

Contents

Introduction	1
Keys, Doors, and Windows	6
Seats and Restraints	36
Storage	89
Instruments and Controls	96
Lighting	137
Infotainment System	145
Climate Controls	184
Driving and Operating	192
Vehicle Care	284
Service and Maintenance	355
Technical Data	366
Customer Information	371
OnStar	378
eCall	384
Connected Services	386
Index	389

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Introduction



The names, logos, emblems, slogans, vehicle model names, and vehicle body designs appearing in this manual including, but not limited to, GM, the GM logo, CHEVROLET, GMC, the CHEVROLET and GMC Truck Emblems, TAHOE, SUBURBAN, Z71, YUKON and DENALI are trademarks and/or service marks of General Motors LLC, its subsidiaries, affiliates, or licensors.

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's manual, including changes in standard or optional content.

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

Keep this manual in the vehicle for quick reference.

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

2 Introduction

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’s 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. See the features in this manual for information.

 : Air Conditioning System

 : Air Conditioning Refrigerant Oil

 : Airbag Readiness Light

 : Antilock Brake System (ABS)

 : Brake System Warning Light

 : Dispose of Used Components Properly

 : Do Not Apply High Pressure Water

 : Engine Coolant Temperature

 : Flame/Fire Prohibited

 : Flammable

 : Forward Collision Alert

 : Fuse Block Cover Lock Location

 : Fuses

 : ISOFIX/LATCH System Child Restraints

 : Keep Fuse Block Covers Properly Installed

 : Lane Change Alert

 : Lane Departure Warning

 : Lane Keep Assist

 : Malfunction Indicator Lamp

 : Oil Pressure

 : Park Assist

 : Pedestrian Ahead Indicator

 : Power

 : Rear Cross Traffic Alert

 : Registered Technician

 : Remote Vehicle Start

 : Risk of Electrical Fire

 : Seat Belt Reminders

 : Side Blind Zone Alert

 : Stop/Start

 : Tire Pressure Monitor

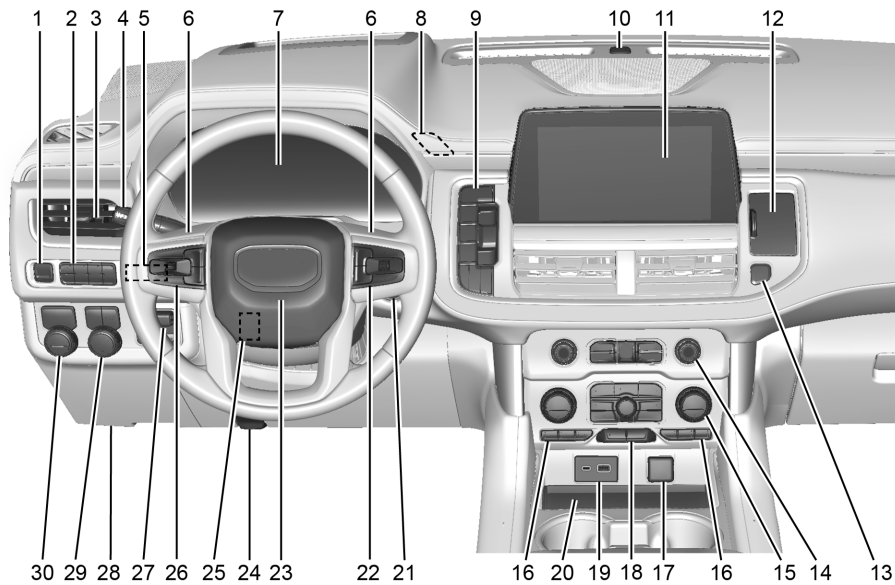
 : Traction Control/StabiliTrak/Electronic
Stability Control (ESC)

