It may require at least one full tank of the proper fuel to turn the light off. See *Fuel* ⇨ *298*.

If the light remains on, see your dealer.

Emissions Inspection and Maintenance Programs

If the vehicle requires an Emissions Inspection/Maintenance test, the test equipment will likely connect to the vehicle's Data Link Connector (DLC).



The DLC is under the instrument panel to the left of the steering wheel. Connecting devices that are not used to perform an Emissions Inspection/Maintenance test or to service the vehicle may affect vehicle operation. See *Add-On Electrical Equipment* ⇨ *308* or *Add-On Electrical Equipment* ⇨ *308*. See your dealer if assistance is needed.

The vehicle may not pass inspection if:

- The light is on when the engine is running.
- The light does not come on when the ignition is in Service Only Mode.
- Critical emission control systems have not been completely diagnosed. If this happens, the vehicle would not be ready for inspection and might require several days of routine driving before the system is ready for inspection. This can happen if the 12-volt battery has recently been replaced or run down, or if the vehicle has been recently serviced.

See your dealer if the vehicle will not pass or cannot be made ready for the test.

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

BRAKE

English

This light should come on briefly when the engine is started. If it does not come on then, have it fixed so it will be ready to warn you if there is a problem.

If the light comes on and stays on, there is a brake problem.

⚠ 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.

Electric Parking Brake Light

PARK

Metric **English Base Level**

English Uplevel

The Electric Parking Brake (EPB) status light comes on when the parking brake is applied. If the light continues flashing after the EPB is released, or while driving, there is a problem with the EPB system.
A message may also display on the Driver Information Center (DIC). See *Brake System Messages* ⇨ *137*.

If the light does not come on, or remains flashing, see your dealer.

Service Electric Parking Brake Light

If this light comes on and stays 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 *Electric Parking Brake* ⇨ *271*. If a message displays in the Driver Information Center (DIC), see *Brake System Messages* ⇨ *137*.

Antilock Brake System (ABS) Warning Light

The ABS 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 stays on, turn the ignition off. If the light comes on while driving, stop as soon as it is safely possible and turn the ignition off. A chime may also sound when the light comes on steady. Then start the engine again to reset the system. If the ABS light stays on, or comes on again while driving, the vehicle needs service. 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* ⇨ *121*.

See *Brake System Messages* ⇨ *137* for all brake-related DIC messages.

Lane Keep Assist (LKA) Light

For some vehicles, this light comes on briefly while starting the vehicle. If it does not come on, have the vehicle serviced.

For vehicles with the uplevel cluster, this light may not come on when starting the vehicle.

This light is green if LKA is available to assist.

LKA may assist by gently turning the steering wheel if the vehicle approaches a detected lane marking without using the turn signal in that direction. The LKA light will turn amber.

This light is amber and flashes as a Lane Departure Warning (LDW) alert, to indicate that the lane marking has been crossed.

See *Lane Keep Assist (LKA)* ⇨ *296*.

Vehicle Ahead Indicator

If equipped, this indicator will display green when a vehicle is detected ahead and amber when you are following a vehicle ahead much too closely.

See *Forward Collision Alert (FCA) System* ⇨ *290*.

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/Electronic Stability Control* ⇨ *273*.

StabiliTrak® OFF Light

This light comes on briefly while starting the engine. If it does not, have the vehicle serviced by your dealer.

This light comes on when the StabiliTrak system is turned off. If StabiliTrak is off, the Traction Control System (TCS) is also off.

If StabiliTrak and TCS are off, the system does not assist in controlling the vehicle. Turn on the TCS and the StabiliTrak systems, and the warning light turns off.

See *Traction Control/Electronic Stability Control* ⇨ *273*.

Traction Control System (TCS)/StabiliTrak® Light

This 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 Driver Information Center (DIC) message may display. Check the DIC messages to determine which feature(s) is no longer functioning and whether the vehicle requires service. See *Ride Control System Messages* ⇨ *143*.

If the light is on and flashing, the TCS and/or the StabiliTrak system is actively working.

See *Traction Control/Electronic Stability Control* ⇨ *273*.

Engine Coolant Temperature Warning Light

This light comes on briefly while starting the vehicle.

If it does not, have the vehicle serviced by your dealer. If the system is working normally the indicator light goes off.

Caution
The engine coolant temperature warning light indicates that the vehicle has overheated. Driving with this light on can damage the (Continued)

Caution (Continued)

engine and it may not be covered by the vehicle warranty. See *Engine Overheating* ⇨ *323*.

The engine coolant temperature warning light comes on when the engine has overheated.

If this happens, pull over and turn off the engine as soon as possible. See *Engine Overheating* ⇨ *323*.

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* ⇨ *144*. Stop as soon as possible, and inflate the tires to the pressure value shown on the Tire and Loading Information label. See *Tire Pressure* ⇨ *346*.

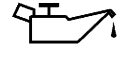
When the Light Flashes First and Then Is On Steady

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* ⇨ *348*.

Engine Oil Pressure Light

Caution

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.



This 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.

Low Fuel Warning Light

This light is 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 security 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* ⇨ *42*.

High-Beam On Light

This light comes on when the high-beam headlamps are in use.

See *Headlamp High/Low-Beam Changer* ⇨ *157*.

IntelliBeam® Light

This light comes on when the IntelliBeam system, if equipped, is enabled.

See *Exterior Lamp Controls* ⇨ *155*.

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. For vehicles with an uplevel cluster, this light is in the display area and may not come on when the ignition is turned on.

This light comes on solid when there is a problem with the AFL system. It flashes when the system is switching between lighting modes. See *Adaptive Forward Lighting (AFL)* ⇨ *158*.

If the battery has recently been run down or replaced, the Adaptive Forward Lighting (AFL) light or STEERING ASSIST IS REDUCED DIC message may remain on. This is normal and there is no loss of power steering or AFL performance. If the light or DIC message continues to display after normal driving, take the vehicle to your dealer for service. See *Steering System Messages* ⇨ *143*.

Front Fog Lamp Light

If equipped, this light comes on when the fog lamps are on.

The light goes out when the fog lamps are turned off. See *Fog Lamps* ⇨ *160*.

Lamps On Reminder

For vehicles with the lamps on reminder light, it comes on when the lights are in use.

Cruise Control Light

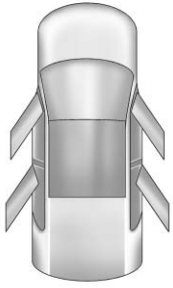
The cruise control light is white when the cruise control is on and ready, and turns green when the cruise control is set and active.

See *Cruise Control* ⇨ *275*.

Adaptive Cruise Control Light

This light is white when the Adaptive Cruise Control (ACC, if equipped) is on and ready, and turns green when the ACC is set and active. See *Adaptive Cruise Control* ⇨ *277*.

Door Ajar Light

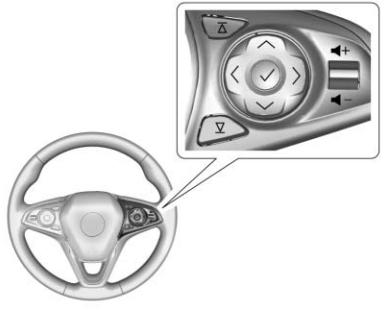


For vehicles equipped with this light, it comes on when a door is open or not securely latched. Before driving, check that all doors are properly closed. See *Door Ajar Messages* ⇨ *138* for more information.

Information Displays

Driver Information Center (DIC) (Base Level)

The DIC displays are shown in the center of the instrument cluster in the Info App. See *Instrument Cluster* ⇨ *111*. The Info App is only available when the vehicle is in ON/RUN. The displays show the status of many vehicle systems. The controls for the DIC are on the right steering wheel control.



∧ or ∨ : Press to move up or down in a list.

< or > : Press < to open application menus on the left. Press > to open interaction menus on the right.

✓ (Set/Reset) : Press to open a menu or select a menu item. Press and hold to reset values on certain screens.

DIC Info Page Options

The info pages on the DIC can be turned on or off through the Settings app.

1. Press < to access the cluster applications.
2. Press ∧ or ∨ to scroll to the Settings application.
3. Press ✓ to select the Settings app, then press > to enter the Settings menu.
4. Scroll to Info Pages and press >.
5. Select Edit List.

6. Press ∧ or ∨ to move through the list of possible information displays.
7. Press ✓ while an item is highlighted to select or deselect that item. When an item is selected, a checkmark will appear next to it.

DIC Info Pages

The following is the list of all possible DIC info page displays. Some may not be available for your particular vehicle. Some items may not be turned on by default but can be turned on through the Settings app. See “DIC Info Page Options” earlier in this section.

Current Speed : Displays the vehicle speed in kilometers per hour (km/h) or miles per hour (mph).

Trip A and Average Fuel Economy or Trip B and Average Fuel Economy : The Trip display shows the current distance traveled, in kilometers (km) or miles (mi), since the trip odometer was last reset. The trip odometer can be reset by pressing and holding ✓ while this display is active.

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. This number reflects only the approximate average fuel economy that the vehicle has right now, and will change as driving conditions change. The Average Fuel Economy can be reset by pressing and holding ✓ while this display is active.

Fuel Range and Instantaneous Fuel Economy : Displays the approximate distance the vehicle can be driven without refueling. LOW will be displayed when the vehicle is low on fuel. 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. Also displays the current fuel economy in liters per 100 kilometers (L/100 km) or miles per gallon (mpg). This number reflects only the approximate fuel economy that the vehicle has right now and changes frequently as driving conditions change.

Average Speed : Displays 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 and holding ✓ while this display is active.

Timer : To start the timer, press ✓ while this display is active. The display will show the amount of time that has passed since the timer was last reset. To stop the timer, press ✓ briefly while this display is active and the timer is running. To reset the timer to zero, press and hold ✓ while this display is active.

Oil Life : Displays 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* ⇨ *139*. The oil should be changed as soon as possible. See *Engine Oil* ⇨ *314*. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended in the Maintenance Schedule. See *Maintenance Schedule* ⇨ *382*.

The Oil Life display must be reset after each oil change. It will not reset itself. Do not 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 and hold ✓ for several seconds while the Oil Life display is active. See *Engine Oil Life System* ⇨ *316*.

Coolant Temperature : Displays the coolant temperature in degrees Celsius (°C) or degrees Fahrenheit (°F).

Tire Pressure : Displays the approximate pressures of all four tires. Tire pressure is displayed in kilopascal (kPa) or pounds per square inch (psi). If the pressure is low, the value for that tire is shown in amber. See *Tire Pressure Monitor System* ⇨ *347* and *Tire Pressure Monitor Operation* ⇨ *348*.

Battery Voltage : Displays the current battery voltage. The battery voltage can fluctuate while viewing this information on the DIC. This is normal.

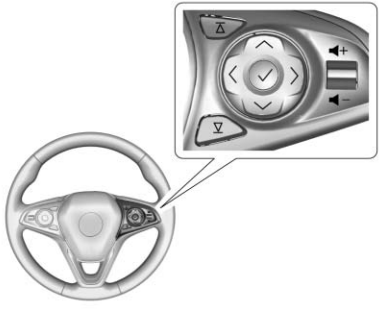
Follow Distance Indicator/Gap Setting : The current follow time to the vehicle ahead is displayed as a time value on this page when ACC is not engaged. When ACC has been engaged, the Follow Distance Indicator page switches to the Gap Setting page. This page shows the current gap setting along with the vehicle ahead indicator.

Best Average Fuel Economy : The right hand side displays the best average fuel economy (AFE) that is achieved for a selected distance. The left hand side displays a running average of fuel economy for the most recently traveled selected distance. The center bar graph displays the instantaneous fuel economy. Quickly press the ✓ button to display a page for selecting one of the distance options. Move the up/down arrow to choose the selection, and ✓ to change the setting. When viewing best AFE, a several second press and hold of ✓ will reset the best value. The best value will show “- - -“ until the selected distance has been traveled. The display provides feedback on how current driving behavior in the bar graph affects the running average in the left display and how well recent driving compares to the best that has been achieved.

Speed Signs : Displays sign information, which comes from a roadway database in the onboard navigation.

Driver Information Center (DIC) (Uplevel)

The DIC displays are shown in the center of the instrument cluster in the Info App. See *Instrument Cluster* ⇨ *111*. The Info App is only available when the vehicle is in ON/RUN. The displays show the status of many vehicle systems. The controls for the DIC are on the right steering wheel control.



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DIC Info Page Options

The info pages on the DIC can be turned on or off through the Settings app.

1. Press < to access the cluster applications.
2. Press ∧ or ∨ to scroll to the Settings application.
3. Press ✓ to select the Settings app, then press > to enter the Settings menu.
4. Scroll to Info Pages and press >.
5. Press ∧ or ∨ to move through the list of possible information displays.
6. Press ✓ while an item is highlighted to select or deselect that item.

DIC Info Pages

The following is the list of all possible DIC info page displays. Some may not be available for your particular vehicle. Some items may not be turned on by default but can be turned on through the Settings app. See “DIC Info Page Options” earlier in this section.

Trip A or Trip B with Average Fuel Economy and Average Speed : The Trip display shows the current distance traveled, in kilometers (km) or miles (mi), since the trip odometer was last reset. The trip odometer can be reset by pressing and holding ✓ while this display is active.

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. This number reflects only the approximate average fuel economy that the vehicle has right now, and will change as driving conditions change. The Average Fuel Economy can be reset by pressing and holding ✓ while this display is active.

The Average 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 and holding ✓ while this display is active.

Fuel Range and Instantaneous Fuel Economy : Displays the approximate distance the vehicle can be driven without refueling. LOW will be displayed when the vehicle is low on fuel. 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.

Displays the current fuel economy in liters per 100 kilometers (L/100 km) or miles per gallon (mpg). This number reflects only the approximate fuel economy that the vehicle has right now and changes frequently as driving conditions change.

Oil Life : Displays 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* ⇨ *139*. The oil should be changed as soon as possible. See *Engine Oil* ⇨ *314*. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended in the Maintenance Schedule. See *Maintenance Schedule* ⇨ *382*.

The Oil Life display must be reset after each oil change. It will not reset itself. Do not 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 and hold ✓ for several seconds while the Oil Life display is active. See *Engine Oil Life System* ⇨ *316*.

Tire Pressure : Displays the approximate pressures of all four tires. Tire pressure is displayed in kilopascal (kPa) or pounds per square inch (psi). If the pressure is low, the value for that tire is shown in amber. See *Tire Pressure Monitor System* ⇨ *347* and *Tire Pressure Monitor Operation* ⇨ *348*.

Fuel Economy : The right hand side displays the best average fuel economy (AFE) that is achieved for a selected distance. The left hand side displays a running average of fuel economy for the most recently traveled selected distance. The center bar graph displays the

instantaneous fuel economy.

Quickly press the ✓ button to display a page for selecting one of the distance options. Move the up/down arrow to choose the selection, and ✓ to change the setting. When viewing best AFE, a several second press and hold of ✓ will reset the best value. The best value will show "- - -" until the selected distance has been traveled. The display provides feedback on how current driving behavior in the bar graph affects the running average in the left display and how well recent driving compares to the best that has been achieved.

Speed Limit : Displays sign information, which comes from a roadway database in the onboard navigation.

Follow Distance Indicator/Gap Setting : The current follow time to the vehicle ahead is displayed as a time value on this page when ACC is not engaged. When ACC has been engaged, the Follow Distance Indicator page switches to the Gap Setting page. This page shows the current gap setting along with the vehicle ahead indicator.

ECO Index : The bar graph on the left hand side provides feedback on the efficiency of current driving behavior. The graph shows a percentage value that is based on current fuel consumption compared to what is expected from the vehicle with good and bad driving habits. Each box represents 10%, with all boxes filled being 100%. More economical driving will result in being in the ECO box. Instantaneous Fuel Economy is also shown on the right hand side. This display cannot be reset.

Blank Page : This page shows no information.

Head-Up Display (HUD)

⚠ Warning

If the HUD image is too bright or too high in your field of view, it may take you more time to see

(Continued)

Warning (Continued)

things you need to see when it is dark outside. Be sure to keep the HUD image dim and placed low in your field of view.

If equipped with HUD, some information concerning the operation of the vehicle is projected onto the windshield. The image is projected through the HUD lens on top of the instrument panel. The information appears as an image focused out toward the front of the vehicle.

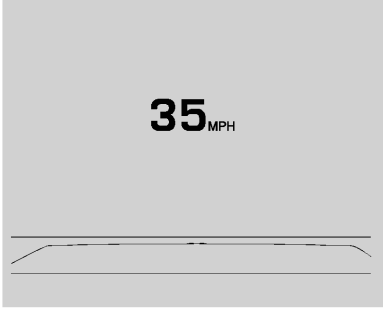
Caution

If you try to use the HUD image as a parking aid, you may misjudge the distance and damage your vehicle. Do not use the HUD image as a parking aid.

The HUD information can be displayed in various languages in some vehicles. The speedometer

reading and other numerical values can be displayed in either English or metric units.

The language selection is changed through the radio and the units of measurement is changed through the instrument cluster. See *Vehicle Personalization* ⇨ *146* and “Cluster Menu” under *Instrument Cluster* ⇨ *111*.



HUD Display on the Vehicle Windshield

The HUD may display some of the following vehicle information and vehicle messages or alerts:

- Speed
- Tachometer
- Audio
- Phone
- Navigation
- Collision Alert
- Cruise Control
- Lane Departure
- Low Fuel

Some vehicle messages or alerts displayed in the HUD may be cleared by using the steering wheel controls. See *Vehicle Messages* ⇨ *136*.

The HUD control is to the left of the steering wheel.

To adjust the HUD image:

1. Adjust the driver seat.
2. Start the engine.
3. Use the following settings to adjust the HUD.

HUD **:** Press down or lift up to center the HUD image. The HUD image can only be adjusted up and down, not side to side.

INFO **:** Press to select the display view. Each press will change the display view.

±☼ **:** Lift up and hold to brighten the display. Press down and hold to dim the display. Hold down to turn the display off.

The HUD image will automatically dim and brighten to compensate for outside lighting. The HUD brightness control can also be adjusted as needed.

The HUD image can temporarily light up depending on the angle and position of the sunlight on the HUD display. This is normal.

Polarized sunglasses could make the HUD image harder to see.

HUD Views

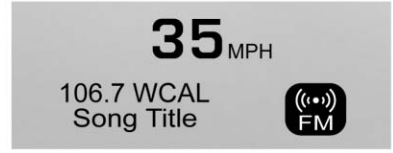
There are four views in the HUD. Some vehicle information and vehicle messages or alerts may be displayed in any view.

Metric

English

Speed View : This display gives the speedometer reading (in English or metric units), speed limit, Adaptive Cruise Control speed, Lane Departure Warning, and vehicle ahead indicator. Some information only appears on vehicles that have these features, and when they are active.

Metric



English

Audio/Phone View : This displays the speed view along with audio/phone information. The current radio station, media type, and incoming calls will be displayed.

All HUD views may briefly display audio information when the driver uses the steering wheel controls to adjust the audio settings appearing in the instrument cluster.

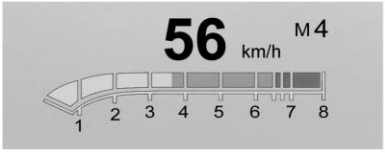
Incoming phone calls appearing in the instrument cluster may also display in any HUD view.

Metric

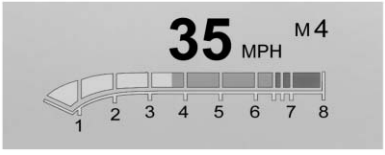
English

Navigation View : This display includes the information in the speed view along with Turn-by-Turn Navigation information in some vehicles. The compass heading is displayed when navigation routing is not active.

Navigation Turn-by-Turn Alerts shown in the instrument cluster may also be displayed in any HUD view.



Metric



English

Performance View : This displays the speedometer reading, rpm reading, transmission positions, and gear shift indicator.

Care of the HUD

Clean the inside of the windshield to remove any dirt or film that could reduce the sharpness or clarity of the HUD image.

Clean the HUD lens with a soft cloth sprayed with glass cleaner. Wipe the lens gently, then dry it.

HUD Troubleshooting

Check that:

- Nothing is covering the HUD lens.
- HUD brightness setting is not too dim or too bright.
- HUD is adjusted to the proper height.
- Polarized sunglasses are not worn.
- Windshield and HUD lens are clean.

If the HUD image is not correct, contact your dealer.

The windshield is part of the HUD system. If the windshield needs replacing, see *Windshield Replacement* ⇨ *330*.

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 appear one after another.

The messages that do not require immediate action can be acknowledged and cleared by pressing ✓.

The messages that require immediate action cannot be cleared until that action is performed.

All messages should be taken seriously; clearing the message does not correct the problem.

The following are the possible messages and some information about them.

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 features of the vehicle that may be noticed. At the point that features are disabled, this message displays. Turn off unnecessary accessories to allow the battery to recharge.

LOW BATTERY

This message is displayed when the battery voltage is low. See *Battery - North America* ⇨ *326*.

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.

TRANSPORT MODE ON

This message is displayed when the vehicle is in transport mode. Some features can be disabled while in this mode, including Remote Keyless Entry (RKE), remote start, and the vehicle alarm system. Take the vehicle to your dealer for service to turn transport mode off.

Brake System Messages

BRAKE FLUID LOW

This message displays when the brake fluid level is low. See *Brake Fluid* ⇨ *325*.

RELEASE PARKING BRAKE

This message displays if the Electric Parking Brake is on while the vehicle is in motion. Release it before attempting to drive. See *Electric Parking Brake* ⇨ *271*.

SERVICE BRAKE ASSIST

This message displays when there is a problem with the brake boost system. When this message displays, the brake pedal may be harder to push and the stopping distance may be longer. See your dealer for service.

SERVICE PARKING BRAKE

This message displays when there is a problem with the Electric Parking Brake. See your dealer for service.

STEP ON BRAKE TO RELEASE PARK BRAKE

This message displays when attempting to release the Electric Parking Brake without the brake pedal applied. See *Electric Parking Brake* ⇨ *271*.

Cruise Control Messages

ADAPTIVE CRUISE DISENGAGING

This message displays when the Adaptive Cruise Control (ACC) is disengaging.

This may occur when:

- The radar is not clean. Keep the radar sensors free of mud, dirt, snow, ice, and slush. Clean the

entire front and/or rear of the vehicle. For cleaning instructions, see *Exterior Care* ⇨ *371*.

- Heavy rain or snow is interfering with the radar object detection or camera performance.
- Stability Control or Traction Control has activated or been disabled.
- There is no traffic or other objects to detect.
- There is a fault in the system.

ADAPTIVE CRUISE SET TO XXX

This message displays when the Adaptive Cruise Control (ACC) speed is set. See *Adaptive Cruise Control* ⇨ *277*.

ADAPTIVE CRUISE TEMPORARILY UNAVAILABLE

This message displays when attempting to activate Adaptive Cruise Control (ACC) when it is temporarily unavailable. The ACC system does not need service. This can occur under the following conditions:

- The radar is not clean. Keep the radar sensors free of mud, dirt, snow, ice, and slush. Clean the entire front and/or rear of the vehicle. For cleaning instructions, see *Exterior Care* ⇨ *371*.
- Heavy rain or snow is interfering with the radar object detection or camera performance.

CRUISE SET TO XXX

This message displays when the cruise control speed is set. See *Cruise Control* ⇨ *275*.

NO CRUISE BRAKING GAS PEDAL APPLIED

This message displays when Adaptive Cruise Control (ACC) is active and the driver is pressing the gas pedal. When this occurs, ACC will not brake. See *Adaptive Cruise Control* ⇨ *277*.

SERVICE ADAPTIVE CRUISE CONTROL

This message displays when the Adaptive Cruise Control (ACC) needs service. Take the vehicle to your dealer.

SHIFT TO PARK BEFORE EXITING

This message may display if Adaptive Cruise Control (ACC) is engaged holding the vehicle at a stop, and the driver attempts to exit the vehicle. Put the vehicle in P (Park) before exiting.

Door Ajar Messages

DOOR OPEN

This message displays and a chime may sound if a door is not fully closed. Stop and turn off the vehicle, check the door for obstructions, and close the door again. Check to see if the message still appears on the DIC.

HOOD OPEN

This message displays and a chime may sound if the hood is not fully closed. Stop and turn off the vehicle, check the hood for obstructions, and close the hood again. Check to see if the message still appears on the DIC.

REAR ACCESS OPEN

This message will display 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. The vehicle can continue to be driven.

If this message continues to appear, have the system repaired by your dealer as soon as possible to avoid damage to the engine.

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* ⇨ *323*.

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* ⇨ *316*, *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*, *Engine Oil* ⇨ *314*, and *Maintenance Schedule* ⇨ *382*.

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

On some vehicles, this message displays when the engine oil level may be too low. Check the oil level before filling to the recommended level. If the oil is not low and this message remains on, take the vehicle to your dealer for service. See *Engine Oil* ⇨ *314*.

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, or displays repeatedly, 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.

Key and Lock Messages

NO REMOTE DETECTED

This message displays when the RKE transmitter battery is weak on vehicles with Keyless Access. See “Starting the Vehicle with a Low Transmitter Battery” under *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

NO REMOTE KEY WAS DETECTED PLACE KEY IN TRANSMITTER POCKET THEN START YOUR VEHICLE

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* ⇨ *26*.

REPLACE BATTERY IN REMOTE KEY

This message displays when the battery in the RKE transmitter needs to be replaced. See “Battery Replacement” under *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

Object Detection System Messages

AUTOMATIC COLLISION PREP OFF

This message displays when the Front Automatic Braking (FAB) System has been turned off. See *Front Automatic Braking (FAB) System* ⇨ *292*.

AUTOMATIC COLLISION PREP REDUCED

This message displays when the Front Automatic Braking (FAB) System has been set to the Alert setting. This setting disables most FAB functions. Some last-second automatic braking capability is still provided with the Alert setting, but braking is less likely to occur. See *Front Automatic Braking (FAB) System* ⇨ *292*.

AUTOMATIC COLLISION PREP UNAVAILABLE

This message displays when the Front Automatic Braking (FAB) System has been unavailable for some time. The FAB System does not need service.

This can occur under the following conditions:

- The front of the vehicle or windshield is not clean. Keep these areas clean and free of mud, dirt, snow, ice, and slush. For cleaning instructions, see *Exterior Care* ⇨ *371*.
- Heavy rain or snow is interfering with the object detection performance.

This message may also be displayed if there is a problem with the StabiliTrak system.

FORWARD COLLISION ALERT OFF

This message displays when the Forward Collision Alert has been turned off.

FRONT CAMERA BLOCKED CLEAN WINDSHIELD

This message displays when the camera is blocked. Cleaning the outside of the windshield behind the rearview mirror may correct the issue. The Lane Keep Assist (LKA) and the Lane Departure Warning (LDW) system will not operate. Adaptive Cruise Control (ACC), Forward Collision Alert (FCA), and the Front Automatic Braking (FAB) System may not work or may not work as well.

LANE CHANGE ALERT OFF

This message indicates that the driver has turned the Side Blind Zone Alert (SBZA) and Lane Change Alert (LCA) systems off.

LANE KEEPING ASSIST UNAVAILABLE

This message displays when the Lane Keep Assist (LKA) and Lane Departure Warning (LDW) system is temporarily unavailable. The LKA system does not need service.

This message could be due to the camera being blocked. Cleaning the outside of the windshield behind the rearview mirror may correct the issue.

PARK ASSIST OFF

This message displays when the Parking Assist system has been turned off or when there is a temporary condition causing the system to be disabled.

SERVICE AUTOMATIC COLLISION PREP

If this message displays, take the vehicle to your dealer to repair the system. Adaptive Cruise Control (ACC), Forward Collision Alert (FCA), and/or the Front Automatic Braking (FAB) System may not work. Do not use these systems until the vehicle has been repaired.

SERVICE DRIVER ASSIST SYSTEM

If this message displays, take the vehicle to your dealer to repair the system. Adaptive Cruise Control (ACC), Forward Collision Alert (FCA), Front Automatic Braking (FAB) System, Assistance Systems for Parking or Backing, and/or Lane Keep Assist (LKA) may not work. Do not use these systems until the vehicle has been repaired.

SERVICE FRONT CAMERA

If this message remains on after continued driving, take the vehicle to your dealer for service. Do not use the Lane Keep Assist (LKA), Lane Departure Warning (LDW), and Forward Collision Alert (FCA) features.

SERVICE PARK ASSIST

This message displays if there is a problem with the Parking Assist system. Do not use this system to help you park. See your dealer for service.

SERVICE SIDE DETECTION SYSTEM

If this message remains on after continued driving, the vehicle needs service. Side Blind Zone Alert (SBZA), Lane Change Alert (LCA), and Rear Cross Traffic Alert (RCTA) features will not work. Take the vehicle to your dealer.

SIDE DETECTION SYSTEM UNAVAILABLE

This message indicates that Side Blind Zone Alert (SBZA), Lane Change Alert (LCA), and Rear Cross Traffic Alert (RCTA) are disabled either because the sensor is blocked and cannot detect vehicles in the blind zone, or the vehicle is passing through an open area, such as the desert, where there is insufficient data for operation. This message may also activate during heavy rain or due to road spray. The vehicle does not need service. For cleaning, see "Washing the Vehicle" under *Exterior Care* ⇨ *371*.

TAKE STEERING

If LKA does not detect active driver steering, an alert and chime may be provided. Move the steering wheel to dismiss. See *Lane Keep Assist (LKA)* ⇨ *296*.

Ride Control System Messages

AWD OFF

This message displays when the All-Wheel Drive (AWD) System is temporarily disabled. The system may disable due to spare tire installation or a driving condition that could result in system damage. The system does not require service when this message is displayed. The AWD system will resume normal operation when driving conditions permit. See *All-Wheel Drive* ⇨ *270*.

SERVICE AWD

This message displays when there is a problem with the All-Wheel Drive (AWD) System. See your dealer for service.

SERVICE TRACTION CONTROL

This message displays when there is a problem with the Traction Control System (TCS). When this message is displayed, the system will not limit wheel spin. Adjust your driving accordingly. See your dealer for service.

SERVICE STABILITRAK

This message displays if there is a problem with the StabiliTrak system. If this message appears, try to reset the system. Stop; turn off the engine for at least 15 seconds; then start the engine again. If this message still comes on, it means there is a problem. See your dealer for service. The vehicle is safe to drive; however, you do not have the benefit of StabiliTrak, so reduce your speed and drive accordingly.

STABILITRAK INITIALIZING

This message may come on if the StabiliTrak system has not fully initialized because of road conditions or the incorrect tire size. When the StabiliTrak system is fully initialized, the message will turn off. See *Traction Control/Electronic Stability Control* ⇨ *273*. If this message continues to be displayed for multiple ignition cycles and on different road surfaces, see your dealer for service.

Airbag System Messages

SERVICE AIRBAG

This message displays if there is a problem with the airbag system. See your dealer for service.

Security Messages

THEFT ATTEMPTED

This message displays if the vehicle detects a tamper condition.

Steering System Messages

STEERING ASSIST IS REDUCED

This message may display if a problem occurs with the electric power steering system. If this message appears, steering effort may be slightly higher than normal. The vehicle is still safe to drive. Use caution while in reduced assist

mode. If this message is persistent or appears repeatedly, take the vehicle to your dealer for service. See *Steering* ⇨ *250*.

If the battery has recently been run down or replaced, the Adaptive Forward Lighting (AFL) light or STEERING ASSIST IS REDUCED message may remain on. This is normal and there is no loss of power steering or AFL performance. If the light or DIC message continues to display after normal driving, take the vehicle to your dealer for service. See *Adaptive Forward Lighting (AFL) Light* ⇨ *126*.

SERVICE POWER STEERING

This message displays when there is a problem with electric power steering. If this message displays and a reduction in steering performance or loss of power steering assistance is noticed, see your dealer. See *Steering* ⇨ *250*.

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* ⇨ *348*.

TIRE LEARNING ACTIVE

This message displays when the system is learning new tires. See *Tire Pressure Monitor Operation* ⇨ *348*.

TIRE PRESSURE LOW ADD AIR TO TIRE

On vehicles with the Tire Pressure Monitor System (TPMS), this message displays when the pressure in one or more of the vehicle's tires is low.

The low tire pressure warning light will also come on. See *Tire Pressure Light* ⇨ *125*.

If a tire pressure message displays, inflate the tires until the tire pressure is equal to the values shown on the Tire and Loading Information label. See *Tires* ⇨ *338*, *Vehicle Load Limits* ⇨ *346*, and *Tire Pressure* ⇨ *346*.

More than one tire pressure message can be received at a time. The DIC also shows the tire pressure values. See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*.

Transmission Messages

APPLY AND HOLD BRAKE

This message displays along with a temperature graph when the transmission clutch overheat temperature is reached.

INCREASE SPEED OR APPLY BRAKE

This message displays along with a temperature graph when the transmission clutch temperature is close to reaching an overheated condition.

PLEASE WAIT

This message displays along with a temperature graph when the vehicle is stopped and shows the actual clutch temperature and its cooled down target temperature. This may take several minutes.

READY TO DRIVE AWAY

This message displays along with a temperature graph when the clutch cool down temperature is reached and the vehicle can be driven.

SERVICE TRANSMISSION

This message displays if there is a problem with the transmission. See your dealer.

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 ignition or 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.

Washer Fluid Messages

WASHER FLUID LOW ADD FLUID

This message may display when the washer fluid level is low. Fill the windshield washer reservoir as soon as possible. See *Engine Compartment Overview* ⇨ *313* for the location of the windshield washer reservoir. Also, see *Washer Fluid* ⇨ *324*.

Window Messages

OPEN, THEN CLOSE DRIVER/ PASSENGER WINDOW

This message is displayed when the window needs to be reprogrammed. If the vehicle's battery has been recharged or disconnected, you will need to program each front window for the express-up feature to work. See *Power Windows* ⇨ *45*.

Vehicle Personalization

The audio system controls are used to access the personalization menus for customizing vehicle features. See *Using the System* ⇨ *167*.

The following are all possible personalization features. Depending on the vehicle, some may not be available.

To access the personalization menus:

1. Select SETTINGS on the Home page of the infotainment system display.
2. Select the desired feature to display a list of available options.
3. Select the desired option.
4. Select the desired option setting.
5. Press ◀ BACK to return to the previous menu.

Personalization Menus

The following list of features may be available:

- Time and Date
- Language (Language)
- Valet Mode
- Radio
- Vehicle
- Bluetooth
- Voice
- Display
- Rear Camera
- Return to Factory Settings
- Software Information

Each menu is detailed in the following information.

Time and Date

Manually set the time and date. See *Clock* ⇨ *107*.

Language

Select Language, then select from the available language(s).

Valet Mode

To turn Valet Mode on and off, see “Valet Mode” in *Settings* ⇨ *227*.

Radio

To manage the radio features, see *AM-FM Radio* ⇨ *170*.

Vehicle

Select and the following may display:

- Climate and Air Quality
- Collision/Detection Systems
- Comfort and Convenience
- Lighting
- Power Door Locks
- Remote Lock, Unlock, Start

Climate and Air Quality

Select and the following may display:

- Auto Fan Speed
- Auto Defog
- Auto Rear Defog

Auto Fan Speed

This feature will set the maximum auto fan speed.

Select Low, Medium, or High.

Auto Defog

When set to On, the front defog will automatically react to temperature and humidity conditions that may cause fogging.

Select Off or On.

Auto Rear Defog

If equipped, this allows the Auto Rear Defog to be turned on or off. This feature will automatically turn on the rear window defogger when it is cold outside.

Select Off or On.

Collision/Detection Systems

Select and the following may display:

- Alert Type
- Auto Collision Preparation
- Go Notifier
- Rear Cross Traffic Alert
- Lane Change Alert

Alert Type

This feature will set crash alerts to beeps or seat vibrations. This setting affects all crash alerts including Forward Collision, Lane Departure Warning, Adaptive Cruise Control, and Parking Assist alerts.

Select Beeps or Safety Alert Seat.

Auto Collision Preparation

This feature will turn on or off the Forward Collision Alert (FCA) and Front Automatic Braking (FAB). The Off setting disables all FCA and FAB functions. With the Alert and Brake setting, both FCA and FAB are available. The Alert setting disables FAB, but some last-second automatic braking capability is still provided, though less likely to occur. See *Front Automatic Braking (FAB) System* ⇨ *292*.

Select Off, Alert and Brake, or Alert.

Go Notifier

This feature will give a reminder that Adaptive Cruise Control provides when it has brought the vehicle to a complete stop behind another stopping vehicle, and then that vehicle drives on.

Select Off or On.

Rear Cross Traffic Alert

This allows the feature to be turned on or off.

Select Off or On.

Lane Change Alert

This allows the feature to be turned on or off.

Select Off or On.

Comfort and Convenience

Select and the following may display:

- Auto Memory Recall
- Easy Exit Options
- Chime Volume
- Reverse Tilt Mirror
- Rainsense Wipers
- Auto Wipe in Reverse Gear

Auto Memory Recall

This feature automatically recalls the current driver's previously stored 1 or 2 button positions when entering the vehicle. See *Memory Seats* ⇨ *53*.

Select Off or On.

Easy Exit Options

This feature automatically recalls the current driver's previously stored exit button position when exiting the vehicle. See *Memory Seats* ⇨ *53*.

Select Off or On.

Chime Volume

This allows the selection of the chime volume level.

Press + or − to adjust the volume.

Reverse Tilt Mirror

When on, the driver, passenger, or both driver and passenger mirrors will tilt downward when the vehicle is shifted to R (Reverse). See *Reverse Tilt Mirrors* ⇨ *44*.

Select Off, On-Driver and Passenger, On-Driver, or On-Passenger.

Rainsense Wipers

This allows the Rainsense Wipers feature to be disabled or enabled.

Select Off or On.

Auto Wipe in Reverse Gear

This allows this feature to be turned on or off. When on and the front wipers are on, the rear window wiper will turn on automatically when the vehicle is shifted into R (Reverse).

Select Off or On.

Lighting

Select and the following may display:

- Vehicle Locator Lights
- Exit Lighting

Vehicle Locator Lights

This feature will flash the exterior lamps when 🔓 on the Remote Keyless Entry (RKE) transmitter is pressed to locate the vehicle.

Select Off or On.

Exit Lighting

This allows the selection of how long the exterior lamps stay on when leaving the vehicle when it is dark outside.

Select Off, 30 Seconds, 60 Seconds, or 120 Seconds.

Power Door Locks

Select and the following may display:

- 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.

Select Off or On.

Auto Door Unlock

This allows selection of which of the doors will automatically unlock when the vehicle is shifted into P (Park).

Select Off, All Doors, or Driver Door.

Delayed Door Lock

When on, this feature will delay the locking of the doors. To override the delay, press the power door lock switch on the door.

Select Off or On.

Remote Lock, Unlock, Start

Select and the following may display:

- Remote Unlock Light Feedback
- Remote Lock Feedback
- Remote Door Unlock
- Remote Start Auto Cool Seats
- Remote Start Auto Heat Seats
- Auto Heated Seats
- Passive Door Unlock
- Passive Door Lock
- Remote Left in Vehicle Alert

Remote Unlock Light Feedback

When on, the exterior lamps will flash when unlocking the vehicle with the RKE transmitter.

Select Off or Flash Lights.

Remote Lock Feedback

This allows selection of what type of feedback is given when locking the vehicle with the RKE transmitter.

Select Off, Lights and Horn, Lights Only, or Horn Only.

Remote Door Unlock

This allows selection of which doors will unlock when pressing 🔓 on the RKE transmitter.

Select All Doors or Driver Door .

Remote Start Auto Cool Seats

If equipped and turned on, this feature will turn the ventilated seats on when using remote start on warm days.

Select Off, On-Driver and Passenger, or On-Driver.

Remote Start Auto Heat Seats

If equipped and turned on, this feature will turn the heated seats on when using remote start on cold days.

Select Off or On.

Auto Heated Seats

This feature will enable the heated seats to turn on after pressing ENGINE START/STOP when it is cold outside.

Select OFF or ON.

Passive Door Unlock

This allows selection of which doors will unlock when using the button on the driver door to unlock the vehicle.

Select All Doors or Driver Door Only.

Passive Door Lock

This feature can be turned on or off, or can be used to select feedback. See *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

Select Off, On with Horn Chirp, or On.

Remote Left in Vehicle Alert

This feature sounds an alert when the RKE transmitter is left in the vehicle.

Select Off or On.

Bluetooth

Select and the following may display:

- Pair New Device
- Device Management
- Ringtones
- Voice Mail Numbers
- Text Message Alerts

Pair New Device

Select to pair a new device. See "Pairing" under *Bluetooth (Overview)* ⇨ *220* or *Bluetooth (Infotainment Controls)* ⇨ *221* or *Bluetooth (Voice Recognition)* ⇨ *224*.

Device Management

Select to connect to a different phone source, disconnect a phone, or delete a phone.

Ringtones

Press to change the ring tone for the specific phone. The phone does not need to be connected to change the ring tone.

Voice Mail Numbers

This feature displays the voice mail number for all connected phones. To change the voice mail number, select EDIT or press the EDIT button. Type a new number, then select SAVE or press the SAVE button.

Text Message Alerts

This feature allows text messages to be received. See "Text Messaging" under "Phone" in the infotainment manual.

Select Off or On.

Voice

See "Voice" in *Settings* ⇨ *227*.

Display

Select and the following may display:

- Theme
- Calibrate Touchscreen
- Turn Display Off

Theme

Select to change the color, font, and art of the display.

Select Contemporary, Mainstreet, Edge, or Velocity.

Calibrate Touchscreen

Select to calibrate the touchscreen, then follow the prompts.

Turn Display Off

Select to turn the display off. Press anywhere on the display area or any faceplate button to turn the display on.

Rear Camera

Select and the following may display:

- Guidance Lines
- Rear Park Assist Symbols

Guidance Lines

Select to turn Off or On. See *Assistance Systems for Parking or Backing* ⇨ *285*.

Rear Park Assist Symbols

Select to turn Off or On. See *Assistance Systems for Parking or Backing* ⇨ *285*.

Return to Factory Settings

Select and the following may display:

- Restore Vehicle Settings
- Clear All Private Data
- Restore Radio Settings

Restore Vehicle Settings

This allows vehicle settings to be restored.

Select Restore or Cancel.

Clear All Private Data

This allows all private information to be cleared from the vehicle.

Select Delete or Cancel.

Restore Radio Settings

This allows radio settings to be restored.

Select Restore or Cancel.

Software Information

Select to view the infotainment system current software information.

Universal Remote System

See *Radio Frequency Statement* ⇨ *406*.

Universal Remote System Programming

If equipped, these buttons are in the overhead console.

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

instructions refer to a garage door opener, but can be used for other 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 these instructions completely before programming the Universal Remote system. It may help to have another person assist with the programming process.

Keep the original hand-held transmitter for use in other vehicles as well as for future programming. Erase the programming when vehicle ownership is terminated. See “Erasing Universal Remote System Buttons” later in this section.

To program a garage door opener, park outside directly in line with and facing the garage door opener receiver. Clear all people and objects near the garage door.

Make sure the hand-held transmitter has a new battery for quick and 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 see www.homelink.com.

Programming involves time-sensitive actions, and may time out causing the procedure to be repeated.

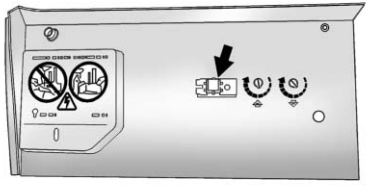
To program up to three devices:

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 with the indicator light in view. The hand-held transmitter was supplied by the manufacturer of the garage door opener receiver.
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 either button until the indicator light changes from a slow to a rapid flash. Then release both buttons.

   Some garage door openers may require substitution of Step 2 with the procedure under “Radio Signals for Canada and Some Gate Operators” later in this section.
3. Press and hold the newly programmed Universal Remote system button for five seconds while watching the indicator light and garage door activation.
   - If the indicator light stays on continuously or the garage door moves when the button is pressed, then programming is complete. There is no need to complete Steps 4–6.
   - If the indicator light does not come on or the garage door does not move, a second button press may

be required. For a second time, press and hold the newly programmed button for five seconds. If the light stays on or the garage door moves, programming is complete.

- If the indicator light blinks rapidly for two seconds, then changes to a solid light and the garage door does not move, continue with programming Steps 4–6.



Learn or Smart Button

4. After completing Steps 1–3, locate the Learn or Smart button inside the garage on the garage door opener receiver. The name and color of the button may vary by manufacturer.
5. Press and release the Learn or Smart button. Step 6 must be completed within 30 seconds of pressing this button.
6. Inside the vehicle, press and hold the newly programmed Universal Remote system button for two seconds and then release it. If the garage door does not move or the lamp on the garage door opener receiver 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 it.

The Universal Remote system should now activate the garage door.

Repeat the process for programming the two remaining buttons.

Radio Signals for Canada and Some Gate Operators

For questions or programming help call 1-800-355-3515 or see www.homelink.com.

Canadian radio-frequency laws and some U.S. gate operators 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.

If the programming did not work, replace Step 2 under “Programming the Universal Remote System” with the following:

Press and hold the Universal Remote system button while pressing and releasing the hand-held transmitter button every two seconds until the 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 one-half second. The indicator light will come on while the signal is being transmitted.

Erasing Universal Remote System Buttons

Erase all programmed buttons when vehicle ownership is terminated.

To erase:

1. Press and hold 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 system buttons:

1. Press and hold any one of the buttons. 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.”

Lighting

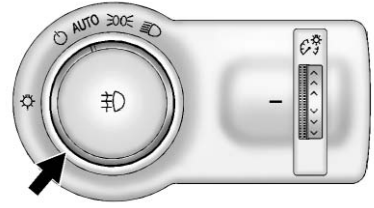
Exterior Lighting
Exterior Lamp Controls 155
Exterior Lamps Off Reminder 157
Headlamp High/Low-Beam Changer 157
Flash-to-Pass 157
Daytime Running Lamps (DRL) 157
Automatic Headlamp System 157
Adaptive Forward Lighting (AFL) 158
Headlamp Leveling Control . . . 158
Hazard Warning Flashers 159
Turn and Lane-Change Signals 159
Fog Lamps 160

Interior Lighting
Instrument Panel Illumination Control 160
Courtesy Lamps 160
Dome Lamps 160
Reading Lamps 161

Lighting Features
Entry Lighting 161
Exit Lighting 162
Battery Power Protection 162
Exterior Lighting Battery Saver 162

Exterior Lighting

Exterior Lamp Controls



The exterior lamp control is on the instrument panel on the outboard side of the steering wheel.

Turn the control to the following positions:

⏻ **:** Turns off the exterior lamps. The knob returns to the AUTO position after it is released. Turn to ⏻ again to reactivate the AUTO mode.

AUTO : Automatically turns the exterior lamps on and off, depending on outside lighting.

: Turns on the parking lamps, including all lamps, except the headlamps.

: Turns on the headlamps together with the parking lamps and instrument panel lights.

Intellibeam® System

If equipped, this system turns the vehicle's high-beam headlamps on and off according to surrounding traffic conditions.

The system turns the high-beam headlamps on when it is dark enough and there is no other traffic present.

This light comes on in the instrument cluster when the Intellibeam system is enabled.

Turning On and Enabling Intellibeam

To enable the Intellibeam system, with the turn signal lever in the neutral position, turn the exterior lamp control to AUTO. The blue high-beam on light appears on the instrument cluster when the high beams are on.

Driving with Intellibeam

The system only activates the high beams when driving over 40 km/h (25 mph).

There is a sensor near the top center of the windshield that automatically controls the system. Keep this area of the windshield clear of debris to allow for best system performance.

The high-beam headlamps remain on, under the automatic control, until one of the following situations occurs:

- The system detects an approaching vehicle's headlamps.
- The system detects a preceding vehicle's taillamps.
- The outside light is bright enough that high-beam headlamps are not required.
- The vehicle's speed drops below 20 km/h (12 mph).
- The Intellibeam system is disabled by the high/low-beam changer or the flash-to-pass feature. If this happens, the high/low-beam changer must be activated two times within two seconds to reactivate the Intellibeam system. The instrument cluster light will come on to indicate the Intellibeam system is reactivated. See *Headlamp High/Low-Beam Changer* ⇨ *157* and *Flash-to-Pass* ⇨ *157*.

The high beams may not turn off automatically if the system cannot detect another vehicle's lamps because of any of the following:

- The other vehicle's lamps are missing, damaged, obstructed from view, or otherwise undetected.
- The other vehicle's lamps are covered with dirt, snow, and/or road spray.
- The other vehicle's lamps cannot be detected due to dense exhaust, smoke, fog, snow, road spray, mist, or other airborne obstructions.

- The vehicle's windshield is dirty, cracked, or obstructed by something that blocks the view of the light sensor.
- The vehicle is loaded such that the front end points upward, causing the light sensor to aim high and not detect headlamps and taillamps.
- Driving on winding or hilly roads.

The automatic high-beam headlamps may need to be disabled if any of the above conditions exist.

Exterior Lamps Off Reminder

A warning chime sounds if the driver door is opened while the ignition is off and the exterior lamps are on.

Headlamp High/ Low-Beam Changer

: Push the turn signal 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 cluster when the high-beam headlamps are on.

Flash-to-Pass

To flash the high beams, pull the turn signal lever toward you, and release.

Daytime Running Lamps (DRL)

DRL can make it easier for others to see the front of the vehicle during the day. Fully functional DRL are required on all vehicles first sold in Canada.

The DRL system comes on when the following conditions are met:

- The ignition is on.
- The exterior lamp control is in AUTO.
- The transmission is not in P (Park).
- The light sensor determines it is daytime.

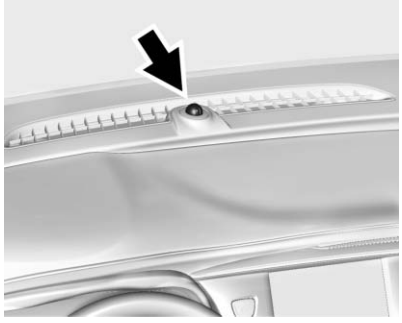
When the DRL system is on, only the DRL are on. The taillamps, sidemarker lamps, instrument panel lights, and other lamps will not be on.

When it begins to get dark, the automatic headlamp system switches from DRL to the headlamps.

To turn off the DRL, turn the exterior lamp control to the off position and then release. For vehicles first sold in Canada, off will only work when the vehicle is in P (Park).

Automatic Headlamp System

When the exterior lamp control is set to AUTO and it is dark enough outside, the headlamps come on automatically.



There is a light sensor on top of the instrument panel. Do not cover the sensor; otherwise the headlamps will come on when they are not needed.

The system may also turn on the headlamps when driving through a parking garage or tunnel.

When it is bright enough outside, the headlamps will turn off or may change to Daytime Running Lamps (DRL).

The automatic headlamp system turns off when the exterior lamp control is turned to ⏻ or the ignition is off.

Lights On with Wipers

If the windshield wipers are activated in daylight with the engine on, and the exterior lamp control is in AUTO, the headlamps, parking lamps, and other exterior lamps come on. The transition time for the lamps coming on varies based on wiper speed. When the wipers are not operating, these lamps turn off.

Move the exterior lamp control to ⏻ or ≋DOC to disable this feature.

Adaptive Forward Lighting (AFL)

If equipped with the AFL System, the headlamps pivot horizontally to provide greater road illumination while turning.

To enable AFL, set the exterior lamp control to the AUTO position. Moving the control out of AUTO 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* ⇨ *155*.

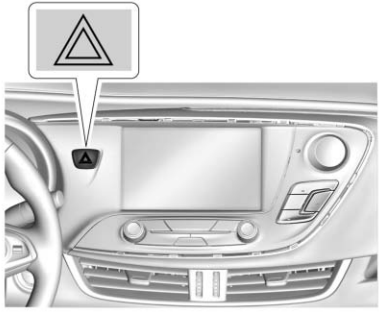
Headlamp Leveling Control

Automatic Headlamp Leveling

If equipped, the level of the headlamps is adjusted automatically based on the vehicle load.

Headlamp aiming is important to safe driving. If the headlamps require aiming or the automatic headlamp leveling system is malfunctioning, see your dealer for service.

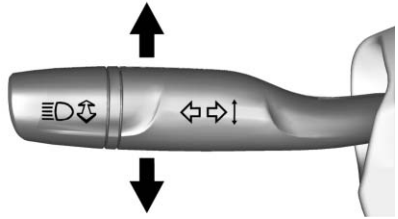
Hazard Warning Flashers



⚠ **:** Press this button to make the front and rear turn signal lamps flash on and off. Press again to turn the flashers off.

The hazard warning flashers turn on automatically if the airbags deploy.

Turn and Lane-Change Signals



Move the lever all the way up or down to signal a turn.

An arrow on the instrument cluster flashes in the direction of the turn or lane change.

Raise or lower the lever until the arrow starts to flash to signal a lane change. Hold it there until the lane change is completed. If the lever is briefly pressed and released, the turn signal flashes three times.

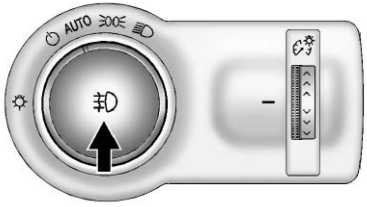
The turn and lane-change signal can be turned off manually by moving the lever back to its original position.

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 a bulb is not burned out, check the fuse. See *Fuses and Circuit Breakers* ⇨ *333*.

Fog Lamps

The ignition and the parking lamps or headlamps must be on for the front fog lamps to work.

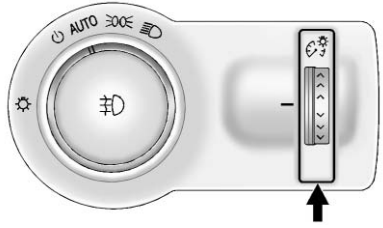


: If equipped, press to turn on or off. An indicator light on the instrument cluster comes on when the fog lamps are on.

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 lighting and steering wheel controls can be adjusted.

: Move and hold the thumbwheel up or down to brighten or dim the lights.

Courtesy Lamps

The courtesy lamps come on when any door is opened and the dome lamp is in the position.

Dome Lamps

The dome lamp is in the overhead console.

To change the dome lamp settings, press:

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

: The lamp comes on when a door is opened.

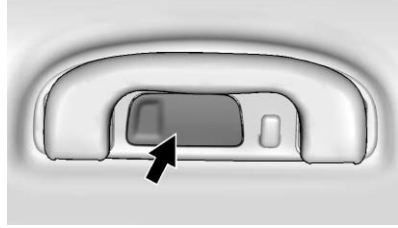
: Turns the lamp on.

Reading Lamps

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

Front Reading Lamps

The reading lamps in the overhead console are operated by touch. Touch the lamp for dim light, touch again for bright light, and touch again to turn the light off.



Rear Reading Lamps

Press the lamp lens to turn the rear passenger reading lamps on or off.

Lighting Features

Entry Lighting

Some exterior lamps and most of the interior lights turn on briefly at night, or in areas of limited lighting when 🔓 is pressed on the Remote Keyless Entry (RKE) transmitter. See *Remote Keyless Entry (RKE) System Operation* ⇨ *26*. When the driver door is opened, all control lights, Driver Information Center (DIC) lights, and door pocket lights turn on. After about 30 seconds the exterior lamps turn off, then the remaining interior lights dim to off. Entry lighting can be disabled manually by changing the ignition out of the OFF position, or by pressing 🔒 on the RKE transmitter.

This feature can be changed. See “Vehicle Locator Lights” under *Vehicle Personalization* ⇨ *146*.

Exit Lighting

Some exterior lamps and interior lights come on at night, or in areas with limited lighting, when the driver door is opened after the ignition is turned off. The dome lamp comes on after the ignition is changed to the OFF position. The exterior lamps and dome lamp remain on for a set amount of time, then automatically turn off.

The exterior lamps turn off immediately by turning the exterior lamp control off.

This feature can be changed. See *Vehicle Personalization* ⇨ *146*.

Battery Power Protection

The battery saver feature is designed to protect the vehicle's battery.

If some interior lamps are left on and the ignition is turned off, the battery rundown protection system automatically turns the lamp off after some time.

Exterior Lighting Battery Saver

The exterior lamps turn off about 10 minutes after the ignition is turned off, if the parking lamps or headlamps have been manually left on. This protects against draining the battery. To restart the 10-minute timer, turn the exterior lamp control to the ⏻ position and then back to the ≋00≋ or ≣D position.

To keep the lamps on for more than 10 minutes, the ignition must be in the ACC/ACCESSORY or ON/RUN/START position.

Infotainment System

Introduction
Overview 164
Using the System 167
Software Updates 169

Radio
AM-FM Radio 170
HD Radio Technology 173
Satellite Radio 174
Radio Reception 174
Antenna 175
Multi-Band Antenna 175
Pandora Internet Radio 175

Audio Players
Avoiding Untrusted Media Devices 179
CD Player 179
USB Port 182
SD Card Reader 184
Auxiliary Jack 184
Bluetooth Audio 185

OnStar System
OnStar System 186

Navigation
Using the Navigation System 187
Maps 195
Navigation Symbols 195
Destination 196
OnStar® System 209
Global Positioning System (GPS) 211
Vehicle Positioning 211
Problems with Route Guidance 212
If the System Needs Service 212
Map Data Updates 212
Database Coverage Explanations 213

Voice Recognition
Voice Recognition 213

Phone
Bluetooth (Overview) 220
Bluetooth (Infotainment Controls) 221
Bluetooth (Voice Recognition) 224
Text Messaging 225

Settings
Settings 227

Trademarks and License Agreements
Trademarks and License Agreements 229

Introduction

Overview

Introduction

Read the following pages to become familiar with the infotainment system features.

⚠ Warning

Taking your eyes off the road for too long or too often while using any infotainment feature can cause a crash. You or others could be injured or killed. Do not give extended attention to infotainment tasks while driving. Limit your glances at the vehicle displays and focus your attention on driving. Use voice commands whenever possible.

The infotainment system has built-in features intended to help avoid distraction by disabling some functions when driving. These functions may gray out when they are unavailable. Many infotainment features are also available through the instrument cluster and steering wheel controls.

Before driving:

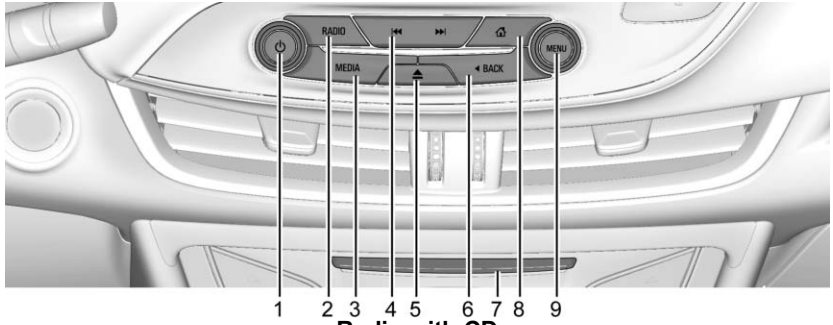
- Become familiar with the operation, faceplate buttons, and screen buttons.
- Set up the audio by presetting favorite stations, setting the tone, and adjusting the speakers.
- Set up phone numbers in advance so they can be called easily by pressing a single button or by using a single voice command if equipped with Bluetooth phone capability.

See *Defensive Driving* ⇨ *249*.

To play the infotainment system with the ignition off, see *Retained Accessory Power (RAP)* ⇨ *264*.

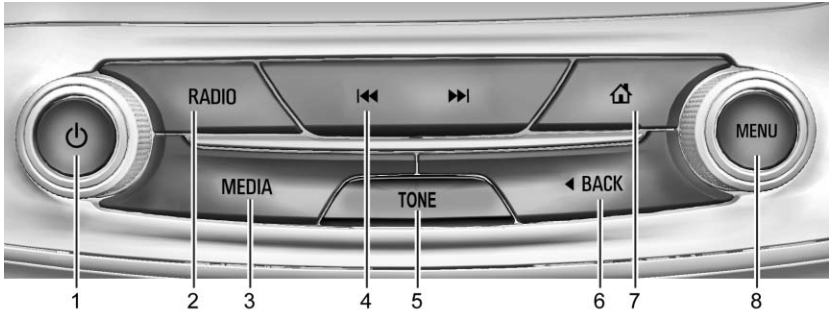
Infotainment System

The infotainment system is controlled by using the touchscreen, the buttons below the touchscreen, steering wheel controls, and voice recognition.



Radio with CD

1. ⏻ (Power)
2. RADIO
3. MEDIA
4. ⏮ and ⏭ (Seek)
5. ⏏ (Eject)
6. ◀ BACK
7. CD Slot (If Equipped)
8. ⌂ (Home Page)
9. MENU



Radio with Tone

1. ⏻ (Power)
2. RADIO
3. MEDIA
4. ⏮ or ⏭ (Seek)
5. TONE
6. ◀ BACK
7. ⌂ (Home Page)
8. MENU

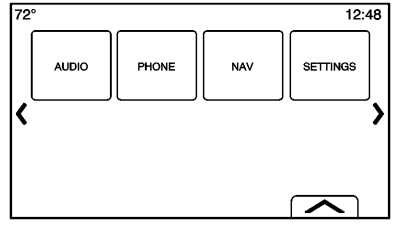
Power (On/Off/Mute)

- When off, press ⏻ to turn the system on. Press and hold to turn off.
- When on, press ⏻ to mute the system. Press ⏻ again to unmute the system.

Volume

Turn ⏻ to increase or decrease the volume.

Home Page



The Home Page is where vehicle application icons are accessed. Some applications are disabled when the vehicle is moving.

The Home Page can be set up to have up to five pages with eight icons per page.

Touch the left 《 or right 》 or slide a finger left/right across the screen to access the pages of icons.

》 (Next) : Touch to go to the next Home Page.

《 (Previous) : Touch to go to the previous Home Page.

(Interaction Selector) : Touch to display the favorites list.

Touch and hold a location within the favorites area to begin the process of saving a favorite application.

Touch the application icon to store as a favorite, and the name of the application will be shown in favorites.

Home : Touch to go back to the Home Page to start a different application.

Managing Home Page Icons

1. Touch and hold any of the Home Page icons to edit that icon.
2. Drag the icon to a new location on the Home Page or to save it to the applications tray.
3. Press ⌂ to exit edit mode.

Using the System

Touchscreen Buttons

Touchscreen buttons show on the screen when available. When a function is unavailable, the button may gray out. When a function is selected, the button may highlight.

Home Page Features

Touch the icons on the Home Page screen to launch an application.

AUDIO

Touch the AUDIO icon to display the active audio source page. Available sources are AM, FM, XM (if equipped), CD, My Media, USB, SD, Bluetooth, and AUX Input.

PHONE

Touch the PHONE icon to display the Phone main page. See *Bluetooth (Overview)* ⇨ *220* or *Bluetooth (Infotainment Controls)* ⇨ *221* or *Bluetooth (Voice Recognition)* ⇨ *224*.

NAV (Navigation, If Equipped)

Touch the NAV icon to display the navigation map or OnStar Turn-by-Turn Navigation. See *Using the Navigation System* ⇨ *187* or *OnStar Overview* ⇨ *410*.

SETTINGS

Touch the SETTINGS icon to display the Settings menu. See *Settings* ⇨ *227*.

PANDORA (If Equipped)

Touch the PANDORA icon to begin Pandora®. See *Pandora Internet Radio* ⇨ *175*.

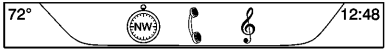
WEATHER (If Equipped)

Touch the WEATHER icon to display the Weather main page. See “SiriusXM Weather (If Equipped)” under *Destination* ⇨ *196*.

ONSTAR (If Equipped)

Touch the ONSTAR icon to display the OnStar main page and start OnStar voice recognition. See *OnStar Overview* ⇨ *410*.

Applications Tray



The applications tray is at the top center of the screen. The applications tray can have three to five applications.

To add an application from the Home Page to the applications tray:

1. Touch and hold any icon on the Home Page to enter edit mode.
2. Drag the icon to the applications tray.

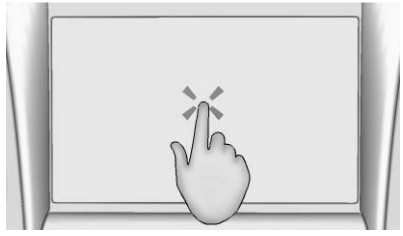
   To remove an item from the applications tray, drag the icon from the applications tray back to the Home Page.

Adding or removing applications from the applications tray will not remove them from the Home Page.

Infotainment Gestures

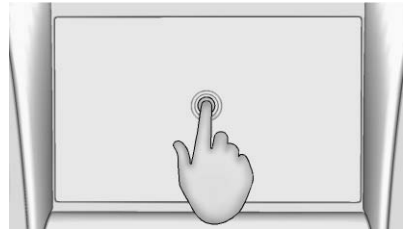
Use the following finger gestures to control the infotainment system.

Touch/Tap



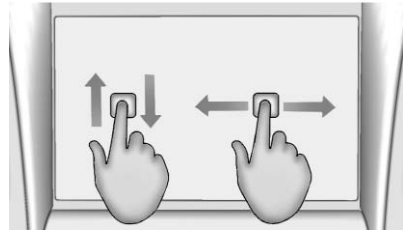
Touch/Tap is used to select a button or option, activate an application, or change the location inside a map.

Touch and Hold



Touch and hold can be used to start another gesture, move, or delete an application.

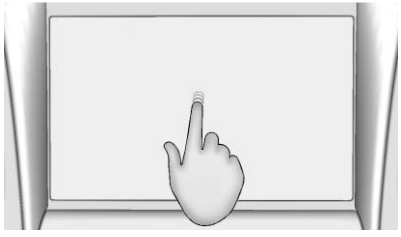
Drag



Drag is used to move applications on the Home Page, or to pan the map. To drag the item, it must be

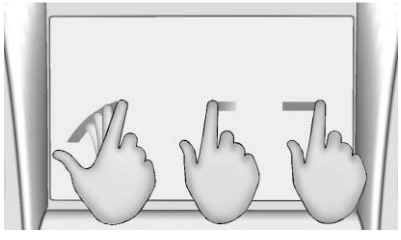
held and moved along the screen to the new location. This can be done up, down, right, or left.

Nudge



Nudge is used to move items a short distance on a list or a map. To nudge, hold and move the selected item up or down to a new location.

Fling or Swipe



Fling or swipe is used to scroll through a list, pan the map, or change page views. Do this by placing a finger on the screen then moving it rapidly up and down or right and left.

Turn

Turn the MENU knob or the ⏻ knob on the faceplate to perform functions such as tuning the radio or scrolling lists.

Cleaning High Gloss Surfaces and Vehicle Information and Radio Displays

For vehicles with high gloss surfaces or vehicle displays, use a microfiber cloth to wipe surfaces. Before wiping the surface with the microfiber cloth, use a soft bristle brush to remove dirt that could scratch the surface. Then use the microfiber cloth by gently rubbing to clean. Never use window cleaners or solvents. Periodically hand wash the microfiber cloth separately, using mild soap. Do not use bleach or fabric softener. Rinse thoroughly and air dry before next use.

Software Updates

See the website for software updates.

Website Information

In the U.S., see www.buick.com

In Canada, see www.buick.gm.ca

Radio

AM-FM Radio

Playing the Radio

While on the audio main page the available sources are: AM, FM, XM (if equipped), CD, My Media, USB, SD, Bluetooth, and AUX Input.

- Touch the RADIO screen button to scroll through AM, FM, or SiriusXM® (if equipped).
- Touch the MEDIA screen button to scroll through CD (if equipped), My Media, USB, SD, Bluetooth, and AUX Input.

Infotainment System Settings

Touch the RADIO screen button to access broadcast sources.

Touch the MENU screen button or press the MENU knob to display the following menus:

Tone Settings :

- Bass, Midrange, Treble, Surround (if equipped): Touch + or − to adjust. Surround adjusts the headrest speaker volume only.
- Balance : Touch < or > for more sound from the left or right speakers. The middle position balances the sound between the left and right speakers.
- Fade : Touch ∧ or ∨ for more sound from the front or rear speakers. The middle position balances the sound between the front and rear speakers.

Tag Song (If Equipped) : Touch to bookmark a song on an Apple device for later purchase using iTunes®.

Timeshift (If Equipped) : Timeshift is the recording of a radio station for up to 25 minutes. See “Timeshifting (If Equipped)” later in this section.

DSP Modes (If Equipped) :

- Bose® Studio Surround® and Bose® Centerpoint® Surround sound system has four DSP modes:
  - Normal : Adjusts the audio to provide the best sound for all seating positions.
  - Driver : Adjusts the audio to provide the best sound for the driver.
  - Rear : Adjusts the audio to provide the best sound for the rear seat occupants.
  - Centerpoint : Turns on Bose Centerpoint surround technology. This setting creates a surround sound listening experience from nearly any audio source; existing stereo, CD collection, and MP3 players. For more information on Bose Centerpoint surround technology, see www.bose.com/centerpoint.

Auto Volume (If Equipped) : This feature adjusts the volume based on vehicle speed. The options are OFF, Low, Medium - Low, Medium, Medium - High, or High. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

Bose AudioPilot Noise Compensation Technology (If Equipped) : This feature adjusts the volume based on the noise in the vehicle and the speed. When turned on, AudioPilot technology detects noise and vehicle speed to continuously adjust the audio signal so that music will sound the same at a set volume level. This feature is most effective at lower radio volume settings where background noise can affect how well the music is being played. See www.bose.com/audiopilot. This feature can be turned on or off. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

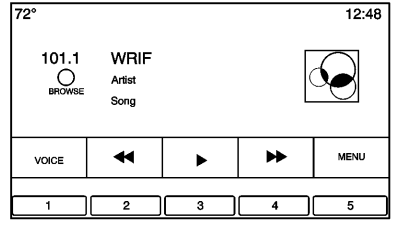
HD Radio™ : For AM and FM only, touch to turn HD reception on or off. Touch the Back screen button to go back to the previous menu.

EQ (Equalizer) : If equipped with a Bose Sound System, the available choices are Manual and Talk.

Update Station List : For AM and FM only, touch to update the station list. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

Finding a Station

Seeking a Station



Press |◀◀ or ▶▶| on the faceplate (the onscreen controls work for timeshifting) to search for the previous or next strongest station.

Direct Tune (If Equipped)

Touch the TUNE screen button to switch to Direct Tune for manually searching for a station.

If not equipped with Direct Tune, touch the SEEK screen button to switch to TUNE. Touch again to change back. Turn the MENU knob to manually search for a station.

Storing Radio Station Presets

Favorites are stored in the area at the bottom of the screen.

Up to 60 preset stations can be stored:

AM, FM, and XM (If Equipped) Radio Stations : Touch and hold a favorite button to save the current station as a favorite. Touch a favorite button in the favorite area to recall a favorite station.

Mixed-Audio Favorites

Favorites that can be stored include radio stations, navigation, phone, media, or applications.

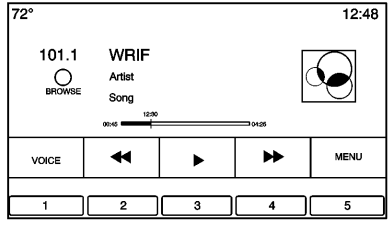
To scroll through the favorites:

- Drag anywhere on the screen buttons along the bottom to raise up the favorites. To close the favorites, drag them down.
- Slide a finger to the right or left to scroll through each page of favorites.

Tone Settings : Touch and hold a Favorite button to save the current tone settings as a favorite in the tone settings screen. Touch the reveal tab on the bottom of the screen to display Favorites. Touch a screen button in the favorite area to recall a favorite tone setting.

The number of favorites displayed is automatically adjusted by default, but can be manually adjusted in the Settings menu under Radio and then Manage Favorites.

Timeshifting (If Equipped)



The audio system can record live radio for up to 25 minutes. When tuned to a station, the system automatically begins recording the audio along with the associated metadata.

Touch ❚❚ to pause playback of the audio and to initiate timeshift mode. Touch ▶ to resume playback of the recorded audio.

When timeshifting begins, a time is indicated on the right of the play/pause indicator. This time initially indicates the time of day at which playback is paused. This time continues to show as long as the system is in a paused mode and the buffer continues to fill.

Buffer Reset

The buffer will reset anytime the broadcast band or stations/channels are changed. Changing to a media source when paused will not reset the buffer.

Rewinding or Fast Forwarding a Timeshifted Broadcast

- Touch and hold the rewind indicator to reverse playback at a rate of 15 times the rate of normal playback.
- Touch and hold the fast forward indicator to advance playback at a rate of 15 times the rate of normal playback. The timeshift buffer can be advanced up to the end of the timeshift buffer and return to live mode.

Returning to Live Broadcast

If listening to timeshifted radio, touch ▶▶| to fast forward back to live radio.

Timeshifting and Station/Channel Lists

If browsing a station/channel list is started while listening to the timeshift content, the list content is shown in live time, not buffered time.

Skipping Back in a Broadcast

For programs with metadata, touching the previous button less than five seconds into a program will make the system skip to the beginning of the previous program. If more than five seconds into the current song/program, the system starts at the beginning of the current program. If no metadata is available, the system skips back 30 seconds.

Reaching the End of the Buffer

If the audio is paused and the 25-minute buffer is reached, the buffer continues recording content on a first-in, first-out basis. When playback is started, the content played will be the last 25 minutes in the buffer.

HD Radio Technology

If equipped, HD Radio™ Technology is a free service with features such as static-free sound, more programming choices on local FM HD2, HD3, and higher, and on-screen information such as artist and song title.

Channel Access

To access HD Radio channels:

1. Tune the radio to the channel. HD Radio must be turned on in the Menu. If the channel is broadcasting HD Radio Technology, the radio will automatically switch to digital audio, indicated with an HD Radio Technology logo.
2. Touch ⏮ or ⏭ to tune to the previous or next HD Radio channel.

There may be a delay before the channel starts playing.

The HD Radio channel number is indicated next to the logo.

See *AM-FM Radio* ⇨ *170*.

For a list of all channels, see www.hdradio.com.

Troubleshooting

Digital Audio Delay : Wait for the signal to process. This can take several seconds.

Volume Change, Audio Skip, Echo, Digital Audio Lost : Channel signal strength may be weak or the channel is out of range. Verify proper reception on another channel.

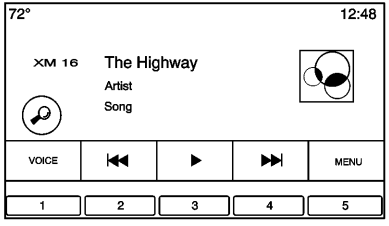
If the HD Radio signal loses reception while listening to channel HD1, the radio will go back to the main non-HD Radio channel.

If the HD Radio signal loses reception while listening to channels HD2 to HD8, the radio mutes until the signal can be recovered or until the channel is changed.

HD can be disabled if driving in a weak signal area. Touch Menu from the AM/FM screens, then touch HD Radio to toggle HD on and off.

Satellite Radio

SiriusXM® Satellite Radio Service (If Equipped)



Vehicles with a valid SiriusXM satellite radio subscription can receive SiriusXM programming.

SiriusXM satellite radio has a wide variety of programming and commercial-free music, coast to coast, and in digital-quality sound. See www.siriusxm.com or call 1-866-635-2349 in the U.S. In Canada, see www.xmradio.ca or call 1-877-209-0079.

When SiriusXM is active, the station name, number, category name, song title, and artist display on the screen.

SiriusXM Menu

SiriusXM has a menu to adjust different features.

Touching the MENU screen button may display the following:

Tone Settings : Touch + or − to adjust the tone settings. See *AM-FM Radio* ⇨ *170*.

Tag Song : Press the Tag Song button to save song information that SiriusXM stations include in their broadcasts. You can then preview and purchase your tagged songs in the iTunes® store.

When connected to iTunes, the Sync button on the device may need to be pressed to transfer the tags to iTunes.

TuneSelect : For SiriusXM only, this feature allows for alerts to be set for artists or songs that are played on the current station. Touch Artist or Song to save an Artist or Song. Touch Manage TuneSelect to turn the alerts On and Off or manage the saved selection of Artists or Songs. To turn off an alert, touch the Song or Artist and uncheck the box. To delete an alert, press −. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

Auto Volume : If equipped, this feature adjusts the volume based on the vehicle speed. See *AM-FM Radio* ⇨ *170*.

Radio Reception

Unplug electronic devices from the accessory power outlets if there is interference or static in the radio.

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 also occur when things like storms and power lines interfere with radio reception. When this happens, try reducing the treble on the radio.

SiriusXM® Satellite Radio Service

If equipped, SiriusXM Satellite Radio Service provides digital radio reception. 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 SiriusXM signal for a period of time.

Cell Phone Usage

Cell phone usage, such as making or receiving phone calls, charging, or just having the phone on may cause static interference in the radio. Unplug the phone or turn it off if this happens.

Antenna

The AM/FM antenna is integrated in the liftgate spoiler and the liftgate window defogger. No maintenance or adjustments are needed. Do not place loads on the spoiler. If the spoiler is replaced, be sure it is replaced with the correct GM parts for the best AM and FM reception.

Multi-Band Antenna

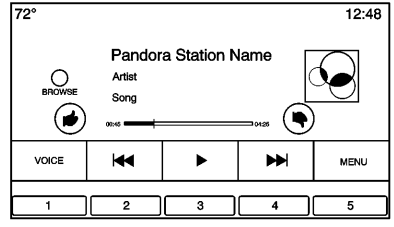
The roof antenna is for OnStar®, SiriusXM® Satellite Radio (If Equipped), and GPS (Global Positioning System). Keep clear of obstructions for clear reception.
If the vehicle has a sunroof and it is open, or items are placed on the roof mounted cargo rack, reception can also be affected.

Pandora Internet Radio

If equipped, Pandora® is a free Internet radio service that streams personalized radio stations based on songs, artists, tracks, genres, and comedians. Create stations using the Pandora website or Smartphone application, then use (thumbs up) or (thumbs down) to personalize stations. To set up an account, or for more information, go to www.pandora.com. Pandora may not be available in Canada.

A phone or tablet with Internet connection and the Pandora application installed is required. Personal cell phone data plans are used. Make sure the latest version is installed on the device.

Launching Pandora



Connect the iPhone to the USB port, or connect Android™ or BlackBerry® through Bluetooth. See *Auxiliary Jack* ⇨ *184* or *Bluetooth (Overview)* ⇨ *220* or *Bluetooth (Infotainment Controls)* ⇨ *221* or *Bluetooth (Voice Recognition)* ⇨ *224*. For first time use, set up the stations before connecting to the vehicle. The Pandora icon will be available on the Home Page.

When Pandora is chosen, the Pandora logo will populate on the screen and display “Acquiring Pandora Radio Station.” Launch times can be significant.

Using the iPhone

1. Plug the device into the USB port. The phone screen must be unlocked.
2. Launch Pandora directly from the Home Page by touching the Pandora icon.

If nothing happens when the available Pandora screen button is touched, download the latest Pandora application and retry.

The login screen may display on the device.

Using an Android or BlackBerry Phone

The BlackBerry phone must be unlocked to launch Pandora service.

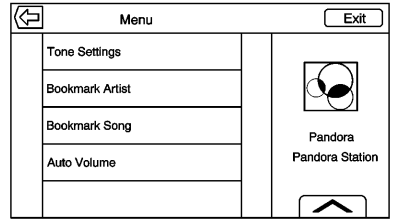
1. Pair the phone using Bluetooth.
2. Launch Pandora directly from the Home Page by touching the Pandora icon.

If nothing happens when the available Pandora screen button is touched, download the latest Pandora application and retry.

The login screen may display on the device.

Pandora Menus

Touch Menu on the Pandora main page.



Pandora has a menu system with the following:

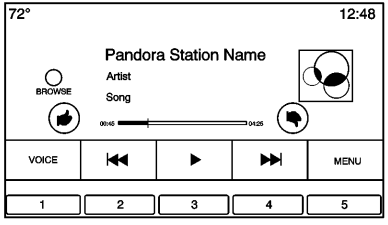
Tone Settings : Touch to adjust the tone settings. See *AM-FM Radio* ⇨ *170*.

Bookmark Artist : Touch to bookmark the artist.

Bookmark Song : Touch to bookmark the song.

Auto Volume : This feature sets the auto volume based on the speed of the vehicle and noise in the vehicle. See *AM-FM Radio* ⇨ *170*.

Pandora Features



Pandora service has features to rate tracks, skip tracks, or change stations.

(Thumbs Down) : When touched, Pandora stores this information, changes to the next track, and does not play this track on this station again. This helps Pandora choose which tracks should not play on this station. This feature is only available on user created stations.

(Thumbs Up) : When touched, Pandora stores this information and is highlighted for the remainder of the track. This helps Pandora choose which tracks should play on this station.

(Next Track) : When touched, Pandora changes to the next track.

or (Play/Pause) : Touch to play or pause playback.

Pandora Skip Limit

Pandora limits the number of skips allowed on their service to five skips including thumbs down. When the skip limit is reached, or will not skip the currently playing track, but the feedback will be recorded.

Advertisements on Pandora

Pandora may display advertisements. The artist name and track title will not be displayed and the skip track button will not be available.

Pandora Troubleshooting

Unable to Connect Device to Vehicle

If the device is unable to connect to the USB or Bluetooth:

1. Turn the vehicle off.
2. Take the Remote Keyless Entry (RKE) transmitter at least 6 m (20 ft) away from the vehicle.
3. Wait about one minute, and try to connect the device again. See *Auxiliary Jack* ⇨ *184* or *Bluetooth (Overview)* ⇨ *220* or *Bluetooth (Infotainment Controls)* ⇨ *221* or *Bluetooth (Voice Recognition)* ⇨ *224*.

Unable to Start Pandora

If the device is unable to launch Pandora:

- Check that the latest version of Pandora is installed.
- Check that there is an active account logged into Pandora.
- Have at least one station created.
- For Android and BlackBerry devices, check that the device is paired with the vehicle, and whether the device displays in the Connected phone sources list under the Phone icon from the Home Page.

- For an iPhone, check that the USB cable is connected to the USB port and the screen is unlocked.
- Close Pandora on the device and launch again. Devices that allow multitasking may require an extra step to quit the Pandora application. See the cell phone manufacturer's user guide.

Thumbs Up or Thumbs Down Error

If there is an error trying to rate a track with the 👎 or 👍 buttons, the message “Thumbs Down Error” or “Thumbs Up Error” will display. Touch OK to dismiss.

Loss of Audio

Loss of Pandora audio can happen in different ways:

- Weak or lost data connection.
- Device needs to be charged.
- Application needs to be relaunched.
- Connection between phone and radio lost.
- An iPhone is connected to both Bluetooth and the USB port.

  Playback can be resumed from a loss of audio by double tapping on the iPhone menu button then scrolling through the icons to find an icon that allows a change of flow between Bluetooth and USB cable.

Common Pandora Messages

Pandora Error/Please Check Connected Device : Not signed in or Pandora is down for maintenance.

No Stations Available : No stations are available on the Pandora server through the connected device.

Action Unavailable. Please Check Device : A few conditions for loss of Internet connection are:

- The connected device loses its cellular connection.
- The device does not support Internet connectivity.
- The device is not in the vehicle.

Part of the Action Unavailable. Please Check Device : The Bluetooth signal is lost.

No Skips Remaining for This Station or Permitted During Advertisements :

- The maximum Pandora skip limit has been reached according to the plan that was obtained.
- Skipping an advertisement was tried.

See www.pandora.com/help. If the service will not work, see your dealer for assistance.

Audio Players

Avoiding Untrusted Media Devices

When using media devices such as CDs, DVDs, Blu-ray Discs®, SD cards, USB drives, and mobile devices, consider the source. Untrusted media devices could contain files that affect system operation or performance. Avoid use if the content or origin cannot be trusted.

CD Player

If equipped, use the CD player to play CDs and MP3 audio.

The system can play:

- Most audio CDs
- CD-R
- CD-RW
- MP3 or unprotected WMA formats

When playing any compatible recordable disc, the sound quality can be reduced due to disc quality, the method of recording, the quality of the music that has been recorded, or the way the disc has been handled.

There can be increased skipping, difficulty in finding tracks, and/or difficulty in loading and ejecting. If these problems occur, check the disc for damage or try a known good disc.

To avoid damage to the CD player:

- Do not use scratched or damaged discs.
- Do not apply labels to discs. The labels could get caught in the player.
- Insert only one disc at a time.
- Keep the loading slot free of foreign materials, liquids, and debris.
- Use a marking pen to label the top of the disc.

Loading and Ejecting Discs

To load a disc:

1. Turn the vehicle on.
2. Insert a disc into the slot, label side up. The player pulls it in the rest of the way. If the disc is damaged or improperly loaded, there is an error and the disc ejects.

Press ⏏ to eject a disc from the CD player. If the disc is not removed within a short period of time, it is automatically pulled back into the player.

Playing an Audio CD

Press the MEDIA faceplate button or touch the MEDIA onscreen button until CD Audio icon Now Playing view is selected.

On the CD main page, either a track number displays at the beginning of each track, or Song, Artist, and Album information displays when available.

Use the following controls to play the disc:

⏮ (Previous/Fast Reverse) :

- Press to seek to the beginning of the current or previous track. If the track has been playing for

less than five seconds, it seeks to the previous track. If longer than five seconds, the current track starts from the beginning.

- Press and hold to fast reverse through a track. Release the button to return to playing speed. Elapsed time displays.

▶| (Next/Fast Forward) :

- Press to seek to the next track.
- Press and hold to fast forward through a track. Release the button to return to playing speed. Elapsed time displays.

Storing Media Favorites

To store media favorites, touch and hold a favorite button to display a list of media types for the currently playing item. Select from this list.

The lists that may display are:

Genres : Touch to store the current genre as a favorite. Touch a screen button in the favorite area to recall a favorite genre. The first song of the genre begins to play.

Artists : Touch to store the current artist as a favorite. Touch a screen button in the favorite area to recall a favorite artist. The first song in the artist list begins to play.

Albums : Touch to store the current album as a favorite. Touch a screen button in the favorite area to recall a favorite album. The first song in the album list begins to play.

Playlists : Touch a screen button in the favorite area to recall a favorite playlist. The first song in the playlist begins to play.

Songs : Touch to store the current song as a favorite. Touch a screen button in the favorite area to recall a favorite song.

Podcasts or Podcast Episode : Touch and hold a screen button to store the current podcast as a favorite. Touch a screen button in the favorite area to recall a favorite podcast or podcast episode. The podcast or podcast episode begins to play.

Audiobooks : Touch and hold a screen button to save the current audiobook as a favorite. Touch a screen button in the favorite area to recall a favorite audiobook. The first chapter begins to play.

Videos : Touch and hold a screen button to store the current video as a favorite. Touch a screen button in the favorite area to recall a favorite video.

Error Messages

If Disc Error displays and/or the disc comes out, it could be for one of the following reasons:

- The disc has an invalid or unknown format.
- The road is very rough. Try the disc again when the road is smoother.
- The disc is dirty, scratched, wet, or upside down.
- The air is very humid. Try the disc again later.
- There was a problem while burning the disc.

- The label is caught in the CD player.

If Disc Player Error displays, it could be for one of the following reasons:

- The player temperature is too high.
- There are load or eject errors.

If the CD is not playing correctly for any other reason, try a known good CD.

If any error continues, contact your dealer.

Playing an MP3 CD

To play an MP3 CD, follow the same instructions as “Playing an Audio CD.”

The following guidelines must be met when creating an MP3 disc, otherwise the CD might not play:

- Sampling rate: 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, and 48 kHz.
- Bit rates supported: 8, 16, 24, 32, 40, 48, 56, 64, 80, 96, 112, 128, 144, 160, 192, 224, 256, and 320 kbps.
- Recorded on a CD-R or CD-RW.

MP3 Music Menu

Press the MENU button while that source is active to access the menu.

Touch any of the following buttons on the MP3 Menu:

Shuffle : Touch to play the tracks randomly. Touch again to stop shuffle.

Tone Settings : Touch + or − to adjust Bass, Midrange, Treble, or Surround. See *AM-FM Radio ⇨ 170*.

Auto Volume (If Equipped) : This feature adjusts the volume based on the speed of the vehicle. See *AM-FM Radio ⇨ 170*.

Bose AudioPilot Noise Compensation Technology (If Equipped) : This feature adjusts the volume based on the noise in the vehicle and the speed. See *AM-FM Radio ⇨ 170*.

MP3 Folder Information

Touch anywhere between the top applications tray or the bottom menu to display the browse screen.

Root Directory : To access, touch the screen anywhere between the top and bottom menu. The root directory is treated as a folder. All files contained directly under the root directory are accessed prior to any root directory folders.

No Folder : When the CD only contains compressed audio files without any folders or playlists, all files are under the root folder.

File System and Naming : The song titles, artists, albums, and genres are taken from the file's ID3 tag and are only displayed if present in the tag. If a song title is not present in the ID3 tag, the radio displays the file name as the track name.

USB Port

This vehicle is equipped with one or more USB ports. The USB port(s) are in the center console. The system is optimized to support two connected devices with a total of 15,000 songs.

Playing from a USB

A USB mass storage device can be connected to the USB port.

Gracenote®

When plugging in a USB device, Gracenote service builds voice tags for music. Voice tags allow artists, albums with hard to pronounce names, and nicknames to be used to play music through voice recognition.

While indexing, infotainment features are available.

My Media Library

The infotainment system allows access to content from all indexed media sources. Touch the MEDIA screen button to scroll through the options until My Media is selected. Use gestures or screen buttons to scroll through the content.

USB MP3 Player and USB Drives

- The USB MP3 players and USB drives connected must comply with the USB Mass Storage Class specification (USB MSC).
- Hard disk drives are not supported.
- The following restrictions apply for the data stored on a USB MP3 player or USB device:
  - Maximum folder structure depth is 11 levels.
  - Applicable audio extensions are mp3, wma, aac, m4a, and aif.
  - WMA and Apple lossless files are not supported.
  - Supported file systems are FAT32 and NTFS.

To play a USB device, do one of the following:

- Connect the USB.
- Press MEDIA until the connected device is shown.

Use the following when playing an active USB source:

▶ **(Play) :** Press to play the current media source.

❚❚ **(Pause) :** Press to pause play of the current media source.

|◀ **(Previous/Reverse) :**

- Press to seek to the beginning of the current or previous track. If the track has been playing for less than five seconds, the previous track plays. If playing longer than five seconds, the current track restarts.
- Press and hold to reverse quickly through playback. Release to return to playing speed. Elapsed time displays.

▶| **(Next/Forward) :**

- Press to seek to the next track.
- Press and hold to advance quickly through playback. Release to return to playing speed. Elapsed time displays.

USB Menu

Press Menu to display the USB menu. The following may be available:

Shuffle: Touch to play the tracks randomly. Touch again to stop shuffle.

Tone: Touch + or − to adjust the tone settings. See *AM-FM Radio* ⇨ *170*.

Auto Volume (If Equipped): This feature adjusts the volume based on the speed of the vehicle. See *AM-FM Radio* ⇨ *170*.

Bose AudioPilot Noise Compensation Technology (If Equipped): This feature adjusts the volume based on the noise in the vehicle and the speed. See *AM-FM Radio* ⇨ *170*.

USB Browse Menu

Touch anywhere between the top and bottom menus to view the browse menu and the following options are displayed along the bottom of the screen:

Playlists:

1. Touch to view the playlists stored on the USB.
2. Select a playlist to view the list of all songs in that playlist.
3. Select a song from the list to begin playback.

Artists:

1. Touch to view the list of artists stored on the USB.
2. Select an artist name to view a list of all albums by the artist.
3. To select a song, touch All Songs or touch an album and then select a song from the list.

Albums :

1. Touch to view the albums on the USB.
2. Select the album to view a list of all songs on the album.
3. Select a song from the list to begin playback.

Songs:

1. Touch to display a list of all songs on the USB.
2. To begin playback, select a song from the list.

Genres:

1. Touch to view the genres on the USB.
2. Select a genre to view a list of all content of that genre.
3. Select artists to view a list of albums.
4. Select an album to view a list of songs.
5. Select a song to begin playback.

Podcasts, Composers, Audiobooks, and Videos are shown when More is selected from the bottom of the screen.

Podcasts:

1. Touch to view the podcasts on the USB.
2. Select a podcast. If episodes exist, select an episode.

Composers:

1. Touch to view the composers on the USB.

2. Select Composer to view a list of albums by that composer.
3. Select an album to give a list of songs on that album.
4. Select a song from the list to begin playback.

Audiobooks:

1. Touch to view the audiobooks stored on the device.
2. Select audiobook.
3. Select chapter to begin playback.

File System and Naming

The songs, artists, albums, and genres are taken from the file's song information and are only displayed if present. The radio displays the file name as the track name if the song information is not available.

Supported Apple® Devices

To view supported devices in the U.S., see www.my.buick.com/learn.

To view supported devices in Canada, see www.buickowner.ca.

To view supported devices in Mexico, see www.buick.com.mx/buickintellilink.html.

Loss of Audio

If a phone currently paired over Bluetooth is plugged in with a USB cable, the system will automatically mute the phone audio. Playback can be resumed by changing the audio source from Bluetooth to USB cable.