 : Under Pressure

 : Vehicle Ahead Indicator

4 Introduction

Instrument Panel Overview



Yukon Shown, Tahoe/Suburban/Denali Similar

1. *Electric Parking Brake* ⇨ 221.
2.  *Traction Control/Electronic Stability Control* ⇨ 223.
 *Auto Stop Disable Switch* (If Equipped). See *Stop/Start System* ⇨ 209.
 *Park Assist Button* (If Equipped). See *Assistance Systems for Parking or Backing* ⇨ 245.
 *Lane Keep Assist (LKA)* ⇨ 259 (If Equipped).
 *Hill Descent Control (HDC)* ⇨ 225 (If Equipped).
 *Rollover Detection Disable Button* ⇨ 64 (If Equipped).
3. *Air Vents* ⇨ 188
4. *Turn Signal Lever*. See *Turn and Lane-Change Signals* ⇨ 140.
Windshield Wiper/Washer ⇨ 98.
Rear Window Wiper/Washer ⇨ 99.
5. *Head-Up Display (HUD)* ⇨ 132 (If Equipped).
6. *Favorite Switches* (Out of View). See *Steering Wheel Controls* ⇨ 148.
Volume Switches (Out of View). See *Steering Wheel Controls* ⇨ 148.
7. *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108.
8. *Hazard Warning Flashers* ⇨ 140 (Denali Only).
9. *Shift Buttons*. See *Automatic Transmission* ⇨ 213.
Electronic Range Select (ERS). See *Manual Mode* ⇨ 216.
10. *Light Sensor*. See *Automatic Headlamp System* ⇨ 139.
11. *Infotainment*. See *Introduction* ⇨ 145.
12. *Instrument Panel Storage* ⇨ 89 (If Equipped).
13. *Hazard Warning Flashers* ⇨ 140.
14. *Infotainment Controls*. See *Overview* ⇨ 146.
15. *Dual Automatic Climate Control System* ⇨ 184.
16. *Heated and Ventilated Front Seats* ⇨ 43 (If Equipped).
17. *Power Outlet (Alternating Current)* (If Equipped). See *Power Outlets* ⇨ 101.
18. *Rear Climate Control Buttons*. See *Rear Climate Control System* ⇨ 187.
19. *USB Port* ⇨ 155.
20. *Wireless Charging* ⇨ 102.
21. *ENGINE START/STOP*. See *Ignition Positions* ⇨ 207.
22. *Steering Wheel Controls* ⇨ 148.
23. *Horn* ⇨ 98.
24. *Hood Release*. See *Hood* ⇨ 285.
25. *Steering Wheel Adjustment* ⇨ 97.
26. *Cruise Control* ⇨ 232.
Adaptive Cruise Control (Advanced) ⇨ 234 (If Equipped).
Forward Collision Alert (FCA) System ⇨ 251 (If Equipped).
Heated Steering Wheel ⇨ 97 (If Equipped).
27. *Trailer Brake Control Panel* (If Equipped). See *Towing Equipment* ⇨ 272.
28. *Data Link Connector (DLC)* (Out of View). See *Malfunction Indicator Lamp (Check Engine Light)* ⇨ 117.
29. *Exterior Lamp Controls* ⇨ 137.
Fog Lamps ⇨ 141 (If Equipped).
Instrument Panel Illumination Control ⇨ 141.
30. *Automatic Transfer Case Knob* (If Equipped). See *Four-Wheel Drive* ⇨ 217.
Four Corner Air Suspension System ⇨ 229 (If Equipped).

6 Keys, Doors, and Windows

Keys, Doors, and Windows

Keys and Locks

Keys	6
Remote Key	7
Remote Key Operation	7
Remote Vehicle Start	13
Door Locks	14
Power Door Locks	15
Delayed Locking	16
Automatic Door Locks	16
Lockout Protection	16
Safety Locks	16

Doors

Liftgate	17
Power Assist Steps	24

Vehicle Security

Vehicle Security	24
Vehicle Alarm System	24
Steering Column Lock	26
Immobilizer Operation	26

Exterior Mirrors

Convex Mirrors	27
Power Mirrors	27
Folding Mirrors	28
Heated Mirrors	29
Automatic Dimming Mirror	29
Reverse Tilt Mirrors	29

Interior Mirrors

Interior Rearview Mirrors	29
Manual Rearview Mirror	29
Automatic Dimming Rearview Mirror ...	29
Rear Camera Mirror	29

Windows

Windows	32
Power Windows	32
Sun Visors	34

Roof

Sunroof	34
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Keys and Locks

Keys

Warning

Leaving children in a vehicle with a remote key 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 remote key 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 a remote key.





The mechanical key inside the remote key is used for the driver door and glove box.

To remove the mechanical key, press the button on the side of the remote key near the bottom, and pull the mechanical key out. Never pull the mechanical key out without pressing the button.

The mechanical key may have a bar-coded key tag that the dealer or qualified locksmith can use to make new keys. Store this information in a safe place, not in the vehicle.

See your dealer if a replacement key or additional key is needed.

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

If equipped with memory seats, remote keys 1 and 2 are linked to seating positions of memory 1 or 2. See *Memory Seats* ⇨ 40.

Remote Key

Do not make changes or modifications to the remote key. This could void authorization to use this equipment.

If there is a decrease in the remote key operating range:

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

Remote Key Operation

The Keyless Access system allows for vehicle entry when the remote key is within 1 m (3 ft). See "Keyless Access Operation" later in this section.

The remote key functions may work up to 60 m (197 ft) away from the vehicle.