Source USB from the Audio MEDIA screen button to resume playback.

Bluetooth Streaming Audio and Voice Recognition

See *Bluetooth Audio* ⇨ *185* for information using voice recognition with Bluetooth streaming audio.

Make sure all devices have the latest software downloaded.

SD Card Reader

If equipped, this vehicle may have an SD card reader in the center console.

The SD card reader uses the same controls as the USB Port. See *USB Port* ⇨ *182*.

Set up the SD card while the vehicle is in P (Park). See "Audio" under *Using the System* ⇨ *167*.

Place the card into the port.

If an SD card has already been connected, but a different source is currently active, touch the MEDIA screen button to scroll through the audio source screens until USB/SD card displays.

Auxiliary Jack

This vehicle has an auxiliary input jack in the center console under the armrest. Possible auxiliary audio sources include:

- Laptop computer
- Audio music player

This jack is not an audio output. Do not plug headphones into the auxiliary input jack. Set up an auxiliary device while the vehicle is in P (Park).

Connect a 3.5 mm (1/8 in) cable from the auxiliary device to the auxiliary input jack. When a device is connected, the system can play audio from the device over the vehicle speakers.

If an auxiliary device has already been connected, but a different source is currently active, touch the MEDIA screen button to scroll through audio source screens, until AUX Input source screen displays.

Playing from the AUX Port

An auxiliary device is played through the audio system and controlled through the device itself.

AUX Menu

Press the MENU knob to display the AUX Input menu and the following may display:

Tone Settings : Select to adjust Bass, Midrange, Treble, Balance, Fade, and EQ (Equalizer). See *AM-FM Radio* ⇨ *170*.

Auto Volume (If Equipped) : This feature adjusts the volume based on the speed of the vehicle. See *AM-FM Radio* ⇨ *170*.

Bose AudioPilot Noise Compensation Technology (If Equipped) : This feature adjusts the volume based on the noise in the vehicle and the speed. See *AM-FM Radio* ⇨ *170*.

EQ (Equalizer) Settings : If equipped, this feature adjusts the pre-defined EQ modes. See “EQ (Equalizer)” in *AM-FM Radio* ⇨ *170*.

DSP Modes (If Equipped) : With a Bose® Studio Surround® Sound System, adjusts the DSP modes. See “DSP Modes” in *AM-FM Radio* ⇨ *170*.

Bluetooth Audio

If equipped, music may be played from a paired Bluetooth device. See *Bluetooth (Overview)* ⇨ *220* or *Bluetooth (Infotainment Controls)* ⇨ *221* or *Bluetooth (Voice Recognition)* ⇨ *224* for help pairing a device.

The music can be controlled by either the infotainment controls, or the controls on the device.

Music can be launched by touching the MEDIA screen button on the Home Page.

To play music via Bluetooth:

1. Power on the device, and pair to connect the device.
2. Once paired, go into the audio application from the Home Page or via the applications tray. Select MEDIA until Bluetooth displays.

Bluetooth Audio Menu

Touch the MENU screen button to display the Bluetooth Audio menu. The following may be available:

Tone : Touch + or − to adjust the tone settings. See *AM-FM Radio* ⇨ *170*.

Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

Auto Volume (If Equipped) : This feature adjusts the volume based on the speed of the vehicle. See *AM-FM Radio* ⇨ *170*.

Bose AudioPilot Noise Compensation Technology (If Equipped) : This feature adjusts the volume based on the noise in the vehicle and the speed. See *AM-FM Radio* ⇨ *170*.

Manage Bluetooth Devices : Touch to go to the Bluetooth page to add or delete devices.

When selecting Bluetooth Audio, the radio may not be able to launch the audio player on the connected device to start playing. When the vehicle is not moving, choose the connected device to begin playback.

All devices launch audio differently. When selecting Bluetooth Audio as a source, the radio may show as paused on the screen. Press play on the device or press ▶ to begin playback.

Some phones support sending Bluetooth music information to display on the radio. When the radio receives this information, it will check to see if any is available and display it. For more information about supported Bluetooth features in U.S. and Canada, see www.gm.com/bluetooth.

OnStar System

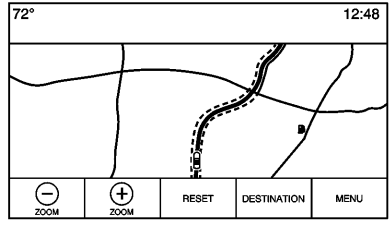
OnStar® with 4G LTE

If equipped with OnStar 4G LTE, up to seven devices, such as smartphones, tablets, and laptops, can be connected to high-speed Internet through the vehicle's built-in Wi-Fi hotspot.

Call 1-888-4-ONSTAR (1-888-466-7827) to connect to an OnStar Advisor for assistance. See www.onstar.com for a detailed instruction guide, vehicle availability, details, and system limitations. Services and apps vary by make, model, year, carrier, availability, and conditions. 4G LTE service is available in select markets. 4G LTE performance is based on industry averages and vehicle systems design. Some services require a data plan.

Navigation

Using the Navigation System

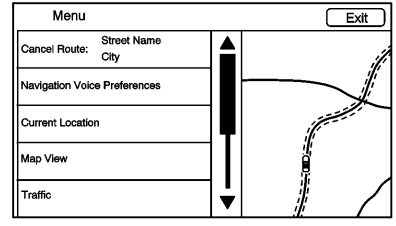


If equipped, touch the NAV button on the Home Page or the Navigation icon in the applications tray to access the navigation application.

Touch MENU from the map view to access the Navigation Menu. Features displayed in the Navigation Menu can be selected to adjust navigation preferences.

To exit out of a list, touch the Exit screen button in the top right corner of the map to return to the main map view.

When the screen is not in use, it will time out and remove the controls. Touch anywhere along the bottom or top of the screen to display the controls.



Additional navigation features are:

- Cancel/Resume To
- Navigation Voice Preferences
- Current Location
- Map View
- Traffic
- Routing Preferences
- Display “Places of Interest” Icons
- Personal Data

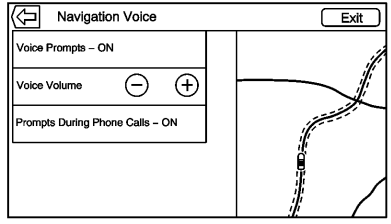
It is advised to set up preferences before setting a destination. To set a destination, see *Destination* ⇨ *196*.

Cancel/Resume Route

- While under route guidance, this screen button displays Cancel Route. Touch Cancel Route to end route guidance. No further prompts will be given. The list item then changes to Resume To.
- Touch the Resume To screen button to resume route guidance to the last entered destination.
- The last location that the system has provided guidance to can be resumed by touching on this list item.
- If the route includes waypoints, the entire route can be suspended using the Cancel Route list item. When Resume To is touched, all waypoints are resumed for guidance.

Navigation Voice Preferences

Touch the Navigation Voice Preferences list item to adjust the voice preferences.



The following options can be adjusted:

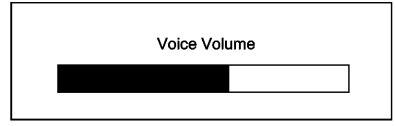
- Voice Prompts ON/OFF
- Voice Volume
- Prompts During Phone Calls ON/OFF

Voice Prompts

Touch the Voice Prompts list item to toggle voice prompts ON and OFF.

Voice Volume

Adjust the loudness of the audio feedback by touching the − or + button. If a maneuver prompt is being played, and the main volume is adjusted, the prompt volume will update and be saved.



As the volume of the voice guidance is being adjusted, a quick status bar displays, showing the volume setting.

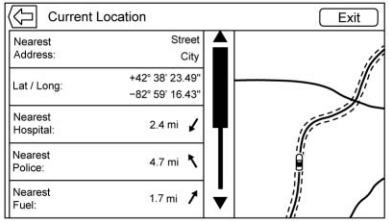
Prompts During Phone Calls

When enabled, the system plays a shorter prompt while on a phone call. This setting can be configured as to whether a prompt would be heard during a phone conversation.

When this setting is OFF, only the short alert tone is played when approaching the maneuver.

Current Location

Touch the Current Location list item to display a Current Location list.



The following information is displayed on the Current Location list:

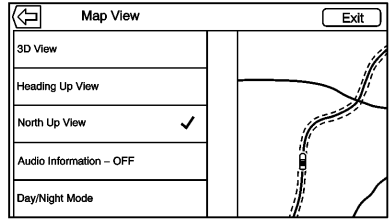
- Nearest Address
- Lat/Long
- Nearest Hospital
- Nearest Police
- Nearest Fuel
- Nearest Service

Touching on any of the options will display the destination details view for that location to allow you to begin guidance to the selected location.

Touch the Nearest Address button and then the Save screen button to store the current location to the Address Book.

Map View

Touch to select the desired map view. A checkmark appears to indicate a view has been selected.



3D View

The 3D View is a Heading Up view but it includes perspective. Map items will appear larger as the vehicle comes closer.

Heading Up View

The Heading Up View keeps the vehicle's current heading at the top of the view. The vehicle icon always faces the top of the view as the map rotates.

North Up View

The North Up View keeps north at the top of the view. The vehicle icon is placed in the center of the view and rotates to indicate the heading for the vehicle.

Audio Information

Touch to turn the audio information view on or off from the main map view.

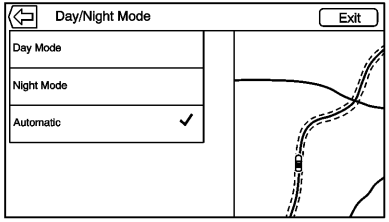
The audio status screen contains:

- Station Frequency
- Artist Information
- Song Information
- ▶ / ❚❚ or ⏮ / ⏭ Station and Channel Controls

Touch the ⏮ / ⏭ Station controls to go to the next or previous strong signal station or digital channel.

When the audio status pane displays Artist and Song Information, touch the ⏮ / ⏭ controls to go to the next or previous track based on the current media mode.

Day/Night Mode



Touch to access the Day/Night Mode menu.

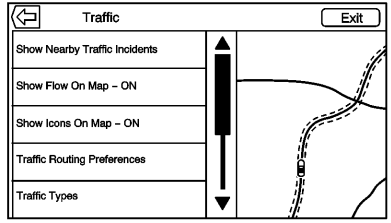
- Day Mode: Brightens the map background.
- Night Mode: Darkens the map background.
- Automatic: Adjusts the screen background automatically depending on the exterior lighting conditions.

Traffic (If Equipped)

Touch to browse the traffic in the area as well as adjust the traffic settings. Where traffic information is available, it is displayed on the map.

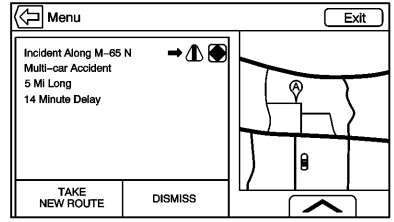
Where live traffic flow data is available, it is displayed as a solid line adjacent to the road. The road is displayed in colors to show the flow rate as:

- Black – Stopped or Closed
- Red – Poor
- Yellow – Slow
- Green – Normal



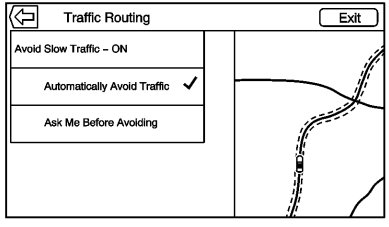
There are several options on the Traffic menu:

- Show Nearby Traffic Incidents
- Show Flow On Map ON/OFF
- Show Icons On Map ON/OFF
- Traffic Routing Preferences
- Traffic Types



1. Touch Show Nearby Traffic Incidents to access the Traffic List menu. This menu displays the incident symbol and highway name, along with the distance and heading to the incident.
2. Touch on the incident to display additional details about the incident as well as an option to avoid that particular incident if it is along the current route.

Traffic Routing Preferences

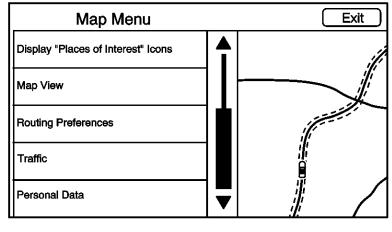


The system can be configured as to how it reacts when receiving traffic information. Touch Traffic Routing Preferences to access the Traffic Routing menu.

When this setting is OFF, the system will never take traffic conditions into account when creating routes. In addition, the two options below are grayed out. If one of the grayed-out options is touched, it automatically turns the traffic avoidance feature ON and performs the desired selection.

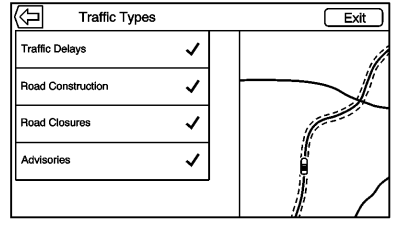
The two options, Ask Me Before Avoiding and Automatically Avoid Traffic will adjust the system as follows:

- If the Automatically Avoid Traffic list item is touched, the system will automatically adjust the route based on traffic without notifying the driver.
- If the Ask Me Before Avoiding list item is touched, the system will always use Alerts to show when there is an incident and allow it to be avoided by touching the avoid button.



If the Traffic list item is touched from the Map Menu and Traffic is not available because the SiriusXM subscription is not valid, a pop-up will display with information on how to reactivate the subscription along with the SiriusXM radio ID.

Traffic Types

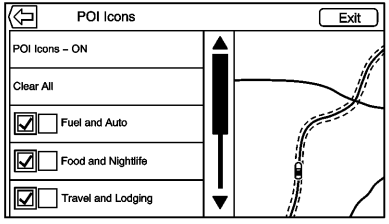


Touch to access the Traffic Types menu.

The system can be configured to filter out certain types of traffic events. If a particular type has been turned off, the system does not display it on the map, and does not alert the driver.

Display Places of Interest Icons

Places of Interest (POI) icons can be displayed on the map using this view.



- The POI icons can be turned ON and OFF. Touch the check box next to the POI icon to display the icon.
- Touch Clear All to reset the icons that are displayed on the map.
- A subcategory can be selected instead of the entire category. Touch the list item itself rather than the check box. The subcategories will display. Select any of those categories to navigate down the hierarchy.
- When a higher-level category has some of its subcategories selected, the checkmark next to it is grayed out. This indicates that only some of the categories below are shown. Touch the grayed-out checkmark to turn all of the icons for that category on or off.

Routing Preferences

Touch the Routing Preferences list item to access the Routing Preferences menu. Options on how the routes are created for route guidance are listed on this menu.

Route Style

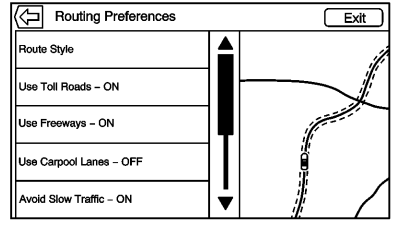
Touch this list item to change the route type preferences.

The options are:

- Fast (default)
- Eco Friendly (if equipped)
- Short
- Edit Eco Profile

Edit Eco Profile can be used to configure two parameters for the Eco Friendly route. These parameters are roof load and trailer. For each parameter, the options are None, Small, Medium, and Large. Touch to scroll through the list. The default for both is None.

These preferences are used for all routes generated.

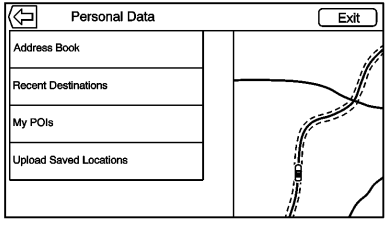


Route segment preferences are other options showing on the Routing Preferences menu.

These include:

- Use Toll Roads ON/OFF
- Use Freeways ON/OFF
- Use Carpool Lanes ON/OFF
- Avoid Slow Traffic ON-OFF
- Use Tunnels ON/OFF
- Use Time Restricted Roads ON/OFF

Personal Data



Data that the system has saved during the course of using the navigation system can be managed through:

- Address Book
- Recent Destinations
- My POIs (if equipped)
- Upload Saved Locations

Address Book

1. Touch Edit Address Book to display the Address Book to edit.
2. Touch Delete All Entries to delete the entire list of contacts. A pop-up displays to confirm.

Recent Destinations

- Touch Delete Individual Destinations to display a recent destinations list. Select the individual entry to delete.
- Touch Delete All Destinations to delete the entire recent destination list. A pop-up displays asking to confirm the deletion.

My POIs

- Touch My POIs to display a menu of other options.
- Select Delete Individual Categories. A My POIs category list displays.
- Select the individual entry to delete.
- Touch Delete All My POIs to delete the entire list of categories. A pop-up displays asking to confirm the deletion.

Upload Saved Locations

Touch to upload any saved locations such as downloaded POIs and all entries in the vehicle address book to the USB device.

- Touch Upload Saved Locations to save the Vehicle Contacts list and any My POIs that have been saved to the vehicle.
- Once saved locations have been uploaded to a USB, they can be transferred to a different vehicle or restored to the current address book.

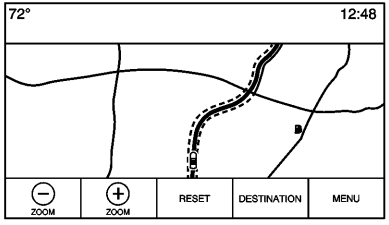
Map Adjustments

ZOOM −/+ can be used to adjust the scale of view on the map. When the end of the zoom level is reached, ZOOM −/+ will gray out.

- ZOOM − (minus): To zoom out.
- ZOOM + (plus): To zoom in.

The zoom scales can be configured for English or metric units. To change from English to metric, see *Instrument Cluster* ⇨ *111*.

Scroll Features



- To scroll within the map, touch anywhere on the map screen.
- Nudge or slide a finger on the map; the map moves in the direction of the finger.
- Fling a finger on the map; the map will start scrolling in a short continuous scroll.
- Touch a finger on the location on the map; the map recenters to the location that was touched on.
- Touch a finger twice on a location on the map; the map zooms in one level to the location that was touched twice on.
- When the map is recentered away from being locked to the vehicle position, the crosshairs will show in the center of the map. As the map continues to be recentered, the crosshairs will remain on the screen. When the crosshairs are shown on the screen, a callout with more information displays. If the map is moved from the current location, the crosshairs will disappear along with the callout.
- Touch a finger on the callout next to the crosshairs and the destination details view displays. From this view, route guidance can be received or saved to the vehicle's contact list.
- When the map is recentered, the straight-line distance from the vehicle to the selected point is displayed in the callout. In addition, a heading direction in the form of an arrow is displayed to indicate the direction. The arrow is shown in relation to the current vehicle heading.
- Touch a finger on a POI icon shown on the map; the name of the POI is shown in the address callout, along with the city name and state. If the callout is selected, the destination details view for the POI shown.
- After panning the map away from the vehicle, touch RESET to return the map back to the current position.
- Touch the Overview button to quickly get a view of the entire route. The route Overview button takes the place of the RESET button while under route guidance. Touch the RESET button to return the map to the current position.

Maps

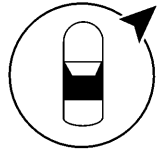
The map database is stored in the internal flash memory that is used in the navigation system.

Detailed Areas

Road network attributes are contained in the map database for detailed areas. Attributes include information such as street names, street addresses, and turn restrictions. A detailed area includes all major highways, service roads, and residential roads. The detailed areas include Places of Interest (POIs) such as restaurants, airports, banks, hospitals, police stations, gas stations, tourist attractions, and historical monuments. The map database may not include data for newly constructed areas or map database corrections that are completed after production. The navigation system provides full route guidance in the detailed map areas.

Navigation Symbols

Following are the most common symbols that appear on a map screen.



or

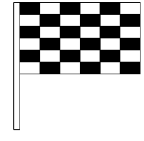
The symbol indicates the current position and heading direction of the vehicle on the map. When under route guidance, a circle with an arrow is added to the symbol which indicates the direction to the destination.

Vehicle Address Callout

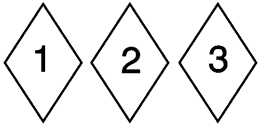
Tap on the vehicle icon; the current address of the vehicle is overlaid on the map next to the vehicle icon in a callout. Another tap hides the information.

Any address information about the vehicle's current location will be shown, including the street, city, and state names.

Tap on this callout to save the current address to the vehicle address book.

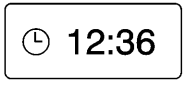


The destination symbol marks the final destination after a route has been planned.



The waypoint symbol marks one or more set waypoints.

A waypoint is a stopover destination point added to the planned route.



The estimated time to the destination displays. Touch the Arrival button to toggle between duration time and distance to the destination.

This symbol indicates the recommended maneuver that should be performed. Touch it to display the turn list or waypoint list.

The No GPS symbol appears when there is no Global Positioning System (GPS) satellite signal. When the GPS is gone, the vehicle position on the map may not be accurate.

Autozoom

As a maneuver is being approached, the map automatically zooms in to give greater detail.

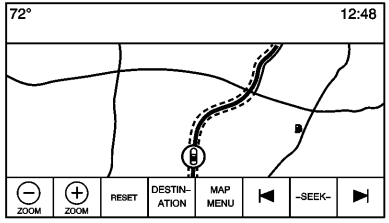
If lane guidance is available for the maneuver, this is also shown.

When the system begins to autozoom, it zooms in to its minimum level. After the maneuver is performed, the system slowly zooms back out.

Destination

If route guidance is not active, touch the NAV screen button on the Home Page to access the map view. Touch the Destination icon from the map view to enter a destination. Available methods of entering a destination are Voice Recognition, Address, Recent Destination, Contacts, and POIs. Several options can be selected to plan a route. Some destination items may be grayed out if no destination was previously entered or saved.

If equipped, another way to enter a destination is to connect to the OnStar® system and ask an OnStar Advisor to download a destination into the embedded navigation system. See *OnStar® System* ⇨ *209*.



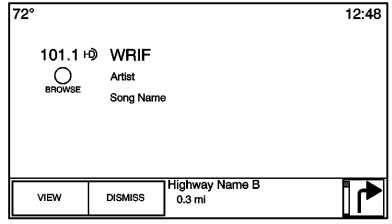
Touch the DESTINATION button to go to the destination entry views.

Available Methods of Search

- Voice Recognition
- Address
- Recent Destinations
- Contacts
- POIs (Points of Interest)

Touch the DESTINATION button and the last used destination view is shown. This mode is retained. The initial default is Address.

Navigation Next Turn Maneuver Alert



The navigation system may need to get the attention of the driver in certain situations.

If not in the navigation application when a near maneuver prompt is given, it is shown as an alert. The alert contains the turn indicator and button to display the main navigation view, or dismiss the alert.

The alert also contains the name of the street to turn on and a countdown bar.

Alpha-Numeric Keyboard

The keyboard is used in multiple locations throughout the system and can be used with many features. The navigation system uses the alpha-numeric keyboard which includes 1 through 0, A through Z in QWERTY layout, hyphen, comma, period, Space, and Sym which would show additional characters needed.

The keyboard can also be modified to include characters appropriate for the region configured in the vehicle settings.

✓ **GO :** Touch to search for the destination details of an address or place of interest entered in the text field. Once the GO screen button is touched, the activity indicator displays in the list of possible matches.

▽ **(Dropdown Arrow) :** Touch to display a list of matches.

When there are multiple matches, a dropdown arrow is shown after the autocomplete text. This dropdown displays an entire list of matches. Touch the appropriate match without having to enter more text.

✕ **(Delete) :** Touch to delete the last typed character. Touch and hold this screen button to clear the entire text

field. If the entire text field has been deleted, this screen button becomes an Undo button. Touching Undo will restore the deleted text.

Exit : Touch to return to the previous Map view.

Sym : Touch to show the symbol keyboard.

Space : Touch to enter a space between characters or the words of a name.

(Up Arrow) : Touch to display the Interaction Selector.

: If equipped, touch to switch between Alpha-Numeric Keyboard and Character Recognition.

Special Characters

As the characters are typed on the keyboard, a pop-up of the letter touched displays above the key that was touched.

Continue to touch and hold, and any additional special characters associated with that letter are displayed around the current letter. To select one of the special characters, slide a finger left or right to adjust the highlight of the special character.

Special Character List

The following characters have special characters beneath them:

E - É È Ê Ë Ę Ė Ē
Y - Ÿ
U - Ū Ú Ù Ü Û
I - Ī Ị Í Ì Ï Î
O - Ō Ø Œ Õ Ó Ò Ö Ô
A - À Á Â Ä Æ Ã Å Ā
S - ß(for lowercase s) Ś Š
Ł - ł
Z - Ź Ž Ż
C - Ç Ć Č
N - Ñ Ń
. - ...

More Characters:
0 - °
! - ¡
$ - ¥ £ ¢
& - §
" - «»
? - ¿
(- [{
) -] }
.com - .net .org

Creating and Downloading Predefined POIs (My POIs)

In addition to the POIs already stored in the Infotainment system, predefined POIs can be created.

While creating a predefined POI, the GPS coordinates for longitude and latitude of the POI's location and a descriptive name will need to be entered.

After creating the predefined POIs, they can be downloaded to the infotainment system from either a USB drive or SD card.

Once downloaded, the POI data becomes a selectable destination in the My POIs menu.

Creating a Text File with Information

Create a text file by using a simple text editor software. Save this file with a name and extension of .csv, for example, "TomsPOI.csv."

Enter the POI information into the text file in the following format:

- Longitude coordinate, Latitude coordinate, "Name of POI," "Additional information," "Phone number."

  Example: 7.0350000, 50.6318040, "Michaels Home," "123 Maple Lane," "02379234567."

- The GPS coordinates must be expressed in decimal degrees and can be taken from a

geographical map. The additional information and phone number strings are optional.

- The POI name and the additional information string may not exceed 60 characters.
- POI information for each destination address must be entered in a single separate line.

Storing the POI on a USB Drive

In the root directory of a USB drive, create a folder name “myPOIs,” for example, “F:\” is the root directory of the USB drive.

In the “myPOIs” folder, store the text file with your POIs, for example, “F:\myPOIs\TomsPOIs.csv.”

Downloading the POI to the Infotainment System

Connect the USB drive or SD card containing the POI information to the USB port or SD card slot of the infotainment system. A message displays prompting whether or not to download the POI information from the USB drive. All POIs found are saved even if they are in multiple folders.

Subfolders can also be created to organize the POIs into categories, for example, “F:\myPOIs\Restaurants\TomsPOIs.csv.”

If the message is dismissed or ignored, no POI information is downloaded. This prompt will not reoccur for the current ignition cycle.

When the system is finished downloading, a pop-up displays asking to specify a category for the new POIs, if desired.

Importing and Overwriting Categories

When POIs are found on a media device, the date of the file is examined and compared to the date for the files already in the system. If the file being downloaded is newer than the one on the system, that particular category of POIs is overwritten. Any other POIs that had previously been saved in other categories are not affected.

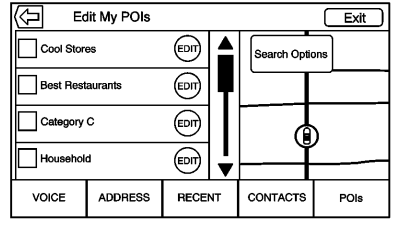
Address Book Download

If an Address Book is found on the connected USB device, the same alert is used to indicate that locations have been found and they can be downloaded. If there is already content in the vehicle Address Book, the system prompts if the stored content should be overwritten. Select Save to overwrite the existing Address Book information. Select Cancel to abort the import of information.

Browsing Downloaded POIs

Access the downloaded POIs by selecting the My POIs list item in the POIs list.

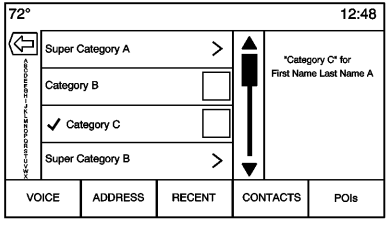
Edit My POIs



Downloaded POIs can be edited at a category level. These POIs can either be deleted as an entire category or be reassigned as another category. To edit the categories:

- Select the Edit button at the main category view to edit the POIs. Edit buttons display next to each category name. There is no POI browsing in this mode. Only edit functions are available.
- Once an action such as deleting or reassigning has been selected, the changes are saved immediately.

Changing POI Categories



POI categories can be assigned to a different category by using the same method as assigning a category for an Address Book entry. When editing, the right side of the screen displays the current category name.

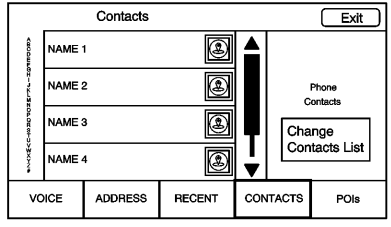
Deleting POI Categories

POI categories can be deleted by selecting Edit and then Delete. A pop-up displays to confirm the deletion.

Saved Destinations

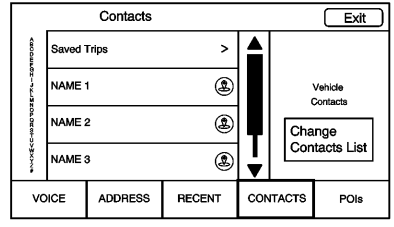
Select a saved destination from the Contacts or Recent Destinations.

Contacts



Select the Contacts button to view the vehicle's contact list or a connected Bluetooth device. Touch the Change Contacts List screen button to switch between the vehicle's contact list and the Bluetooth device's contact list. If a particular contact has a single address associated with it, that contact has a Quick Route list item function button next to it. Contacts without this Quick Route button either have multiple addresses or no address at all. Touch the Quick Route button to go to the Destination Details view.

Touch on an address, either from the Quick Route on the contact list or a specific address from the contact detail list, to go to the destination view showing that address on the map.



Trips from Contacts can be saved and recalled. The order is based on when the trip was last used. When the trips are saved, they are given a default title of the final destination name. If there are no saved trips, this list item is hidden.

Favorite Destinations

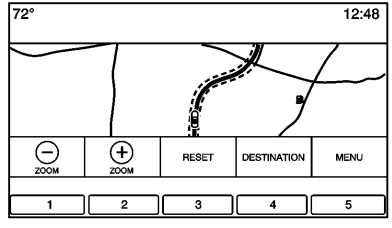
- Destinations can be saved as Favorites for recall later. Depending on the favorite, when an address or POI favorite is recalled, the Destination Details View is shown.
- When a favorite address is being routed to, it is shown active. Touch on the active favorite to suspend that route.
- Save locations as Favorites for recall later in the Destination Details View.
- Save trips from the Address Book.

Storing Favorites from the Contact Details List

A contact name or any of the contact's information such as phone number or address from Contact Details can be stored as a Favorite.

- Touch and hold on the favorite location while viewing a contact on the Contact Details List. The contact name and all contact information can be stored.
- Touch to save as a Favorite. The favorite label will be the name of the contact.
- Touch on the Favorite to display the destination view.

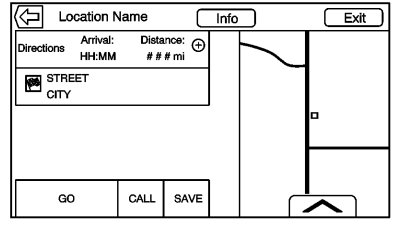
Storing Favorites from Map



Favorite locations can be stored from the Map View.

If not under route guidance, the current vehicle location will be saved as a Favorite. If under route guidance, the final destination will be saved.

Route Guidance



- Touch GO to go to the main navigation view and to start route guidance.
- If the system has an active route, a pop-up will display, "What would you like to do with this destination?" The options are: Add As Waypoint, Set New Destination, or Cancel.

- If a waypoint is added, it is placed in the location that leads to the most efficient route.
- There is a maximum number of waypoints that can be added to the system. When the maximum number of waypoints has been reached, a pop-up displays indicating that a waypoint must first be deleted before a new one can be added. The system will hold this waypoint into a Pending Waypoints list and it will automatically be added to the route once a position is available, either by arriving at a waypoint, or by deleting one.

Estimated Time of Arrival (ETA) and Distance

- When under route guidance, the system shows the ETA or travel time, or the driving distance.
- The ETA and travel time are calculated using any available traffic information.
- If in a waypoint trip, the ETA, travel time, and driving distance are all shown relative to the final destination.
- The final ETA is shown taking into consideration any time zone crossings that the route has traveled through.
- Touch the ETA information area to switch between the estimated arrival time, total driving time resulting, and driving distance.

Turn List

Touch on the next turn indicator shown on the map to display the turn list or waypoint list. The Interaction Selector is minimized automatically. Touch ▲ to reveal the following options:

Destination

Touch the Destination screen button to add a waypoint or change the destination while viewing the turn list. When the Destination screen button is touched, the display shows the Destination screens.

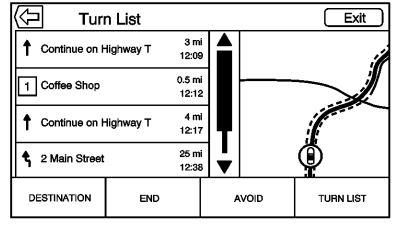
End Guidance

Touch the End Guidance screen button to suspend the current route in the turn list. When the End Guidance screen button is touched, the turn list is exited and the display returns to the main map view.

Avoid Areas

Touch the Avoid Areas screen button to select the highway name that is to be avoided. The system shows a pop-up asking how many miles or if the entire road should be avoided.

Turn List



- When under a waypoint trip, touch on the Turn List Interaction Selector button to show the turn

list. When entering a turn list, the next maneuver instruction is spoken.

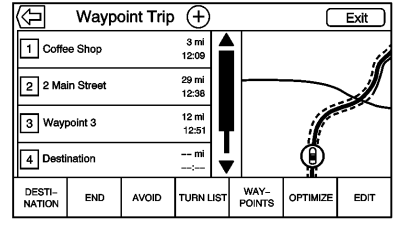
- The turn list title is the name or address of the destination. Touch on the information button next to the name of the destination to display the destination information.
- The turn list is sorted in order with the next maneuver at the top of the list and the subsequent maneuvers listed below it. The next maneuver is always highlighted upon entry into the Turn List to quickly show what the next maneuver is.
- Each maneuver indicates the distance between it and the previous maneuver or the vehicle's current location. The next maneuver at the top will count down until the maneuver is reached, and then the next maneuver will begin to count down.
- Each maneuver has an estimated time of arrival based on the current driving conditions.

Saved Trips

Waypoint trips can be saved for later recall. Touch the Add button in the waypoints list to save the trip to the Saved Trips list in the vehicle's contacts list. When trips are saved, they are given a default title of the final destination. Saved trips can be edited by selecting the Edit list item button to access the edit screen for the saved entry. The only field that can be edited is the name field. Touch on the name field to access the keyboard view. Type the name change. This change is automatically saved when executed by the keyboard.

The saved trip can also be deleted from the edit mode. Touch the delete button and a delete confirmation pop-up will display.

Waypoints



- When under a waypoint trip, touch on the next turn indicator to bring up the waypoint list. The last waypoint view is shown, which could be Waypoints, Turn List, or Edit.
- The waypoint list is sorted in order with the next waypoint at the top of the list. Each waypoint is indicated with a numbered icon, starting with the next waypoint.
- To indicate what segment of the route is for the next waypoint, and what is for the remainder of the route, they appear in different colors.

Optimized Route

- Touch the Optimize screen button to optimize the current waypoint trip.
- The optimization is done according to how the preferences are set for new routes, for example, fastest route, shortest distance, or eco friendly.
- While the system is optimizing the route, the waypoint trip has the Activity Indicator displayed over top of it. If the system is calculating the ETA and travel distance for a waypoint, the Activity Indicator is displayed in the list header.
- When either a waypoint trip is first created, or additional waypoints are added to an existing waypoint trip, they are added in the location that would lead to an optimized route.
- If a destination is already planned and a waypoint is added, it is either added before or after the current destination, whichever leads to the most optimal route.
- If under an existing waypoint trip consisting of two or more destinations, any additional waypoints are added in the location that would lead to the most optimal route.

Edit Route

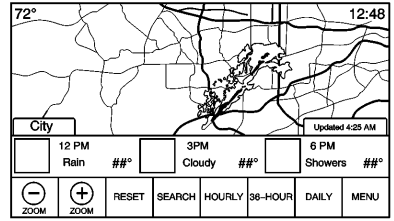
- Touch the Edit Route screen button to modify the order or remove a waypoint from the route. Touch the delete screen button to remove a waypoint from the route.
- A pop-up displays asking for confirmation of the waypoint deletion.

SiriusXM Weather (If Equipped)

SiriusXM Weather is available on the navigation system through a service fee subscription.

From the Home Page, touch WEATHER. The system displays the current weather page.

Current Condition



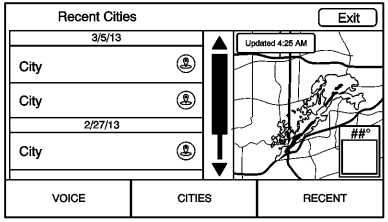
The current weather page displays:

- Doppler Map with Weather
- Forecast Information
- Interaction Selector
- Status
- Time of Map Update
- Applications Tray

Allow approximately 15 minutes for the current weather in the area to display.

Weather Regions

When in the weather application, touch the MENU screen button to display a split map.



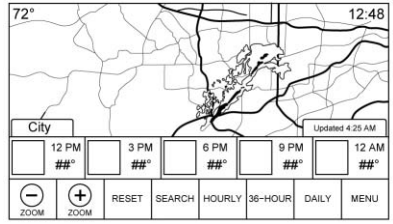
The list displayed on the left of the split map allows changes to the location.

The Doppler map and forecast information displays a preview of the map for the location selected. The forecast information is for the current weather or next available forecast data.

Touch the Exit screen button to return to the main weather map.

Press one of the options displayed on the Interaction Selector along the bottom of the map screen to select another function or display another type of list.

Weather Screen Not Under Guidance

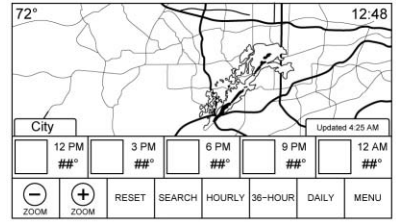


The weather application uses the navigation system to provide the appropriate information for the guidance route. When not under guidance, it defaults to the current location.

Doppler Map : The Doppler map is shown with the vehicle location in the center of the map.

City and State : The city and state are displayed for the view currently shown. The default is the current city and state that the vehicle is in.

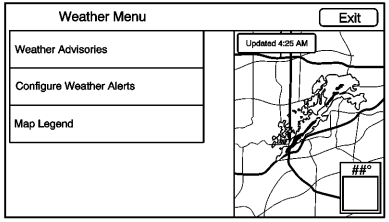
Forecast Information



- The map can be panned to another location. The forecast information is updated to the new location.
- The city and state update to reflect the current location.
- Touch the RESET screen button to reset the map back to the current vehicle location.

Weather Menu

Touch MENU on the Weather Interaction Selector along the bottom of the map screen to display the Weather Menu.



The options are:

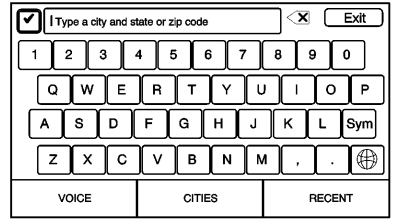
- Weather Advisories: Any weather advisories in effect for the local area or while on route are displayed in a list. Touch on an advisory from the list to display a screen that gives additional details about the advisory and shows the advisory location on the map.
- Configure Weather Alerts: Touch to access the Weather Alerts menu. Touch the Weather Alerts line item to turn the alerts On or Off. Touch to select any one of the other line items such as High, Low, Informational to filter the selected alerts for display, while the others will be suppressed.
- Map Legend: Touch to display the Map Legend.

Interaction Selector

The Interaction Selector at the bottom of the screen can be used to switch between different views within the weather screen.

These buttons are:

- ZOOM − or ZOOM +: Touch to zoom the map in or out.
- RESET: Touch to reset the map back to its original location.
- SEARCH: Touch to search for a new weather map location. The last destination screen displays. Touch any button along the bottom of the Interaction Selector to help find a different destination. These are , CITIES, and RECENT.



Touch to activate voice recognition. Say a city and state or ZIP code. Follow the voice prompts to find the desired destination.

Touch CITIES to enter a city and state or ZIP code.

Touch RECENT to display a list of locations that were recently viewed for weather.

Type a city or state name on the keyboard screen to find the weather. If the state is omitted, the system assumes a city is being searched for within the current state. If the ZIP code is typed, the system displays the city associated with that ZIP code.

- If one match results from a weather search, the system returns to the map. The map and forecast information updates for that location.
- If there are multiple results from the weather search, a list of possible matches displays. The map shows the first match in the list along with the current weather information in the lower right corner.

- HOURLY: Touch to display the hourly forecast for the current vehicle location. A forecast icon is shown for each period available.
- 36-HOUR: Touch to display the current weather, six-hour forecast, and tomorrow's weather. A forecast icon is shown for each period available.
- DAILY: Touch to display a daily forecast for the next five days. A forecast icon is shown for each period available.
- MENU: Touch to display the current advisories, turn weather alerts on or off, and view the map legend.
- ROUTE: Touch to display the forecasted weather for the route. This feature is only available while under route guidance.

The map legend explains each type of color or symbol on the map.

SiriusXM NavTraffic (If Equipped)

The infotainment system may have SiriusXM NavTraffic®. It is a subscription service provided through SiriusXM Satellite Radio. A service fee is required to receive the SiriusXM NavTraffic service.

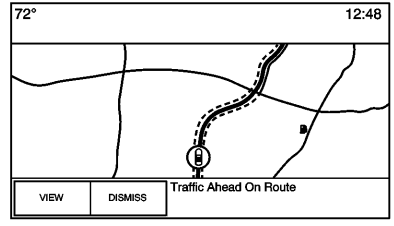
Detailed traffic information is delivered to the vehicle's navigation system by the SiriusXM Radio satellites. SiriusXM NavTraffic provides continuously updated traffic information.

The service may be available in more cities in the future. See www.siriusxmnavtraffic.com for more details on local coverage.

To access the traffic features, touch the Traffic screen button on the Map Menu.

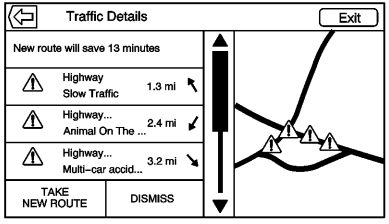
If traffic is not available because there is no valid SiriusXM subscription, a pop-up displays information on how to reactivate the subscription and SiriusXM radio ID.

Traffic Alert While Under Guidance



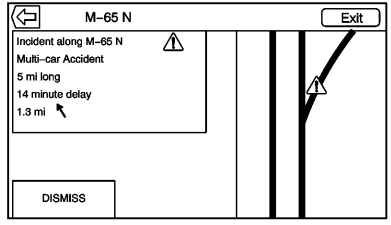
If data is received about a traffic development on the route ahead, a search for a better route is performed. If a better route is found, information may be displayed in an alert. This alert displays the route information and how much time may be saved. If the alternative route is accepted, the current route will be altered.

If the alert is not acknowledged, the alert automatically times out and does not modify the route.



The detail view of the incident shows any data about the incident as well as how much time could be saved by avoiding it. The map view shows the incident, the original route, and the suggested route. If voice prompts are enabled, the incident information is spoken. Touch the TAKE NEW ROUTE screen button to change to the new route.

Traffic Alert While Not Under Guidance



While driving and not under guidance, the system can receive data indicating an accident or slow traffic flow. The information about the incident or slow traffic is displayed as an alert when the incident is 5 km (3 mi) ahead. The incident can be viewed on the map. Touch the DISMISS screen button to return to the previous map.

Movie Listings

A movie theater POI can be searched through a POI search or browsed through the POI category structure. When the details for a movie theater are shown, there is additional information about the theater. If movie titles and showtimes are available for the selected theater, this information is shown in the additional details area of this display.

The details shown depend on the source of the information.

Details shown include:

- Movie Names
- Parental Ratings (G, PG-13, R, etc.)
- Showtimes
- Runtime

Fuel Pricing

When SiriusXM information is available for a particular fuel station, the price displays for the regular unleaded or diesel fuel, depending on the fuel type configured in the system.

This fuel station POI can either be searched for through a POI search or browsed through the POI category structure.

- Touch the Sort button to change the sort method. The default sort method is based on distance with the closest fuel stations at the top of the list.
- Touch the Sort button to cycle through the sorting options of distance, price, or name. The last viewed sorting method is displayed and retained over ignition cycles.

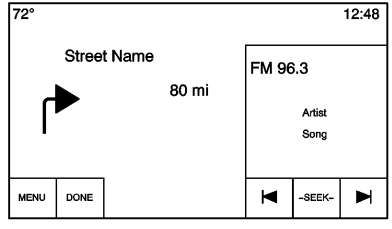
If the sorting method of price has been selected, the fuel stations in the list will appear from the lowest to the highest price based on the fuel type selected. For gasoline, the price shown is for regular unleaded. When diesel is selected as the fuel type, the diesel price is shown.

OnStar® System

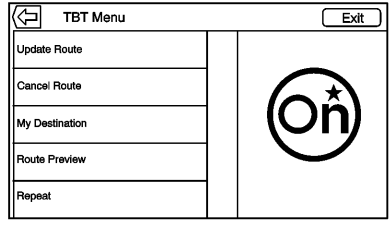
If equipped, with an OnStar® subscription, an OnStar Advisor can download a destination to the vehicle or into the built-in navigation system. If an OnStar Turn-by-Turn route is in progress, all other internal navigation functions are disabled until the route is completed.

When navigation is selected, the OnStar Turn-by-Turn screens display.

OnStar Turn-by-Turn Navigation



Touch the MENU button to go to the Turn-by-Turn menu.



The following options display:

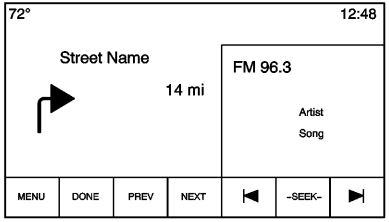
- Update Route (only shows if the vehicle is off the route)
- Cancel Route
- My Destination
- Route Preview
- Repeat

When the system is downloading a route, the only option available is Cancel Route. Once the route is downloaded, the additional list items display.

My Destination

If My Destination is selected, a special version of the Maneuver View displays. The Destination Address is shown in the Street Name field and the total distance to the destination is shown in the Distance to Maneuver View. Touch the DONE button to return to the Maneuver View.

Route Preview



- If Route Preview is selected, a special version of the Maneuver View displays.
- Touch NEXT to display the next maneuver information, including distance between it and the previous maneuver.
- Touch PREV to display the previous maneuver information, including distance between it and the previous maneuver.