Other conditions can affect the performance of the remote key. See *Remote Key* ⇨ 7.



 : Press to lock all doors and the fuel door.

If enabled, the turn signal lamps flash once on the second press to indicate locking has occurred. If enabled, the horn chirps when  is pressed again within three seconds. To

8 Keys, Doors, and Windows

view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Remote Lock, Unlock, Start”.

If the passenger door is open when  is pressed, all doors lock.

Pressing  arms the alarm system. See *Vehicle Alarm System* ⇨ 24.

If equipped with auto mirror folding, double pressing and holding  for one second will fold the mirrors, if enabled. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Comfort and Convenience”.

 : Press once to unlock only the driver door and fuel door. If  is pressed again within three seconds, all remaining doors unlock. The interior lamps may come on and stay on for 20 seconds or until the ignition is turned on.

If enabled, the turn signal lamps flash twice to indicate unlocking has occurred.

If enabled, the exterior lamps may turn on. To view available settings for this feature,

touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Remote Lock, Unlock, Start”.

Pressing  on the remote key disarms the alarm system. See *Vehicle Alarm System* ⇨ 24.

If equipped with auto mirror folding, double pressing and holding  for one second will unfold the mirrors, if enabled. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Comfort and Convenience”.

Double press and hold  until the windows fully open, if remote window operation is enabled. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Remote Lock, Unlock, Start”.

 : Press twice to open or close the liftgate. Press once to stop the liftgate from moving.

 : Press twice to open the liftglass.

 : Press and release to initiate vehicle locate. The turn signal lamps flash and the horn sounds three times.

Press and hold  for more than three seconds to activate the panic alarm. The turn signal lamps flash and the horn sounds repeatedly for 30 seconds. The alarm turns off when the ignition is turned on or  is pressed again. The ignition must be off for the panic alarm to work.

 : To remote start the vehicle, double press  from outside the vehicle using the remote key. The vehicle cannot be started if a remote key is left inside the vehicle. See *Remote Vehicle Start* ⇨ 13.

Keyless Access Operation

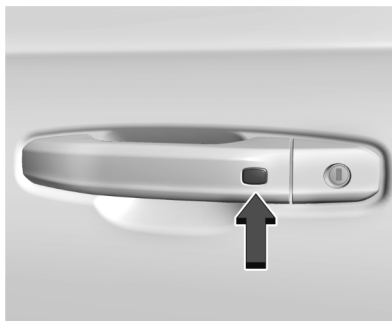
The Keyless Access system allows for doors and the liftgate to be accessed without removing the remote key from your pocket, purse, briefcase, etc. The remote key must be within 1 m (3 ft) of the liftgate or door being opened. If the vehicle has this feature, there will be a button on the outside door handles.

Keyless Access can be programmed to unlock all doors on the first lock/unlock press from the driver door. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select "Vehicle" to display the list of available options and select "Remote Lock, Unlock, Start".

If equipped with memory seats, remote keys 1 and 2 are linked to seating positions of memory 1 or 2. See *Memory Seats* ⇨ 40.

Keyless Unlocking/Locking from the Driver Door

When the doors are locked and the remote key is within 1 m (3 ft) of the 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 and the liftgate will unlock.



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 been opened and all doors are now closed.

Keyless Unlocking/Locking from the Passenger Doors

When the doors are locked and the remote key is within 1 m (3 ft) of the door handle, pressing the lock/unlock button on a 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 been opened and all doors are now closed.

Disable/Enable Keyless Unlocking of Exterior Door Handles and Liftgate

If equipped, keyless unlocking of the exterior door handles and liftgate can be disabled and enabled.

Disabling Keyless Unlocking:

With the vehicle off, press and hold  and  on the remote key at the same time for approximately three seconds. The turn signal lamps will flash four times quickly to indicate access is disabled. Using any exterior handle to unlock the doors or open the liftgate will cause the turn signal lamps to flash four times quickly, indicating access is disabled. If disabled, disarm the alarm system before starting the vehicle.

10 Keys, Doors, and Windows

Enabling Keyless Unlocking:

With the vehicle off, press and hold  and  on the remote key at the same time for approximately three seconds. The turn signal lamps will flash twice quickly to indicate access is enabled.

To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Remote Lock, Unlock, Start”.

Passive Locking

The Keyless Access system will lock the vehicle several seconds after all doors are closed, if the vehicle is off and at least one remote key has been removed from the interior, or none remain in the interior.

The fuel door will lock.

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

To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Remote Lock, Unlock, Start”.

Temporary Disable of Passive Locking

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.

Remote Left In Vehicle Alert

When the vehicle is turned off and a remote key is left in the vehicle, the horn will chirp three times after all doors are closed. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Remote Lock, Unlock, Start”.