  While on the current maneuver, the PREV button is hidden. If on the last maneuver, the NEXT button is hidden.
- Touch the DONE button to return to the Maneuver View.

Repeat

Select Repeat to go back to the Maneuver View. The audible maneuver prompt is repeated.

No Active Route

There is no active route in these cases:

- If the vehicle does not have navigation and the navigation application is selected from the Home screen, a screen stating, “No Active Route” displays. Touch the Call OnStar button.
- If the system receives the indication that there is an active OnStar subscription, the help text is displayed with instructions on how to set up a route.
- If the vehicle is not equipped with OnStar, the navigation application icon is removed from the home screen and applications tray, so this view is not accessible.

Mutually Exclusive from Embedded Navigation

If the vehicle has both a built-in navigation system and OnStar, the system only allows one application at a time. If an OnStar Turn-by-Turn route is in progress, all other internal navigation functions are disabled until the route is completed.

When the navigation application is selected, OnStar Turn-by-Turn screens display.

Canceling an Embedded Route

If a route is in progress using the vehicle navigation system and an OnStar Turn-by-Turn route is requested, the vehicle navigation system route is canceled automatically.

Canceling a Turn-by-Turn Route

If a route is in progress using the OnStar Turn-by-Turn navigation system, and a route is requested using the vehicle navigation system, a pop-up is displayed confirming that the Turn-by-Turn route should be canceled.

OnStar Canceling an Embedded Navigation

OnStar is able to remotely cancel the vehicle navigation system routes. If an Advisor is requested while connected to OnStar, all active vehicle navigation routes in the vehicle will be canceled. There will be no confirmation, and this update will immediately be reflected on the display. Route guidance can be resumed by selecting the Resume To screen button in the Map Menu.

Global Positioning System (GPS)

The position of the vehicle is determined by using satellite signals, various vehicle signals, and map data.

At times, other interference such as the satellite condition, road configuration, condition of the vehicle, and/or other circumstances can affect the navigation system's ability to determine the accurate position of the vehicle.

The GPS shows the current position of the vehicle using signals sent by GPS Satellites. When the vehicle is not receiving signals from the satellites, a symbol appears on the map screen. See *Navigation Symbols* ⇨ *195*.

This system might not be available or interference can occur if any of the following are true:

- Signals are obstructed by tall buildings, trees, large trucks, or a tunnel.
- Satellites are being repaired or improved.

For more information if the GPS is not functioning properly, see *Problems with Route Guidance* ⇨ *212* and *If the System Needs Service* ⇨ *212*.

Vehicle Positioning

At times, the position of the vehicle on the map could be inaccurate due to one or more of the following reasons:

- The road system has changed.
- The vehicle is driving on slippery road surfaces such as sand, gravel, or snow.
- The vehicle is traveling on winding roads or long straight roads.
- The vehicle is approaching a tall building or a large vehicle.
- The surface streets run parallel to a freeway.
- The vehicle has been transferred by a vehicle carrier or a ferry.
- The current position calibration is set incorrectly.
- The vehicle is traveling at high speed.
- The vehicle changes directions more than once, or the vehicle is turning on a turn table in a parking lot.

- The vehicle is entering and/or exiting a parking lot, garage, or a lot with a roof.
- The GPS signal is not received.
- A roof carrier is installed on the vehicle.
- Tire chains have been installed.
- The tires are replaced or worn.
- The tire pressure for the tires is incorrect.
- This is the first navigation use after the map data is updated.
- The 12-volt battery is disconnected for several days.
- The vehicle is driving in heavy traffic where driving is at low speeds, and the vehicle is stopped and started repeatedly.

Problems with Route Guidance

Inappropriate route guidance can occur under one or more of the following conditions:

- The turn was not made on the road indicated.
- Route guidance might not be available when using automatic rerouting for the next right or left turn.
- The route might not be changed when using automatic rerouting.
- There is no route guidance when turning at an intersection.
- Plural names of places might be announced occasionally.
- It could take a long time to operate automatic rerouting during high-speed driving.
- Automatic rerouting might display a route returning to the set waypoint if heading for a destination without passing through a set waypoint.
- The route prohibits the entry of a vehicle due to a regulation by time or season or any other regulation which may be given.
- Some routes might not be searched.
- The route to the destination might not be shown if there are new roads, if roads have recently changed, or if certain roads are not listed in the map data. See *Maps* ⇨ *195*.

To recalibrate the vehicle's position on the map, park with the vehicle running for two to five minutes, until the vehicle position updates. Make sure the vehicle is parked in a location that is safe and has a clear view of the sky and away from large obstructions.

If the System Needs Service

If the navigation system needs service and the steps listed here have been followed but there are still problems, see *Problems with Route Guidance* ⇨ *212*.

Map Data Updates

The map data in the vehicle is the most up-to-date information available when the vehicle was produced. The map data is updated periodically, provided that the map information has changed.

For questions about the operation of the navigation system or the update process, contact the GM Nav Disc Center toll-free phone number, 1-877-NAV-DISC (1-877-628-3472) or go to the center's website, www.gmnavdisc.com. If updates are needed, call the GM Nav Disc Center or order online.

To order, have the vehicle's Vehicle Identification Number (VIN) available to ensure the correct and most up-to-date map data for the vehicle is sent. See *Vehicle Identification Number (VIN)* ⇨ *393*.

Database Coverage Explanations

Coverage areas vary with respect to the level of map detail available for any given area. Some areas feature greater levels of detail than others. If this happens, it does not mean there is a problem with the system. As the map data is updated, more detail can become available for areas that previously had limited detail. See *Map Data Updates* ⇨ *212*.

Voice Recognition

Voice recognition allows for hands-free operation within the navigation, audio, phone, and weather applications. This feature can be started by pressing the button on the steering wheel or by touching the on the touchscreen display.

However, not all features within these areas are supported by voice commands. Generally, only complex tasks that require multiple manual interactions to complete are supported by voice commands.

For example, tasks that take more than one or two button presses such as selecting a song or artist to play from a media device would be supported by voice commands. Other tasks, like adjusting the volume or seeking up or down, are audio features that are easily performed by pressing one or two buttons, and are not supported by voice commands.

Voice recognition can be used when the ignition is on or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP)* ⇨ *264*.

Using Voice Recognition

Voice recognition becomes available once the system has been initialized. This begins when the ignition is turned on. Initialization may take a few moments.

1. Press on the steering wheel control to activate voice recognition, or touch on the infotainment touchscreen on the center stack.
2. The audio system mutes and the system plays a prompt followed by a beep.
3. Wait until after the beep completes, then clearly speak one of the commands described in this section.

   A voice recognition system prompt can be interrupted while it is playing by pressing again.

For example, if the prompt seems to be taking too long to finish, press again and the beep should happen right away.

There are two voice prompt modes supported:

- Long verbal prompts: The longer prompts provide more information regarding the supported actions.
- Short prompts: The short prompts provide simple instructions about what can be stated.

If a command is not spoken, the voice recognition system says a help prompt.

Prompts and Screen Displays

While a voice recognition session is active, there will be corresponding buttons on screens displayed. Manual interaction in the voice recognition session is permitted. Interaction during a voice session may be completed entirely using voice commands, or some selections may expedite a session.

If a selection is made using a manual control, the dialog will progress in the same way as if the selection was made through a voice command. Once the system is able to complete the task, or the session is terminated, the voice recognition dialog stops.

An example of this type of manual intervention is touching an entry of a displayed number list instead of speaking the number associated with the entry desired.

Canceling Voice Recognition

- Touch the Home screen button. Touching this button will terminate a voice recognition session which was initiated by touching the button on the radio touchscreen.
- Touch or say “Cancel” or “Exit” to terminate the voice recognition session and display the screen from which voice recognition was initiated.
- Press on the steering wheel controls to terminate the voice session and display the screen from which voice recognition was initiated.

Most languages do not support natural language commands in sentence form. For those languages, use direct commands like the examples shown on the display.

Helpful Hints for Speaking Commands

Voice recognition can understand commands that are either naturally stated in sentence form, or direct commands that state the application and the task.

For best results:

- Listen for the prompt and wait for the beep before saying a command or reply.
- Say “Help” or look at the screen display for example commands.
- Voice recognition prompt can be interrupted while it is playing by pressing again.

For example, if the prompt seems to be taking too long to finish, to speak the command without waiting for the prompt to complete, press again and wait for the beep.

- Speak the command naturally, not too fast, not too slow. Use direct commands without a lot of extra words.
- Usually Phone and Audio commands can be spoken in a single command.

  For example, “Call David Smith at work,” “Play” followed by the artist or song name, or “Tune” followed by the radio station number.
- Navigation destinations are too complex for a single command. First, state a command that explains the type of destination needed, such as I want directions to an “Address,” “Navigate to an intersection,” “I need to find a Place of Interest or POI,” or “Directions to a Contact.” The system responds with requesting more details.

  After saying “Place of Interest,” only major chains are available by name. Chains are businesses with at least 20 locations. For other POIs, say the name of a category like “Restaurants,” “Shopping Malls,” or “Hospitals.”

Most languages do not support natural language commands in sentence form. For those languages, use direct commands like the examples shown on the display.

There is no need to memorize specific command words. Direct commands might be more clearly understood by the system. An example of a direct command would be “Call 555-1212.” Examples of these direct commands are displayed on most of the screens while a voice session is active. If “Phone” or “Phone Commands,” is stated, the system understands that a phone call is requested and will respond with questions until enough details are gathered.

If the phone number has been saved with a name and a place, the direct command should include both, for example “Call David Smith at work.”

Using Voice Recognition for List Options

When a list is displayed, a voice prompt will ask to confirm or select an option from that list. A selection can be made by manually selecting the item, or by speaking the line number for the item to select.

When a screen contains a list, there may be options that are available but not displayed. The list on a voice recognition screen functions the same as a list on other screens. Scrolling or flinging can be used to help display other entries from the list.

Manually scrolling or paging the list on a screen during a voice recognition session suspends the current voice recognition event and plays the prompt “Make your selection from the list using the

manual controls, press ◀ BACK on the faceplate, or touch the Back screen button to try again."

If manual selection takes more than 15 seconds, the session terminates and prompts that it has timed out. The screen returns to the screen where voice recognition was initiated.

The Back Command

Say "Back" or press ◀ BACK on the faceplate, or touch the Back screen button to go to the previous screen.

If in voice recognition, and "Back" is stated all the way through to the initial screen, then "Back" is stated one more time, the voice recognition session will cancel.

Help

Say "Help" on any voice recognition screen and the help prompt for the screen is played. Additionally, a pop-up displays a text version of the help prompt. Depending on how voice recognition was initiated, the Help pop-up will either display on the instrument cluster or the infotainment touchscreen. Press the Dismiss button to make the pop-up go away.

Pressing while the help prompt is playing will terminate the prompt and a beep will be heard. Doing this will stop the help prompt so that a voice command can be used.

Voice Recognition for the Radio

All audio screens have a voice recognition button () to launch audio voice recognition. If the voice button is touched in a radio screen, the voice commands for radio and media features are available.

"Switch to AM" : Switch bands to AM and tune to the last AM radio station.

"Switch to FM" : Switch bands to FM and tune to the last FM radio station.

"Switch to XM" : Switch bands to XM and tune to the last XM channel.

"Tune to <AM frequency> AM" : Tune to the radio station whose frequency is identified in the command (like "nine fifty").

"Tune to <FM frequency> FM" : Tune to the radio station whose frequency is identified in the command (like "one oh one point one").

"Tune to XM <XM channel number>" : Tune to the XM radio station whose channel number is identified in the command.

"Tune to XM <XM channel name>" : Tune to the XM radio station whose channel name is identified in the command.

Voice Recognition for Audio My Media

If browsing My Media when the voice button is selected, the voice recognition commands for My Media features are available.

"Play Artist" : Begin a dialog to enter a specific artist name.

“Play Artist <artist name>” : Begin playback of the media selection identified in the command.

“Play Album” : Begin a dialog to enter a specific album name.

“Play Album <album name>” : Begin playback of the identified album name in the command.

“Play Song” : Begin a dialog to enter a specific song name.

“Play Song <song name>” : Begin playback of the identified song name in the command.

“Play Genre” : Begin a dialog to enter a specific genre.

“Play Genre <genre name>” : Begin playback of the media selection identified in the command.

“Play Playlist” : Begin a dialog to enter a specific playlist name.

“Play Playlist <playlist name>” : Begin playback of the identified playlist in the command.

“Play <device name>” : Play music from a specific device identified by name. The device name is the name displayed on the screen when the device is first selected as an audio source.

“Play Chapter” : Begin a dialog to enter a specific name.

“Play Chapter <chapter name>” : Begin playback of the media selection identified in the command.

“Play Audiobook” : Begin a dialog to enter a specific name.

“Play Audiobook <audiobook name>” : Begin playback of the media selection identified in the command.

“Play CD Track <track number>” : Begin playback of the CD at the track identified in the command.

“Play Episode” : Begin a dialog to enter a specific name.

“Play Episode <episode name>” : Begin playback of the media selection identified in the command.

“Play Podcast” : Begin a dialog to enter a specific name.

“Play Podcast <podcast name>” : Begin playback of the media selection identified in the command.

“Play Video” : Begin a dialog to enter a specific name.

“Play Video <video name>” : Begin playback of the media selection identified in the command.

“My Media” : Begin a dialog to enter the desired media content.

Handling Large Amounts of Media Content

It is expected that large amounts of media content will be brought into the vehicle. It may be necessary to handle large amounts of media content in a different way than smaller amounts of media. The system may limit the options of voice recognition by not allowing selection of song titles by voice at the highest level if the number of songs exceeds the maximum limit.

Voice command option changes through media content limits are:

- Song files including other individual files of all media types such as audiobook chapters, podcast episodes, and videos.
- Album type folders including types such as albums and audiobooks.

There are no restrictions if the number of song files and albums is less than 4,000. When the number of song files connected to the system is between 4,000 and 8,000, the content cannot be accessed directly with one command like "Play <song name>."

The restriction is that the command "Play Song" must be spoken first; the system will then ask for the song name. The reply command would be to say the name of the song to play.

Similar limits exist for album content. If there are more than 4,000 albums, but fewer than 8,000, the content cannot be accessed directly with one command like, "Play <album name>" The command "Play Album" must first be spoken; the system will then ask for the album name. The reply would be to say the name of the album to play.

Once the number of songs has exceeded approximately 8,000, there is no support for accessing the songs directly through voice commands. There will still be access to the media content by using commands for playlists, artists, and genres.

The access commands for playlists, artists, and genres are prohibited after the number of this type of media exceeds 4,000.

The system will provide feedback the first time voice recognition is initiated if it has become apparent that any of these limits are reached during a device initializing process.

Voice Recognition for Navigation

"Navigation" : Begin a dialog to enter specific destination information.

"Navigation Commands" : Begin a dialog to enter specific destination information.

"Destination Address" : Begin a dialog to enter a specific destination address, which includes the entire address consisting of the house number, street name, and city and state.

"Destination Intersection" : Begin a dialog to enter a specific destination intersection.

"Destination Place of Interest" : Begin a dialog to enter a destination Place of Interest category or major brand name (if equipped).

Not all brand names of businesses are available for voice entry. Most major chains, such as chains with more than 20 locations, should be available to search for by name, but the name must be precisely spoken. Nicknames or short names for the businesses will not likely be found. Lesser known businesses might have to be located by category, such as fast food, hotels, or banks.

“Destination Contact” : Begin a dialog to enter a specific destination contact name.

“Cancel Route” : End route guidance.

Voice Recognition for the Phone

“Call <contact name>” : Initiate a call to an entered contact. The command may include location if the contact has location numbers stored.

“Call <contact name> At Home,” “At Work,” “On Mobile,” or “On Other” : Initiate a call to an entered contact and location at home, at work, on mobile device, or on another phone.

“Call <phone number>” : Initiate a call to a standard phone number seven or 10 digits in length, and also 911, 411, 066, or 611.

“Pair Phone” : Begin the Bluetooth pairing process. Follow instructions on the radio display.

“Switch Phone” : Select a different phone for outgoing calls.

“Voice Keypad” : Begin a dialog to enter special numbers like international numbers. The numbers can be entered in groups of digits with each group of digits being repeated back by the system. If the group of digits is not correct, the command “Delete” will remove the last group of digits and allow them to be re-entered. Once the entire number has been entered, the command “Call” will start dialing the number.

“Voice Mail” : Initiate a call to voice mail numbers.

Voice Pass-Thru

Voice pass-thru allows access to the voice recognition commands on the cell phone, for example, Siri® or Voice Command. See the cell phone manufacturer's user guide to see if the cell phone supports this feature. To activate the phone voice recognition system, press and hold on the steering wheel for a few seconds.

Voice Recognition for OnStar (If Equipped)

“OnStar” : Begin OnStar Voice Recognition.

Voice Recognition for Weather (If Equipped)

“Weather” : Begin a dialog to enter a weather location.

Phone

Bluetooth (Overview)

The Bluetooth-capable 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.

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. In the U.S. and Canada, see www.gm.com/bluetooth for more information about compatible phones.

Bluetooth Controls

Use the buttons 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) : Press to end a call, decline a call, or cancel an operation. Press to mute or unmute the infotainment system when not on a call.

Infotainment System Controls

For information about how to navigate the menu system using the infotainment controls, see *Overview* ⇨ *164*.

PHONE : Touch this screen button on the Home Page to enter the phone main menu.

Audio System

When using the Bluetooth system, sound comes through the vehicle's front audio system speakers and overrides the audio system. Press just above the chrome volume bar 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.

Bluetooth (Infotainment Controls)

For information about how to navigate the menu system using the infotainment controls, see *Overview ⇨ 164*.

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 the cell phone manufacturer's user guide for Bluetooth functions before pairing the cell phone.

Pairing Information

- A Bluetooth phone with music capability can be paired to the vehicle as a phone and a music player at the same time.
- Up to 10 devices 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.
- One Bluetooth device 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 paired cell phone in the order that they were last used in the system. To connect to a different paired phone, see “Connecting to a Different Phone” later in this section.

Pairing a Phone

1. Touch the PHONE screen button.
2. Select PHONES and select Pair New Device.
3. A four-digit Personal Identification Number (PIN) appears on the display. The PIN, if required, may be used in Step 5.
4. 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.
5. Locate “Buick IntelliLink” on the display. Follow the instructions provided in Step 3, to enter the PIN. After the PIN is successfully entered or the code is confirmed, the system responds with “<Device name> has been successfully paired” when the pairing process is complete.
6. If “Buick IntelliLink” does not appear, turn the phone off or remove the phone battery and retry.
7. If the phone prompts to accept connection or allow phone book download, select Always Accept and Allow. The phone book may not be available if not accepted.
8. Repeat Steps 1−5 to pair additional phones.

Listing All Paired and Connected Phones

1. Touch the PHONE screen button.
2. Select PHONES.

Disconnecting a Connected Phone

1. Touch the PHONE screen button.
2. Select PHONES.
3. Touch the ✕ next to the phone to disconnect.

Deleting a Paired Phone

Only disconnected phones can be deleted.

1. Touch the PHONE screen button.
2. Select PHONES.
3. Touch the ⊖ next to the phone to delete and follow the onscreen prompts.

Connecting to a Different Phone

To connect to a different phone, the new phone must be in the vehicle and paired to the Bluetooth system.

1. Touch the PHONE screen button.
2. Select PHONES.
3. Select the new phone to connect to from the not connected device list.

Switching to Handset or Handsfree Mode

To switch between handset or handsfree mode, touch the PHONE icon on the Home Page to display "Call View."

- While the active call is hands-free, touch the Handset screen button to switch to the handset mode. The screen button changes to Handsfree once the Bluetooth device confirms it is operating as handset.
- While the active call is handset, touch the Handsfree screen button to switch to the hands-free mode. The screen button changes to Handset once the Bluetooth device confirms it is operating as handsfree.

Making a Call Using Contacts and Recent Calls

Calls can be made through the Bluetooth system using personal cell phone contact information for all phones that support the Phone Book feature. Become familiar with the phone settings and operation. Verify the cell phone supports this feature.

When supported, the Contacts and Recent Calls menus are automatically available.

The Contacts menu accesses the phone book stored in the cell phone.

The Recent Calls menu accesses the recent call list(s) from your cell phone.

To make a call using the Contacts menu:

1. Touch the PHONE screen button.
2. Select CONTACTS.
3. Select the name to call.
4. Select the desired contact number to call.

To make a call using the Recent Calls menu:

1. Touch the PHONE screen button.
2. Select RECENT.
3. Select the name or number to call.
4. If necessary, select between Missed, Recent, and Sent calls by selecting the View button in the top right corner of the list.

Making a Call Using the Keypad

To make a call by dialing the numbers:

1. Touch the PHONE screen button.
2. Select KEYPAD and enter a phone number.
3. 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

To accept a call:

- Press on the steering wheel controls.
- Touch Answer on the center stack display.

Declining a Call

To decline a call:

- Press on the steering wheel controls.
- Touch Ignore on the center stack display.

Call Waiting

Call waiting must be supported on the Bluetooth phone and enabled by the wireless service carrier to work.

Accepting a Call

To accept a call-waiting call:

- Press on the steering wheel controls.
- Touch Switch on the center stack display.

Declining a Call

To decline a call-waiting call:

- Press on the steering wheel controls.
- Touch Ignore on the center stack display.

Switching Between Calls (Call Waiting Calls Only)

To switch between calls, touch the PHONE icon on the Home Page to display “Call View.” While in Call View, touch the call information of the call on hold to change calls.

Three-Way Calling

Three-way calling must be supported on the Bluetooth phone and enabled by the wireless service carrier to work.

To start a three-way call while in a current call:

1. In the Call View, select Add to add another call.
2. Initiate the second call by selecting from RECENT, CONTACTS, or KEYPAD.

3. When the second call is active, touch Merge to conference the three-way call together.
4. Once all calls are merged, the Merge button becomes an Unmerge button. Touch to unmerge the calls.

   Some wireless service carriers may not allow a merged call to become unmerged.

Ending a Call

- Press on the steering wheel controls.
- Touch End on the center stack display to end all existing calls, or touch End next to a call to end only that 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. Touch the PHONE screen button.
2. While in the Call View, touch the up arrow to raise the Interaction Selector.
3. Select KEYPAD and enter the number.

Voice Mail

The default voice mail number is the phone number of the outgoing phone source. The voice mail number can be changed in Bluetooth settings.

To dial a voice mail number:

1. Touch the PHONE screen button.
2. Select VOICE MAIL.
3. Select Call.
4. Enter the DTMF tones using the keypad if needed.

Bluetooth (Voice Recognition)

Using Bluetooth Voice Recognition

To use voice recognition, press the button on the steering wheel. Use the commands below for the various voice features. For additional information, say “Help” while in a voice recognition menu. See *Voice Recognition* ⇨ *213* for help using voice recognition commands.

Making a Call

Calls can be made using the following commands.

Using the “Dial” or “Call” Command

To call a number:

1. Press . The system responds “Command Please,” followed by a tone.
2. Say “Dial” or “Call” followed by the complete phone number.

Use the “Voice Keypad” command for international numbers or special numbers which include * or #.

Once connected, the person called will be heard through the audio speakers.

To call using a contact from your phone book:

1. Press . The system responds “Command Please,” followed by a tone.
2. Say “Dial” or “Call” and then say the contact name. For example “Call John at Work.”

Once connected, the person called will be heard through the audio speakers.

Calling Emergency

1. Press . The system responds “Command Please,” followed by a tone.
2. Say “Call 911” for U.S. and Canada or “Call 066” for Mexico.

Once connected, the person called will be heard through the audio speakers.

Using the “Switch Phone” Command

1. Press . The system responds “Command Please,” followed by a tone.
2. After the tone, say “Switch Phone.” The system displays a list of phones to select.

Using the “Voice Keypad” Command

1. Press . The system responds “Command Please,” followed by a tone.
2. After the tone, say “Voice Keypad.” The system allows entry of special numbers and characters.

Using the “Voice mail” Command

1. Press . The system responds “Command Please,” followed by a tone.
2. After the tone, say “Voice Mail.” The system dials the voice mail number of the connected phone.

Clearing the System

Unless information is deleted out of the vehicle Bluetooth system, it will be retained. This includes phone pairing information. For directions on how to delete this information, see “Deleting a Paired Phone” previously in this section.

Text Messaging

If equipped, the infotainment system may allow text messages to be received and replied to. Received messages can also be read aloud.

Before using the text messaging feature, check to see if the phone is compatible.

To view compatible phones in the U.S., see my.buick.com.

To view compatible phones in Canada, see gmtotalconnect.ca.

To view compatible phones in Mexico, see your dealer for details.

Text Menu

Inbox : Touch to display incoming messages. To view a message, touch on the name of the sender. Touch 🔊 to listen to the text message. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

Settings : See “Text Settings” later in this section.

Reply : Touch to reply using a predefined text message. See “Text Settings.”

Call : Touch to place a call to the sender of the text message.

Viewing a Text Message

While viewing a text message:

- Touch Reply to reply using a predefined text message.
- Touch Call to place a call to the sender of the text message.

Viewing Sender Information

If equipped, touch the name of the sender to view sender information if this information matches contact information already stored.

Select a Predefined Message : Touch to select from a set of quick messages. Touch the message to send.

Predefined Messages

These are short text messages that can be used to send so responses will not have to be typed.

The messages can be deleted or a new message can be added.

To add a new message:

1. Touch Text Settings, then touch Manage Predefined Messages.
2. While in the predefined messages list view, select Add New Predefined Message and a keyboard displays.
3. Type a new message and touch NEW MSG when done to add the message. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the predefined messages list. Touch ✕ to delete one character at a time.

Memory Full

This message may display if there is no more room on the phone to store messages.

Text Settings

Text Alerts : When on, this feature will display an alert when a new text message has been received. Touch to turn on or off.

Manage Predefined Messages : Touch to add, change, or delete predefined messages.

Settings

The Settings Menu allows adjustment of different vehicle and radio features. The menu may contain the following:

Time and Date

Touch ∧ or ∨ to increase or decrease hours, minutes, and AM or PM. Touch 12Hr or 24Hr for 12 or 24 hour clock. Touch ∧ or ∨ to increase or decrease month, day, or year. See *Clock* ⇨ *107*.

Language (Language)

This will set the display language in the radio, instrument cluster, and voice recognition. Touch Language and select the appropriate language. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

Valet Mode (If Equipped)

This will lock the infotainment system and steering wheel controls. It may also limit top speed, power, and access to vehicle storage locations (if equipped).

To enable valet mode:

1. Enter a four-digit code on the keypad.
2. Touch Enter to go to the confirmation screen.
3. Re-enter the four-digit code.

Touch LOCK or UNLOCK to lock or unlock the system. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

Radio

Touch to display the Radio Menu and the following may display:

- Manage Favorites: Touch to highlight a favorite to edit. Touch Rename to rename the favorite or Delete to delete it. Touch and hold the station to drag it to a new location. Touch Done to go back to the previous menu.
- Number of Favorites Shown: Touch to set the number of favorites to display. Select Auto, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, or 60. Auto will adjust the number of favorite locations that can be seen. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.
- Auto Cue Volume: If equipped, this feature adjusts the volume based on the vehicle speed. See *AM-FM Radio* ⇨ *170*.
- Maximum Startup Volume: This feature sets the maximum startup volume. If the vehicle is started and the volume is greater than this level, the volume is adjusted to this level. To set the maximum startup volume, touch + or − to increase or decrease. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

- Audio Volume (If Equipped): This feature adjusts the startup and shutdown sounds. To adjust the volume, touch + or − to increase or decrease. This feature can be turned on or off. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

Vehicle Settings

See *Vehicle Personalization* ⇨ *146*.

Bluetooth

From the Bluetooth screen button, the following may be displayed :

- Pair New Device: Touch to add a new device.
- Device Management: Touch to connect to a different phone source, disconnect a phone, or delete a phone.
- Ringtones: Touch to change the ring tone for the specific phone. The phone does not need to be connected to change the ring tone.
- Voice Mail Numbers: This feature displays the voice mail number for all connected phones. The voice mail number may be changed by touching the EDIT button, typing in the new number, and touching SAVE. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.
- Text Message Alerts: This feature will turn text message alerts on or off. Press Text Message Alerts and then select OFF or ON. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu. See *Text Messaging* ⇨ *225*.

Voice

From the Voice screen button, the following may be displayed:

- Confidence Threshold : Select Confirm More or Confirm Less for the system to confirm more or less before acting on a command.
- Prompt Length: Select Short or Long for shorter or longer voice prompts. Press ◀ BACK on the faceplate or touch the Back screen button to go to the previous menu.
- Audio Feedback Speed: Touch Slow, Medium, or Fast for feedback speed. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

Display

From the Display screen button, the following may be displayed :

- Mode: Touch Auto, Day, or Night to adjust the display. Press ◀ BACK on the faceplate or touch the Back screen button to go to the previous menu.
- Calibrate Touchscreen: Touch to calibrate the touchscreen and follow the prompts. Press ◀ BACK on the faceplate or touch the Back screen button to go back to the previous menu.

- Turn Off Display: Touch to turn the display off. Touch anywhere on the display area or press any faceplate button again to turn the display on.

Rear Camera

Touch to display the Rear Camera menu. See *Driver Assistance Systems* ⇨ *284*.

Return to Factory Settings

Touching Continue restores all factory settings.

Select Return to Factory Settings and the following list may display:

- Restore Vehicle Settings: Restores factory vehicle personalization settings. Touch Restore Vehicle Settings. Touch Cancel or Continue. If Continue is touched, a confirmation pop-up will appear indicating the vehicle settings have been restored.
- Clear All Private Data: Clears all private information. Touch Clear All Private Data. Touch Cancel or Continue. If Continue is touched, a confirmation pop-up will appear indicating all private data has been cleared from the system.
- Restore Radio Settings: Restores factory radio settings. Touch Restore Radio Settings. Touch Cancel or Continue. If continue is touched, a confirmation pop-up will appear indicating the radio settings have been restored.

Press ◀ BACK on the faceplate or touch the Back screen button to go back to the main settings menu.

English and Metric Unit Conversion

To change the display units between English and metric units, see *Instrument Cluster* ⇨ *111*.

Trademarks and License Agreements

FCC Information

See *Radio Frequency Statement* ⇨ *406*.

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Climate Controls

Climate Control Systems
Dual Automatic Climate Control System 240
Rear Climate Control System 243

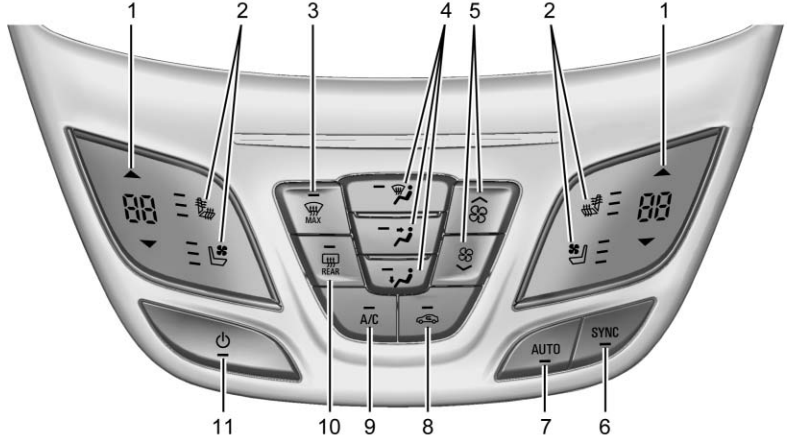
Air Vents
Air Vents 244

Maintenance
Passenger Compartment Air Filter 245

Climate Control Systems

Dual Automatic Climate Control System

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



1. Driver and Passenger Temperature Controls
2. Heated and Cooled Front Seats (If Equipped)
3. Defrost
4. Air Delivery Mode Controls
5. Fan Control

6. SYNC (Synchronized Temperature)
7. AUTO (Automatic Operation)
8. Recirculation
9. A/C (Air Conditioning)
10. Rear Window Defogger
11. Power

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 AUTO is lit, all four functions operate automatically. Each function can also be manually set and the selected setting is displayed. Functions not manually set will continue to be automatically controlled, even if the AUTO indicator is not lit.

For automatic operation:

1. Press AUTO.
2. Set the temperature. Allow the system time to stabilize. Adjust the temperature as needed for best comfort.

To improve fuel efficiency and to cool the vehicle faster, recirculation may be automatically selected in warm weather. The recirculation light will not come on. Press to select recirculation; press it again to select outside air.

▲ / ▼ : The temperature can be adjusted separately for the driver and the passenger. Press to increase or decrease the temperature.

SYNC : Press to link the passenger and rear climate temperature settings to the driver setting. The SYNC indicator light will turn on. When the passenger or rear climate settings are adjusted, the SYNC indicator light turns off.

Manual Operation

⏻ : Press to turn the fan off or on.

▲ or ▼ : Press to increase or decrease the fan speed. The fan speed setting appears on the main display. Pressing either button cancels automatic fan control and the fan is controlled manually. Press AUTO to return to automatic operation.

Air Delivery Mode Controls :

Press , , or to change the direction of the airflow. The indicator light in the button will turn on. Any combination of the three buttons can be selected. The indicator light in the button will turn on. The current mode appears in the display screen. Pressing any of the three buttons cancels automatic air delivery control and the direction of the airflow is controlled manually. Press AUTO to return to automatic operation.

To change the current mode, select one or more of the following:

: Clears the windows of fog or moisture. Air is directed to the windshield.

: Air is directed to the instrument panel outlets.

: Air is directed to the floor outlets.

MAX : Air is directed to the windshield and the fan runs at a higher speed. Fog or frost is cleared from the windshield more quickly. When the button is pressed again, the system returns to the previous mode setting.

For best results, clear all snow and ice from the windshield before defrosting.

A/C : Press to turn the air conditioning system on or off. If the climate control system is turned off or the outside temperature falls below freezing, the air conditioner will not run.

Pressing this button cancels automatic air conditioning and turns off the air conditioner. Press AUTO to return to automatic operation and the air conditioner runs automatically 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.

: Press to turn on recirculation. An indicator light comes on. Air is recirculated to quickly cool the inside of the vehicle or to reduce the entry of outside air and odors.

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. The fan speed may slightly increase to help prevent fogging. 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* ⇨ *146*.

Rear Window Defogger

REAR **:** Press to turn the rear window defogger on or off. An indicator light on the button comes on to show that the rear window defogger is on.

The defogger can be turned off by turning the ignition to ACC/ACCESSORY or LOCK/OFF.

The rear window defogger can be set to automatic operation. See “Climate and Air Quality” under *Vehicle Personalization* ⇨ *146*. 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 7 °C (44 °F) and below. The auto rear defogger turns off automatically.

If the vehicle is equipped with heated outside rearview mirrors, they turn on when the rear window defogger button is on and help to clear fog or frost from the surface of the mirror. See *Heated Mirrors* ⇨ *44*.

Caution

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

(Continued)

Caution (Continued)

damage the rear window defogger grid and affect the radio's ability to pick up stations clearly. The repairs would not be covered by the vehicle warranty.

or : Press or to heat the driver or passenger seat.

Press or , if equipped, to cool the driver or passenger seat. See *Heated and Cooled Front Seats* ⇨ *55*.

Remote Start Climate Control Operation (If Equipped) : If the vehicle is equipped with the remote 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. The rear defog may come on during remote start based on cold ambient conditions. If the vehicle has heated or cooled seats, they may come on during a remote start. See *Remote Vehicle Start* ⇨ *32* and *Heated and Cooled Front Seats* ⇨ *55*.

Sensor

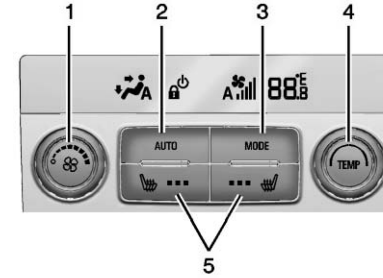
The solar sensor on top of the instrument panel near the windshield, monitors the solar heat.

The climate control system uses the sensor information to adjust the temperature, fan speed, recirculation, and air delivery mode for best comfort.

Do not cover the sensor; otherwise the automatic climate control system may not work properly.

Rear Climate Control System

If equipped, the rear climate control system is on the rear of the center console storage. The rear climate settings can be adjusted with this system.



1. Fan Control
2. AUTO (Automatic Operation)
3. MODE (Air Delivery Mode Control)
4. TEMP (Temperature Control)
5. Heated Rear Seats

Automatic Operation

AUTO : Press AUTO to control the inside temperature, air delivery, and fan speed. A is indicated in the display when automatic operation is active. If any of the climate control settings are manually adjusted, this cancels full automatic operation.

The display only indicates climate control functions when the system is in rear independent mode.

Manual Operation

: Turn clockwise or counterclockwise to increase or decrease the fan speed. Turn completely counterclockwise to turn the fan/power off.

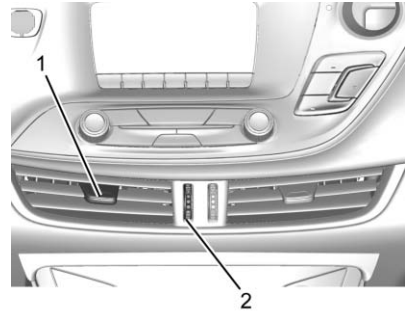
TEMP : Turn clockwise or counterclockwise to increase or decrease the airflow temperature into the passenger area. If the SYNC button is pressed on the front climate controls, the rear climate temperature is linked to the driver temperature setting.

MODE : Press to change the direction of the airflow in the vehicle. Repeatedly press the button until the desired mode appears on the display. Multiple presses will cycle through the delivery selections.

If the air delivery mode is directing all the air to the floor, the rear fan speed indicator will change when the knob is turned, but the airflow amount will not. This is normal operation for the system.

or : If equipped, press or to heat the left or right outboard seat cushion. See *Heated Rear Seats* ⇨ *58*.

Air Vents



1. Slider Knob
2. Thumbwheel

Use the slider knobs (1) on the air vents to change the direction of the airflow.

Use the thumbwheels (2) near the air vents to control the amount of airflow or to shut off the airflow.

Operation Tips

- Keep all outlets open whenever possible for best system performance.

- Keep the path under all 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.

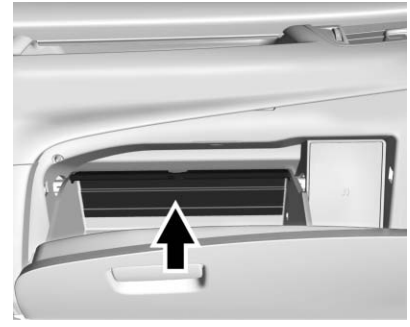
Maintenance

Passenger Compartment Air Filter

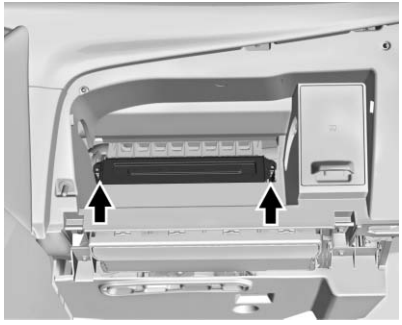
The filter removes dust, pollen, and other airborne irritants from outside air that is pulled into the vehicle.

The filter should be replaced as part of routine scheduled maintenance; see *Maintenance Schedule* ⇨ *382*. To find out what type of filter to use, see *Maintenance Replacement Parts* ⇨ *391*.

1. Open the glove box.



2. Remove the glove box rear wall.
3. Disconnect the glove box door damper string from the glove box door assembly. A pen or pencil may be inserted through the end of the damper string to prevent the string from slipping inside the housing assembly.
4. Squeeze both sides of the glove box bin inward to lower beyond the stops.



5. Release the latches on either side of the service door. Open the service door and remove the old filter.
6. Install the new air filter.
7. Close the service door completely.
8. Reverse the steps to reinstall the glove box.

See your dealer if additional assistance is needed.

Driving and Operating

Driving Information
Driver Behavior 248
Driving Environment 248
Vehicle Design 248
Distracted Driving 249
Defensive Driving 249
Drunk Driving 250
Control of a Vehicle 250
Braking 250
Steering 250
Off-Road Recovery 251
Loss of Control 251
Driving on Wet Roads 252
Hill and Mountain Roads 253
Winter Driving 253
If the Vehicle Is Stuck 255
Vehicle Load Limits 255

Starting and Operating
New Vehicle Break-In 259
Ignition Positions 259
Starting the Engine 261
Engine Heater 263
Retained Accessory Power (RAP) 264
Shifting Into Park 264
Shifting out of Park 265
Parking over Things That Burn 265

Engine Exhaust
Engine Exhaust 266
Running the Vehicle While Parked 266

Automatic Transmission
Automatic Transmission 267
Manual Mode 269

Drive Systems
All-Wheel Drive 270

Brakes
Antilock Brake System (ABS) 270
Electric Parking Brake 271
Brake Assist 272
Hill Start Assist (HSA) 272

Ride Control Systems
Traction Control/Electronic Stability Control 273

Cruise Control
Cruise Control 275
Adaptive Cruise Control 277

Driver Assistance Systems
Driver Assistance Systems . . . 284
Assistance Systems for Parking or Backing 285
Assistance Systems for Driving 289
Forward Collision Alert (FCA) System 290
Front Automatic Braking (FAB) System 292
Side Blind Zone Alert (SBZA) 293
Lane Change Alert (LCA) 294
Lane Departure Warning (LDW) 296
Lane Keep Assist (LKA) 296

Fuel
Fuel 298
California Fuel Requirements 299
Fuels in Foreign Countries . . . 299
Fuel Additives 299
Filling the Tank 299
Filling a Portable Fuel Container 301

Trailer Towing
General Towing Information 301
Driving Characteristics and Towing Tips 301
Trailer Towing 304

Towing Equipment 307

Conversions and Add-Ons

Add-On Electrical Equipment 308

Driving Information

Driver Behavior

Driving is an important responsibility. Driver behavior, the driving environment, and the vehicle's design all affect how well a vehicle performs.

Being aware of these factors can help in understanding how the vehicle handles and what can be done to avoid many types of crashes, including a rollover crash.

Most serious injuries and fatalities to unbelted occupants can be reduced or prevented by the use of safety belts. In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a safety belt. In addition, avoiding excessive speed, sudden or abrupt turns, and drunken or aggressive driving can help make trips safer and avoid the possibility of a crash.

Driving Environment

Be prepared for driving in inclement weather, at night, or during other times where visibility or traction may be limited, such as on curves, slippery roads, or hilly terrain. Unfamiliar surroundings can also have hidden hazards.

Learn more about driving in different conditions and off-road driving in this section.

Vehicle Design

Utility vehicles have a significantly higher rollover rate than other types of vehicles. This is because they have a higher ground clearance and a narrower track or shorter wheelbase than passenger cars, which makes them more capable for off-road driving. While these design characteristics provide the driver with a better view of the road, these vehicles do have a higher center of gravity than other types of vehicles. A utility vehicle does not handle the same as a vehicle with a lower center of gravity, like a car, in similar situations.

Safe driver behavior and understanding of the environment can help avoid a rollover crash in any type of vehicle, including utility vehicles.

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 and the navigation system, if equipped, 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* ⇨ *58*.

- 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

Electric Power Steering

The vehicle has electric power steering. It does not have power steering fluid. Regular maintenance is not required.

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.

If the steering wheel is turned until it reaches the end of its travel and is held against that position for an extended period of time, power steering assist may be reduced.

If the steering assist is used for an extended period of time, power assist may be reduced.

Normal use of the power steering assist should return when the system cools down.

See your dealer if there is a problem.

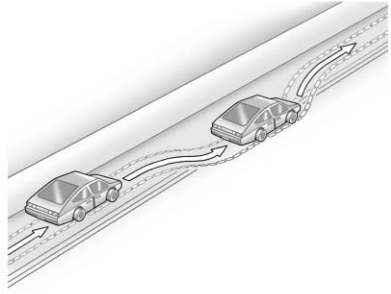
Curve Tips

- 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. 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 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* ⇨ *338*.
- Turn off cruise control.

Hill and Mountain Roads

Driving on steep hills or through mountains is different than driving on flat or rolling terrain. Tips 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

Using the brakes to slow the vehicle on a long downhill slope can cause brake overheating, can reduce brake performance, and could result in a loss of braking. Shift the transmission to a lower gear 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. This can cause overheating of the brakes and loss of steering. Always have the engine running and the vehicle in gear.

- Drive at speeds that keep the vehicle in its own lane. Do not swing wide or cross the center line.
- Be alert on top of hills; something could be in your lane (e.g., stalled car, accident).
- Pay attention to special road signs (e.g., falling rocks area, winding roads, long grades, passing or no-passing zones) and take appropriate action.

Winter Driving

Driving on Snow or Ice

Snow or ice between the tires and the road creates less traction or grip, so drive carefully. Wet ice can occur at about 0 °C (32 °F) when freezing rain begins to fall. Avoid driving on wet ice or in freezing rain until roads can be treated.

For Slippery Road Driving:

- Accelerate gently. Accelerating too quickly causes the wheels to spin and makes the surface under the tires slick.
- Turn on Traction Control. See *Traction Control/Electronic Stability Control* ⇨ *273*.
- Antilock Brake System (ABS) improves vehicle stability during hard stops, but the brakes should be applied sooner than when on dry pavement. See *Antilock Brake System (ABS)* ⇨ *270*.
- Allow greater following distance 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.

Blizzard Conditions

Stop the vehicle in a safe place and signal for help. Stay with the vehicle unless there is help nearby.
If possible, use Roadside Assistance. See *Roadside Assistance Program* ⇨ *400*. 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.

If the vehicle is stuck in snow:

- Clear snow from the base of the vehicle, especially any blocking the exhaust pipe.
- Open a window about 5 cm (2 in) on the vehicle side 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 circulate the air inside the vehicle and set

(Continued)

Warning (Continued)

the fan speed to the highest setting. See “Climate Control Systems.”

For more information about CO, see *Engine Exhaust* ⇨ *266*.

To save fuel, run the engine for short periods to warm the vehicle and then shut the engine off and partially close the window. Moving about to keep warm also helps.

If it takes time for help to arrive, when running 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. See *Traction Control/Electronic Stability Control* ⇨ *273*.

⚠ 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).

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 low 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* ⇨ *368*.

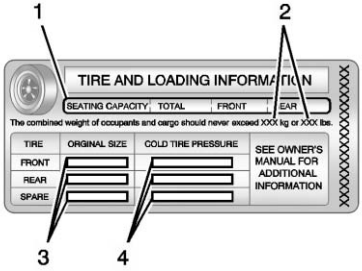
Vehicle Load Limits

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 may show how much weight it may properly carry, the Tire and Loading Information label and the Certification/Tire 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 reduce stopping distance, damage the tires, and shorten the life of the vehicle.

Tire and Loading Information Label



Example Label

A vehicle-specific Tire and Loading Information label is attached to the center pillar (B-pillar). The tire and loading information label shows the number of occupant seating positions (1), and the maximum vehicle capacity weight (2) in kilograms and pounds.

The Tire and Loading Information label also shows the size of the original equipment tires (3) and the recommended cold tire inflation pressures (4). For more information on tires and inflation see *Tires* ⇨ *338* and *Tire Pressure* ⇨ *346*.

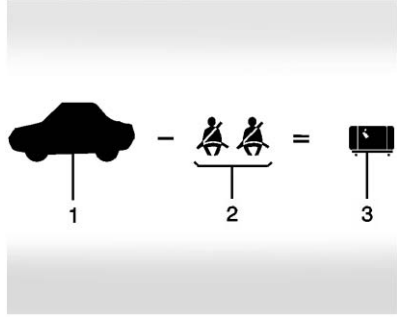
There is also important loading information on the vehicle Certification/Tire label. It may show the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axle. See “Certification/Tire Label” later in this section.

“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.

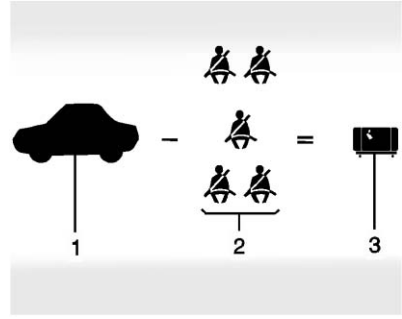
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.”

See *Trailer Towing* ⇨ *304* for important information on towing a trailer, towing safety rules and trailering tips.



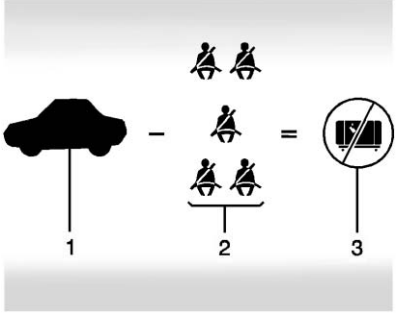
Example 1

1. Vehicle Capacity Weight for Example 1 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 68 kg (150 lbs) × 2 = 136 kg (300 lbs).
3. Available Occupant and Cargo Weight = 317 kg (700 lbs).



Example 2

1. Vehicle Capacity Weight for Example 2 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 68 kg (150 lbs) × 5 = 340 kg (750 lbs).
3. Available Cargo Weight = 113 kg (250 lbs).

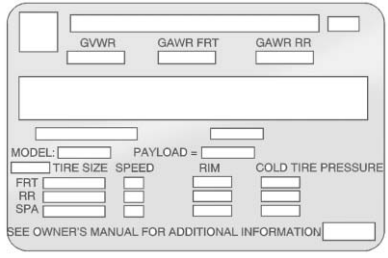


Example 3

1. Vehicle Capacity Weight for Example 3 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 91 kg (200 lbs) × 5 = 453 kg (1,000 lbs).
3. 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/Tire Label



Label Example

A vehicle-specific Certification/Tire label is attached to the center pillar (B-pillar).

The label may show the size of the vehicle's original tires and the inflation pressures needed to obtain the gross weight capacity of the vehicle. The label shows the gross weight capacity of the vehicle. This is called the Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, and cargo.

The Certification/Tire label may also show the maximum weights for the front and rear axles, called the Gross Axle Weight Rating (GAWR). To find out the actual loads on the front and rear axles, weigh the vehicle at a weigh station. Your dealer can help with this. Be sure to spread the load equally on both sides of the centerline.

Caution
Overloading the vehicle may cause damage. Repairs would not be covered by the vehicle warranty. Do not overload the vehicle.

⚠ 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.
- 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

Caution

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.
- 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

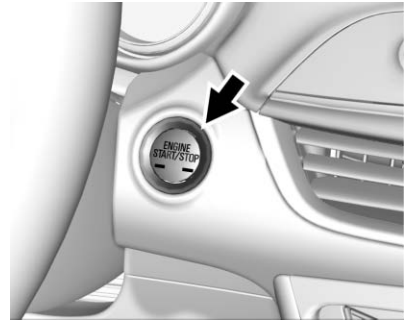
(Continued)

Caution (Continued)

breaking-in guideline every time you get new brake linings.

Following break-in, engine speed and load can be gradually increased.

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/LOCK/OFF.

The Remote Keyless Entry (RKE) transmitter must be in the vehicle for the system to operate. If the pushbutton start is not working, the vehicle may be near a strong radio antenna signal causing interference to the Keyless Access system. See *Remote Keyless Entry (RKE) System Operation* ⇨ *26*.

To shift out of P (Park), the vehicle must be in ON/RUN and the brake pedal must be applied.

Stopping the Engine/LOCK/ OFF (No Indicator Lights) : When the vehicle is stopped, press ENGINE START/STOP 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)* ⇨ *264*.

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 *Transmission Messages* ⇨ *144*. When the vehicle is shifted into P (Park), the ignition system will switch to OFF.

The vehicle may have an electric steering column lock. The lock is activated when the vehicle is switched to OFF and either front door is opened. A sound may be heard as the lock actuates or releases. The steering column lock may not release with the wheels turned off center. If this happens, the vehicle may not start. Move the steering wheel from left to right while attempting to start the vehicle. If this does not work, the vehicle needs service.

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 *Electric Parking Brake* ⇨ *271*.

⚠ 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, press and hold ENGINE START/STOP for longer than two seconds, or press twice in five seconds.

ACC/ACCESSORY (Amber Indicator 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 five minutes to prevent battery rundown.

ON/RUN/START (Green Indicator 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 Engine* ⇨ *261*. 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. Press the button again to turn the vehicle off.

Starting the Engine

Move the shift lever to P (Park) or N (Neutral). To restart the engine when the vehicle is already moving, use N (Neutral) only.

Caution

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.

Caution

If you add electrical parts or accessories, you could change the way the engine operates. Any resulting damage would not be covered by the vehicle warranty. See *Add-On Electrical Equipment* ⇨ *308* or *Add-On Electrical Equipment* ⇨ *308*.

Starting Procedure

1. With the Keyless Access system, the RKE transmitter must be in the vehicle. Press ENGINE START/STOP with the brake pedal applied. When the engine begins cranking, let go of the button.

   The idle speed will go down as the engine gets warm. Do not race the engine immediately after starting it.

Caution

Cranking the engine for long periods of time, by returning the ignition to the START position 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 let the cranking motor cool down.

2. If the engine does not start after five to 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 and holding it there as you hold ENGINE START/STOP for up to a maximum of 15 seconds. Wait at least 15 seconds between each try, to allow the cranking motor to cool down. When the engine starts, let go of the button and the accelerator. If the vehicle starts briefly but then stops again, do the same thing. This clears the extra gasoline from the engine. 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.

Stop/Start System

⚠ Warning

Exiting the vehicle without first shifting into P (Park) may cause the vehicle to move. You or others

(Continued)

Warning (Continued)

may be injured. Because the vehicle has the auto engine stop/start feature, the vehicle's engine might seem to be shut off; however, once the brake pedal is released, the engine will start up again.

Shift to P (Park) and turn the ignition to LOCK/OFF, before exiting the vehicle.

The vehicle has a fuel saving stop/start system to shut off the engine to help conserve fuel.

Auto Engine Stop/Start

When the brakes are applied and the vehicle is at a complete stop, the engine may turn off. When stopped, the tachometer displays AUTO STOP. See *Tachometer* ⇨ *114*. When the brake pedal is released or the accelerator pedal is pushed, the engine will restart.

Auto Stop may be deactivated if:

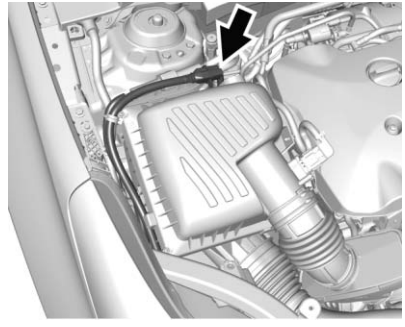
- A minimum vehicle speed is not reached.
- The engine or transmission is not at the required operating temperature.
- The outside temperature is not in the required operating range, typically between −10 °C (14 °F) and 50 °C (122 °F).
- The shift lever is in any gear other than D (Drive).
- The battery charge is low.
- The interior comfort level has not reached the required level for the climate control system or defog settings.
- The Auto Stop time is greater than two minutes.

Engine Heater

The vehicle may have an engine heater. The engine heater 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 heater at least four hours before starting the vehicle. An internal thermostat in the plug end of the cord will prevent engine heater operation at temperatures above −18 °C (0 °F).

To Use The Engine Heater

1. Turn off the engine.



3. Open the hood and unwrap the electrical cord. The cord is in the driver side of the engine compartment, near the battery. It is shipped from the factory with a tie holding it in place. Use care in removing the tie so that the cord is not damaged. Check the heater cord for damage. If it is damaged, do not use it. See your dealer for a replacement. Inspect the cord for damage yearly.
4. Plug it into a normal, grounded 110-volt AC outlet.

⚠ Warning

Improper use of the heater cord or an extension cord can damage the cord and may result in overheating and fire.

- Plug the cord into a three-prong electrical utility receptacle that is protected by a ground fault detection function. An ungrounded outlet could cause an electric shock.
- Use a weatherproof, heavy-duty, 15 amp-rated extension cord if needed. Failure to use the recommended extension cord in good operating

(Continued)

Warning (Continued)

condition, or using a damaged heater or extension cord, could make it overheat and cause a fire, property damage, electric shock, and injury.

- Do not operate the vehicle with the heater cord permanently attached to the vehicle. Possible heater cord and thermostat damage could occur.
- While in use, do not let the heater cord touch vehicle parts or sharp edges. Never close the hood on the heater cord.
- Before starting the vehicle, unplug the cord, reattach the cover to the plug, and securely fasten the cord. Keep the cord away from any moving parts.

5. 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 vehicle accessories can be used for up to 10 minutes after the engine is turned off:

- Audio System
- Power Windows
- Sunroof (if equipped)

Power to the audio system will continue to operate for up to 10 minutes or until the driver door is opened.

Power to the power windows and sunroof will continue to operate for up to 10 minutes or until any door is opened.

All these features will work when the key is in ON/RUN or ACC/ ACCESSORY.

Shifting Into Park

To shift into P (Park):

1. Hold the brake pedal down and set the parking brake.

   See *Electric Parking Brake* ⇨ *271*.

2. Move the shift lever into P (Park) by holding in the button on the back of the shift lever and pushing the lever all the way toward the front of the vehicle.
3. Turn the ignition to LOCK/OFF.
4. Take the Remote Keyless Entry (RKE) transmitter with you.

Leaving the Vehicle with the Engine Running

⚠ Warning

It can be dangerous to leave the vehicle with the engine running. It could overheat and catch fire.

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. 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* ⇨ *264*.

If you have to leave the vehicle with the engine running, the vehicle must be in P (Park) and the parking brake set. After shifting into P (Park), try to move the shift lever without first pressing the button on the shift lever. If you can, 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 Park" listed previously.

If torque lock does occur, the vehicle may need to be pushed uphill by another vehicle to relieve the parking pawl pressure, so you can shift out of P (Park).

Shifting out of Park

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.

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.

If you still cannot move the shift lever from P (Park), see your dealer for 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.

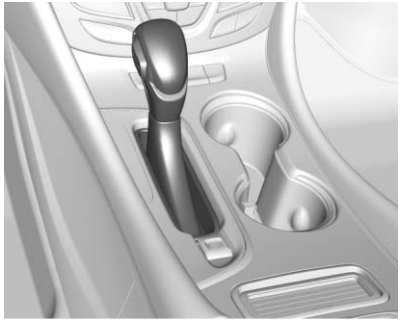
Never park the vehicle with the engine running in an enclosed area such as a garage or a building that has no fresh air ventilation.

Running the Vehicle While Parked

It is better not to park with the engine running.

If the vehicle is left with the engine running, follow the proper steps to be sure the vehicle will not move. See *Shifting Into Park* ⇨ *264* and *Engine Exhaust* ⇨ *266*.

Automatic Transmission



P : This position locks the front wheels. Use P (Park) when starting 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.

(Continued)

Warning (Continued)

Do not leave the vehicle when the engine is running. 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* ⇨ *264*.

The vehicle has an automatic transmission shift lock control system. You must fully apply the regular brake first and then press the shift lever button before shifting from P (Park) when the ignition is in ON/RUN. If you cannot shift out of P (Park), ease pressure on the shift lever, then 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* ⇨ *265*.

R : Use this gear to back up.

Caution

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.

To rock the vehicle back and forth to get out of snow, ice, or sand without damaging the transmission, see *If the Vehicle Is Stuck* ⇨ *255*.

N : In this position the engine and transmission do not connect. Use N (Neutral) to restart a vehicle that is already moving.

⚠ 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

(Continued)

Warning (Continued)

people or objects. Do not shift into a drive gear while the engine is running at high speed.

Caution

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 : 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 56 km/h (35 mph), push the accelerator pedal about halfway down.
- Going about 56 km/h (35 mph) or more, push the accelerator all the way down.

Caution

If the vehicle does not shift gears, the transmission could be damaged. Have the vehicle serviced right away.

Caution

Spinning the tires or holding the vehicle in one place on a hill using only the accelerator pedal may damage the transmission. The repair will not be covered by the vehicle warranty. If you are stuck, do not spin the tires. When stopping on a hill, use the brakes to hold the vehicle in place.

L : This position provides access to gear ranges, which offer more engine braking but lower fuel economy than D (Drive). This can be used on very steep hills, or in deep snow or mud. See *Manual Mode* ⇨ *269*.

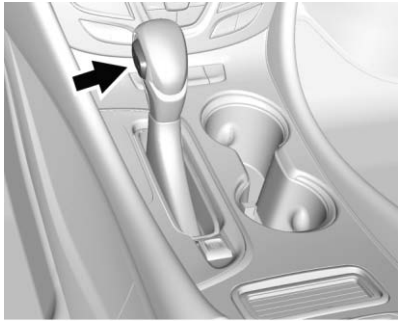
Operating Modes

The transmission may operate in a lower gear than normal to improve vehicle performance. The engine speed may be higher and there may be an increase in noise during the following conditions:

- When climbing a grade.
- When driving downhill.
- When driving in hot temperatures or at high altitude.

Manual Mode

Electronic Range Select (ERS) Mode



ERS or manual mode allows for the selection of the range of gear positions. Use this mode when driving downhill or to limit the top gear and vehicle speed. The shift position indicator within the Driver Information Center (DIC) will display a number next to the L indicating the highest available gear under manual mode and the driving conditions when manual mode was selected.

To use this feature:

1. Move the shift lever to L (Low).
2. Press the plus/minus button on the shift lever to increase or decrease the gear range available.

When shifting to L (Low), the transmission will shift to a preset lower gear range. For this preset range, the highest gear available is displayed next to the L in the DIC. See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*. All gears below that number are available to use. For example, when 4 (Fourth) is shown next to the L, 1 (First) through 4 (Fourth) gears are shifted automatically. To shift to 5 (Fifth) gear or higher, press the + (Plus) button or shift into D (Drive).

L (Low) will prevent shifting to a lower gear range if the engine speed is too high. If vehicle speed is not reduced within the time allowed, the lower gear range shift will not be completed. Slow the vehicle, then press the − (Minus) button to the desired lower gear range.

While using the ERS, cruise control can be used.

Drive Systems

All-Wheel Drive

Vehicles with this feature transfer engine power, as required, 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 reduces AWD performance to protect the system. An AWD message may be displayed. To restore full 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* ⇨ *364*.

Brakes

Antilock Brake System (ABS)

This vehicle has an Antilock Brake System (ABS), an advanced electronic braking system that helps prevent a braking skid.

When the vehicle begins to drive away, ABS checks itself.
A momentary motor or clicking noise may be heard while this test is going on, and it may 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* ⇨ *122*.

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 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 you 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.

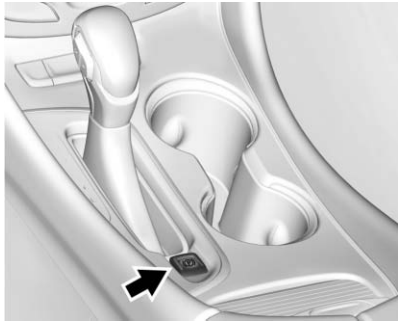
Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly and let ABS work. You may hear the ABS pump or motor operating and feel the brake pedal pulsate. This is normal.

Braking in Emergencies

ABS allows you to steer and brake at the same time. In many emergencies, steering can help more than even the very best braking.

Electric Parking Brake



The Electric Parking Brake (EPB) switch is on the center console. The EPB can always be activated, even if the ignition is off. To prevent draining the battery, avoid repeated cycles of the EPB when the engine is not running.

The system has a red parking brake status light and an amber parking brake warning light. See *Electric Parking Brake Light* ⇨ *122* and *Service Electric Parking Brake Light* ⇨ *122*. There are also parking brake-related Driver Information Center (DIC) messages. See *Brake System Messages* ⇨ *137*. In case of insufficient electrical power, the EPB cannot be applied or released.

Before leaving the vehicle, check the red parking brake status light to ensure that the parking brake is applied.

EPB Apply

To apply the EPB:

1. Be sure the vehicle is at a complete stop.
2. Lift up the EPB switch momentarily.

The red parking brake status light will flash and then stay on once the EPB is fully applied. If the red parking brake status light flashes continuously, then the EPB is only partially applied or there is a problem with the EPB. A DIC message will display. Release the EPB and try to apply it again. If the light does not come on, or keeps flashing, have the vehicle serviced. Do not drive the vehicle if the red parking brake status light is flashing. See your dealer. See *Electric Parking Brake Light* ⇨ *122*.

If the amber parking brake warning light is on, lift up on the EPB switch and hold it up. Continue to hold the switch until the red parking brake status light remains on. If the amber parking brake warning light is on, see your dealer.

If the EPB is applied while the vehicle is moving, the vehicle will decelerate as long as the switch is held up. If the switch is held up until the vehicle comes to a stop, the EPB will remain applied.

The vehicle may automatically apply the EPB in some situations when the vehicle is not moving. This is normal, and is done to periodically check the correct operation of the EPB system.

If the EPB fails to apply, the rear wheels should be blocked to prevent vehicle movement.

EPB Release

To release the EPB:

1. Place the ignition in the ACC/ACCESSORY or ON/RUN position.
2. Apply and hold the brake pedal.
3. Push down momentarily on the EPB switch.

The EPB is released when the red parking brake status light is off.

If the amber parking brake warning light is on, release the EPB by pushing down on the EPB switch and holding it down. Continue to hold the switch until the red parking brake status light is off. If either light stays on after release is attempted, see your dealer.

Caution
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 brake lining life.

Brake Assist

The Brake Assist feature is 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)

Hill Start Assist (HSA) will activate when the vehicle is stopped on a moderate to steep grade to help prevent it from rolling in the unintended direction.

After the brake pedal has been released and before the accelerator pedal has been pressed, HSA uses braking pressure to hold the vehicle stationary.

If HSA is holding the vehicle, a DIC message displays.

The vehicle will roll if in a drive gear and facing downhill, or in R (Reverse) and facing uphill.

Once HSA is active it will hold the vehicle, unless the driver door is opened or the driver's safety belt is unbuckled prior to releasing the brake pedal.

Ride Control Systems

Traction Control/ Electronic Stability Control

System Operation

The vehicle has a Traction Control System (TCS) and StabiliTrak®, an electronic stability control system. These systems help limit wheel slip and assist the driver in maintaining control, especially on slippery road conditions.

TCS activates if it senses that any of the drive wheels are spinning or beginning to lose traction. When this happens, TCS applies the brakes to the spinning wheels and reduces engine power to limit wheel spin.

StabiliTrak activates when the vehicle senses a difference between the intended path and the direction the vehicle is actually traveling. StabiliTrak selectively applies braking pressure to any one of the vehicle wheel brakes to assist the driver in keeping the vehicle on the intended path.

If cruise control is being used and TCS or StabiliTrak begins to limit wheel spin, cruise control will disengage. Cruise control may be turned back on when road conditions allow.

Both systems come on automatically when the vehicle is started and begins to move. The systems may be heard or felt while they are operating or while performing diagnostic checks. This is normal and does not mean there is a problem with the vehicle.

It is recommended to leave both systems on for normal driving conditions, but it may be necessary to turn TCS off if the vehicle gets stuck in sand, mud, ice, or snow. See *If the Vehicle Is Stuck* ⇨ *255* and "Turning the Systems Off and On" later in this section.

The indicator light for both systems is in the instrument cluster. This light will:

- Flash when TCS is limiting wheel spin.
- Flash when StabiliTrak is activated.
- Turn on and stay on when either system is not working.

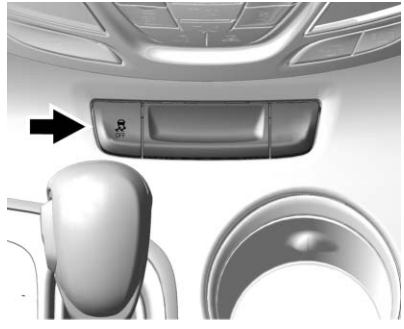
If either system fails to turn on or to activate, comes on and stays on to indicate that the system is inactive and is not assisting the driver in maintaining control.
A message also displays in the Driver Information Center (DIC). See *Ride Control System Messages* ⇨ *143*. The vehicle is safe to drive, but driving should be adjusted accordingly.

If comes on and stays on:

1. Stop the vehicle.
2. Turn the engine off and wait 15 seconds.
3. Start the engine.

Drive the vehicle. If comes on and stays on, the vehicle may need more time to diagnose the problem. If the condition persists, see your dealer.

Turning the Systems Off and On



The button for TCS and StabiliTrak is on the center console.

Caution

Do not repeatedly brake or accelerate heavily when TCS is off. The vehicle driveline could be damaged.

To turn off only TCS, press and release the button. The traction off light illuminates in the instrument cluster.

To turn TCS on again, press and release the button. The traction off light in the instrument cluster will turn off.

If TCS is limiting wheel spin when the button is pressed, the system will not turn off until the wheels stop spinning.

To turn off both TCS and StabiliTrak, press and hold the button until the traction off light and StabiliTrak OFF light illuminate and stay on in the instrument cluster.

To turn TCS and StabiliTrak on again, press and release the button. The traction off light and StabiliTrak OFF light in the instrument cluster turn off.

Adding accessories can affect the vehicle performance. See *Accessories and Modifications* ⇨ *310*.

Cruise Control

With cruise control the vehicle can maintain a speed of about 40 km/h (25 mph) or more without keeping your foot on the accelerator. Cruise control does not work at speeds below 40 km/h (25 mph).

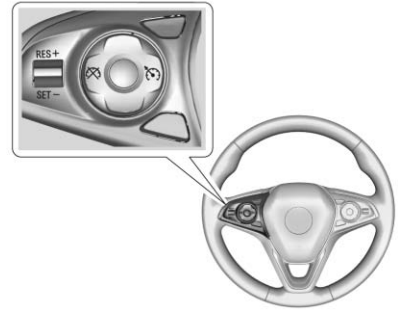
⚠ Warning

Cruise control can be dangerous where you cannot drive safely at a steady speed. Do not use 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 the Traction Control System (TCS), the system may begin to limit wheel spin while you are using cruise control. If this happens, the cruise control will automatically disengage. See *Traction Control/Electronic Stability Control* ⇨ *273*. If a collision alert occurs when cruise control is activated, cruise control is disengaged. See *Forward Collision Alert (FCA) System* ⇨ *290*. When road conditions allow you to safely use it again, cruise control can be turned back on.

If the brakes are applied, cruise control disengages.



: Press to turn cruise control on or off. A white indicator comes on in the instrument cluster when cruise control is turned on.

RES+ : If there is a set speed in memory, press briefly to resume to that speed or press and hold to accelerate. If cruise control is already active, use to increase vehicle speed.

SET− : Press the control down briefly to set the speed and activate cruise control. If cruise control is already active, use to decrease vehicle speed.

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

Setting Cruise Control

If the button is on when not in use, SET– or RES+ could get pressed and go into cruise when not desired. Keep the button off when cruise is not being used.

1. Press to turn the cruise system on.
2. Get to the desired speed.
3. Press and release SET– . The desired set speed briefly appears in the instrument cluster.
4. Remove your foot from the accelerator pedal.

The cruise control indicator on the instrument cluster turns green after cruise control has been set to the desired speed. See *Instrument Cluster* ⇨ *111*.

Resuming a Set Speed

If the cruise control is set at a desired speed and then the brakes are applied or is pressed, the cruise control is disengaged without erasing the set speed from memory.

Once the vehicle reaches about 40 km/h (25 mph) or more, press RES+ up briefly. The vehicle returns to the previous set speed.

Increasing Speed While Using Cruise Control

If the cruise control system is already activated:

- Press and hold RES+ up until the vehicle accelerates to the desired speed, then release it.
- To increase vehicle speed in small increments, press RES+ up briefly. For each press, the vehicle goes about 1.6 km/h (1 mph) faster.

Reducing Speed While Using Cruise Control

If the cruise control system is already activated:

- Press and hold SET– down until the desired lower speed is reached, then release it.
- To decrease the vehicle speed in small increments, press SET– down briefly. For each press, 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 previously set cruise speed. While pressing the accelerator pedal or shortly following the release to

override cruise control, briefly pressing SET− will result in cruise set to the current vehicle 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 your speed. When going downhill, you might have to brake or shift to a lower gear to keep your speed down. If the brake pedal is applied, cruise control will disengage.

Ending Cruise Control

There are four ways to end cruise control:

- Step lightly on the brake pedal.
- Press .
- Shift the transmission to N (Neutral).
- To turn off cruise control, press .

Erasing Speed Memory

The cruise control set speed is erased from memory if is pressed or if the ignition is turned off.

Adaptive Cruise Control

If equipped with Adaptive Cruise Control (ACC), it allows you to select the cruise control set speed and following gap. Read this entire section before using this system. The following gap is the following time between your vehicle and a vehicle detected directly ahead in your path moving in the same direction. If no vehicle is detected in your path, ACC works like regular cruise control. ACC uses camera and radar sensors. See *Radio Frequency Statement* ⇨ *406*.

If a vehicle is detected in your path, ACC can apply acceleration or limited, moderate braking to maintain the selected following gap. To disengage ACC, apply the brake. If ACC is controlling your vehicle speed when the Traction Control System (TCS) or StabiliTrak system activates, the ACC may automatically disengage. See *Traction Control/Electronic Stability Control* ⇨ *273*. When road conditions allow ACC to be safely used, the ACC can be turned back on.

ACC will not engage if the TCS or StabiliTrak system is disabled.

⚠ Warning

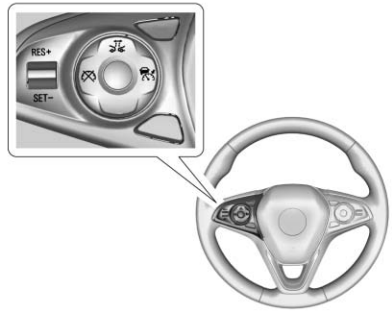
ACC has limited braking ability and may not have time to slow the vehicle down enough to avoid a collision with another vehicle you are following. This can occur when vehicles suddenly slow or stop ahead, or enter your lane. Also see “Alerting the Driver” in this section. Complete attention is always required while driving and you should be ready to take action and apply the brakes. See *Defensive Driving* ⇨ *249*.

⚠ Warning

ACC will not detect or brake for children, pedestrians, animals, or other objects.

Do not use ACC when:

- On winding and hilly roads or when the sensors are blocked by snow, ice, or dirt. The system may not detect a vehicle ahead. Keep the entire front of the vehicle clean.
- Visibility is low, such as in fog, rain, or snow conditions. ACC performance is limited under these conditions.
- On slippery roads where fast changes in tire traction can cause excessive wheel slip.



: Press to turn the system on or off. A white cruise control indicator comes on in the instrument cluster.

RES+ : Press the control up briefly to resume the previous set speed. If ACC is already active, use to increase vehicle speed.

SET– : Press the control down briefly to set the speed and activate ACC. If ACC is already active, use to decrease vehicle speed.

: Press to disengage ACC without erasing the set speed from memory.

: Press to select a following gap time (or distance) setting for ACC of Far, Medium, or Near.

Setting Adaptive Cruise Control

If cruise control is on when not in use, the cruise on/off control could get pressed and cruise control could become active when not desired. Keep the cruise control off when cruise is not being used.

Select the set speed desired for cruise. This is the vehicle speed when no vehicle is detected in its path.

ACC will not set at a speed less than 24 km/h (15 mph), although it can be resumed when driving at lower speeds.

To set ACC:

1. Press .
2. Get up to the desired speed.
3. Press and release SET– .
4. Remove your foot from the accelerator.

After ACC is set, it may immediately apply the brakes if a vehicle ahead is detected closer than the selected following gap.

The ACC indicator displays in the instrument cluster and Head-Up display (HUD), if equipped. When the ACC is active, the indicator turns green.

Be mindful of speed limits, surrounding traffic speeds, and weather conditions when selecting the set speed.

Resuming a Set Speed

If the ACC is set at a desired speed and then the brakes are applied, the ACC is disengaged without erasing the set speed from memory.

To begin using ACC again, press RES+ up briefly. The vehicle returns to the previous set speed.

Increasing Speed While ACC is at a Set Speed

If ACC is already activated, do one of the following:

- Use the accelerator to get to the higher speed. Press SET– down. Release the control and the accelerator pedal. The vehicle will now cruise at the higher speed.

  When the accelerator pedal is pressed, ACC will not brake because it is overridden.
  A warning message will appear on the Driver Information Center (DIC) and HUD, if equipped. See *Cruise Control Messages* ⇨ *137*.
- Press and hold RES+ up until the desired set speed appears on the display, then release it.
- To increase vehicle speed in small increments, press RES+ up briefly. For each press, the vehicle goes 1 km/h (1 mph) faster.

When it is determined that there is no vehicle ahead inside the selected following gap, then the vehicle speed will increase to the set speed.

Reducing Speed While ACC is at a Set Speed

If ACC is already activated, do one of the following:

- Use the brake to get to the desired lower speed. Press SET– down and release the accelerator pedal. The vehicle will now cruise at the lower speed.
- Press and hold SET– down until the desired lower speed is reached, then release it.
- To decrease the vehicle speed in smaller increments, press SET− down briefly. For each press, the vehicle goes about 1 km/h (1 mph) slower.

Selecting the Follow Distance

When a slower moving vehicle is detected ahead within the selected following gap, ACC will adjust the

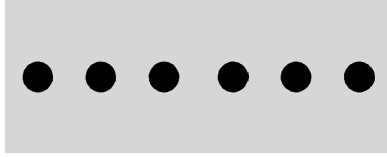
vehicle's speed and attempt to maintain the follow distance gap selected.

Press on the steering wheel to adjust the following gap. When pressed, the current gap setting displays briefly on the instrument cluster and HUD, if equipped. Subsequent presses cycle the gap button through three settings: Far, Medium, or Near. The gap setting will be maintained until it is changed.

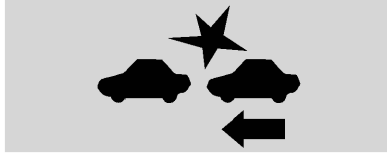
Since each gap setting corresponds to a following time (Far, Medium, or Near), the following distance will vary based on vehicle speed. The faster the vehicle speed, the further back your vehicle will follow a vehicle detected ahead. Consider traffic and weather conditions when selecting the following gap. The range of selectable gaps may not be appropriate for all drivers and driving conditions.

Changing the gap setting automatically changes the alert timing sensitivity (Far, Medium, or Near) for the Forward Collision Alert (FCA) feature. See *Forward Collision Alert (FCA) System* ⇨ *290*.

Alerting the Driver



Without Head-Up Display



With Head-Up Display

If ACC is engaged, driver action may be required when ACC cannot apply sufficient braking because of approaching a vehicle too rapidly.

When this condition occurs, six red lights or the collision alert symbol on the HUD, if equipped, will flash on the windshield, and either eight beeps will sound from the front, or both sides of the Safety Alert Seat will pulse five times. See “Collision/Detection Systems” under *Vehicle Personalization* ⇨ *146*.

See *Defensive Driving* ⇨ *249*.

Approaching and Following a Vehicle

The vehicle ahead indicator is in the instrument cluster and HUD, if equipped.

The vehicle ahead indicator only displays when a vehicle is detected in your vehicle’s path moving in the same direction.

If this symbol is not displaying, ACC will not respond to or brake for vehicles ahead.

ACC automatically slows the vehicle down and adjusts vehicle speed to follow the vehicle in front at the selected follow gap. The vehicle

speed increases or decreases to follow the vehicle in front of you, but will not exceed the set speed. It may apply limited braking, if necessary. When braking is active, the brake lamps will come on. The automatic braking may feel or sound different than if the brakes were applied manually. This is normal.

Stationary or Very Slow-Moving Objects

⚠ Warning

Adaptive Cruise Control (ACC) may not detect and react to stopped or slow-moving vehicles ahead of you. For example, the system may not brake for a vehicle it has never detected moving. This can occur in stop-and-go traffic or when a vehicle suddenly appears due to a vehicle ahead changing lanes. Your vehicle may not stop and could cause a crash. Use caution when using ACC. Your complete attention is always required while

(Continued)

Warning (Continued)

driving and you should be ready to take action and apply the brakes.

ACC Automatically Disengages

ACC may automatically disengage and the driver will need to manually apply the brakes to slow the vehicle when:

- The sensors are blocked.
- The Traction Control System (TCS) or electronic stability control system has activated or been disabled.
- No traffic or other objects are being detected.
- There is a fault in the system.

A message will appear on the DIC indicating that ACC is disengaging.

The ACC active indicator will not be displayed when ACC is no longer active.

Notification to Resume ACC

ACC will maintain a follow gap behind a detected vehicle and slow your vehicle to a stop behind that vehicle.

If the stopped vehicle ahead has driven away and ACC has not resumed, the vehicle ahead indicator will flash as a reminder to check traffic before proceeding. In addition, three beeps will sound. See “Go Notifier” in “Collision/ Detection Systems” under *Vehicle Personalization* ⇨ *146*.

When the vehicle ahead drives away, press RES+ or the accelerator pedal to resume ACC. If stopped for more than two minutes or if the driver door is opened and the driver safety belt is unbuckled, the ACC automatically applies the Electric Parking Brake (EPB) to hold the vehicle. The EPB status light will turn on. See *Electric Parking Brake* ⇨ *271*. To release the EPB, press the accelerator pedal.

A DIC warning message may display indicating to shift to P (Park) before exiting the vehicle. See *Cruise Control Messages* ⇨ *137*.

⚠ Warning

If ACC has stopped the vehicle, and if ACC is disengaged, turned off, or canceled, the vehicle will no longer be held at a stop. The vehicle can move. When ACC is holding the vehicle at a stop, always be prepared to manually apply the brakes.

⚠ Warning

Leaving the vehicle without placing it in P (Park) can be dangerous. Do not leave the vehicle while it is being held at a stop by ACC. Always place the vehicle in P (Park) and turn off the ignition before leaving the vehicle.

ACC Override

If using the accelerator pedal while ACC is active, a warning message in the DIC and in the HUD, if equipped, will indicate that automatic braking will not occur. See *Cruise Control Messages* ⇨ *137*. ACC will resume operation when the accelerator pedal is not being pressed.

⚠ Warning

The ACC will not automatically apply the brakes if your foot is resting on the accelerator pedal. You could crash into a vehicle ahead of you.

Curves in the Road

⚠ Warning

On curves, ACC may not detect a vehicle ahead in your lane. You could be startled if the vehicle accelerates up to the set speed,

(Continued)

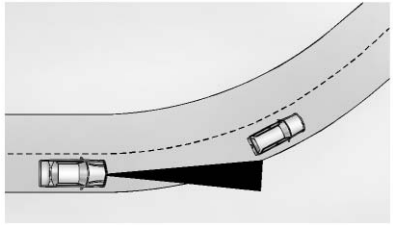
Warning (Continued)

especially when following a vehicle exiting or entering exit ramps. You could lose control of the vehicle or crash. Do not use ACC while driving on an entrance or exit ramp. Always be ready to use the brakes if necessary.

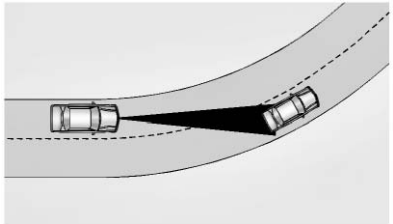
⚠ Warning

On curves, ACC may respond to a vehicle in another lane, or may not have time to react to a vehicle in your lane. You could crash into a vehicle ahead of you, or lose control of your vehicle. Give extra attention in curves and be ready to use the brakes if necessary. Select an appropriate speed while driving in curves.

ACC may operate differently in a sharp curve. It may reduce the vehicle speed if the curve is too sharp.



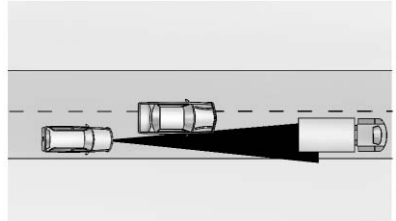
When following a vehicle and entering a curve, ACC may not detect the vehicle ahead and accelerate to the set speed. When this happens the vehicle ahead indicator will not appear.



ACC may detect a vehicle that is not in your lane and apply the brakes.

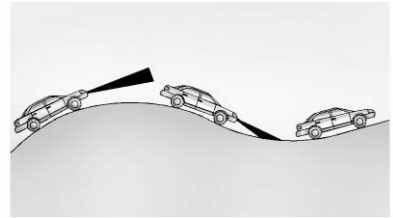
ACC may occasionally provide an alert and/or braking that is considered unnecessary. It could respond to vehicles in different lanes, signs, guardrails, and other stationary objects when entering or exiting a curve. This is normal operation. The vehicle does not need service.

Other Vehicle Lane Changes



ACC will not detect a vehicle ahead until it is completely in the lane. The brake may need to be manually applied.

Do Not Use ACC on Hills and When Towing a Trailer



Do not use ACC when driving on steep hills or when towing a trailer. ACC will not detect a vehicle in the lane while driving on steep hills. The driver will often need to take over acceleration and braking on steep hills, especially when towing a trailer. If the brakes are applied, the ACC disengages.

Ending ACC

There are three ways to disengage ACC:

- Step lightly on the brake pedal.
- Press .
- Press .

Erasing Speed Memory

The cruise control set speed is erased from memory if is pressed or if the ignition is turned off.

Cleaning the Sensing System

The camera sensor on the windshield ahead of the rearview mirror and the radar sensors on the front of the vehicle can become blocked by snow, ice, dirt, or mud. These areas need to be cleaned for ACC to operate properly.

For cleaning instructions, see "Washing the Vehicle" under *Exterior Care* ⇨ *371*.

System operation may also be limited under snow, heavy rain, or road spray conditions.

Driver Assistance Systems

This vehicle may have features that work together to help avoid crashes or reduce crash damage while driving, backing, and parking. Read this entire section before using these systems.

⚠ Warning

Do not rely on the Driver Assistance Systems. These systems do not replace the need for paying attention and driving safely. You may not hear or feel alerts or warnings provided by these systems. Failure to use proper care when driving may result in injury, death, or vehicle damage. See *Defensive Driving* ⇨ *249*.

(Continued)

Warning (Continued)

Under many conditions, these systems will not:

- Detect children, pedestrians, bicyclists, or animals.
- Detect vehicles or objects outside the area monitored by the system.
- Work at all driving speeds.
- Warn you or provide you with enough time to avoid a crash.
- Work under poor visibility or bad weather conditions.
- Work if the detection sensor is not cleaned or is covered by ice, snow, mud, or dirt.

Complete attention is always required while driving, and you should be ready to take action and apply the brakes and/or steer the vehicle to avoid crashes.

Audible or Safety Alert Seat

Some driver assistance features alert the driver of obstacles by beeping. To change the volume of the warning chime, see “Comfort and Convenience” under *Vehicle Personalization* ⇨ *146*.

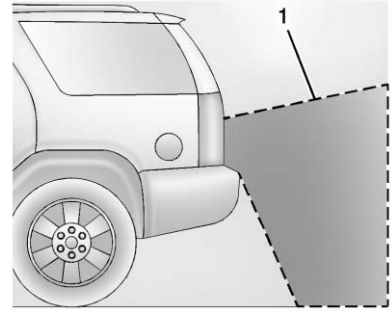
If equipped with the Safety Alert Seat, the driver seat cushion may provide a vibrating pulse alert instead of beeping. To change this, see “Collision/Detection Systems” under *Vehicle Personalization* ⇨ *146*.

Assistance Systems for Parking or Backing

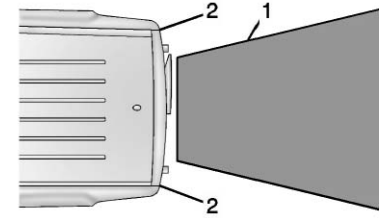
If equipped, the Rear Vision Camera (RVC), Rear Parking Assist (RPA), Front Parking Assist (FPA), Surround Vision, Front Vision Camera, Rear Cross Traffic Alert (RCTA), and Automatic Parking Assist (APA) may help the driver park or avoid objects. Always check around the vehicle when parking or backing.

Rear Vision Camera (RVC)

When the vehicle is shifted into R (Reverse), the RVC displays an image of the area behind the vehicle in the center stack display. The previous screen displays when the vehicle is shifted out of R (Reverse) after a short delay. To return to the previous screen sooner, press a button on the infotainment system, shift into P (Park), or reach a vehicle speed of 8 km/h (5 mph).



1. View Displayed by the Camera



1. View Displayed by the Camera
2. Corners of the Rear Bumper

Displayed images may be farther or closer than they appear. The area displayed is limited and objects that are close to either corner of the bumper or under the bumper do not display.

A warning triangle may display on the RVC screen to show that it has detected an object. This triangle changes from amber to red and increases in size the closer the object.

Surround Vision

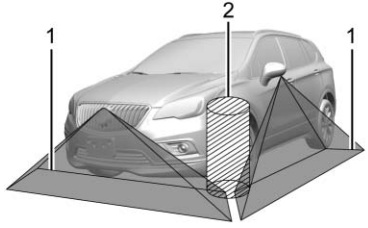
If equipped, Surround Vision displays an image of the area surrounding the vehicle, along with

the front or rear camera views in the center stack. The front camera is in the grille or near the front emblem, the side cameras are on the bottom of the outside rearview mirrors, and the rear camera is above the license plate.

⚠ Warning

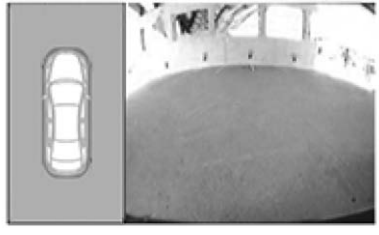
The Surround Vision cameras have blind spots and will not display all objects near the corners of the vehicle. Folding side mirrors that are out of position will not display surround view correctly. Always check around the vehicle when parking or backing.

1. Views Displayed by the Surround Vision Cameras
2. Area Not Shown



1. Views Displayed by the Surround Vision Cameras
2. Area Not Shown

Front Vision Camera



If equipped, a view of the area in front of the vehicle displays in the center stack. The front view shows after shifting from R (Reverse) to D (Drive) and when the vehicle is moving forward slower than 8 km/h (5 mph), or when the Parking Assist system detects an object within 30 cm (12 in).

⚠ Warning

The camera(s) do not display children, pedestrians, bicyclists, crossing traffic, animals, or any other object outside of the cameras' field of view, below the bumper, or under the vehicle. Shown distances may be different from actual distances. Do not drive or park the vehicle using only these camera(s). Always check behind and around the vehicle before driving. Failure to use proper care may result in injury, death, or vehicle damage.

Parking Assist

With RPA, and if equipped with FPA, as the vehicle moves at speeds of less than 8 km/h (5 mph) the sensors on the bumpers may detect

objects up to 1.8 m (6 ft) behind and 1.2 m (4 ft) in front of the vehicle within a zone 25 cm (10 in) high off the ground and below bumper level. These detection distances may be shorter during warmer or humid weather. Blocked sensors will not detect objects and can also cause false detections. Keep the sensors clean of mud, dirt, snow, ice, and slush; and clean sensors after a car wash in freezing temperatures.

⚠ Warning

The Parking Assist system does not detect children, pedestrians, bicyclists, animals, or objects located below the bumper or that are too close or too far from the vehicle. It is not available at speeds greater than 8 km/h (5 mph). To prevent injury, death, or vehicle damage, even with parking assist, always check the area around the vehicle and check all mirrors before moving forward or backing.

The instrument cluster may have a parking assist display with bars that show “distance to object” and object location information for RPA, and on some vehicles, FPA. As the object gets closer, more bars light up and the bars change color from yellow to amber to red.

When an object is first detected in the rear, one beep will be heard from the rear, or both sides of the Safety Alert Seat will pulse two times. When an object is very close (<0.6 m (2 ft) in the vehicle rear, or <0.3 m (1 ft) in the vehicle front), five beeps will sound from the front or rear depending on object location, or both sides of the Safety Alert Seat will pulse five times. Beeps for FPA are higher pitched than for RPA.

Rear Cross Traffic Alert (RCTA)

If equipped, when the vehicle is shifted into R (Reverse), RCTA displays a red warning triangle with a left or right pointing arrow on the RVC screen to warn of traffic coming from the left or right. This system detects objects coming from up to 20 m (65 ft) from the left or right side of the vehicle. When an object is detected, either three beeps sound from the left or right, or three Safety Alert Seat pulses occur on the left or right side, depending on the direction of the detected vehicle.

Turning the Features On or Off

The P button on the center stack is used to turn on or off the Front and Rear Parking Assist and the Rear Cross Traffic Alert (RCTA). The indicator light in the button comes on when the features are on and turns off when the features have been disabled.

RCTA can also be turned off through vehicle personalization. See “Collision/Detection Systems” under *Vehicle Personalization* ⇨ *146*.

To turn the RPA symbols or guidance lines on or off, see “Rear Camera” under *Vehicle Personalization* ⇨ *146*.

Automatic Parking Assist (APA)

If equipped, APA searches for and steers the vehicle into parallel and perpendicular parking spots. When using APA, you must still shift gears, and control the brakes and accelerator. The Driver information Center (DIC) and audible beeps help to guide parking maneuvers.