Remote Removed From Vehicle Alert

If the vehicle is on with a door open, and then all doors are closed, the vehicle will check for remote keys inside. If a remote key is not detected, the Driver Information Center (DIC) will display NO KEY FOUND and the horn will chirp three times. This occurs only once each time the vehicle is driven. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Remote Lock, Unlock, Start”.

Keyless Liftgate Opening

Press the touch pad on the underside of the liftgate handle to open the liftgate when all doors are unlocked, or when the remote key is within 1 m (3 ft).

Keyless Liftglass Opening

Press the exterior liftglass button to open the liftglass when all doors are unlocked, or when the remote key is within 1 m (3 ft).

See *Liftgate* ⇨ 17.

Key Access

To access a vehicle with a weak remote key battery, see *Door Locks* ⇨ 14.

Programming Remote Keys to the Vehicle

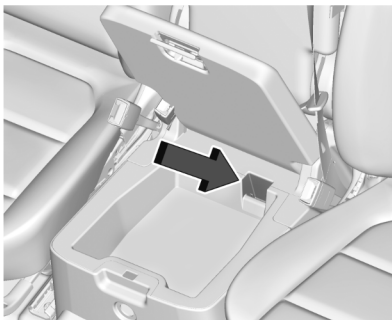
Only remote keys programmed to the vehicle will work. If a remote key is lost or stolen, a replacement can be purchased and programmed through your dealer. When the replacement remote key is programmed to this vehicle, all remaining remote keys must also be reprogrammed. Any lost or stolen remote keys will no longer work once the new remote key is programmed. Each vehicle can have up to eight remote keys programmed to it. See your dealer to program remote keys to the vehicle.

Starting the Vehicle with a Low Remote Key Battery

For improved vehicle security, the remote key is equipped with a motion sensor. When starting the vehicle, if the remote key has been idle for an extended period of time, the DIC may display KEY IN SLEEP MODE, MOVE KEY, THEN START. Move the remote key slightly and try starting the vehicle.

If the remote key battery is weak or if there is interference with the signal, the DIC may display NO KEY FOUND, REPLACE BATTERY IN KEY or NO REMOTE KEY WAS DETECTED. PLACE KEY IN KEY POCKET THEN START YOUR VEHICLE when starting the vehicle.

To start the vehicle:



With Bench Seat



Without Bench Seat

1. Place the remote key in the remote key pocket.
2. With the vehicle in P (Park) or N (Neutral) press the brake pedal and ENGINE START/STOP.

Replace the remote key battery as soon as possible.

12 Keys, Doors, and Windows

Battery Replacement

Warning

Never allow children to play with the remote key. The remote key contains a small battery, which can be a choking hazard. If swallowed, internal burns can occur, resulting in severe injury or death. Seek medical attention immediately if a battery is swallowed.

Warning

To avoid personal injury, do not touch metal surfaces on the remote key when it has been exposed to extreme heat. These surfaces can be hot to the touch at temperatures above 59 °C (138 °F).

Caution

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

Caution

Always replace the battery with the correct type. Replacing the battery with an incorrect type could potentially create a risk of battery explosion. Dispose of used batteries according to instructions and local laws. Do not attempt to burn, crush, or cut the used battery, and avoid exposing the battery to environments with extremely low air pressures or high temperatures.

Caution

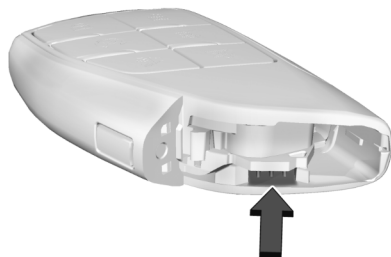
If the remote key is not reassembled properly, liquids could enter the housing and damage the circuitry, resulting in a remote key malfunction and/or failure. To prevent damage, always follow the steps for remote key reassembly in this manual to ensure the remote key is sealed properly whenever the remote key is opened.

Replace the battery in the remote key soon if the DIC displays REPLACE BATTERY IN REMOTE KEY.

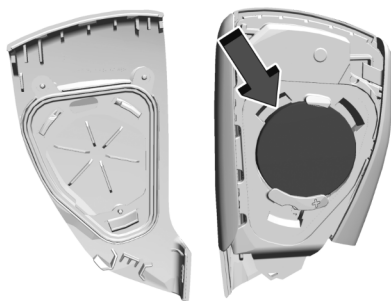
To replace the battery:



1. Press the button on the side of the remote key and pull the mechanical key out. Never pull the mechanical key out without pressing the button.



2. Use the mechanical key blade in the slot to remove the battery cover by hand.



3. Remove the seal by pulling on the tab to access the battery.

4. Remove the old battery. Do not use a metal object.
5. Insert the new battery, positive side toward the back cover. Replace with a CR2450 or equivalent battery.
6. Place the seal back into the groove around the battery compartment.
7. Reassemble the battery cover by snapping it back on the remote key.
8. Reinsert the mechanical key.

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 ventilated seats, if equipped, may also come on. See *Heated and Ventilated Front Seats* ⇨ 43. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Comfort and Convenience”.

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 may run out of fuel.

The vehicle cannot be remote started if:

- The remote key is in the vehicle.
- The hood is not closed.
- There is an emission control system malfunction and the malfunction indicator lamp is on.
- The hazard flashers are on.
- The 30 minutes of runtime have been used
- The vehicle is not in P (Park).
- The vehicle is not off.

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

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

The remote key range may be reduced while the vehicle is running.

Other conditions can affect the performance of the remote key. See *Remote Key* ⇨ 7. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Remote Lock, Unlock, Start”.

14 Keys, Doors, and Windows

Starting the Engine Using Remote Start

1. Press  twice on the remote key. The turn signal lamps will flash. The lamps flash to confirm the request to remote start the vehicle has been received. During the remote start, the parking lamps will remain on as long as the engine is running.
2. The engine will shut off after 15 minutes or after the remainder of the 30 minute total running time is used, unless you stop the remote start before engine running has completed or the vehicle is turned on.
3. Press the brake pedal and turn the ignition on to drive the vehicle.

Total Engine Run Time

Remote start can be used for up to 30 minutes of total engine run time.

After two remote starts of 15 minutes, or multiple shorter time starts totaling 30 minutes have been used, the vehicle must be started and then turned off before the remote start can be used 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. The doors can be unlocked and opened while the vehicle is moving. The chance of being thrown out of the vehicle in a crash is increased if the doors are not locked. So, all passengers should wear seat 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
(Continued)

Warning (Continued)

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.

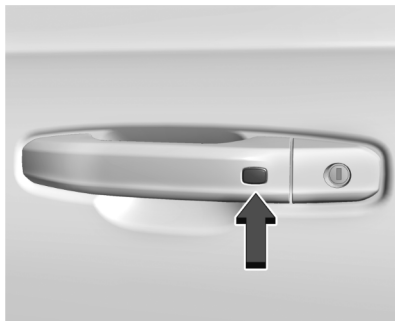
To lock or unlock the doors from outside the vehicle:

- Press  or  on the remote key. See *Remote Key Operation* ⇨ 7.
- Use the mechanical key in the driver door.

To lock or unlock the doors from inside the vehicle:

- Press  or  on the power door lock switch.
- Pulling an interior door handle will unlock the door. Pulling the door handle again unlatches it.

Keyless Access



The remote key must be within 1 m (3 ft) of the liftgate or door being opened or locked. Press the button on the door handle to open. See “Keyless Access Operation” in *Remote Key Operation* ⇨ 7.

Free-Turning Locks

The door key lock cylinder turns freely when either the wrong key is used, or the correct key is not fully inserted. The free-turning door lock feature prevents the lock cylinder from being forced open. To reset the lock cylinder, ensure the correct key is fully inserted into the lock cylinder. Rotate the key until you feel the lock cylinder click

back into place. Remove the key and reinsert fully, rotate the key to unlock the vehicle.

Power Door Locks

Press  or  on the Remote Key. See *Remote Key Operation* ⇨ 7.

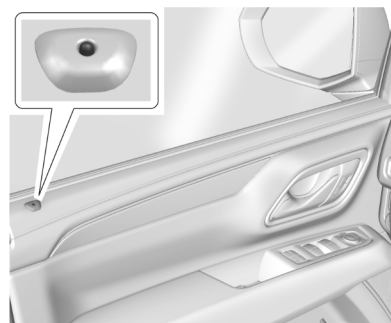


 : Press to lock the doors. The indicator light in the switch will illuminate when locked.

 : Press to unlock the doors.

The fuel door is also locked or unlocked using these features.

Security Status indicator



A light on the upper surface of the driver's door trim is used to indicate vehicle security status.

This light will be OFF any time the ignition is ON, except momentarily when vehicle doors are locking.

Solid : Indicates securing with doors closed.

Fast Flash : Indicates securing with doors open.

Slow Flash : Indicates battery conserving secured state.

No light : Indicates unsecured state.

16 Keys, Doors, and Windows

Delayed Locking

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

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

The doors will lock automatically five seconds after all doors are closed. If a door is reopened before that time, the five-second timer will reset when all doors are closed again.

Press  on the door lock switch again or press  on the remote key to lock the doors immediately.