⚠ Warning

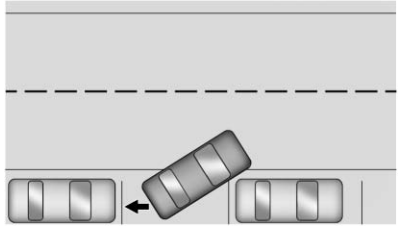
APA does not apply the brakes. APA may not detect objects in the parking space, objects that are soft or narrow, objects high off the ground such as flatbed trucks, or objects below ground level such as large potholes. Always verify that the parking space is appropriate for parking a vehicle. APA does not respond to changes in the parking space, such as movement of an adjacent vehicle, or a person or object entering the parking space. APA does not detect or avoid traffic that is behind or alongside of the vehicle. Always be prepared to stop the vehicle during the parking maneuver.

The system is available when the vehicle speed is below 30 km/h (18 mph). Press the APA button, P, to enable the system to begin searching for a space that is large enough to park in. The system cannot detect whether it is a legal parking space. The vehicle may not align properly to angled parking spots and the system may have difficulty sensing short curbs.

If the vehicle is equipped with perpendicular parking mode, press and hold the APA button during the search process to switch the APA parking mode between perpendicular and parallel parking.

APA searches for parking spaces to the right of the vehicle. To search for a parking space to the left, turn on the left turn signal.

After completely passing a large enough space bordered by two vehicles or other objects, an audible beep occurs and a red symbol displays in the DIC.



APA will instruct the vehicle to stop once a large enough space is found. Follow the instructions in the DIC. When instructed to drive in reverse, shift to R (Reverse) to engage automatic steering. The steering wheel will briefly vibrate as a reminder to remove hands from the steering wheel. Check surroundings and continue braking or accelerating as needed, and be prepared to stop to avoid vehicles, pedestrians, or objects.

If the vehicle is in R (Reverse), but does not steer into the expected space, this may be because the system is maneuvering the vehicle into a previously detected space. The APA system does not need service.

If the vehicle exceeds 10 km/h (6 mph), APA is automatically disengaged and automatic steering will turn off. A DIC progress arrow displays the status of the parking maneuver. Depending on the space size, additional maneuvers may be required, and there will be additional instructions. When changing gears, allow the automatic steering to complete before continuing the parking maneuver. Upon successful completion of a maneuver, APA will beep and display a PARKING COMPLETE message. Place the vehicle in P (Park).

APA may automatically disengage if:

- The steering wheel is used by the driver.
- The maximum allowed speed is exceeded.
- There is a failure with the APA system.
- Electronic stability control or antilock brakes are activated.
- A high priority vehicle message is displayed in the DIC.

To cancel APA, press P again.

When the System Does Not Seem to Work Properly

The APA system may require a short period of driving along curves to calibrate.

Assistance Systems for Driving

If equipped, when driving the vehicle in a forward gear, Forward Collision Alert (FCA), Lane Departure Warning (LDW), Lane Keep Assist (LKA), Side Blind Zone Alert (SBZA), Lane Change Alert (LCA), and/or the Front Automatic Braking (FAB) System can help to avoid a crash or reduce crash damage.

Forward Collision Alert (FCA) System

If equipped, the FCA system may help to avoid or reduce the harm caused by front-end crashes. When approaching a vehicle ahead too quickly, FCA provides a red flashing alert on the windshield and rapidly beeps or pulses the driver seat. FCA also lights an amber visual alert if following another vehicle much too closely.

FCA detects vehicles within a distance of approximately 60 m (197 ft) and operates at speeds above 40 km/h (25 mph). If the vehicle has Adaptive Cruise Control (ACC), it can detect vehicles to distances of approximately 110 m (360 ft) and operates at all speeds. See *Adaptive Cruise Control* ⇨ *277*.

⚠ Warning

FCA is a warning system and does not apply the brakes. When approaching a slower-moving or

(Continued)

Warning (Continued)

stopped vehicle ahead too rapidly, or when following a vehicle too closely, FCA may not provide a warning with enough time to help avoid a crash. It also may not provide any warning at all. FCA does not warn of pedestrians, animals, signs, guardrails, bridges, construction barrels, or other objects. Be ready to take action and apply the brakes. See *Defensive Driving* ⇨ *249*.

FCA can be disabled with the FCA steering wheel control, or if your vehicle is equipped with Adaptive Cruise Control (ACC), through vehicle personalization. See the “Auto Collision Preparation” portion of “Collision/Detection Systems” under *Vehicle Personalization* ⇨ *146*.

Detecting the Vehicle Ahead

FCA warnings will not occur unless the FCA system detects a vehicle ahead. When a vehicle is detected, the vehicle ahead indicator will display green. Vehicles may not be detected on curves, highway exit ramps, or hills, due to poor visibility; or if a vehicle ahead is partially blocked by pedestrians or other objects. FCA will not detect another vehicle ahead until it is completely in the driving lane.

⚠ Warning

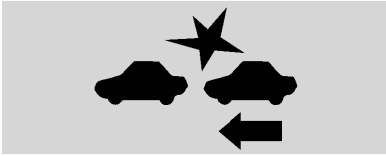
FCA does not provide a warning to help avoid a crash, unless it detects a vehicle. FCA may not detect a vehicle ahead if the FCA sensor is blocked by dirt, snow,

(Continued)

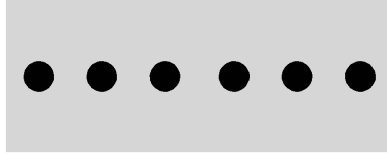
Warning (Continued)

or ice, or if the windshield is damaged. It may also not detect a vehicle on winding or hilly roads, or in conditions that can limit visibility such as fog, rain, or snow, or if the headlamps or windshield are not cleaned or in proper condition. Keep the windshield, headlamps, and FCA sensors clean and in good repair.

Collision Alert



With Head-Up Display



Without Head-Up Display

When your vehicle approaches another detected vehicle too rapidly, the red FCA display will flash on the windshield. Also, eight rapid high-pitched beeps will sound from the front, or both sides of the Safety Alert Seat will pulse five times. When this Collision Alert occurs, the brake system may prepare for driver braking to occur more rapidly which can cause a brief, mild deceleration. Continue to apply the brake pedal as needed. Cruise control may be disengaged when the Collision Alert occurs.

Tailgating Alert

The vehicle ahead indicator will display amber when you are following a detected vehicle ahead much too closely.

Selecting the Alert Timing

The Collision Alert control is on the steering wheel. Press or to set the FCA timing to Far, Medium, or Near, or on some vehicles, Off. The first button press shows the current setting on the Driver Information Center (DIC). Additional button presses will change this setting. The chosen setting will remain until it is changed and will affect the timing of both the Collision Alert and the Tailgating Alert features. The timing of both alerts will vary based on vehicle speed. The faster the vehicle speed, the farther away the alert will occur.

Consider traffic and weather conditions when selecting the alert timing. The range of selectable alert timings may not be appropriate for all drivers and driving conditions.

If your vehicle is equipped with Adaptive Cruise Control (ACC), changing the FCA timing setting automatically changes the following gap setting (Far, Medium, or Near).

Following Distance Indication

The distance to a moving vehicle that you are following is shown in seconds on the Driver Information Center (DIC). See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*. The minimum following time is 0.5 seconds away. If there is no vehicle detected ahead, or the vehicle ahead is out of sensor range, dashes will be displayed.

Unnecessary Alerts

FCA may provide unnecessary alerts to turning vehicles, vehicles in other lanes, objects that are not vehicles, or shadows. These alerts are normal operation and the vehicle does not need service.

Cleaning the System

If the FCA system does not seem to operate properly, cleaning the outside of the windshield in front of the rearview mirror, and cleaning the front of the vehicle where radar sensors are located, may correct the issue.

Front Automatic Braking (FAB) System

If the vehicle has Adaptive Cruise Control (ACC), it also has FAB, which includes Intelligent Brake Assist (IBA). When the system detects a vehicle ahead in your path that is traveling in the same direction that you may be about to crash into, it can provide a boost to braking or automatically brake the vehicle. This can help avoid or lessen the severity of crashes when driving in a forward gear. Depending on the situation, the vehicle may automatically brake moderately or hard. This front automatic braking can only occur if a vehicle is detected. This is shown by the FCA vehicle ahead indicator being lit. See *Forward Collision Alert (FCA) System* ⇨ *290*.

The system works when driving in a forward gear above 4 km/h (2 mph). It can detect vehicles up to approximately 60 m (197 ft).

⚠ Warning

FAB is an emergency crash preparation feature and is not designed to avoid crashes. Do not rely on FAB to brake the vehicle. FAB will not brake outside of its operating speed range and only responds to detected vehicles.

FAB may not:

- Detect a vehicle ahead on winding or hilly roads.

(Continued)

Warning (Continued)

- Detect all vehicles, especially vehicles with a trailer, tractors, muddy vehicles, etc.
- Detect a vehicle when weather limits visibility, such as in fog, rain, or snow.
- Detect a vehicle ahead if it is partially blocked by pedestrians or other objects.

Complete attention is always required while driving, and you should be ready to take action and apply the brakes and/or steer the vehicle to avoid crashes.

FAB may slow the vehicle to a complete stop to try to avoid a potential crash. If this happens, FAB may engage the Electric Parking Brake (EPB) to hold the vehicle at a stop. Release the EPB or firmly press the accelerator pedal.

⚠ Warning

FAB may automatically brake the vehicle suddenly in situations where it is unexpected and undesired. It could respond to a turning vehicle ahead, guardrails, signs, and other non-moving objects. To override FAB, firmly press the accelerator pedal, if it is safe to do so.

Intelligent Brake Assist (IBA)

IBA may activate when the brake pedal is applied quickly by providing a boost to braking based on the speed of approach and distance to a vehicle ahead.

Minor brake pedal pulsations or pedal movement during this time is normal and the brake pedal should continue to be applied as needed. IBA will automatically disengage only when the brake pedal is released.

⚠ Warning

IBA may increase vehicle braking in situations when it may not be necessary. You could block the flow of traffic. If this occurs, take your foot off the brake pedal and then apply the brakes as needed.

FAB and IBA can be disabled through vehicle personalization. See “Auto Collision Preparation” in “Collision/Detection Systems” under *Vehicle Personalization* ⇨ *146*.

Side Blind Zone Alert (SBZA)

If equipped, the SBZA system is a lane-changing aid that assists drivers with avoiding crashes that occur with moving vehicles in the side blind zone (or spot) areas. When the vehicle is in a forward gear, the left or right side mirror display will light up if a moving vehicle is detected in that blind zone. If the turn signal is activated and a vehicle is also detected on

the same side, the display will flash as an extra warning not to change lanes. Since this system is part of the Lane Change Alert (LCA) system, read the entire LCA section before using this feature.

Lane Change Alert (LCA)

If equipped, the LCA system is a lane-changing aid that assists drivers with avoiding lane change crashes that occur with moving vehicles in the side blind zone (or spot) areas or with vehicles rapidly approaching these areas from behind. The LCA warning display will light up in the corresponding outside side mirror and will flash if the turn signal is on.

⚠ Warning

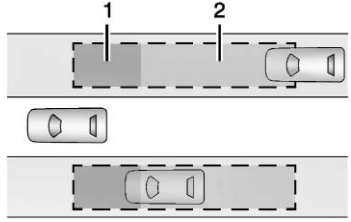
LCA does not alert the driver to vehicles outside of the system detection zones, pedestrians, bicyclists, or animals. It may not provide alerts when changing lanes under all driving conditions.

(Continued)

Warning (Continued)

Failure to use proper care when changing lanes may result in injury, death, or vehicle damage. Before making a lane change, always check mirrors, glance over your shoulder, and use the turn signals.

LCA Detection Zones



1. SBZA Detection Zone
2. LCA Detection Zone

The LCA sensor covers a zone of approximately one lane over from both sides of the vehicle, or 3.5 m (11 ft). The height of the zone is approximately between 0.5 m (1.5 ft) and 2 m (6 ft) off the ground. The Side Blind Zone Alert (SBZA) warning area starts at approximately the middle of the vehicle and goes back 5 m (16 ft). Drivers are also warned of vehicles rapidly approaching from up to 25 m (82 ft) behind the vehicle.

How the System Works

The LCA symbol lights up in the side mirrors when the system detects a moving vehicle in the next lane over that is in the side blind zone or rapidly approaching that zone from behind. A lit LCA symbol indicates it may be unsafe to change lanes. Before making a lane change, check the LCA display, check mirrors, glance over your shoulder, and use the turn signals.

Left Side Mirror Display

Right Side Mirror Display

When the vehicle is started, both outside mirror LCA displays will briefly come on to indicate the system is operating. When the vehicle is in a forward gear, the left or right side mirror display will light up if a moving vehicle is detected in the next lane over in that blind zone or rapidly approaching that zone. If the turn signal is activated in the same direction as a detected vehicle, this display will flash as an extra warning not to change lanes.

LCA can be disabled through vehicle personalization. See “Collision/Detection Systems” under *Vehicle Personalization* ⇨ *146*. If LCA is disabled by the driver, the LCA mirror displays will not light up.

When the System Does Not Seem to Work Properly

The LCA system requires some driving for the system to calibrate to maximum performance. This calibration may occur more quickly if the vehicle is driving on a straight highway road with traffic and roadside objects (e.g., guardrails, barriers). During a trip, the LCA system is not operational until the vehicle first reaches a speed of 24 km/h (15 mph).

LCA displays may not come on when passing a vehicle quickly or for a stopped vehicle. LCA may alert to objects attached to the vehicle, such as a bicycle or object extending out to either side of the vehicle. Attached objects may also interfere with the detection of vehicles. This is normal system operation; the vehicle does not need service.

LCA may not always alert the driver to vehicles in the next lane over, especially in wet conditions or when driving on sharp curves. The system does not need to be serviced. The system may light up due to guardrails, signs, trees, shrubs, and other non-moving objects. This is normal system operation; the vehicle does not need service.

LCA may not operate when the LCA sensors in the left or right corners of the rear bumper are covered with mud, dirt, snow, ice, or slush, or in heavy rainstorms. For cleaning instructions, see "Washing the Vehicle" under *Exterior Care* ⇨ *371*. If the DIC still displays the system unavailable message after cleaning both sides of the vehicle toward the rear corners of the vehicle, see your dealer.

If the LCA displays do not light up when moving vehicles are in the side blind zone or rapidly approaching this zone and the system is clean, the system may need service. Take the vehicle to your dealer.

When LCA is disabled for any reason other than the driver turning it off, the Lane Change Alert On option will not be available on the personalization menu.

Radio Frequency Information

See *Radio Frequency Statement* ⇨ *406*.

Lane Departure Warning (LDW)

If equipped, LDW may help avoid crashes due to unintentional lane departures. It may provide a warning if the vehicle is crossing a detected lane marking without using a turn signal in the lane departure direction. Since this system is part of the Lane Keep Assist (LKA) system, read the entire LKA section before using this feature.

Lane Keep Assist (LKA)

If equipped, LKA may help avoid crashes due to unintentional lane departures. It may assist by gently turning the steering wheel if the vehicle approaches a detected lane marking without using a turn signal in that direction. It may also provide a Lane Departure Warning (LDW) system alert as the lane marking is crossed. The LKA system will not assist or provide an LDW alert if it detects that you are actively steering. Override LKA by turning the steering wheel. LKA uses a camera to detect lane markings between 60 km/h (37 mph) and 180 km/h (112 mph).

⚠ Warning

The LKA system does not continuously steer the vehicle. It may not keep the vehicle in the lane or give a Lane Departure Warning (LDW) alert, even if a lane marking is detected.

The LKA and LDW systems may not:

- Provide an alert or enough steering assist to avoid a lane departure or crash.
- Detect lane markings under poor weather or visibility conditions. This can occur if the windshield or headlamps are blocked by dirt, snow, or ice, if they are not in proper condition, or if the sun shines directly into the camera.
- Detect road edges.

(Continued)

Warning (Continued)

- Detect lanes on winding or hilly roads.

If LKA only detects lane markings on one side of the road, it will only assist or provide an LDW alert when approaching the lane on the side where it has detected a lane marking. Even with LKA and LDW, you must steer the vehicle. Always keep your attention on the road and maintain proper vehicle position within the lane, or vehicle damage, injury, or death could occur. Always keep the windshield, headlamps, and camera sensors clean and in good repair. Do not use LKA in bad weather conditions.

⚠ Warning

Using LKA on slippery roads could cause loss of control of the vehicle and a crash. Turn the system off.

How the System Works

The LKA camera sensor is on the windshield ahead of the rearview mirror.

To turn LKA on and off, press on the center stack. The indicator light in the button comes on when LKA is on and turns off when LKA is disabled.

When on, is green if LKA is available to assist and provide LDW alerts. It may assist by gently turning the steering wheel and display as amber if the vehicle approaches a detected lane marking without using a turn signal in that direction. It may also provide an LDW alert by flashing amber as the lane marking is crossed. Additionally, there will be three beeps, or the driver seat will pulse three times, on the right or left, depending on the lane departure direction.

The LKA system does not continuously steer the vehicle. If LKA does not detect active driver steering, an alert and chime may be provided. Move the steering wheel to dismiss.

When the System Does Not Seem to Work Properly

The system performance may be affected by:

- Close vehicles ahead.
- Sudden lighting changes, such as when driving through tunnels.
- Banked roads.
- Roads with poor lane markings, such as two-lane roads.

If the LKA system is not functioning properly when lane markings are clearly visible, cleaning the windshield may help.

LKA assistance and/or LDW alerts may occur due to tar marks, shadows, cracks in the road, temporary or construction lane markings, or other road imperfections. This is normal system operation; the vehicle does not need service. Turn LKA off if these conditions continue.

Fuel

Use of the recommended fuel is an important part of the proper maintenance of this vehicle. When driving in the U.S. and Canada, to help keep the engine clean and maintain optimum vehicle performance, we recommend using TOP TIER Detergent Gasolines. See www.toptiergas.com for a list of TOP TIER Detergent Gasolines.

TOP TIER™ Detergent Gasoline

CATÉGORIE SUPERIÉURE™ Essences Détergentes

Use premium unleaded gasoline meeting ASTM specification D4814 with a posted octane rating of 91 or higher. Regular unleaded gasoline rated at 87 octane or higher can be used, but acceleration and fuel economy will be reduced, and an audible knocking noise may be heard. If this occurs, use a gasoline rated at 91 octane or higher as soon as possible. Otherwise, the engine could be damaged. If heavy knocking is heard when using gasoline with a 91 octane rating or higher, the engine needs service.

Use of Seasonal Fuels

Use summer and winter fuels in the appropriate season. The fuels industry automatically modifies the fuel for the appropriate season. If fuel is left in the vehicle tank for long periods of time, driving or starting could be affected. Drive the vehicle until the fuel is at one-half tank or less, then refuel with the current seasonal fuel.

Prohibited Fuels

Gasolines containing oxygenates such as ethers and ethanol, as well as reformulated gasolines, are available in some cities. If these gasolines comply with the previously described specification, then they are acceptable to use. However, E85 (85% ethanol) and other fuels containing more than 15% ethanol must be used only in FlexFuel vehicles.

Caution

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, mainly high octane racing gasolines, can contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT). Do not use gasolines and/or fuel additives with MMT as they can reduce spark plug life and affect emission control system performance. The malfunction indicator lamp may turn on. If this occurs, see your dealer for service.

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 may be affected. The malfunction indicator lamp could turn on and the vehicle may not pass a smog-check test. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *119*. 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 may not be covered by the vehicle warranty.

Fuels in Foreign Countries

If planning to drive in countries outside the U.S. or Canada, the proper fuel might be hard to find. Check regional auto club or fuel retail brand websites for availability in the country where driving. Never use leaded gasoline, fuel containing methanol, manganese, or any other fuel not recommended. Costly repairs caused by use of improper fuel would not be covered by the vehicle warranty.

Fuel Additives

To keep fuel systems clean, TOP TIER Detergent Gasoline is recommended. See *Fuel* ⇨ *298*.

If TOP TIER Detergent Gasoline is not available, one bottle of Fuel System Treatment PLUS added to the fuel tank at every engine oil change can help. Fuel System Treatment PLUS is the only gasoline additive recommended by General Motors. It is available at your dealer.

Do not use additives with E85 or FlexFuel.

Filling the Tank

⚠ Warning

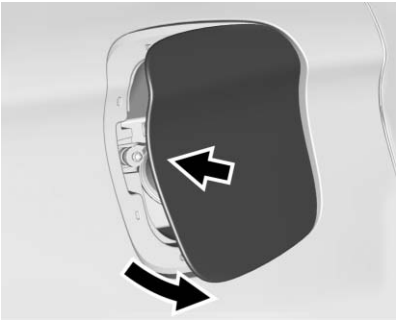
Fuel vapors and fuel fires burn violently and can cause injury or death.

- 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.
- Keep sparks, flames, and smoking materials away from fuel.
- Do not leave the fuel pump unattended.
- Do not use a cell phone while refueling.
- Do not re-enter the vehicle while pumping fuel.

(Continued)

Warning (Continued)

- Keep children away from the fuel pump and never let children pump fuel.
- Fuel can spray out if the fuel cap is opened too quickly. 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.



To open the fuel door, push and release the rearward center edge of the door.

The cap is behind the fuel door on the passenger side of the vehicle. To remove the fuel cap, turn it slowly counterclockwise. While refueling, hang the fuel cap from the hook on the fuel door.

⚠ Warning

Overfilling the fuel tank by more than three clicks of a standard fill nozzle may cause:

- Vehicle performance issues, including engine stalling and damage to the fuel system.
- Fuel spills.
- Potential fuel fires.

Be careful not to spill fuel. 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* ⇨ *371*.

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 (Check Engine Light)* ⇨ *119*.

⚠ 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.

Caution

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 may not fit properly, may cause the malfunction

(Continued)

Caution (Continued)

indicator lamp to light, and could damage the fuel tank and emissions system. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *119*.

Filling a Portable Fuel Container

⚠ Warning

Filling a portable fuel container while it is in the vehicle can cause fuel vapors that can ignite either by static electricity or other means. You or others could be badly burned and the vehicle could be damaged. Always:

- Use approved fuel containers.
- Remove the container from the vehicle, trunk, or pickup bed before filling.

(Continued)

Warning (Continued)

- Place the container on the ground.
- Place the nozzle inside the fill opening of the container before dispensing fuel, and keep it in contact with the fill opening until filling is complete.
- Fill the container no more than 95% full to allow for expansion.
- Do not smoke, light matches, or use lighters while pumping fuel.
- Avoid using cell phones or other electronic devices.

Trailer 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. Read the entire section before towing a trailer.

For towing a disabled vehicle, see *Towing the Vehicle* ⇨ *368*. For towing the vehicle behind another vehicle such as a motor home, see *Recreational Vehicle Towing* ⇨ *369*.

Driving Characteristics and Towing Tips

Driving with a Trailer

When towing a trailer:

- Become familiar with the state and local laws that apply specifically to trailer towing.

- Do not tow a trailer during the first 800 km (500 mi), to prevent damage to the engine, axle, or other parts.
- Then, during the first 800 km (500 mi) of trailer towing, do not drive over 80 km/h (50 mph) and do not make starts at full throttle.
- The vehicle can tow in D (Drive) but M (Manual Mode) is recommended. See *Manual Mode* ⇨ *269*. Use a lower gear if the transmission shifts too often.
- Turn off Park Assist when towing.

⚠ Warning

When towing a trailer, exhaust gases may collect at the rear of the vehicle and enter if the liftgate, trunk/hatch, or rear-most window is open.

(Continued)

Warning (Continued)

When towing a trailer:

- Do not drive with the liftgate, trunk/hatch, or rear-most window open.
- Fully open the air outlets on or under the instrument panel.
- Also adjust the climate control system to a setting that brings in only outside air. See “Climate Control Systems” in the Index.

For information about carbon monoxide, see *Engine Exhaust* ⇨ *266*.

Towing a trailer requires a certain amount of experience. The combination you are driving is longer and not as responsive as the vehicle itself. Get acquainted with the handling and braking of the rig before setting out for the open road.

Before starting, check all trailer hitch parts and attachments, safety chains, electrical connectors, lamps, tires, and mirrors. If the trailer has electric brakes, start the combination moving and then apply the trailer brake controller by hand to be sure the brakes work.

During the trip, check occasionally to be sure that the load is secure and the lamps and any trailer brakes still work.

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 your 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

Caution
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 cluster 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 cluster 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* ⇨ *323*.

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:
   1.1. Start the engine.
   1.2. Shift into a gear.
   1.3. 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 the *Maintenance Schedule* ⇨ *382*. 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* ⇨ *323*.

Trailer Towing

Do not tow a trailer during break-in. See *New Vehicle Break-In* ⇨ *259*.

⚠ 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. The driver and passengers could be seriously injured. The vehicle may also be damaged; the resulting repairs would not be covered by

(Continued)

Warning (Continued)

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.

Caution

Pulling a trailer improperly can damage the vehicle and result in costly repairs not covered by the vehicle warranty. To pull a trailer correctly, follow the advice in this section and see your dealer for important information about towing a trailer with the vehicle.

To identify the trailering capacity of the vehicle, read the information in “Weight of the Trailer” following.

Trailering is different than just driving the vehicle by itself. Trailering means changes in handling, acceleration, braking, durability, and fuel economy. Successful, safe trailering takes correct equipment, and it has to be used properly.

The following information has many time-tested, important trailering tips and safety rules. Many of these are important for your safety and that of your passengers. So please read this section carefully before pulling a trailer.

Weight of the Trailer

How heavy can a trailer safely be?

Speed, altitude, road grades, outside temperature, special equipment, and the amount of tongue weight the vehicle can carry must be considered. See “Weight of the Trailer Tongue” following.

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.

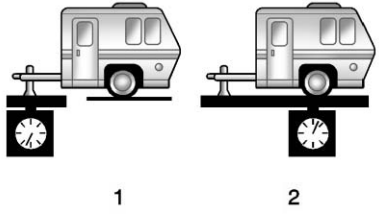
Use the following chart to determine how much the vehicle can weigh, based upon the vehicle model and options.

Vehicle	Max. Trailer Wt.	*GCWR
AWD – 2.0L L4 Engine	680 kg (1,500 lb)	2 750 kg (6,060 lb)
*The Gross Combination Weight Rating (GCWR) is the total allowable weight of the completely loaded vehicle and trailer including any passengers, cargo, equipment, and conversion. The GCWR for the vehicle should not be exceeded.		

Ask your dealer for our trailering information or advice.

Weight of the Trailer Tongue

The tongue load (1) of any trailer is very important because it is also part of the vehicle weight. 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 as well as trailer tongue weight. Vehicle options, equipment, passengers, and cargo in the vehicle reduce the amount of tongue weight the vehicle can carry, which will also reduce the trailer weight the vehicle can tow.



Do not exceed the maximum allowable tongue weight of 91 kg (200 lb) for the vehicle. Choose the shortest hitch extension that will position the hitch ball closest to the vehicle. This will help reduce the effect of trailer tongue weight on the rear axle.

Trailer rating 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). See “Total Weight on the Vehicle's Tires” following.

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.

If a cargo carrier is used in the trailer hitch receiver, choose a carrier that positions the load as close to the vehicle as possible. Make sure the total weight, including the carrier, is no more than

half of the maximum allowable tongue weight for the vehicle or 91 kg (200 lb), whichever is less.

Total Weight on the Vehicle's Tires

Inflate the vehicle's tires to the upper limit for cold tires. These numbers can be found on the Certification label or see *Vehicle Load Limits* ⇨ *255*. Do not go over the GVW limit for the vehicle, or the GAWR, including the weight of the trailer tongue. If using a weight distributing hitch, do not 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 when the hitch is removed. If the holes are not sealed, dirt, water, and deadly carbon monoxide (CO) from the exhaust may get into the vehicle. See *Engine Exhaust* ⇨ *266*.

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 lb) 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 antilock brakes, do not try to tap into the vehicle's hydraulic brake system. If you do, both brake systems will not work well, or at all.

Conversions and Add-Ons

Add-On Electrical Equipment

⚠ Warning

The Data Link Connector (DLC) is used for vehicle service and Emission Inspection/Maintenance testing. See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ *119*. A device connected to the DLC — such as an aftermarket fleet or driver-behavior tracking device — may interfere with vehicle systems. This could affect vehicle operation and cause a crash. Such devices may also access information stored in the vehicle's systems.

Caution

Some electrical equipment can damage the vehicle or cause components to not work and would not be covered by the vehicle warranty. Always check with your dealer before adding electrical equipment.

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* ⇨ *76* and *Adding Equipment to the Airbag-Equipped Vehicle* ⇨ *77*.

Vehicle Care

General Information
General Information 310
California Proposition 65 Warning 310
California Perchlorate Materials Requirements 310
Accessories and Modifications 310

Vehicle Checks
Doing Your Own Service Work 311
Hood 312
Engine Compartment Overview 313
Engine Oil 314
Engine Oil Life System 316
Automatic Transmission Fluid 317
Engine Air Cleaner/Filter 318
Cooling System 319
Engine Coolant 320
Engine Overheating 323
Washer Fluid 324
Brakes 325
Brake Fluid 325
Battery - North America 326
All-Wheel Drive 328
Starter Switch Check 328
Automatic Transmission Shift Lock Control Function Check 328
Park Brake and P (Park) Mechanism Check 328
Wiper Blade Replacement 329
Windshield Replacement 330

Headlamp Aiming
Headlamp Aiming 331

Bulb Replacement
Bulb Replacement 331
Halogen Bulbs 331
High Intensity Discharge (HID) Lighting 331
License Plate Lamp 332
Replacement Bulbs 332

Electrical System
Electrical System Overload . . . 333
Fuses and Circuit Breakers . . . 333
Engine Compartment Fuse Block 334
Instrument Panel Fuse Block 336
Rear Compartment Fuse Block 337

Wheels and Tires
Tires 338
All-Season Tires 339
Winter Tires 339
Summer Tires 340
Tire Sidewall Labeling 340
Tire Designations 342
Tire Terminology and Definitions 343
Tire Pressure 346
Tire Pressure Monitor System 347
Tire Pressure Monitor Operation 348
Tire Inspection 351
Tire Rotation 351
When It Is Time for New Tires 352
Buying New Tires 353
Different Size Tires and Wheels 354
Uniform Tire Quality Grading 355
Wheel Alignment and Tire Balance 356
Wheel Replacement 356
Tire Chains 357
If a Tire Goes Flat 357
Tire Changing 359
Compact Spare Tire 364

Jump Starting
Jump Starting - North America 365

Towing the Vehicle
Towing the Vehicle 368
Recreational Vehicle Towing 369

Appearance Care
Exterior Care 371
Interior Care 376
Floor Mats 379

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

WARNING: Most motor vehicles, including this one, as well as many of its service parts and fluids, 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.

See *Battery - North America* ⇨ *326* and *Jump Starting - North America* ⇨ *365*.

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 suspension components caused by modifying vehicle height outside of factory settings will not be 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* ⇨ *77*.

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* ⇨ *405*.

This vehicle has an airbag system. Before attempting to do your own service work, see *Servicing the Airbag-Equipped Vehicle* ⇨ *76*.

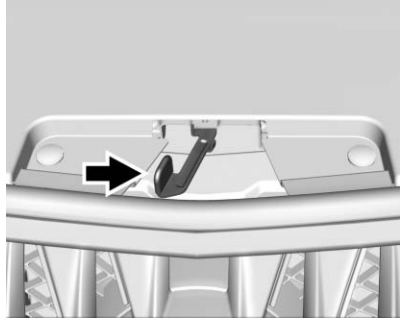
Keep a record with all parts receipts and list the mileage and the date of any service work performed. See *Maintenance Records* ⇨ *392*.

Caution
Even small amounts of contamination can cause damage to vehicle systems. Do not allow contaminants to contact the fluids, reservoir caps, or dipsticks.

Hood

To open the hood:

1. Pull the hood release handle with this symbol until the hood is ajar. The release handle is located to the left of the steering column below the instrument panel.

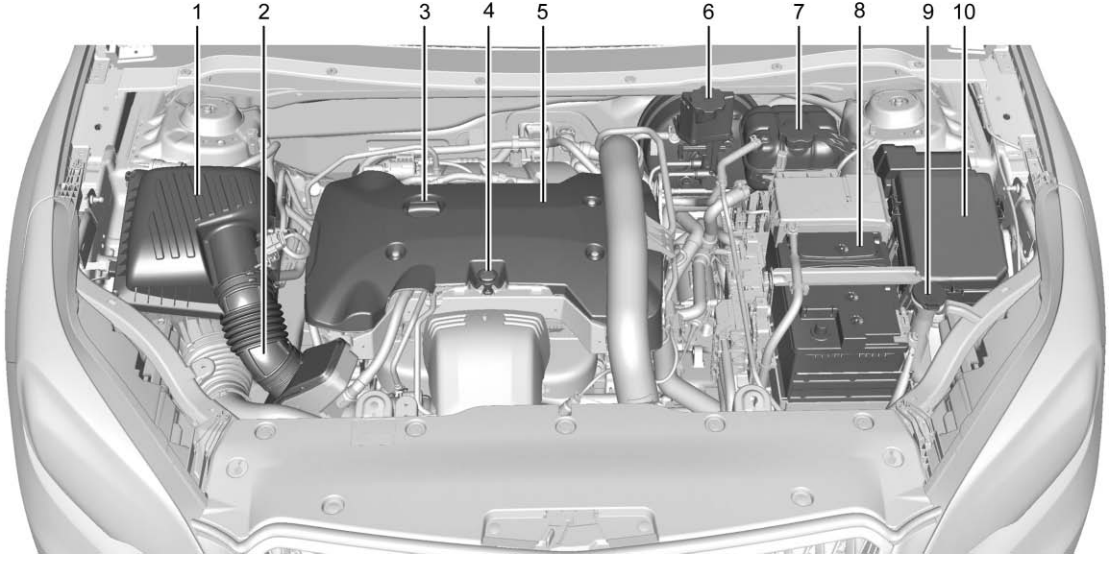


2. Go to the front of the vehicle to find the secondary release handle. The handle is under the front edge of the hood near the center. Push the handle to the right and at the same time raise the hood.

To close the hood:

1. Before closing the hood, be sure all the filler caps are on properly.
2. Lower the hood and push down to close. Check to make sure the hood is closed and repeat the process if necessary.

Engine Compartment Overview



1. *Engine Air Cleaner/Filter* ⇨ *318*.
2. Engine Duct.
3. Engine Oil Fill Cap. See *Engine Oil* ⇨ *314*.
4. Engine Oil Dipstick. See *Engine Oil* ⇨ *314*.
5. Engine Cover.
6. Brake Fluid Reservoir. See *Brake Fluid* ⇨ *325*.
7. Engine Coolant Surge Tank and Pressure Cap. See *Engine Coolant* ⇨ *320*.
8. *Battery - North America* ⇨ *326*.
9. Windshield Washer Fluid Reservoir. See *Washer Fluid* ⇨ *324*.
10. *Engine Compartment Fuse Block* ⇨ *334*.

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:

- 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* ⇨ *316*.
- 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 loop. See *Engine Compartment Overview* ⇨ *313* 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.

⚠ Warning

The engine oil dipstick handle may be hot; it could burn you. Use a towel or glove to touch the dipstick handle.

2. Pull out the dipstick and wipe it with a clean 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* ⇨ *394*.

Caution

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

(Continued)

Caution (Continued)

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* ⇨ *313* 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* ⇨ *390*.

Specification

Ask for and use engine oils that meet the dexos1™ specification.

Engine oils that have been approved by GM as meeting the dexos1 specification are marked with the dexos1 approved logo. See www.gmdexos.com.

Caution

Failure to use the recommended engine oil or equivalent can result in engine damage not covered by the vehicle warranty.

Viscosity Grade

Use SAE 5W-30 viscosity grade engine oil.

Cold Temperature Operation: In an area of extreme cold, where the temperature falls below −29 °C (−20 °F), an SAE 0W-30 oil may 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, it is recommended to select an oil of the correct specification. See “Specification” earlier in this section.

Engine Oil Additives/Engine Oil Flushes

Do not add anything to the oil. The recommended oils meeting the dexos1™ specification 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* ⇨ *139*. 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 may 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 controls on the right side of the steering wheel, display REMAINING OIL LIFE on the DIC. See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*. When remaining oil life is low, the CHANGE ENGINE OIL SOON message will appear on the display. See *Engine Oil Messages* ⇨ *139*.
2. Press ✓ on the DIC controls and hold down for a few seconds to clear the CHANGE ENGINE OIL SOON message and 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 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

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.

Change the fluid at the intervals listed in *Maintenance Schedule* ⇨ *382*, and be sure to use the transmission fluid listed in *Recommended Fluids and Lubricants* ⇨ *390*.

Caution

Use of the incorrect automatic transmission fluid may damage the vehicle, and the damage may not be covered by the vehicle warranty. Always use the automatic transmission fluid listed in *Recommended Fluids and Lubricants* ⇨ *390*.

There is a special procedure for checking and changing the transmission fluid. Because this procedure is difficult, this should be done by your dealer.

Engine Air Cleaner/Filter

The engine air cleaner/filter is in the engine compartment on the passenger side of the vehicle. See *Engine Compartment Overview* ⇨ *313* for more information on location.

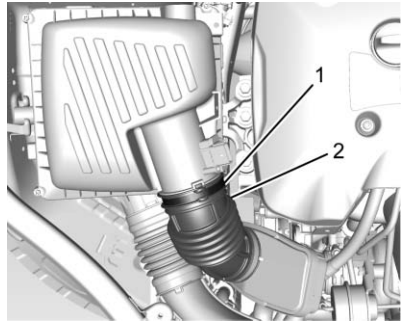
When to Inspect the Engine Air Cleaner/Filter

For intervals on changing and inspecting the engine air cleaner/filter, see *Maintenance Schedule* ⇨ *382*.

How to Inspect the Engine Air Cleaner/Filter

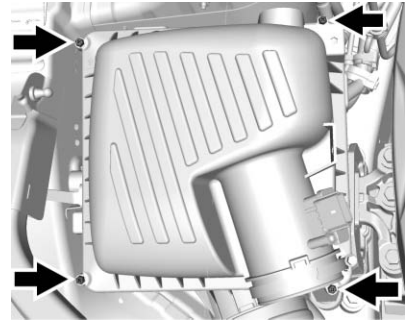
Do not start the engine or have the engine running with the engine air cleaner/filter housing open. Before removing the engine air cleaner/filter, make sure that the engine air cleaner/filter housing and nearby components are free of dirt and debris. Remove the engine air cleaner/filter. Lightly tap and shake the engine air cleaner/filter (away from the vehicle), to release loose dust and dirt. Inspect the engine air cleaner/filter for damage, and replace if damaged. Do not clean the engine air cleaner/filter or components with water or compressed air.

To inspect or replace the air cleaner/filter:

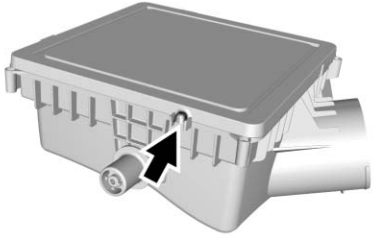


1. Air Duct Clamp Screw
2. Air Duct

1. Loosen the air duct clamp screw (1) and slide the air duct (2) from the air cleaner/filter cover.



2. Remove the four screws and remove the air cleaner/filter cover, keeping the electrical connector connected.
3. Inspect or replace the engine air cleaner/filter.



4. Verify that the tab on the filter lines up with the slot in the air cleaner/filter assembly.
5. Replace the cover and secure it with the four screws.
6. Slide the air duct onto the assembly and tighten the air duct clamp screw.

See *Maintenance Schedule* ⇨ *382* for replacement intervals.

⚠ Warning

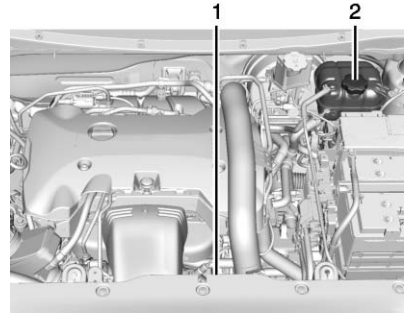
Operating the engine with the air cleaner/filter off can cause you or others to be burned. The air cleaner not only cleans the air; it helps to stop flames if the engine backfires. Use caution when working on the engine and do not drive with the air cleaner/filter off.

Caution

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.

Cooling System

The cooling system allows the engine to maintain the correct working temperature.



1. Engine Cooling Fans (Out of View)
2. 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.

⚠ 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.

Caution

Using coolant other than DEX-COOL® can cause premature engine, heater core, or radiator corrosion. In addition, the engine coolant could require changing sooner. 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* ⇨ *323*.

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

(Continued)

Warning (Continued)

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. 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.

Caution

If improper coolant mixture, inhibitors, or additives are used in the vehicle cooling system, the engine could overheat and be damaged. Too much water in the mixture can freeze and crack engine cooling parts. The repairs would not be covered by the vehicle warranty. Use only the proper mixture of engine coolant for the cooling system. See *Recommended Fluids and Lubricants* ⇨ *390*.

Never dispose of engine coolant by putting it in the trash, pouring it on the ground, or pouring it 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.

It is normal to see coolant moving in the upper coolant hose return line when the engine is running.

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 or above the mark pointed to, add a 50/50 mixture of clean, drinkable water and DEX-COOL coolant.

Be sure the cooling system is cool before this is done.

If no coolant is visible in the coolant surge tank, add coolant as follows:

How to Add Coolant to the Coolant Surge Tank

Caution

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. Never turn

(Continued)

Warning (Continued)

the cap when the cooling system, including the surge tank pressure cap, is hot. Wait for the cooling system and surge tank pressure cap to cool.

Caution

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. 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 fans.

   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. Replace the pressure cap tightly.

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 1–3 and reinstall the pressure cap. If the coolant still is not at the proper level when the system cools down again, see your dealer.

Caution

If the pressure cap is not tightly installed, coolant loss and possible engine damage may occur. Be sure the cap is properly and tightly secured.

Engine Overheating

The vehicle has an engine coolant temperature gauge to warn of the engine overheating. See *Engine Coolant Temperature Gauge* ⇨ *116*.

If the decision is made not to lift the hood when this warning appears, get service help right away.

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, the fans should be running. If it is not, do not continue to run the engine. Have the vehicle serviced.

Caution

Running the engine without coolant may cause damage or a fire. Vehicle damage 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

(Continued)

Warning (Continued)

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.

If the overheat warning is displayed with no sign of steam:

1. Turn the air conditioning off.
2. Turn the heater on to the highest temperature and to the highest fan speed. Open the windows as necessary.

3. When it is safe to do so, pull off the road, shift to P (Park) or N (Neutral), and let the engine idle.

If the engine coolant temperature gauge is no longer in the overheat zone, 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 and have the cooling system checked for proper fill and function.

If the warning continues, pull over, stop, and park the vehicle right away.

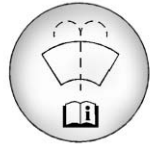
If there is no sign of steam, idle the engine for three minutes while parked. If the warning is still displayed, turn off the engine until it cools down.

Washer Fluid

What to Use

When the vehicle needs windshield washer fluid, 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



Open the cap with the washer symbol on it. Add washer fluid until the tank is full. See *Engine Compartment Overview* ⇨ *313* for reservoir location.

Caution

- Do not use washer fluid that contains any type of water repellent coating. This can cause the wiper blades to chatter or skip.

(Continued)

Caution (Continued)

- Do not use engine coolant (antifreeze) in the windshield washer. It can damage the windshield washer system and paint.
- 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.
- When using concentrated washer fluid, follow the manufacturer instructions for adding water.
- 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.

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 can be heard all the time when 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.

Caution

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. See *Capacities and Specifications* ⇨ *394*.

Brake pads should be replaced as complete sets.

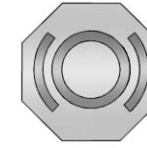
Brake Pedal Travel

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 may be required.

Replacing Brake System Parts

Always replace brake system parts with new, approved replacement parts. If this is not done, the brakes may not work properly. The braking performance expected can change in many other ways if the wrong replacement brake parts are installed or if parts are improperly installed.

Brake Fluid



The brake master cylinder reservoir is filled with GM approved DOT 4 brake fluid as indicated on the reservoir cap. See *Engine Compartment Overview* ⇨ *313* for the location of the reservoir.

Checking Brake Fluid

With the vehicle in P (Park) on a level surface, the brake fluid level should be between the minimum and maximum marks on the brake fluid reservoir.

There are only two reasons why the brake fluid level in the reservoir may go down:

- Normal brake lining wear. When new linings are installed, the fluid level goes back up.
- A fluid leak in the brake hydraulic system. Have the brake hydraulic system fixed. With a leak, the brakes will not work well.

Always clean the brake fluid reservoir cap and the area around the cap before removing it.

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 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.

(Continued)

Warning (Continued)

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* ⇨ *121*.

Brake fluid absorbs water over time which degrades the effectiveness of the brake fluid. Replace brake fluid at the specified intervals to prevent increased stopping distance. See *Maintenance Schedule* ⇨ *382*.

What to Add

Use only GM approved DOT 4 brake fluid from a clean, sealed container. See *Recommended Fluids and Lubricants* ⇨ *390*.

⚠ Warning

The wrong or contaminated brake fluid could result in damage to the brake system. This could result in the loss of braking leading to a possible injury. Always use the proper GM approved brake fluid.

Caution

If brake fluid is spilled on the vehicle's painted surfaces, the paint finish can be damaged. Immediately wash off any painted surface.

Battery - North America

The original equipment battery is maintenance free. Do not remove the cap and do not add fluid.

Refer to the replacement number shown on the original battery label when a new battery is needed. See *Engine Compartment Overview* ⇨ *313* for battery location.

The vehicle has an Absorbed Glass Mat (AGM) 12-volt battery. Installation of a standard 12-volt battery will result in reduced 12-volt battery life.

When using a 12-volt battery charger on the 12-volt AGM battery, some chargers have an AGM battery setting on the charger. If available, use the AGM setting on the charger, to limit charge voltage to 14.8 volts. Follow the charger manufacturer's instructions.

⚠ Warning

Do not use a match or flame near a vehicle's battery. If you need more light, use a flashlight.

Do not smoke near a vehicle's battery.

When working around a vehicle's battery, shield your eyes with protective glasses.

Keep children away from vehicle batteries.

⚠ Warning

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Batteries also contain other chemicals known to

(Continued)

Warning (Continued)

the State of California to cause cancer. **WASH HANDS AFTER HANDLING.**

See *California Proposition 65 Warning* ⇨ *310*.

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 - North America* ⇨ *365* 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

Under normal driving conditions, transfer case fluid does not require maintenance unless there is a fluid leak or unusual noise. If required, have the transfer case serviced by 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. Apply both the parking brake and the regular brake.

   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. Apply the parking brake. 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

(Continued)

Warning (Continued)

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 and cracking. See *Maintenance Schedule* ⇨ *382*.