To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Power Door Locks”.

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).

If a vehicle door is unlocked and then opened and closed, the doors will lock either when your foot is removed from the brake or the vehicle speed becomes faster than 13 km/h (8 mph).

To unlock the doors:

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

Automatic door locking can be programmed.

Lockout Protection

For the Police and Special Service Packages, see the Police and Special Service Packages Supplement.

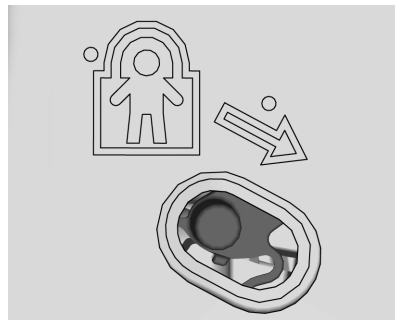
When locking is requested with the driver door open and the ignition is on or in accessory mode, all the doors will lock and then the driver door will unlock.

If the vehicle is off and locking is requested while a door is open, when all doors are closed the vehicle will check for remote keys inside. If a remote key is detected and the number of remote keys inside has not reduced, the driver door will unlock and the horn will sound three times.

This can be manually overridden by pressing and holding  on the power door lock switch.

Safety Locks

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



The safety lock is on the inside edge of the rear doors. To use the safety lock:

1. Move the lever down to the lock position.
2. Close the door.
3. Do the same for the other rear door.

To open a rear door when the safety lock is on:

1. Unlock the door by activating the inside handle, by pressing the power door unlock switch, or by using the remote key.
2. Open the door from the outside.

When the safety lock is enabled, adults and older children will not be able to open the rear door from the inside. Cancel the safety locks to enable the doors to open from the inside.

To cancel the safety lock:

1. Unlock the door and open it from the outside.
2. Move the lever up to unlock. Do the same for the other door.

Doors

Liftgate

Warning

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

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

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

(Continued)

Warning (Continued)

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

See *Engine Exhaust* ⇨ 212.

Caution

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

18 Keys, Doors, and Windows

Manual Liftgate



To open the liftgate, press  on the power door lock switch or press  on the remote key twice to unlock all doors. Press the touch pad (1) on the underside of the liftgate handle and lift up.

Press the button (2) above the license plate to open the liftglass, or press  twice quickly on the remote key. Do not leave the liftglass open when raising the liftgate.

There will be a delay in the release of the liftglass if there is an attempt to open it while the rear wiper is in motion.

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.

The liftgate can be opened when locked if the remote key is within 1 m (3 ft) of the touch pad. See *Remote Key Operation* ⇨ 7.

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, the power liftgate switch is on the overhead console. The vehicle must be in P (Park).

The modes are:

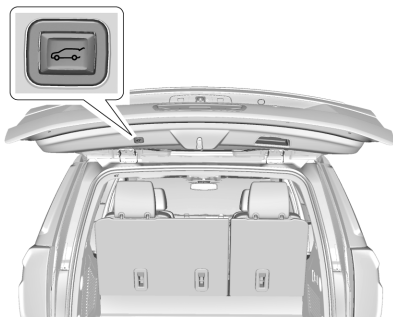
MAX : Opens to maximum height.

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 opened manually all the way.

OFF : Opens manually only.

To power open or close the liftgate, select MAX or 3/4 mode and then:

- Press  twice quickly on the remote key until the liftgate moves.
- Press  on the overhead console. The driver door must be unlocked or locked without the security armed.
- Press the touch pad on the underside of the liftgate handle after unlocking all doors. A locked vehicle can be opened if the remote key is within 1 m (3 ft) of the touch pad.



- Press  on the bottom edge of the liftgate next to the latch to close.

Press any liftgate button, the touch pad, or  on the remote key while the liftgate is moving to stop it. Pressing any liftgate button or pressing  twice quickly on the remote key restarts the operation in the reverse direction. Pressing the touch pad on the liftgate handle will restart the motion, but only in the opening direction.

Caution

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

When stopping the gate at low heights it may partially reopen.

The power liftgate may be temporarily disabled in extremely low temperatures, or after repeated power cycling over a short period of time. If this occurs, the liftgate can still be operated manually. Select OFF on the liftgate switch.

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 Driver Information Center (DIC) messages and make sure the liftgate is closed and latched before driving.

Falling Liftgate Detection

If the power liftgate automatically closes after a power opening cycle, it indicates that the system is reacting to excess weight on the liftgate or a possible support strut failure. Remove any excess weight. A repetitive chime will sound while the falling liftgate detection feature is operating. If the liftgate continues to automatically close after opening, see your dealer for service before using the power liftgate.

Interfering with the power liftgate motion or manually closing the liftgate too quickly after power opening may resemble a support strut failure. This could also activate the falling liftgate detection feature. Allow the liftgate to complete its operation and wait a few seconds before manually closing the liftgate.

20 Keys, Doors, and Windows

Obstacle Detection Features

If the liftgate encounters an obstacle during a power open or close cycle, 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. This 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.

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 button. Manually adjust the liftgate position if needed.

3. Press and hold  on the bottom edge of the liftgate next to the latch 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 with Hands-Free Vehicle Access, the liftgate may be operated with a kicking motion under the rear bumper at the location of the projected logo. The remote key must be within 1m (3ft) of the rear bumper to use hands-free feature.

Splashing water may cause the liftgate to open. Keep the remote key 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.

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.

The hands-free feature can be customized. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Comfort and Convenience”. Choose from the following:

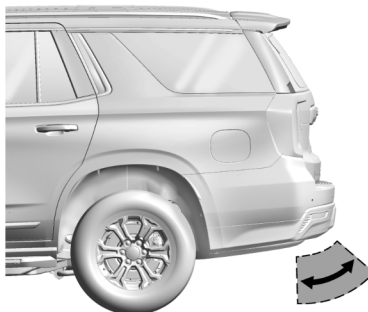
On-Open and Close : The kicking motion is activated to both open and close the liftgate.

On-Open Only : The kicking motion is activated to only open the liftgate.

Off : The feature is disabled.



Kick Zone, GMC Shown Chevrolet Similar



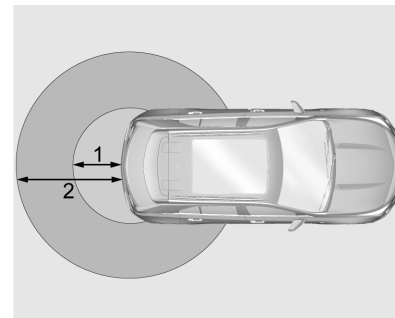
To operate, move your foot in a forward kicking motion under the center of the rear bumper, then pull it back.

- 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 be temporarily 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.

Projected Logo

If equipped with this feature, a vehicle logo will be projected for one minute onto the ground near the rear bumper when a remote key is detected within approximately 2 m (6 ft) from the rear bumper. The projected logo may not be visible under brighter daytime conditions.



- 1 m (3 ft) Hands-Free Operation Detection Zone
- 2 m (6 ft) Projected Logo Detection Zone

22 Keys, Doors, and Windows

The projected logo shows where to kick towards the rear bumper.

The projected logo will not be restarted using the same remote key unless it has been out of range for longer than 20 seconds.

If a remote key is again detected within approximately 2 m (6 ft) of the liftgate, or another kick has been detected, the one-minute timer will be reset.

The projected logo will not work under these conditions:

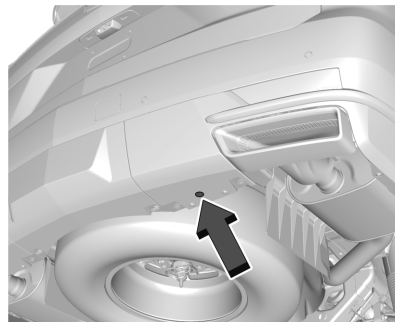
- The vehicle battery is low.
- The transmission is not in P (Park).
- Hands Free Liftgate Control is set to off in vehicle personalization. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select "Vehicle" to display the list of available options and select "Comfort and Convenience".

- Power liftgate is turned off.
- The vehicle remains parked for 72 hours or more, with no remote key use or Keyless Access operation. To re-enable, press any button on the remote key or open and close a vehicle door.

The projected logo will not work for a single remote key when a remote key:

- Has been left within approximately 5 m (15 ft) of the liftgate for several minutes.
- Has been left inside the vehicle and all vehicle doors are closed.
- Has approached the area outside of the liftgate five times within 10 minutes.

Lens Cleaning



If equipped, use a cotton swab to clean the lens.

Hands-Free Liftgate and Projected Logo Availability

Action	Hands-Free Liftgate	Projected Logo
Remote key entering projected logo detection zone	Operative	On for one minute
Remote key left inside projected logo detection zone for minimum of 10 minutes	Operative	Off until remote key button press or a door is opened and closed
Remote key brought in and out of projected logo detection zone five times or more within 10 minutes	Operative	Off for one hour or until remote key button press or a door is opened and closed
Vehicle remains parked for more than 72 hours	Operative	Off until remote key button press or a door is opened and closed
Vehicle battery is low	Non-operative	Off
Transmission is not in P (Park)	Non-operative	Off
Power liftgate is turned off	Non-operative	Off
Hands-free liftgate is disabled in vehicle personalization	Non-operative	Off

24 Keys, Doors, and Windows

Power Assist Steps

Warning

To avoid personal injury or property damage, before entering or exiting the vehicle, be sure the power assist step is fully extended. Do not step on the power assist step while it is moving. Never place hands or other body parts between the extended power assist step and the vehicle.