Replacement blades come in different types and are removed in different ways. For proper type and length, see *Maintenance Replacement Parts* ⇨ *391*.

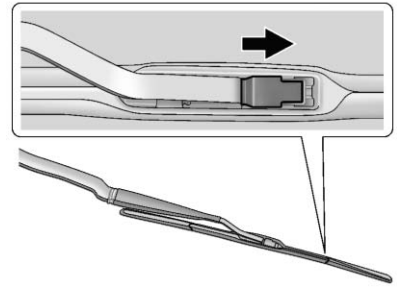
Caution

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 the vehicle warranty. Do not allow the wiper arm to touch the windshield.

Front Wiper Blade Replacement

To replace the front wiper blades:

1. Pull the windshield wiper assembly away from the windshield.



2. Lift up on the latch in the middle of the wiper blade where the wiper arm attaches.
3. With the latch open, pull the wiper blade down toward the windshield far enough to release it from the J-hooked end of the wiper arm.
4. Remove the wiper blade.

Caution

Allowing the wiper arm to touch the windshield when no wiper blade is installed could damage

(Continued)

Caution (Continued)

the windshield. Any damage that occurs would not be covered by the vehicle warranty. Do not allow the wiper arm to touch the windshield.

5. Reverse Steps 1–3 for wiper blade replacement.

Caution

Damage may occur if the wiper blades are not in contact with the windshield before turning on the wiper system.

Rear Wiper Blade Replacement

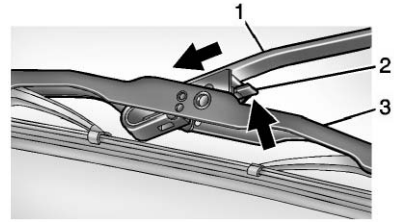
The rear wiper blade and wiper arm have a cover for protection. The cover must be removed before the wiper blade can be replaced.

To remove the cover:

1. Slide a plastic tool under the cover and push upward to unsnap.
2. Slide the cover toward the wiper blade tip to unhook it from the blade assembly.
3. Remove the cover.
4. After wiper blade replacement, ensure that the cover hook slides into the slot in the blade assembly.
5. Snap the cover down to secure.

To replace the wiper blade:

1. Lift the wiper arm away from the windshield.



2. Push the release lever (2) to disengage the hook and push the wiper arm (1) out of the blade assembly (3).
3. Push the new blade assembly securely on the wiper arm until the release lever clicks into place.
4. Replace the wiper cover.

Windshield Replacement

The vehicle is equipped with an acoustic windshield. If the windshield needs to be replaced be sure to get an acoustic windshield so you will continue to have the benefits an acoustic windshield can provide.

Headlamp Aiming

Headlamp aim has been preset and should need no further adjustment.

If the vehicle is damaged in a crash, the headlamp aim may be affected. If adjustment to the headlamps is necessary, see your dealer.

Bulb Replacement

For the proper type of replacement bulbs, see *Replacement Bulbs* ⇨ *332*.

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.

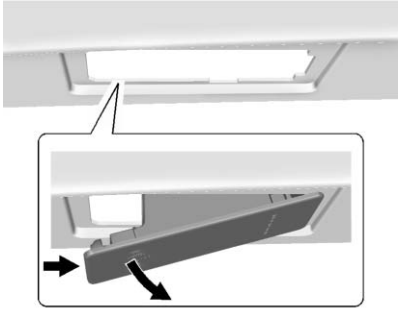
High Intensity Discharge (HID) Lighting

⚠ Warning

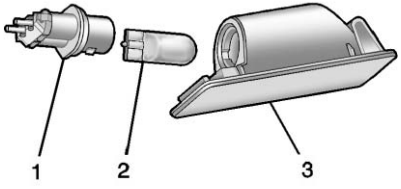
The High Intensity Discharge (HID) lighting system operates at a very high voltage. If you try to service any of the system components, you could be seriously injured. Have your dealer or a qualified technician service them.

After an HID headlamp bulb has been replaced, the beam might be a slightly different shade than it was originally. This is normal.

License Plate Lamp



Lamp Assembly



Bulb Assembly

To replace one of these bulbs:

1. Push the left end of the lamp assembly toward the right.
2. Turn the lamp assembly down to remove it.
3. Turn the bulb socket (1) counterclockwise to remove it from the lamp assembly (3).
4. Pull the bulb (2) straight out of the bulb socket (1).
5. Push the replacement bulb straight into the bulb socket and turn the bulb socket clockwise to install it into the lamp assembly.
6. Turn the lamp assembly into the lamp assembly opening engaging the clip side first.
7. Push on the lamp side opposite the clip until the lamp assembly snaps into place.

Replacement Bulbs

Exterior Lamp	Bulb Number
License Plate Lamp	5W5 LL

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.

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.

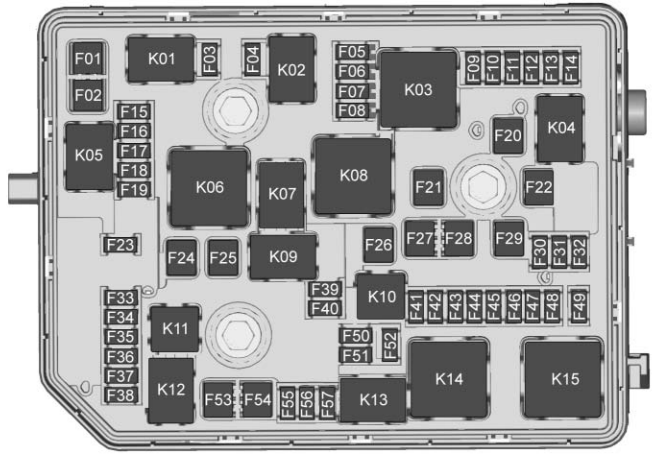
Fuses of the same amperage can be temporarily borrowed from another fuse location, if a fuse goes out. Replace the fuse as soon as possible.

To identify and check fuses, circuit breakers, and relays, see *Engine Compartment Fuse Block* ⇨ *334*, *Instrument Panel Fuse Block* ⇨ *336*, and *Rear Compartment Fuse Block* ⇨ *337*.

Engine Compartment Fuse Block

To remove the fuse block cover, squeeze the clips on the cover and lift it straight up. See *Engine Compartment Overview* ⇨ *313*.

Caution
Spilling liquid on any electrical component on the vehicle may damage it. Always keep the covers on any electrical component.



The vehicle may not be equipped with all of the fuses, relays, and features shown.

Fuse	Usage
F01	Starter 1
F02	Starter 2
F03	Non walk
F04	Engine control module
F05	Flex fuel
F06	–/Transmission control module
F07	–
F08	Engine control module
F09	A/C

Fuse	Usage
F10	Canister vent solenoid
F11	Fuel pump
F12	Heated seats
F13	Engine coolant pump
F14	–
F15	O2 sensor
F16	Ignition coils – odd
F17	Ignition coils – even
F18	–
F19	–
F20	DC DC/Transmission
F21	Liftgate
F22	ABS
F23	Washer pump
F24	Headlamp washer
F25	–
F26	Transmission oil pump
F27	ABS
F28	–
F29	Rear window defogger
F30	Mirror defogger
F31	–
F32	Various low current functions/Circuit 39 splice
F33	–
F34	Horn
F35	–
F36	Right high-beam headlamp
F37	Left high-beam headlamp
F38	Automatic headlamp leveling
F39	Front fog lamps
F40	Transmission oil pump
F41	Passenger seat ventilation
F42	Headlamp position
F43	–
F44	Interior rearview mirror
F45	–
F46	Driver seat ventilation
F47	Electric steering column lock
F48	Rear wiper
F49	–
F50	–
F51	Right daytime running lamp
F52	Engine control module/ Transmission control module
F53	–
F54	–
F55	Front wiper
F56	–
F57	Left daytime running lamp

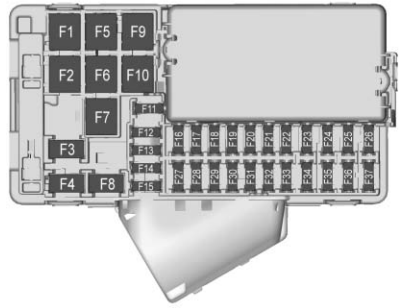
Fuse	Usage
K01	Start/Stop
K02	A/C clutch
K03	Engine control module
K04	Wiper
K05	Start solenoid
K06	–
K07	–
K08	Transmission oil pump
K09	Wiper speed
K10	Starter
K11	Headlamp washers
K12	High-beam headlamps
K13	Daytime running lamps
K14	Run/Crank
K15	Rear window/Mirror defogger

Instrument Panel Fuse Block

The instrument panel fuse block is in the glove box. To access the fuses, open the fuse panel door from the passenger side by pulling it out.

To reinstall the door, insert the tabs on the top of the door into the console first, then push the door back into its original location.

The vehicle may not be equipped with all of the fuses, relays, and features shown.



Fuses	Usage
F1	–
F2	Front HVAC blower
F3	Power seat
F4	Lighter (China only)
F5	–
F6	Front power windows
F7	–
F8	Accessory power outlet
F9	Body control module 8

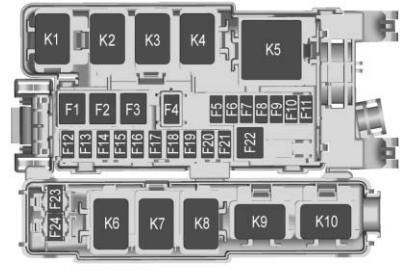
Fuses	Usage
F10	Rear power windows
F11	–
F12	Sunroof
F13	Front heated seats
F14	Exterior rearview mirror
F15	Body control module 3
F16	–
F17	Body control module 6
F18	Body control module 7
F19	Data link connector
F20	SDM
F21	HVAC
F22	Liftgate release
F23	Passive entry/ Passive start
F24	OCC sensor
F25	Steering wheel controls

Fuses	Usage
F26	Ignition
F27	Body control module 4
F28	Transmission control module
F29	Body control module 2
F30	USB
F31	Rear HVAC blower
F32	Body control module 1
F33	Universal remote system
F34	Parking assist
F35	OnStar
F36	Display
F37	Radio

Rear Compartment Fuse Block

The rear compartment fuse block is behind a cover on the left side of the rear compartment. To access the fuses, remove the cover.

The vehicle may not be equipped with all of the fuses, relays, and features shown.



Fuses	Usage
F1	–
F2	DC AC
F3	–

Fuses	Usage
F4	Passenger power seat
F5	Memory seat module
F6	–
F7	Amplifier
F8	Rear accessory power outlet
F9	Rear heated seat
F10	Logistics relay
F11	Rear HVAC
F12	Power liftgate HF sensor
F13	Parking/Trailer lamps
F14	Side blind zone alert
F15	Left parking lamp
F16	Right parking lamp
F17	Body control module 6
F18	Heated steering wheel

Fuses	Usage
F19	AWD
F20	Lumbar seat
F21	Rear heated seat
F22	Rear drive control module
F23	Trailer left turn signal lamp
F24	Trailer right turn signal lamp
K1	Parking lamps
K2	–
K3	Ignition
K4	Logistics
K5	DC AC
K6	–
K7	Parking assist
K8	Right turn
K9	Left turn
K10	–

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* ⇨ *255*.

(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.

(Continued)

Warning (Continued)

- Replace any tires that have been damaged by impacts with potholes, curbs, etc.
- 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.

All-Season Tires

This vehicle may come with all-season tires. These tires are designed to provide good overall performance on most road surfaces and weather conditions. Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. Original equipment all-season tires can be identified by the last two characters of this TPC code, which will be “MS.”

Consider installing winter tires on the vehicle if frequent driving on snow or ice-covered roads is expected. All-season tires provide adequate performance for most winter driving conditions, but they may not offer the same level of traction or performance as winter tires on snow or ice-covered roads. See *Winter Tires* ⇨ *339*.

Winter Tires

This vehicle was not originally equipped with winter tires. Winter tires are designed for increased traction on snow and ice-covered roads. Consider installing winter tires on the vehicle if frequent driving on ice or snow covered roads is expected. See your dealer

for details regarding winter tire availability and proper tire selection. Also, see *Buying New Tires* ⇨ *353*.

With winter tires, there may be decreased dry road traction, increased road noise, and shorter tread life. After changing to winter tires, be alert for changes in vehicle handling and braking.

If using winter tires:

- Use tires of the same brand and tread type on all four wheel positions.
- Use only radial ply tires of the same size, load range, and speed rating as the original equipment tires.

Winter tires with the same speed rating as the original equipment tires may not be available for H, V, W, Y, and ZR speed rated tires. If winter tires with a lower speed rating are chosen, never exceed the tire's maximum speed capability.

Summer Tires

This vehicle may come with high performance summer tires. These tires have a special tread and compound that are optimized for maximum dry and wet road performance. This special tread and compound will have decreased performance in cold climates, and on ice and snow. It is recommended that winter tires be installed on the vehicle if frequent driving at temperatures below approximately 5 °C (40 °F) or on ice or snow covered roads is expected. See *Winter Tires* ⇨ *339*.

Caution

High performance summer tires have rubber compounds that lose flexibility and may develop surface cracks in the tread area at temperatures below −7 °C (20 °F). Always store high performance summer tires indoors and at temperatures above −7 °C (20 °F) when not in

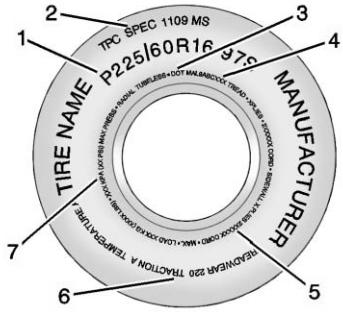
(Continued)

Caution (Continued)

use. If the tires have been subjected to −7 °C (20 °F) or less, let them warm up in a heated space to at least 5 °C (40 °F) for 24 hours or more before being installed or driving a vehicle on which they are installed. Do not apply heat or blow heated air directly on the tires. Always inspect tires before use. See *Tire Inspection* ⇨ *351*.

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

(1) 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.

(2) 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.

(3) 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.

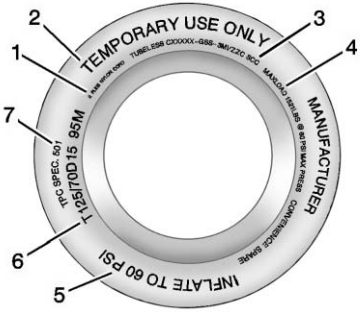
DOT Tire Date of Manufacture : The last four digits of the TIN indicate the tire manufactured date. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

(4) 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.

(5) Tire Ply Material : The type of cord and number of plies in the sidewall and under the tread.

(6) 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* ⇨ *355*.

(7) Maximum Cold Inflation Load Limit : Maximum load that can be carried and the maximum pressure needed to support that load.



Compact Spare Tire Example

(1) Tire Ply Material : The type of cord and number of plies in the sidewall and under the tread.

(2) Temporary Use Only : The compact spare tire or temporary use tire should not be driven at speeds over 80 km/h (50 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* ⇨ *364* and *If a Tire Goes Flat* ⇨ *357*.

(3) 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.

(4) Maximum Cold Inflation Load Limit : Maximum load that can be carried and the maximum pressure needed to support that load.

(5) 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* ⇨ *346*.

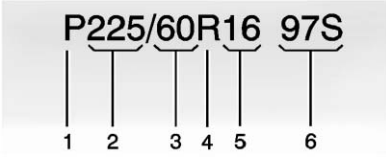
(6) Tire Size : A combination of letters and numbers define a tire's width, height, aspect ratio, construction type, and service description. The letter T as the first character in the tire size means the tire is for temporary use only.

(7) 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.



(1) 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.

(2) Tire Width : The three-digit number indicates the tire section width in millimeters from sidewall to sidewall.

(3) 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 3 of the illustration, it would mean that the tire's sidewall is 60 percent as high as it is wide.

(4) 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.

(5) Rim Diameter : Diameter of the wheel in inches.

(6) 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 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 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* ⇨ *346*.

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* ⇨ *255*.

GAWR FRT : Gross Axle Weight Rating for the front axle. See *Vehicle Load Limits* ⇨ *255*.

GAWR RR : Gross Axle Weight Rating for the rear axle. See *Vehicle Load Limits* ⇨ *255*.

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 lb). See *Vehicle Load Limits* ⇨ *255*.

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* ⇨ *346* and *Vehicle Load Limits* ⇨ *255*.

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* ⇨ *352*.

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* ⇨ *355*.

Vehicle Capacity Weight : The number of designated seating positions multiplied by 68 kg (150 lb) plus the rated cargo load. See *Vehicle Load Limits* ⇨ *255*.

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* ⇨ *255*.

Tire Pressure

Tires need the correct amount of air pressure to operate effectively.

Caution

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.

(Continued)

Caution (Continued)

- 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. See *Vehicle Load Limits* ⇨ *255*.

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, if the vehicle has one. The cold compact spare tire pressure should be at 420 kPa (60 psi). See *Compact Spare Tire* ⇨ *364*.

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.

Put the valve caps back on the valve stems to keep out dirt and moisture and prevent leaks. Use only valve caps designed for the vehicle by GM. TPMS sensors could be damaged and would not be covered by the vehicle warranty.

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* ⇨ *348*.

See *Radio Frequency Statement* ⇨ *406*.

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 transmits 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 and Loading Information label. See *Vehicle Load Limits* ⇨ *255*.

A message to check the pressure in a specific tire 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) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*.

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, attached to your vehicle, shows the size of the original equipment tires and the correct inflation pressure for the tires when they are cold. See *Vehicle Load Limits* ⇨ *255*, for an example of the Tire and Loading Information label and its location. Also see *Tire Pressure* ⇨ *346*.

The TPMS can warn about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection* ⇨ *351*, *Tire Rotation* ⇨ *351* and *Tires* ⇨ *338*.

Caution

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.

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 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 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* ⇨ *353*.
- 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 comes on and stays 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. The TPMS sensor matching process should also 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. A TPMS relearn tool can also be purchased. See Tire Pressure Monitor Sensor Activation Tool at www.gmtoolsandequipment.com or call 1-800-GM TOOLS (1-800-468-6657).

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. Turn the ignition to ON/RUN with the engine off or place the vehicle power mode in ON/RUN/START. See *Ignition Positions* ⇨ *259*.
3. Make sure the Tire Pressure info page option is turned on. The info pages on the DIC can be turned on and off through the Settings menu. See *Driver Information Center (DIC) (Base Level)* ⇨ *128* or *Driver Information Center (DIC) (Uplevel)* ⇨ *131*.
4. Use the DIC controls on the right side of the steering wheel to scroll to the Tire Pressure screen under the DIC info page.
5. Press and hold ✓ in the center of the DIC controls. The horn sounds twice to signal the receiver is in relearn mode and the TIRE LEARNING ACTIVE message displays on the DIC screen.
6. Start with the driver side front tire.
7. 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.
8. Proceed to the passenger side front tire, and repeat the procedure in Step 7.
9. Proceed to the passenger side rear tire, and repeat the procedure in Step 7.
10. Proceed to the driver side rear tire, and repeat the procedure in Step 7. 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.

11. Turn the ignition to LOCK/OFF or press STOP to turn the ignition off.
12. 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:

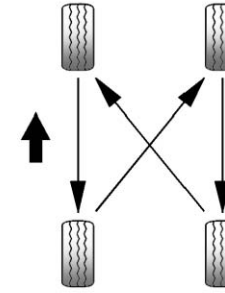
- The indicators at three or more places around the tire can be seen.
- There is cord or fabric showing through the tire's rubber.
- The tread or sidewall is cracked, cut, or snagged deep enough to show cord or fabric.
- The tire has a bump, bulge, or split.
- The tire has a puncture, cut, or other damage 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* ⇨ *382*.

Tires are rotated to achieve a more uniform wear for all tires. The first rotation is the most important.

Anytime unusual wear is noticed, rotate the tires as soon as possible, check for proper tire inflation pressure, and check for damaged tires or wheels. If the unusual wear continues after the rotation, check the wheel alignment. See *When It Is Time for New Tires* ⇨ *352* and *Wheel Replacement* ⇨ *356*.



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* ⇨ *346* and *Vehicle Load Limits* ⇨ *255*.

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation* ⇨ *348*.

Check that all wheel nuts are properly tightened. See “Wheel Nut Torque” under *Capacities and Specifications* ⇨ *394*.

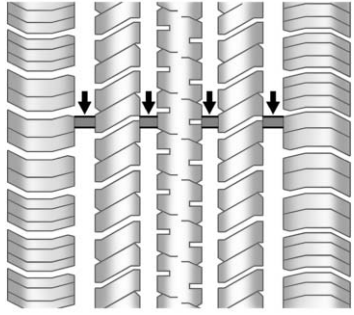
⚠ Warning

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* ⇨ *351* and *Tire Rotation* ⇨ *351*.

The rubber in tires ages over time. This also applies to the spare tire, if the vehicle has one, even if it is never used. Multiple factors including temperatures, loading conditions, and inflation pressure maintenance affect how fast aging takes place. GM recommends that tires, including the spare if equipped, be replaced after six years, regardless of tread wear. The tire manufacture date is the last four digits of the DOT Tire Identification Number (TIN) which is molded into one side of the tire sidewall. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

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* ⇨ *340*.

GM recommends replacing worn tires in complete sets of four. 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. If proper rotation and maintenance have been done, all four tires should wear out at about the same time. See *Tire Rotation* ⇨ *351*. However, if it is necessary to replace only one axle set of worn tires, place the new tires on the rear axle.

Winter tires with the same speed rating as the original equipment tires may not be available for H, V, W, Y and ZR speed rated tires. Never exceed the winter tires' maximum speed capability when using winter tires with a lower speed rating.

⚠ 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* ⇨ *347*.

The Tire and Loading Information label indicates the original equipment tires on the vehicle. See *Vehicle Load Limits* ⇨ *255*.

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, roll bars, traction control, electronic stability control, or All-Wheel Drive, 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* ⇨ *353* and *Accessories and Modifications* ⇨ *310*.

Uniform Tire Quality Grading

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.

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

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 one-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

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

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 are not necessary on a regular basis. Consider an alignment check if there is unusual tire wear or the vehicle is significantly pulling to one side or the other. Some slight pull to the left or right, depending on the crown of the road and/or other road surface variations such as troughs or ruts, is normal. If the vehicle is vibrating when driving on a smooth road, the tires and wheels may 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

(Continued)

Warning (Continued)

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.

Caution

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.

(Continued)

Warning (Continued)

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* ⇨ *338*. If air goes out of a tire, it is much more likely to leak out slowly. But if there ever is 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* ⇨ *159*.

⚠ Warning

Changing a tire can be dangerous. The vehicle can slip off the jack and roll over or fall

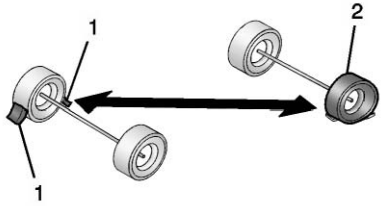
(Continued)

Warning (Continued)

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.
4. Do not allow passengers to remain in the vehicle.
5. Place wheel blocks, if equipped, on both sides of the tire at the opposite corner of the tire being changed.

When the vehicle has a flat tire (2), use the following example as a guide to assist in the placement of the wheel blocks (1), if equipped.

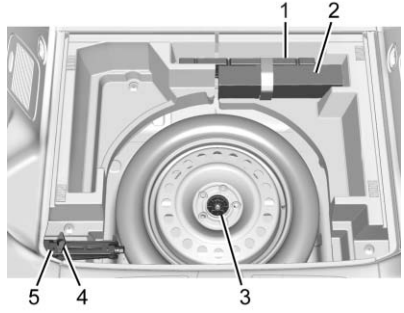


1. Wheel Block (If Equipped)
2. Flat Tire

The following information explains how to repair or change a tire.

Tire Changing

Removing the Spare Tire and Tools



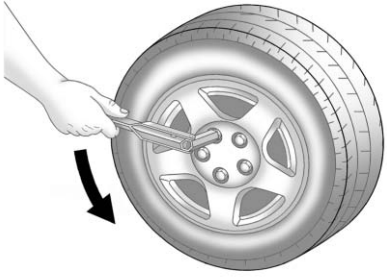
1. Warning Triangle (If Equipped)
2. Wheel Wrench, Tow Hook, and Spent Road Wheel Strap (In Bag)
3. Retainer Nut
4. Jack Retainer Nut
5. Jack

To access the spare tire and tools:

1. Open the liftgate. See *Liftgate* ⇨ *36*.
2. Lift the load floor. Use the hook from the load floor to hold it open.
3. Turn the jack retainer nut (4) counterclockwise to remove the jack (5).
4. Remove the wheel wrench (2) from the bag.
5. Place the tools next to the tire being changed.
6. Turn the retainer nut (3) counterclockwise to remove the spare tire.
7. Place the spare tire next to the tire being changed.

Removing the Flat Tire and Installing the Spare Tire

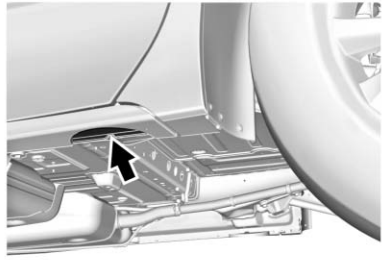
1. Do a safety check before proceeding. See *If a Tire Goes Flat* ⇨ *357* for more information.
2. For vehicles with a wheel cover or center cap, pull the cover or center cap away from the wheel to remove it. Store the wheel cover in the cargo area until you have the flat tire repaired or replaced.



3. Turn the wheel wrench counterclockwise to loosen all the wheel nuts, but do not remove them yet.

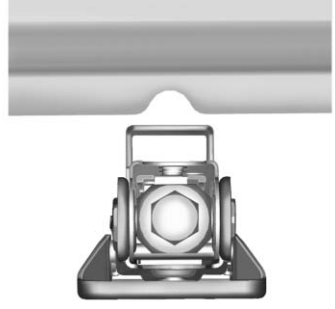
Caution

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.



Rear Shown, Front Similar

4. Position the jack lift head at the jack location nearest the flat tire.



Locate the notch on the sheet metal weld flange. Place the center of the jack lift head on the center of the sheet metal notch.

The jack must not be used in any other position.

⚠ 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

(Continued)

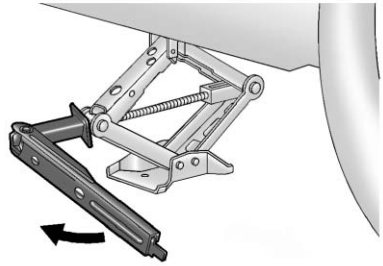
Warning (Continued)

damage, be sure to fit the jack lift head into the proper location before raising the vehicle.

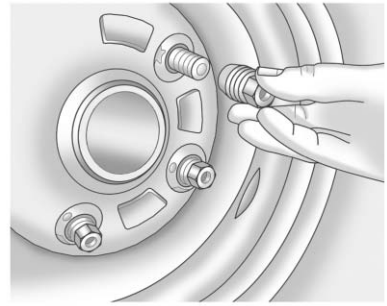
⚠ Warning

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.

5. Attach the jack lift assist tool to the jack by fitting both ends of the jack and tool over one another.



6. Raise the vehicle by turning the jack handle clockwise. Raise the vehicle far enough off the ground so there is enough room for the road tire to clear the ground.



7. Remove all of the wheel nuts.
8. Remove the flat tire.

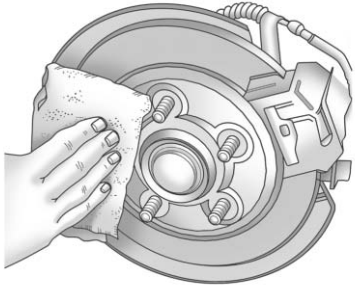
⚠ Warning

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

(Continued)

Warning (Continued)

towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.



9. Remove any rust or dirt from the wheel bolts, mounting surfaces, and spare wheel.
10. 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.

11. Reinstall the wheel nuts. Tighten each nut by hand until the wheel is held against the hub.
12. 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

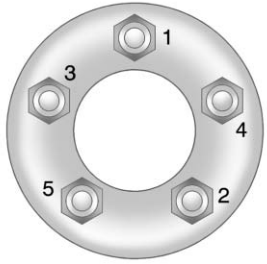
(Continued)

Warning (Continued)

nuts. See *Capacities and Specifications* ⇨ *394* for original equipment wheel nut torque specifications.

Caution

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* ⇨ *394* for the wheel nut torque specification.



13. Tighten the wheel nuts firmly in a crisscross sequence, as shown.
14. Lower the jack all the way and remove the jack from under the vehicle.
15. 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.

Caution

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.

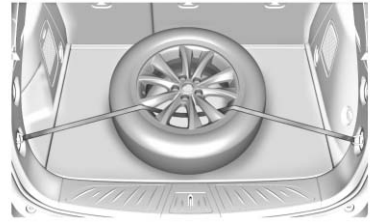
Storing a Flat or Spare Tire and Tools

⚠ 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 tire:

1. Return the jack and tools to their original storage location.
2. Lower the load floor and snap the hook to the bottom of it.
3. Place the flat tire, lying flat, in the rear storage compartment.
4. Attach one end of the strap to a cargo tie-down in the rear of the vehicle.



5. Route the strap through the wheel, as shown.
6. Attach the other end of the strap to the other cargo tie-down in the rear of the vehicle.
7. 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 new; however, it can lose air over 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 being installed on the vehicle. The compact spare tire is designed for temporary use only. The vehicle will perform differently with the spare tire installed and it is recommended that the vehicle speed be limited to 80 km/h (50 mph). To conserve the tread of the spare tire, have the standard tire repaired or replaced as soon as convenient and return the spare tire to the storage area.

When using a compact spare tire, the AWD (if equipped), ABS, and Traction Control systems may engage until the spare tire is recognized by the vehicle, especially on slippery roads. Adjust driving to reduce possible wheel slip.

Caution

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.

Caution

Tire chains will not fit the compact spare. Using them can damage the vehicle and the chains. Do not use tire chains on the compact spare.

Jump Starting

Jump Starting - North America

For more information about the vehicle battery, see *Battery - North America* ⇨ *326*.

If the battery has run down, try to use another vehicle and some jumper cables to start your vehicle. Be sure to use the following steps to do it safely.

⚠ Warning

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. **WASH HANDS AFTER HANDLING.**

(Continued)

Warning (Continued)

See *California Proposition 65 Warning* ⇨ *310*.

⚠ Warning

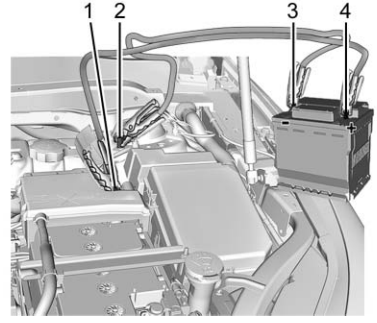
Batteries can hurt you. They can be dangerous because:

- 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.

Caution

Ignoring these steps could result in costly damage to the vehicle that would not be covered by the vehicle warranty. Trying to start the vehicle by pushing or pulling it will not work, and it could damage the vehicle.



1. Discharged Battery Positive (+) Terminal
2. Discharged Battery Negative (–) Grounding Point

3. Good Battery Negative (–) Terminal
4. Good Battery Positive (+) Terminal

The jump start negative grounding point (2) for the discharged battery is on the shock tower on the driver side.

The jump start positive terminal on the discharged battery (1) is located on the battery on the driver side of the vehicle.

The jump start positive terminal (4) and negative terminal (3) are on the battery of the vehicle providing the jump start.

The positive jump start connection for the discharged battery is under a cover. Open the cover to expose the terminal.

1. Check the other vehicle. It must have a 12-volt battery with a negative ground system.

Caution

If the other vehicle does not have a 12-volt system with a negative ground, both vehicles can be damaged. Only use a vehicle that has a 12-volt system with a negative ground for jump starting.

2. Position the two vehicles so that they are not touching.
3. Set the parking brake firmly and put the shift lever in P (Park) with an automatic transmission, or Neutral with a manual transmission.

Caution

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.

4. Turn the ignition to LOCK/OFF. Turn off all lights and accessories in both vehicles, except the hazard warning flashers if needed.

⚠ 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 a match 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.

Battery fluid contains acid that can burn you. Do not get it on you. If you accidentally get it in

(Continued)

Warning (Continued)

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. Connect one end of the red positive (+) cable to the positive (+) terminal on the discharged battery.
6. Connect the other end of the red positive (+) cable to the positive (+) terminal of the good battery.
7. Connect one end of the black negative (–) cable to the negative (–) terminal of the good battery.
8. Connect the other end of the black negative (–) cable to the negative (–) grounding point for the discharged battery.
9. Start the engine in the vehicle with the good battery and run the engine at idle speed for at least four minutes.
10. Try to start the vehicle that had the dead battery. If it will not start after a few tries, it probably needs service.

Caution

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

Reverse the sequence exactly when removing the jumper cables.

After starting the disabled vehicle and removing the jumper cables, allow it to idle for several minutes.

Towing the Vehicle

Caution

Incorrectly towing a disabled vehicle may cause damage. The damage would not be covered by the vehicle warranty.

Do not use a wheel lift tow truck to tow the vehicle. Only use a flatbed car carrier.

Do not lash or hook to suspension components. Use the proper straps around the tires to secure the vehicle.

Use the tow eye for towing a disabled vehicle or loading it onto a flatbed car carrier. The tow eye should not be used to recover a vehicle from an off-road situation.

Caution

Improper use of the tow eye can cause vehicle damage. Use caution and low speeds to prevent damage to the vehicle.

Consult your dealer or a professional towing service if the disabled vehicle must be towed.

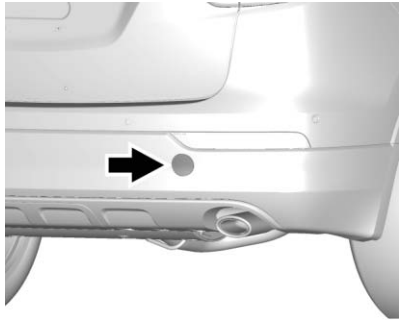
Front Tow Eye

Carefully open the cover by using the small notch that conceals the front tow eye socket.

Install the tow eye into the socket by turning it clockwise until it stops in a horizontal position.

When the tow eye is removed, reinstall the cover with the notch in the original position.

Rear Tow Eye



Carefully open the cover by using the small notch that conceals the rear tow eye socket.

Install the tow eye into the socket by turning it clockwise until it stops in a horizontal position.

When the tow eye is removed, reinstall the cover with the notch in the original position.

To tow the vehicle behind another vehicle for recreational purposes, such as behind a motor home, see “Recreational Vehicle Towing” following.

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:

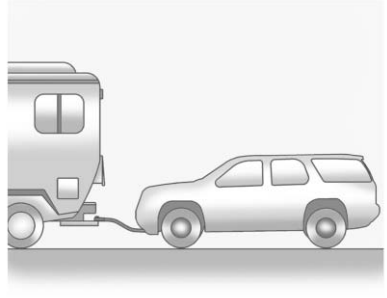
- What is the towing capacity of the towing vehicle? Be sure to read the tow vehicle manufacturer's recommendations.
- What is the distance that will be traveled? Some vehicles have restrictions on how far and how long they can tow.

- 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.

Caution

Use of a shield mounted in front of the vehicle grille could restrict airflow and cause damage to the transmission. The repairs would not be covered by the vehicle warranty. If using a shield, only use one that attaches to the towing vehicle.

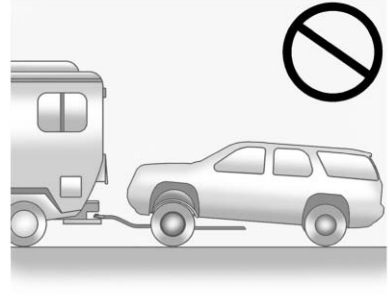
Dinghy Towing



To dinghy tow the vehicle from the front with all four wheels on the ground:

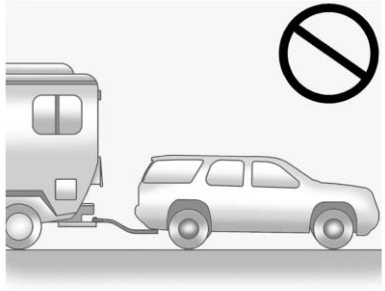
1. Position the vehicle to tow and then secure it to the towing vehicle.
2. Turn the ignition on, and shift the transmission to N (Neutral).
3. With the transmission in N (Neutral), turn the ignition off.
4. To prevent the battery from draining while the vehicle is being towed, remove fuses F29 and F32 (Body Control Module) from the instrument panel fuse block. See *Instrument Panel Fuse Block* ⇨ *336*. Remember to reinstall the fuses once the destination has been reached.

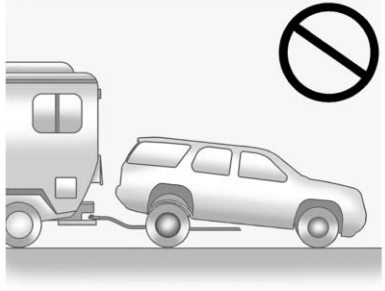
Dolly Towing



Do not tow this vehicle with two wheels on the ground.

Towing the Vehicle from the Rear





Caution
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.

Do not tow the vehicle from the rear.

Appearance Care

Exterior Care

Locks

Locks are lubricated at the factory. Use a de-icing agent only when absolutely necessary, and have the locks greased after using. See *Recommended Fluids and Lubricants* ⇨ *390*.

Washing the Vehicle

To preserve the vehicle's finish, wash it often and out of direct sunlight.

Caution
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 warranty. Approved cleaning products can be obtained from

(Continued)

Caution (Continued)

your dealer. Follow all manufacturer directions regarding correct product usage, necessary safety precautions, and appropriate disposal of any vehicle care product.

Caution

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.

Caution

Do not power wash any component under the hood that has this symbol.

(Continued)

Caution (Continued)

This could cause damage that would not be covered by the vehicle warranty.

If using an automatic car wash, follow the car wash instructions. The windshield wiper and rear window wiper, if equipped, must be off. Remove any accessories that may be damaged or interfere with the car wash equipment.

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.

Do not apply waxes or polishes to uncoated plastic, vinyl, rubber, decals, simulated wood, or flat paint as damage can occur.

Caution

Machine compounding or aggressive polishing on a basecoat/clearcoat paint finish

(Continued)

Caution (Continued)

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 Moldings

Caution

Failure to clean and protect the bright metal moldings can result in a hazy white finish or pitting. This damage would not be covered by the vehicle warranty.

The bright metal moldings on the vehicle are aluminum or stainless steel. To prevent damage always follow these cleaning instructions:

- Be sure the molding is cool to the touch before applying any cleaning solution.
- Use a cleaning solution approved for aluminum or stainless steel. Some cleaners are highly acidic or contain alkaline substances and can damage the moldings.
- Always dilute a concentrated cleaner according to the manufacturer's instructions.
- Do not use chrome cleaners.
- Do not use cleaners that are not intended for automotive use.
- Use a nonabrasive wax on the vehicle after washing to protect and extend the molding finish.

Cleaning Exterior Lamps/ Lenses, Emblems, Decals, and Stripes

Use only lukewarm or cold water, a soft cloth, and a car washing soap to clean exterior lamps, lenses, emblems, decals, and stripes.

Follow instructions under "Washing the Vehicle" previously in this section.

Lamp covers are made of plastic, and some have a UV protective coating. Do not clean or wipe them when dry.

Do not use any of the following on lamp covers:

- Abrasive or caustic agents.
- Washer fluids and other cleaning agents in higher concentrations than suggested by the manufacturer.
- Solvents, alcohols, fuels, or other harsh cleaners.
- Ice scrapers or other hard items.
- Aftermarket appearance caps or covers while the lamps are illuminated, due to excessive heat generated.

Caution

Failure to clean lamps properly can cause damage to the lamp cover that would not be covered by the vehicle warranty.

Caution

Using wax on low gloss black finish stripes can increase the gloss level and create a non-uniform finish. Clean low gloss stripes with soap and water only.

Air Intakes

Clear debris from the air intakes, between the hood and windshield, when washing the vehicle.

Shutter System

The vehicle may have a shutter system designed to help increase fuel economy. Keep the shutter system clean for proper operation.

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 Dielectric silicone grease on weatherstrips to make them last longer, seal better, and not stick or squeak. Lubricate weatherstrips at least once a year. Hot, dry climates may require more frequent application. Black marks from rubber material on painted surfaces can be removed by rubbing with a clean cloth. See *Recommended Fluids and Lubricants* ⇨ *390*.

Tires

Use a stiff brush with tire cleaner to clean the tires.

Caution

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.

Caution

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

(Continued)

Caution (Continued)

chlorides are used on roads for conditions such as ice and dust. Always wash the chrome with soap and water after exposure.

Caution

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.

Brake System

Visually inspect brake lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc. Inspect disc brake pads for wear and rotors for surface condition. Inspect drum brake linings/shoes for wear or cracks. Inspect all other brake parts.

Steering, Suspension, and Chassis Components

Visually inspect steering, suspension, and chassis components for damaged, loose, or missing parts or signs of wear at least once a year.

Inspect power steering for proper attachment, connections, binding, leaks, cracks, chafing, etc.

Visually check constant velocity joint 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

At least twice a year, spring and fall, use plain water to flush any corrosive materials from the underbody. Take care to thoroughly clean any areas where mud and other debris can collect.

Do not directly power wash the transfer case and/or front/rear axle output seals. High pressure water can overcome the seals and contaminate the fluid. Contaminated fluid will decrease the life of the transfer case and/or axles and should be replaced.

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. See “Finish Care” previously in this section.

Interior Care

To prevent dirt particle abrasions, regularly clean the vehicle's interior. Immediately remove any soils. Newspapers or dark garments can 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 repellent from all interior surfaces or permanent damage may result.

Use cleaners specifically designed for the surfaces being cleaned to prevent permanent damage. Apply all cleaners directly to the cleaning cloth. Do not spray cleaners on any switches or controls. Remove cleaners quickly.

Before using cleaners, read and follow all safety instructions on the label. While cleaning the interior, open the doors and windows to get proper ventilation.

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 soil from any interior surface.
- Never use a brush with stiff bristles.

- Never rub any surface aggressively or with too much pressure.
- Do not use laundry detergents or dishwashing soaps with degreasers. For liquid cleaners, use approximately 20 drops per 3.8 L (1 gal) of water.
  A concentrated soap solution will create streaks and attract 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. If necessary, use a commercial glass cleaner after cleaning with plain water.

Caution

To prevent scratching, never use abrasive cleaners on automotive glass. Abrasive cleaners or aggressive cleaning may damage the rear window defogger.

Cleaning the windshield with water during the first three to six months of ownership will reduce tendency to fog.

Speaker Covers

Vacuum around a speaker cover gently, so that the speaker will not be damaged. Clean spots with water and mild soap.

Coated Moldings

Coated moldings should be cleaned.

- When lightly soiled, wipe with a sponge or soft, lint-free cloth dampened with water.
- When heavily soiled, use warm soapy water.

Fabric/Carpet/Suede

Start by vacuuming the surface using a soft brush attachment. If a rotating vacuum brush attachment is being used, only use it on the floor carpet. Before cleaning, gently remove as much of the soil as possible:

- 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. 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 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.

After cleaning, use a paper towel to blot excess moisture.

Cleaning High Gloss Surfaces and Vehicle Information and Radio Displays

Use a microfiber cloth on high gloss surfaces or vehicle displays. First, use a soft bristle brush to remove dirt that can scratch the surface. Then gently clean by rubbing with a microfiber cloth. Never use window cleaners or solvents. Periodically hand wash the microfiber cloth separately, using mild soap. Do not use bleach or fabric softener. Rinse thoroughly and air dry before next use.

Caution

Do not attach a device with a suction cup to the display. This may cause damage and would not be covered by the vehicle warranty.

Instrument Panel, Leather, Vinyl, Other Plastic Surfaces, Low Gloss Paint Surfaces, and Natural Open Pore Wood 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.

Caution

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, 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.

Caution

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.

Cargo Cover and Convenience Net

Wash with warm water and mild detergent. Do not use chlorine bleach. Rinse with cold water, and then dry completely.

Care of Safety Belts

Keep belts clean and dry.

⚠ Warning

Do not bleach or dye safety belt webbing. It may severely weaken the webbing. In a crash, they might not be able to provide adequate protection. Clean and rinse safety belt webbing only with mild soap and lukewarm water. Allow the webbing to dry.

Floor Mats

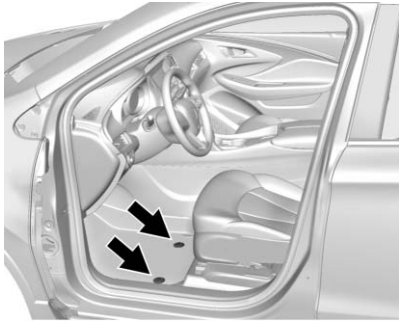
⚠ Warning

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 GM certified floor mats be purchased. Non-GM floor mats may not fit properly and may interfere with the accelerator or brake pedal. Always check that the floor mats do not interfere with the pedals.
- Do not use a floor mat if the vehicle is not equipped with a floor mat retainer on the driver side floor.
- 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 Mat



The driver side floor mat is held in place by two retainers.

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 snap into position.
3. Make sure the floor mat is properly secured in place. Verify the floor mat does not interfere with the pedals.

Service and Maintenance

General Information
General Information 381

Maintenance Schedule
Maintenance Schedule 382

Special Application Services
Special Application Services 387

Additional Maintenance and Care
Additional Maintenance and Care 387

Recommended Fluids, Lubricants, and Parts
Recommended Fluids and Lubricants 390
Maintenance Replacement Parts 391

Maintenance Records
Maintenance Records 392

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.

Caution

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* ⇨ *255*.
- Are driven on reasonable road surfaces within legal driving limits.
- Use the recommended fuel. See *Fuel* ⇨ *298*.

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* ⇨ *311*.

Maintenance Schedule

Owner Checks and Services

At Each Fuel Stop

- Check the engine oil level. See *Engine Oil* ⇨ *314*.

Once a Month

- Check the tire inflation pressures. See *Tire Pressure* ⇨ *346*.
- Inspect the tires for wear. See *Tire Inspection* ⇨ *351*.
- Check the windshield washer fluid level. See *Washer Fluid* ⇨ *324*.

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 may not indicate the need for vehicle service for up to 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* ⇨ *316*.

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* ⇨ *351*.

- Check engine oil level and oil life percentage. If needed, change engine oil and filter, and reset oil life system. See *Engine Oil* ⇨ *314* and *Engine Oil Life System* ⇨ *316*.
- Check engine coolant level. See *Engine Coolant* ⇨ *320*.
- Check windshield washer fluid level. See *Washer Fluid* ⇨ *324*.
- Visually inspect windshield wiper blades for wear, cracking, or contamination. See *Exterior Care* ⇨ *371*. Replace worn or damaged wiper blades. See *Wiper Blade Replacement* ⇨ *329*.
- Check tire inflation pressures. See *Tire Pressure* ⇨ *346*.
- Inspect tire wear. See *Tire Inspection* ⇨ *351*.
- Visually check for fluid leaks.
- Inspect engine air cleaner filter. See *Engine Air Cleaner/ Filter* ⇨ *318*.
- Inspect brake system. See *Exterior Care* ⇨ *371*.
- Visually inspect steering, suspension, and chassis components for damaged, loose, or missing parts or signs of wear. See *Exterior Care* ⇨ *371*.
- Check restraint system components. See *Safety System Check* ⇨ *64*.
- 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* ⇨ *371*.
- Check starter switch. See *Starter Switch Check* ⇨ *328*.
- Check automatic transmission shift lock control function. See *Automatic Transmission Shift Lock Control Function Check* ⇨ *328*.
- Check parking brake and automatic transmission park mechanism. See *Park Brake and P (Park) Mechanism Check* ⇨ *328*.
- 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.
- Inspect sunroof track and seal, if equipped. See *Sunroof* ⇨ *47*.

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. (1)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (2)						✓						✓						✓		
Replace engine air cleaner filter. (3)						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires.								✓								✓				
Drain and fill engine cooling system. (4)																				✓
Visually inspect accessory drive belts. (5)																				✓
Replace brake fluid. (6)																				

Footnotes — Maintenance Schedule Additional Required Services - Normal

(1) Or every two years, whichever comes first. More frequent passenger compartment air filter replacement may be needed if driving in areas with heavy traffic, poor air quality, high dust levels, or environmental allergens. Passenger compartment air filter replacement may also be needed if there is reduced airflow, window fogging, or odors. Your GM dealer can help determine when to replace the filter.

(2) Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition.

(3) Or every four years, whichever comes first. If driving in dusty conditions, inspect the filter at each oil change or more often as needed.

(4) Or every five years, whichever comes first. See *Cooling System* ⇨ *319*.

(5) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

(6) Replace brake fluid every three years. See *Brake Fluid* ⇨ *325*.

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. (1)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (2)						✓						✓						✓		
Replace engine air cleaner filter. (3)						✓						✓						✓		
Change automatic transmission fluid.						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires.								✓								✓				
Drain and fill engine cooling system. (4)																				✓
Visually inspect accessory drive belts. (5)																				✓
Replace brake fluid. (6)																				

Footnotes — Maintenance Schedule Additional Required Services - Severe

(1) Or every two years, whichever comes first. More frequent passenger compartment air filter replacement may be needed if driving in areas with heavy traffic, poor air quality, high dust levels, or environmental allergens. Passenger compartment air filter replacement may also be needed if there is reduced airflow, window fogging, or odors. Your GM dealer can help determine when to replace the filter.

(2) Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition.

(3) Or every four years, whichever comes first. If driving in dusty conditions, inspect the filter at each oil change or more often as needed.

(4) Or every five years, whichever comes first. See *Cooling System* ⇨ *319*.

(5) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

(6) Replace brake fluid every three years. See *Brake Fluid* ⇨ *325*.

Special Application Services

- Severe Commercial Use Vehicles Only: Lubricate chassis components every oil change.
- Have underbody flushing service performed. See "Underbody Maintenance" in *Exterior Care* ⇨ *371*.

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 12-volt 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 have access to tools and equipment to inspect the belts and recommend adjustment or 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* ⇨ *390* 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 and 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* ⇨ *376* and *Exterior Care* ⇨ *371*.

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	Engine oil meeting the dexos1™ specification of the proper SAE viscosity grade. ACDelco dexos1 Synthetic Blend is recommended. See *Engine Oil* ⇨ *314*.
Engine Coolant	50/50 mixture of clean, drinkable water and use only DEX-COOL® Coolant. See *Engine Coolant* ⇨ *320*.
Hydraulic Brake System	DOT 4 Hydraulic Brake Fluid (GM Part No. 19299570, in Canada 19299571).
Windshield Washer	Automotive windshield washer fluid that meets regional freeze protection requirements.
Automatic Transmission	DEXRON®-VI Automatic Transmission Fluid.
Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor, and Release Pawl	Lubriplate Lubricant Aerosol (GM Part No. 89021668, in Canada 89021674) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Key Lock Cylinders, Hood and Door Hinges	Multi-Purpose Lubricant, Superlube (GM Part No. 12346241, in Canada 10953474).
Weatherstrip Conditioning	Weatherstrip Lubricant (GM Part No. 3634770, in Canada 10953518) or Dielectric Silicone Grease (GM Part No. 12345579, in Canada 10953481).

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	22971580	A3201C
Engine Oil Filter	12640445	PF64
Passenger Compartment Air Filter	13508023	CF185
Spark Plugs	12647827	41–125
Wiper Blades		
Driver Side – 57.6 cm (22.7 in)	25882578	—
Passenger Side – 45.5 cm (17.9 in)	13227404	—
Rear – 30.0 cm (11.8 in)	23398639	—

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	Services Performed

Technical Data

Vehicle Identification
Vehicle Identification Number (VIN) 393
Service Parts Identification Label 393

Vehicle Data
Capacities and Specifications 394
Engine Drive Belt Routing 395

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 Vehicle Identification Number (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* ⇨ *394* for the vehicle's engine code.

Service Parts Identification Label

If equipped, this label on the trunk floor 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

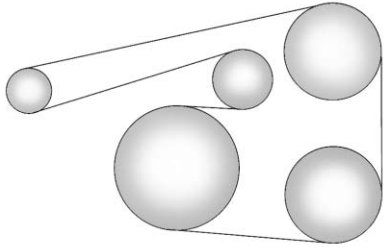
The following approximate capacities are given in metric and English conversions. See *Recommended Fluids and Lubricants* ⇨ *390* for more information.

Application	Capacities	
	Metric	English
Air Conditioning Refrigerant	For the air conditioning system refrigerant type and charge amount, see the refrigerant label under the hood. See your dealer for more information.	
Cooling System	7.75 L	8.1 qt
Engine Oil with Filter	5.7 L	6.0 qt
Fuel Tank	65.5 L	17.3 gal
Wheel Nut Torque	140 N•m	100 lb ft
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
2.0L L4	X	Automatic	0.75–0.90 mm (0.030–0.035 in)

Engine Drive Belt Routing



Customer Information

Customer Information
Customer Satisfaction Procedure 396
Customer Assistance Offices 398
Customer Assistance for Text Telephone (TTY) Users 398
Online Owner Center 399
GM Mobility Reimbursement Program 399
Roadside Assistance Program 400
Scheduling Service Appointments 401
Courtesy Transportation Program 402
Collision Damage Repair 403
Service Publications Ordering Information 405
Radio Frequency Statement 406

Reporting Safety Defects
Reporting Safety Defects to the United States Government 406
Reporting Safety Defects to the Canadian Government 407
Reporting Safety Defects to General Motors 407

Vehicle Data Recording and Privacy
Vehicle Data Recording and Privacy 407
Event Data Recorders 408
OnStar® 408
Infotainment System 409

Customer Information

Customer Satisfaction Procedure

Your satisfaction and goodwill are important to your dealer and to Buick. 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 1-800-521-7300. In Canada, contact General Motors of Canada Customer Care Centre at 1-800-263-3777 (English) or 1-800-263-7854 (French).

We encourage you to call the toll-free number in order to give the 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 Buick, 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.
3033 Wilson Boulevard
Suite 600
Arlington, VA 22201

Telephone: 1-800-955-5100
http://www.bbb.org/council/programs-services/dispute-handling-and-resolution/bbb-auto-line

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

Company wants you to be aware of its participation in a no-charge Mediation/Arbitration program. General Motors of Canada Company 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 about 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 Company
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 Assistance Offices

Buick encourages customers to call the toll-free number for assistance. However, if a customer wishes to write or e-mail Buick, the letter should be addressed to:

United States and Puerto Rico

Buick Customer Assistance Center
P.O. Box 33136
Detroit, MI 48232-5136
www.Buick.com

1-800-521-7300
1-800-832-8425 (For Text Telephone devices (TTYs))
Roadside Assistance:
1-800-252-1112

From U.S. Virgin Islands:

1-800-496-9994

Canada

General Motors of Canada Company
Customer Care Centre, Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7
www.gm.ca

1-800-263-3777 (English)
1-800-263-7854 (French)
1-800-263-3830 (For Text Telephone devices (TTYs))
Roadside Assistance:
1-800-268-6800

All Overseas Locations

Please contact the local General Motors Business Unit.

Customer Assistance for Text Telephone (TTY) Users

To assist customers who are deaf, hard of hearing, or speech-impaired and who use Text Telephones

(TTYs), Buick has TTY equipment available at its Customer Assistance Center. Any TTY user can communicate with Buick by dialing: 1-800-832-8425. TTY users in Canada can dial 1-800-263-3830.

Online Owner Center

Online Owner Experience (U.S.) my.buick.com

The Buick online owner experience allows interaction with Buick and keeps important vehicle-specific information in one place.

Membership Benefits

: Download owner manuals and view vehicle-specific how-to videos.

: View maintenance schedules, alerts, and OnStar onboard vehicle diagnostic information. Schedule service appointments.

: View and print dealer-recorded service records and self-recorded service records.

: Select a dealer and view locations, maps, phone numbers, and hours.

: Track your vehicle's warranty information.

: View active recalls by Vehicle Identification Number (VIN). See *Vehicle Identification Number (VIN)* ⇨ *393*.

: View GM Card, SiriusXM Satellite radio (if equipped), and OnStar account information.

: Chat with online help representatives.

See my.buick.com to register your vehicle.

Buick Owner Centre (Canada) buickowner.ca

Visit the Buick 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 Featured Articles and Auto Care Sections.
- Download the owner manual for your vehicle, quickly and easily.
- Find the Buick-recommended maintenance services for your vehicle.

GM Mobility Reimbursement Program

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. Visit www.gm.ca or call 1-800-GM-DRIVE (463-7483) for details. TTY users call 1-800-263-3830.

Roadside Assistance Program

For U.S.-purchased vehicles, call 1-800-252-1112; (Text Telephone (TTY): 1-888-889-2438).

For Canadian-purchased vehicles, call 1-800-268-6800.

Service is available 24 hours a day, 365 days a year.

Calling for Assistance

When calling Roadside Assistance, 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 for the duration of the vehicle's powertrain warranty.

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 Assistance is not a part of the New Vehicle Limited Warranty. General Motors North America and Buick reserve the right to make any changes or discontinue the Roadside Assistance program at any time without notification.

General Motors North America and Buick 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.

Services Provided

- **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 Buick dealer for warranty service, or if the vehicle was in a crash and cannot be driven. Assistance is not given when the vehicle is stuck in sand, mud, or snow.

- **Flat Tire Change:** Service to change a flat tire with the spare tire. The spare tire, if equipped, must be in good condition and properly inflated. It is the owner's 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 Interruption Benefits and Assistance:** If your trip is interrupted due to a warranty event, incidental expenses may be reimbursed within the Powertrain warranty period. Items considered are reasonable and customary hotel, meals, rental car, or a vehicle being delivered back to the customer, up to 805 km (500 mi).

Services Not Included in Roadside Assistance

- Impound towing caused by violation of any laws.
- Legal fines.
- Mounting, dismounting, or changing of snow tires, chains, or other traction devices.

Service is not provided if a vehicle is in an area that is not accessible to the service vehicle or is not a regularly traveled or maintained public road, which includes ice and winter roads. Off-road use is not covered.

Services Specific to Canadian-Purchased Vehicles

- **Fuel Delivery:** Reimbursement is up to 7 liters. Diesel fuel delivery may be restricted. Propane and other fuels are not provided through this service.
- **Lock-Out Service:** Vehicle registration is required.
- **Trip Interruption Benefits and Assistance:** Must be over 150 km from where your trip was started to qualify. Pre-authorization, original detailed receipts, and a copy of the repair orders are required. Once authorization has been received, the Roadside Assistance advisor will help you make arrangements and explain how to receive payment.
- **Alternative Service:** If assistance cannot be provided right away, the Roadside Assistance advisor may give permission to get local emergency road service. You will receive payment, up to $100, after sending the original receipt to Roadside Assistance. Mechanical failures may be covered, however any cost for parts and labor for repairs not covered by the warranty are the owner responsibility.

Scheduling Service Appointments

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

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 do so, your dealer may offer the following transportation options:

Shuttle Service

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 overnight warranty repairs are needed, and public transportation is used, the expense must be supported by original receipts and within the maximum amount allowed by GM for shuttle service. If U.S. customers arrange their own transportation, 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.

Courtesy Rental Vehicle

For an overnight warranty repair, the dealer may provide an available courtesy rental vehicle or provide for reimbursement of a rental vehicle. Reimbursement is limited and must be supported by original receipts as well as a signed and completed 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. Additional fees such as fuel usage charges, taxes, levies, usage fees, excessive mileage, or rental usage beyond the completion of the repair are also your responsibility.

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. Contact your dealer for specific availability.

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

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 through the use of 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 Assistance Program* ⇨ *400*.

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?* ⇨ *71*.

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 Manual.

RETAIL SELL PRICE: $35.00 – $40.00 (U.S.) plus handling and shipping fees.

Without Pouch: 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), see 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.

Radio Frequency Statement

This vehicle has systems that operate on a radio frequency that complies with Part 15/Part 18 of the Federal Communications Commission (FCC) rules and with Industry Canada Standards RSS-GEN/210/216/220/251/310, ICES-001.

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.

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 Company. 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 1-800-521-7300, or write:

Buick Customer Assistance Center
P.O. Box 33136
Detroit, MI 48232–5136

In Canada, call 1-800-263-3777 (English) or 1-800-263-7854 (French), or write:

General Motors of Canada Company
Customer Care Centre, Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Vehicle Data Recording and Privacy

The vehicle has a number of 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 them in a crash, and, if equipped, to provide antilock braking to help the driver control the vehicle. These modules may store data to help the dealer technician service the vehicle. Some modules may also store data about how the vehicle is operated, such as rate of fuel consumption or average speed. These modules may retain personal preferences, such as radio presets, seat positions, and temperature settings.

Event Data Recorders

This vehicle is equipped with 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 air bag 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 your vehicle were operating;
- Whether or not the driver and passenger safety belts were buckled/fastened;
- How far (if at all) the driver was depressing the accelerator and/or brake pedal; and,
- How fast the vehicle was traveling.

These data can help provide a better understanding of the circumstances in which crashes and injuries occur.

Note

EDR data are recorded by your vehicle only if a non-trivial crash situation occurs; no data are recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) are 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 these 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 OnStar® and has an active subscription, additional data may be collected through the OnStar system. This includes information about the vehicle's operation; collisions involving the vehicle; the use of the vehicle and its features; and, in certain situations, the location and approximate GPS speed of the vehicle. Refer to the

OnStar Terms and Conditions and Privacy Statement on the OnStar website.

See *OnStar Additional Information* ⇨ *414*.

Infotainment System

If the vehicle is equipped with a navigation system as part of the infotainment system, use of the system may result in the storage of destinations, addresses, telephone numbers, and other trip information. See “Return to Factory Settings” under *Settings* ⇨ *227* for information on stored data and for deletion instructions.

OnStar

OnStar Overview
OnStar Overview 410

OnStar Services
Emergency 411
Security 411
Navigation 411
Connections 412
Diagnostics 414

OnStar Additional Information
OnStar Additional Information 414

OnStar Overview

Voice Command Button

Blue OnStar Button

Red Emergency Button

This vehicle may be equipped with a comprehensive, in-vehicle system that can connect to an OnStar Advisor for Emergency, Security, Navigation, Connections, and Diagnostics Services. OnStar services may require a paid subscription and data plan. OnStar requires the vehicle battery and electrical system, cellular service, and GPS satellite signals to be available and operating. OnStar acts as a link to existing emergency service providers. OnStar may collect information about you and your vehicle, including location information. See OnStar's Terms & Conditions and Privacy Statement for more details including system limitations at www.onstar.com (U.S.) or www.onstar.ca (Canada).

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.
- Off: System is off. Press twice to speak with an OnStar Advisor.

Press or call 1-888-4ONSTAR (1-888-466-7827) to speak to an Advisor.

Press 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.

- Obtain the Wi-Fi® hotspot name or SSID and password, if equipped.

Press On to connect to an Advisor to:

- Verify account information or update contact information.
- Get driving directions.
- Receive a Diagnostic check of the vehicle's key operating systems.
- Receive Roadside Assistance.
- Manage Wi-Fi Settings, if equipped.

Press SOS to get a priority connection to an OnStar Advisor available 24/7 to:

- Get help for an emergency.
- Be a Good Samaritan or respond to an AMBER Alert.
- Get assistance in severe weather or other crisis situations and find evacuation routes.

OnStar Services

Emergency

Emergency Services require an active, OnStar subscription plan (excludes Basic Plan). With Automatic Crash Response, built-in sensors can automatically alert a specially trained OnStar Advisor who is immediately connected in to the vehicle to help.

Press SOS for a priority connection to an OnStar Advisor who can contact emergency service providers, direct them to your exact location, and relay important information.

With OnStar Crisis Assist, specially trained Advisors are available 24 hours a day, 7 days a week, to provide a central point of contact, assistance, and information during a crisis.

With Roadside Assistance, Advisors can locate a nearby service provider to help with a flat tire, a battery jump, or an empty gas tank.

Security

If equipped, OnStar provides these services:

- With Stolen Vehicle Assistance, OnStar Advisors can use GPS to pinpoint the vehicle and help authorities quickly recover it.
- With Remote Ignition Block, if equipped, OnStar can block the engine from being restarted.
- With Stolen Vehicle Slowdown, if equipped, OnStar can work with law enforcement to gradually slow the vehicle down.

Navigation

OnStar navigation requires a specific OnStar subscription plan.

Press On to receive Turn-by-Turn directions or have them sent to the vehicle’s navigation screen, if equipped.

Turn-by-Turn Navigation

1. Press On to connect to an Advisor.

2. Request directions to be downloaded to the vehicle.
3. Follow the voice-guided commands.

Using Voice Commands During a Planned Route

Cancel Route

1. Press . System responds: “OnStar ready,” then a tone.
2. Say “Cancel route.” System responds: “Do you want to cancel directions?”
3. Say “Yes.” System responds: “OK, request completed, thank you, goodbye.”

Route Preview

1. Press . System responds: “OnStar ready,” then a tone.
2. Say “Route preview.” System responds with the next three maneuvers.

Repeat

1. Press . 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.

Get My Destination

1. Press . System responds: “OnStar ready,” then a tone.
2. Say “Get my destination.” System responds with the address and distance to the destination, then responds with “OnStar ready,” then a tone.

Destination Download

Subscribers can have directions sent to the vehicle’s navigation screen, if equipped.

Press , then ask the Advisor to download directions to the vehicle’s navigation system, if equipped. After the call ends, the navigation screen will provide prompts to begin driving directions. Routes that are sent to the navigation screen can only be canceled through the navigation system.

See www.onstar.com (U.S.) or www.onstar.ca (Canada).

Connections

The following OnStar services help with staying connected.

For coverage maps, see www.onstar.com (U.S.) or www.onstar.ca (Canada).

Ensuring Security

- Change the default passwords for the Wi-Fi hotspot and RemoteLink mobile application. Make these passwords different from each other and use a combination of letters, numbers, and symbols to increase the security.
- Change the default name of the SSID (Service Set Identifier). This is your network’s name that is visible to other wireless devices. Choose a unique name and avoid family names or vehicle descriptions.

OnStar Wi-Fi® Hotspot (If Equipped)

The vehicle may have a built-in Wi-Fi hotspot that provides access to the Internet and web content at

4G LTE speed. Up to seven mobile devices can be connected. A data plan is required. Use the in-vehicle controls only when it is safe to do so.

1. To retrieve Wi-Fi hotspot information, press , wait for the prompt, then say “Wi-Fi settings.” On some vehicles, touch Wi-Fi Settings on the screen.
2. The Wi-Fi settings will display the Wi-Fi hotspot name (SSID), password, and on some vehicles, the connection type (no Internet connection, 3G, 4G, 4G LTE), and signal quality (poor, good, excellent).
3. To change the SSID or password, press or call 1-888-4ONSTAR to connect with an Advisor.

OnStar RemoteLink® Mobile App (If Equipped)

Download the OnStar RemoteLink mobile app to select Apple® iOS, Android™, BlackBerry®, or Windows® mobile devices.

OnStar Subscribers can access the following services from a mobile device:

- Remotely start/stop the vehicle, if factory-equipped.
- Lock/unlock doors, if equipped with automatic locks.
- Activate the horn and lamps.
- Check the vehicle’s fuel level, oil life, or tire pressure, if factory-equipped with the Tire Pressure Monitor System.
- Send directions to the vehicle.
- Locate the vehicle on a map (U.S. market only).
- Turn the vehicle's Wi-Fi hotspot on/off, manage settings, and monitor data consumption, if equipped.

For OnStar RemoteLink information and compatibility, see www.onstar.com (U.S.) or www.onstar.ca (Canada).

Remote Services

Contact an OnStar Advisor to unlock the doors or sound the horn and flash the lamps.

OnStar AtYourService

OnStar Advisors can provide special offers from restaurants and retailers on your route, help locate hotels, or book a room.

OnStar Hands-Free Calling

Make and receive calls with the built-in wireless calling service, which requires available minutes.

Make a Call

1. Press . System responds: “OnStar ready.”
2. Say “Call.” System responds: “Call. 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.”

Calling 911 Emergency

1. Press . System responds: “OnStar ready.”
2. Say “Call.” System responds: “Call. Please say the name or number to call.”
3. Say “911” without pausing. System responds: “911.”
4. Say “Call.” System responds: “OK, dialing 911.”

Retrieve My Number

1. Press . System responds: “OnStar ready.”
2. Say “My number.” System responds: “Your OnStar Hands-Free Calling number is,” then says the number.

End a Call

Press . System responds: “Call ended.”

Verify Minutes and Expiration

Press and say “Minutes” then “Verify” to check how many minutes remain and their expiration date.

Diagnostics

Advanced Diagnostics provides a status of the vehicle’s key systems with a monthly e-mail, or by pressing . If equipped, Diagnostic Alerts can be received in real-time via e-mail or text. The Proactive Alerts feature (if available) can help predict and alert of potential upcoming maintenance issues with select components on the vehicle, before they become a problem.

OnStar can also monitor and report tire pressure, if the vehicle is equipped with a Tire Pressure Monitoring System.

OnStar Additional Information

In-Vehicle Audio Messages

Audio messages may play important information at the following times:

- Prior to vehicle purchase. Press to set up an account.
- With the OnStar Basic Plan, every 60 days.
- After change in ownership and at 90 days.

Transferring Service

Press to request account transfer eligibility information. The Advisor can cancel or change account information.

Selling/Transferring the Vehicle

Call 1-888-4ONSTAR (1-888-466-7827) immediately to terminate your OnStar services if the vehicle is disposed of, sold, transferred, or if the lease ends.

Reactivation for Subsequent Owners

Press ⓞⓝ and follow the prompts to speak to an Advisor as soon as possible. The Advisor will update vehicle records and explain OnStar service options.

How OnStar Service Works

Automatic Crash Response, Emergency Services, Crisis Assist, Stolen Vehicle Assistance, Advanced Diagnostics, Remote Services, 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:

- Call 1-888-4ONSTAR (1-888-466-7827).
- See www.onstar.com (U.S.).
- See www.onstar.ca (Canada).
- Call TTY 1-877-248-2080.
- Press ⓞⓝ to speak with an Advisor.

OnStar services cannot work unless the vehicle is in a place where OnStar has an agreement with a wireless service provider for service in that area. The wireless service provider must also have coverage, network capacity, reception, and technology compatible with OnStar services. Service involving location information about the vehicle cannot work unless GPS signals are available, unobstructed, and compatible with the OnStar hardware. OnStar services 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 services may not work. Other problems beyond the control of OnStar — 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 — may prevent service.

See *Radio Frequency Statement* ⇨ *406*.

Services for People with Disabilities

Advisors provide services to help Subscribers with physical disabilities and medical conditions.

Press ⓞⓝ to help:

- Locate a gas station with an attendant to pump gas.
- Find a hotel, restaurant, etc., that meets accessibility needs.
- Provide directions to the closest hospital or pharmacy in urgent situations.

TTY Users

OnStar has the ability to communicate to 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 OnStar services, except Virtual Advisor and OnStar Turn-by-Turn Navigation.

OnStar Personal Identification Number (PIN)

A PIN is needed to access some OnStar services. The PIN will need to be changed the first time when speaking with an Advisor. To change the OnStar PIN, contact an OnStar Advisor by pressing or calling 1-888-4ONSTAR.

Warranty

OnStar equipment may be warranted as part of the vehicle warranty.

Languages

The vehicle can be programmed to respond in multiple languages. Press and ask for an Advisor. Advisors are available in English, Spanish, and French. Available languages may vary by country.

Potential Issues

OnStar cannot perform Remote Door Unlock or Stolen Vehicle Assistance after the vehicle has been off continuously for five days without an ignition cycle. If the vehicle has not been started for five days, OnStar can contact Roadside Assistance or 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 and underpasses; 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

Cellular reception is required for OnStar to send remote signals to the vehicle. Do not place items over or near the antenna to prevent blocking cellular and GPS signal reception.

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. Press 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* ⇨ *308* or *Add-On Electrical Equipment* ⇨ *308*. Added electrical equipment may interfere with the operation of the OnStar system and cause it to not operate.

Vehicle Software Updates

OnStar or GM may remotely deliver software updates or changes to the vehicle without further notice or consent. These updates or changes may enhance or maintain safety, security, or the operation of the vehicle or the vehicle systems. Software updates or changes may affect or erase data or settings that are stored in the vehicle, such as OnStar Hands-Free Calling name tags, saved navigation destinations, or pre-set radio stations. Neither OnStar nor GM is responsible for any affected or erased data or settings. These updates or changes may also collect personal information. Such collection is described in the OnStar privacy statement or separately disclosed at the time of installation. These updates or changes may also cause a system to automatically communicate with GM servers to collect information about vehicle system status, identify whether updates or changes are available, or deliver updates or changes. An active OnStar agreement constitutes consent to these software updates or changes and agreement that either OnStar or GM may remotely deliver them to the vehicle.

Privacy

The complete OnStar Privacy Statement may be found at www.onstar.com (U.S.), or www.onstar.ca (Canada). We recommend that you review it. If you have any questions, call 1-888-4ONSTAR (1-888-466-7827) or press on to speak with an Advisor. 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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libcurl:

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Index

A

About Driving the Vehicle 2
Accessories and
  Modifications 310
Accessory Power 264
Adaptive Cruise Control 277
Adaptive Forward
  Lighting (AFL) 158
Adaptive Forward Lighting
  (AFL) Light 126
Add-On Electrical Equipment ...308
Additional Information
  OnStar® 414
Additional Maintenance
  and Care 387
Adjustments
  Lumbar, Front Seats 52
  Thigh Support 52
Agreements
  Trademarks and License 229
Air Cleaner/Filter, Engine 318
Air Filter, Passenger
  Compartment 245
Air Vents 244
Airbag System
  Check 77
  How Does an Airbag
    Restrain? 70
Airbag System (cont'd)
  Passenger Sensing System 72
  What Makes an Airbag
    Inflate? 70
  What Will You See after an
    Airbag Inflates? 71
  When Should an Airbag
    Inflate? 69
  Where Are the Airbags? 67
Airbags
  Adding Equipment to the
    Vehicle 77
  Passenger Status Indicator 118
  Readiness Light 118
  Servicing Airbag-Equipped
    Vehicles 76
  System Check 65
Alarm
  Vehicle Security 41
Alert
  Lane Change 294
  Side Blind Zone (SBZA) 293
All-Season Tires 339
All-Wheel Drive 270, 328
AM-FM Radio 170
Antenna 175
  Multi-band 175
Antilock Brake System (ABS) ...270

Antilock Brake System (ABS) (cont'd)
Warning Light 122
Appearance Care
Exterior 371
Interior 376
Armrest
Rear Seat 57
Assistance Program, Roadside 400
Assistance Systems for Driving 289
Assistance Systems for Parking and Backing 285
Audio
Bluetooth 185
Audio Players
CD 179
Automatic
Dimming Mirrors 44
Door Locks 35
Headlamp System 157
Transmission 267
Transmission Fluid 317
Automatic Transmission
Manual Mode 269
Shift Lock Control Function Check 328
Auxiliary Jack 184
Avoiding Untrusted Media Devices 179

B

Battery
Exterior Lighting Battery Saver 162
Power Protection 162
Voltage and Charging Messages 137
Battery - North America 326, 365
Blade Replacement, Wiper 329
Bluetooth
Overview 220, 221, 224
Bluetooth Audio 185
Brake
Parking, Electric 271
System Warning Light 121
Brakes 325
Antilock 270
Assist 272
Fluid 325
System Messages 137
Braking 250
Break-In, New Vehicle 259
Bulb Replacement 332
Halogen Bulbs 331
Headlamp Aiming 331
Bulb Replacement (cont'd)
Headlamps 331
High Intensity Discharge (HID) Lighting 331
License Plate Lamps 332
Buying New Tires 353

C

California
Fuel Requirements 299
Perchlorate Materials Requirements 310
California Proposition 65 Warning 310, 326, 365
Canadian Vehicle Owners 2
Capacities and Specifications 394
Carbon Monoxide
Engine Exhaust 266
Liftgate 36
Winter Driving 253
Card Reader
SD 184
Cargo
Cover 99
Tie-Downs 99
Caution, Danger, and Warning 3
CD Player 179

Center Console Storage 98
Chains, Tire 357
Charging System Light 119
Check
Malfunction Indicator
Engine Light 119
Child Restraints
Infants and Young Children 80
Lower Anchors and Tethers
for Children 85
Older Children 78
Securing 92, 94
Systems 82
Circuit Breakers 333
Cleaning
Exterior Care 371
Interior Care 376
Climate Control Systems
Dual Automatic 240
Rear 243
Clock 107
Cluster, Instrument 111
Collision Damage Repair 403
Compact Spare Tire 364
Compartments
Storage 97
Connections
OnStar® 412
Control
Traction and Electronic
Stability 273
Control of a Vehicle 250
Convenience Net 100
Convex Mirrors 43
Coolant
Engine 320
Engine Temperature Gauge ...116
Engine Temperature
Warning Light 124
Cooling System 319
Engine Messages 139
Courtesy Lamps 160
Courtesy Transportation
Program 402
Cover
Cargo 99
Coverage Explanations 213
Cruise Control 275
Light 127
Messages 137
Cruise Control, Adaptive 277
Cupholders 97
Customer Assistance 398
Offices 398
Text Telephone (TTY)
Users 398
Customer Information
Service Publications
Ordering Information 405
Customer Satisfaction
Procedure 396

D

Damage Repair, Collision 403
Danger, Warning, and Caution 3
Data Recorders, Event 408
Database Coverage
Explanations 213
Daytime Running
Lamps (DRL) 157
Defensive Driving 249
Delayed Locking 34
Destination 196
Diagnostics
OnStar® 414
Distracted Driving 249
Dome Lamps 160
Door
Ajar Light 128
Ajar Messages 138
Delayed Locking 34
Locks 33
Power Locks 34
Drive Belt Routing, Engine 395

Drive Systems
All-Wheel Drive 270, 328
Driver Assistance Systems 284
Driver Behavior 248
Driver Information
Center (DIC) 128, 131
Driving
Assistance Systems 289
Characteristics and
Towing Tips 301
Defensive 249
Drunk 250
Environment 248
For Better Fuel Economy 24
Hill and Mountain Roads 253
If the Vehicle is Stuck 255
Loss of Control 251
Off-Road Recovery 251
Vehicle Load Limits 255
Wet Roads 252
Winter 253
Driving the Vehicle 2
Dual Automatic Climate
Control System 240

E

Electric Parking Brake 271
Electric Parking Brake Light 122
Electrical Equipment,
Add-On 308
Electrical System
Engine Compartment Fuse
Block 334
Fuses and Circuit Breakers 333
Instrument Panel Fuse
Block 336
Overload 333
Rear Compartment Fuse
Block 337
Emergency
OnStar® 411
Engine
Air Cleaner/Filter 318
Check and Service Engine
Soon Light 119
Compartment Overview 313
Coolant 320
Coolant Temperature
Gauge 116
Coolant Temperature
Warning Light 124
Cooling System 319
Cooling System Messages 139
Engine (cont'd)
Drive Belt Routing 395
Exhaust 266
Heater 263
Oil Life System 316
Oil Messages 139
Oil Pressure Light 125
Overheating 323
Power Messages 140
Running While Parked 266
Starting 261
Entry Lighting 161
Equipment, Towing 307
Event Data Recorders 408
Exit Lighting 162
Extender, Safety Belt 64
Exterior Lamp Controls 155
Exterior Lamps Off Reminder 157
Exterior Lighting Battery
Saver 162

F

Features
Memory 11
Filter,
Engine Air Cleaner 318
Flash-to-Pass 157
Flashers, Hazard Warning 159
Flat Tire 357

Flat Tire (cont'd)
Changing 359
Floor Mats 379
Fluid
Automatic Transmission 317
Brakes 325
Washer 324
Fog Lamps 160
Folding Mirrors 44
Forward Collision Alert
(FCA) System 290
Frequency Statement
Radio 406
Front Automatic Braking
(FAB) System 292
Front Fog Lamp
Light 127
Front Seats
Heated and Cooled 55
Front Storage 97
Fuel 298
Additives 299
Economy Driving 24
Filling a Portable Fuel
Container 301
Filling the Tank 299
Foreign Countries 299
Gauge 115
Fuel (cont'd)
Low Fuel Warning Light 126
Requirements, California 299
System Messages 140
Fuses
Engine Compartment Fuse
Block 334
Fuses and Circuit Breakers . . . 333
Instrument Panel Fuse
Block 336
Rear Compartment Fuse
Block 337

G

Garage Door Opener 151
Programming 151
Gauges
Engine Coolant
Temperature 116
Fuel 115
Odometer 114
Speedometer 114
Tachometer 114
Trip Odometer 114
Warning Lights and
Indicators 110
General Information
Service and Maintenance 381
Towing 301
General Information (cont'd)
Vehicle Care 310
Global Positioning
System (GPS) 211
Glove Box 97
GM Mobility Reimbursement
Program 399
Guidance
Problems with the Route 212

H

Halogen Bulbs 331
Hazard Warning Flashers 159
HD Radio Technology 173
Head Restraints 50
Head-up Display 133
Headlamp Leveling Control 158
Headlamps
Adaptive Forward
Lighting (AFL) 158
Aiming 331
Automatic 157
Bulb Replacement 331
Daytime Running
Lamps (DRL) 157
Flash-to-Pass 157
High Intensity Discharge
(HID) Lighting 331
High-Beam On Light 126

Headlamps (cont'd)
High/Low Beam Changer 157
Lamps On Reminder 127
Washer 107
Heated
Rear Seats 58
Steering Wheel 104
Heated and Cooled Front
Seats 55
Heated Mirrors 44
Heater
Engine 263
High-Beam On Light 126
Hill and Mountain Roads 253
Hill Start Assist (HSA) 272
Hood 312
Horn 104
How to Wear Safety Belts
Properly 59

I

If the System Needs Service 212
Ignition Positions 259
Immobilizer 42
Indicator
Vehicle Ahead 123
Infants and Young Children,
Restraints 80
Infotainment System 409
Instrument Cluster 111
Instrument Panel Overview 6
Interior Rearview Mirrors 44
Internet Radio
Pandora 175
Introduction 2

J

Jack
Auxiliary 184
Jump Starting - North
America 365

K

Key and Lock Messages 140
Keyless Entry
Remote (RKE) System 26
Keys 25

L

Labeling, Tire Sidewall 340
Lamps
Courtesy 160
Daytime Running (DRL) 157
Dome 160
Exterior Controls 155
Exterior Lamps Off
Reminder 157
Exterior Lighting Battery
Saver 162
Lamps (cont'd)
License Plate 332
Malfunction Indicator 119
On Reminder 127
Reading 161
Lane Change Alert (LCA) 294
Lane Departure
Warning (LDW) 296
Lane Keep Assist (LKA) 296
Lane Keep Assist Light 123
Lap-Shoulder Belt 60
LATCH System
Replacing Parts after a
Crash 91
LATCH, Lower Anchors and
Tethers for Children 85
Leveling Control
Headlamp 158
Liftgate 36
Light
Adaptive Forward Lighting
(AFL) Light 126
Lighting
Adaptive Forward 158
Entry 161
Exit 162
Illumination Control 160
Lights 123

Lights (cont'd)
Airbag Readiness 118
Antilock Brake System (ABS) Warning 122
Brake System Warning 121
Charging System 119
Cruise Control 127
Door Ajar 128
Electric Parking Brake 122
Engine Coolant Temperature Warning 124
Engine Oil Pressure 125
Flash-to-Pass 157
Front Fog Lamp 127
High-Beam On 126
High/Low Beam Changer 157
Low Fuel Warning 126
Safety Belt Reminders 117
Security 126
Service Electric Parking Brake 122
StabiliTrak® OFF 124
Tire Pressure 125
Traction Control System (TCS)/StabiliTrak® 124
Traction Off 123
Locks
Automatic Door 35
Locks (cont'd)
Delayed Locking 34
Door 33
Lockout Protection 35
Power Door 34
Safety 35
Loss of Control 251
Low Fuel Warning Light 126
Lower Anchors and Tethers for Children (LATCH System) 85
Lumbar Adjustment 52
Front Seats 52

M

Maintenance Records 392
Maintenance and Care Additional 387
Maintenance Schedule 382
Recommended Fluids and Lubricants 390
Malfunction Indicator Lamp 119
Manual Mode 269
Map Data Updates 212
Maps 195
Media
Avoiding Untrusted Devices . . 179
Memory Features 11
Memory Seats 53
Messages
Airbag System 143
Battery Voltage and Charging 137
Brake System 137
Door Ajar 138
Engine Cooling System 139
Engine Oil 139
Engine Power 140
Fuel System 140
Key and Lock 140
Object Detection System 141
Ride Control System 143
Security 143
Steering System 143
Tire 144
Transmission 144
Vehicle 136
Washer Fluid 145
Window 145
Messaging
Text 225
Mirrors
Automatic Dimming 44
Automatic Dimming Rearview 44
Convex 43

Mirrors (cont'd)
Folding 44
Heated 44
Power 43
Tilt in Reverse 44
Mirrors, Interior Rearview 44
Monitor System, Tire
Pressure 347
Multi-band Antenna 175

N

Navigation
Destination 196
OnStar® 411
Using the System 187
Navigation Symbols 195
Net, Convenience 100
New Vehicle Break-In 259

O

Object Detection System
Messages 141
Odometer 114
Trip 114
Off-Road
Recovery 251
Oil
Engine 314
Engine Oil Life System 316
Oil (cont'd)
Messages 139
Pressure Light 125
Older Children, Restraints 78
Online Owner Center 399
OnStar 408
OnStar System 186
OnStar® Additional
Information 414
OnStar® Connections 412
OnStar® Diagnostics 414
OnStar® Emergency 411
OnStar® Navigation 411
OnStar® Overview 410
OnStar® Security 411
OnStar® System 209
Operation
Fog Lamps 160
Ordering
Service Publications 405
Outlets
Power 108
Overheating, Engine 323
Overview 164

P

Pandora Internet Radio 175
Park
Shifting Into 264
Shifting Out of 265
Parking
Brake and P (Park)
Mechanism Check 328
Over Things That Burn 265
Parking or Backing
Assistance Systems 285
Passenger Airbag Status
Indicator 118
Passenger Compartment Air
Filter 245
Passenger Sensing System 72
Perchlorate Materials
Requirements, California 310
Personalization
Vehicle 146
Phone
Bluetooth 220, 221, 224
Port
USB 182
Positioning
Vehicle 211
Power
Door Locks 34

Power (cont'd)
Mirrors 43
Outlets 108
Protection, Battery 162
Retained Accessory (RAP) . . . 264
Seat Adjustment 52
Windows 45
Pregnancy, Using Safety Belts . . . 63
Privacy
Vehicle Data Recording 407
Problems with Route
Guidance 212
Program
Courtesy Transportation 402
Proposition
65 Warning,
California 310, 326, 365

R

Radio
HD Technology 173
Radio Frequency Statement 406
Radio Reception 174
Radios
AM-FM Radio 170
Satellite 174
Reading Lamps 161
Rear Climate Control System . . . 243
Rear Seat Armrest 57
Rear Seats 56
Heated 58
Rear Storage 98
Rear Window Washer/Wiper 106
Rearview Mirrors
Automatic Dimming 44
Reclining Seatbacks 53
Recognition
Voice 213
Recommended Fluids and
Lubricants 390
Records
Maintenance 392
Recreational Vehicle Towing 369
Reimbursement Program,
GM Mobility 399
Remote Keyless Entry (RKE)
System 26
Remote Vehicle Start 32
Replacement Bulbs 332
Replacement Parts
Airbags 78
Maintenance 391
Replacing Airbag System 78
Replacing LATCH System
Parts after a Crash 91
Replacing Safety Belt System
Parts after a Crash 65
Reporting Safety Defects
Canadian Government 407
General Motors 407
U.S. Government 406
Restraints
Where to Put 84
Retained Accessory
Power (RAP) 264
Reverse Tilt Mirrors 44
Ride Control Systems
Messages 143
Roads
Driving, Wet 252
Roadside Assistance
Program 400
Roof
Sunroof 47
Roof Rack System 100
Rotation, Tires 351
Routing, Engine Drive Belt 395
Running the Vehicle While
Parked 266

S

Safety Belts 58
Care 64
Extender 64
How to Wear Safety Belts
Properly 59

Safety Belts (cont'd)
Lap-Shoulder Belt 60
Reminders 117
Replacing after a Crash 65
Use During Pregnancy 63
Safety Defects Reporting
Canadian Government 407
General Motors 407
U.S. Government 406
Safety Locks 35
Safety System Check 64
Satellite Radio 174
Scheduling Appointments 401
SD Card Reader 184
Seats
Head Restraints 50
Heated, Rear 58
Lumbar Adjustment, Front 52
Memory 53
Power Adjustment, Front 52
Rear 56
Reclining Seatbacks 53
Securing Child Restraints 92, 94
Security
Light 126
Messages 143
OnStar® 411
Vehicle 41
Security (cont'd)
Vehicle Alarm 41
Service
Accessories and
Modifications 310
Doing Your Own Work 311
Engine Soon Light 119
Maintenance Records 392
Maintenance, General
Information 381
Parts Identification Label 393
Publications Ordering
Information 405
Scheduling Appointments 401
Service Electric Parking
Brake Light 122
Services
Special Application 387
Servicing System 212
Servicing the Airbag 76
Settings 227
Shift Lock Control Function
Check, Automatic
Transmission 328
Shifting
Into Park 264
Out of Park 265
Side Blind Zone Alert (SBZA) ... 293
Signals, Turn and
Lane-Change 159
Software Updates 169
Spare Tire
Compact 364
Special Application Services 387
Specifications and
Capacities 394
Speedometer 114
StabiliTrak
OFF Light 124
Start Assist, Hills 272
Start Vehicle, Remote 32
Starter Switch Check 328
Starting the Engine 261
Steering 250
Heated Wheel 104
Wheel Adjustment 103
Wheel Controls 103
Steering System Messages 143
Storage
Rear 98
Storage Areas
Cargo Cover 99
Center Console 98
Convenience Net 100
Front 97
Glove Box 97

Storage Areas (cont'd)
Roof Rack System 100
Sunglasses 97
Storage Compartments 97
Stuck Vehicle 255
Summer Tires 340
Sun Visors 47
Sunglass Storage 97
Sunroof 47
Symbols 3
Navigation 195
System
Forward Collision
Alert (FCA) 290
Global Positioning 211
Infotainment 409
OnStar® 209
Roof Rack 100
Systems
Driver Assistance 284

T

Tachometer 114
Text Messaging 225
Text Telephone (TTY) Users 398
Theft-Deterrent Systems 42
Immobilizer 42
Thigh Support Adjustment 52
Time 107
Tires 338
All-Season 339
Buying New Tires 353
Chains 357
Changing 359
Compact Spare 364
Designations 342
Different Size 354
If a Tire Goes Flat 357
Inspection 351
Messages 144
Pressure Light 125
Pressure Monitor Operation . . 348
Pressure Monitor System 347
Rotation 351
Sidewall Labeling 340
Terminology and Definitions . . 343
Uniform Tire Quality
Grading 355
Wheel Alignment and Tire
Balance 356
Wheel Replacement 356
When It Is Time for New
Tires 352
Winter 339
Towing
Driving Characteristics 301
Equipment 307
Towing (cont'd)
General Information 301
Recreational Vehicle 369
Trailer 304
Vehicle 368
Traction
Control System (TCS)/
StabiliTrak® Light 124
Off Light 123
Traction Control/Electronic
Stability Control 273
Trademarks and License
Agreements 229
Trailer
Towing 304
Transmission
Automatic 267
Fluid, Automatic 317
Messages 144
Transportation Program,
Courtesy 402
Trip Odometer 114
Turn and Lane-Change
Signals 159

U

Uniform Tire Quality Grading ... 355
Universal Remote System 151
  Operation 154
  Programming 151
Updates
  Map Data 212
  Software 169
USB Port 182
Using the Navigation System ... 187
Using the System 167
Using This Manual 2

V

Vehicle
  Alarm System 41
  Canadian Owners 2
  Control 250
  Design 248
  Identification Number (VIN) ... 393
  Load Limits 255
  Messages 136
  Personalization 146
  Remote Start 32
  Security 41
  Towing 368
Vehicle Ahead Indicator 123
Vehicle Care
  Tire Pressure 346
Vehicle Data Recording and
  Privacy 407
Vehicle Positioning 211
Ventilation, Air 244
Visors 47
Voice Recognition 213

W

Warning
  Brake System Light 121
  Caution and Danger 3
  Lane Departure (LDW) 296
Warning Lights, Gauges, and
  Indicators 110
Warnings
  Hazard Flashers 159
Washer Fluid 324
  Messages 145
Washer, Headlamps 107
Wheels
  Alignment and Tire Balance .. 356
  Different Size 354
  Replacement 356
When It Is Time for New
  Tires 352
Where to Put the Restraint 84
Windows 45
Windows (cont'd)
  Messages 145
  Power 45
Windshield
  Replacement 330
  Wiper/Washer 104
Winter
  Driving 253
Winter Tires 339
Wiper Blade Replacement 329
Wipers
  Rear Washer 106