If equipped, the power assist steps will deploy when the door is opened and automatically retract three seconds after the door is closed. The power assist steps will retract immediately if the vehicle starts moving.

Disable the power assist steps before jacking or placing any object under the vehicle. Too much ice buildup may prevent deployment of the power assist steps. Check the step position before exiting the vehicle. If this happens, disable the power assist steps, clear the ice, then enable the assist steps and confirm normal function prior to use.

Keep hands, children, pets, objects, and clothing clear of the power assist steps when in motion. The steps will reverse direction if they encounter an obstruction when opening or closing. Remove the obstruction, then open and close the door on the same side to complete the motion of the assist steps. If the obstruction is not cleared, the assist steps remain extended while driving.

Both power assist steps can extend or retract for cleaning. To view available settings from the infotainment screen, touch Settings > Vehicle > Remote Lock, Unlock, Start.

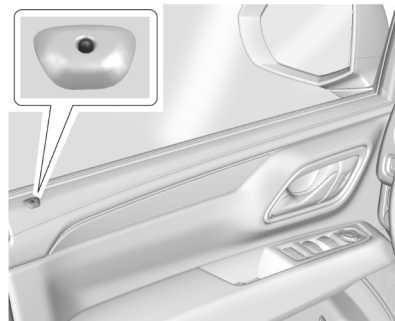
Enable/Disable

To view available settings from the infotainment screen, touch Settings > Vehicle > Remote Lock, Unlock, Start.

Vehicle Security

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

Vehicle Alarm System



The indicator light, on the driver door near the window, indicates the status of the system. See *Power Door Locks* ⇨ 15

Arming the Alarm System

1. Turn off the vehicle.
2. Lock the vehicle in one of three ways:
 - Use the remote key.
 - Use the Keyless Access system.
 - With a door open, press  on the interior of the door.

3. After 30 seconds the alarm system will arm, and the indicator light will begin to slowly flash. Pressing  on the remote key 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 mechanical key.

If the driver door is opened without first unlocking with the remote key, 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 remote key during the 10-second pre-alarm, the alarm will be activated.

The alarm will also be activated if a passenger door, the liftgate, or the hood is opened without first disarming the system. When the alarm is activated, the turn signals flash and the horn sounds 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 remote key.

- 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 a door with the remote key, or use the Keyless Access system. Unlocking the driver door with the mechanical key will not disarm the system or turn off the alarm.

How to Detect a Tamper Condition

If  is pressed on the remote key and the horn chirps 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.

Power Sounder, Inclination Sensor, and Intrusion Sensor

In addition to the standard theft-deterrent system features, this system may also have a power sounder, inclination sensor, and intrusion sensor.

The power sounder provides an audible alarm which is distinct from the vehicle's horn. It has its own power source, and can sound an alarm if the vehicle's battery is compromised.

The inclination sensor can set off the alarm if it senses movement of the vehicle, such as a change in vehicle orientation.

The intrusion sensor monitors the vehicle interior, and can activate the alarm if it senses unauthorized entry into the vehicle's interior. Do not allow passengers or pets to remain in the vehicle when the intrusion sensor is activated.

Before arming the theft-deterrent system and activating the intrusion sensor:

- Make sure all doors and windows are completely closed.
- Secure any loose items such as a sunshades.
- Make sure there are no obstructions blocking the sensors in the front overhead console.
- Close DVD screens before leaving the vehicle.

26 Keys, Doors, and Windows

Intrusion and Inclination Sensors Disable Switch



It is recommended that the intrusion and inclination sensors be deactivated if pets are left in the vehicle or the vehicle is being transported.

With the vehicle off, press  in the front overhead console to turn off the feature.

The indicator light will come on momentarily, indicating that these sensors have been disabled until the next time the alarm system is armed.

Steering Column Lock

If equipped, the steering column lock is a theft-deterrent device. This feature locks the steering column when the vehicle is turned off and the driver door is opened, or when the driver door is opened and then the vehicle is turned off. The steering column unlocks when the vehicle is turned on.

The Driver Information Center (DIC) may display one of these messages:

- A message to service the steering column lock indicates that an issue has been detected with the column lock feature and the vehicle should be serviced.
- A message that the steering column is locked indicates that the engine is running, but the steering column is still locked. It is normal for the column to be locked during a remote start, but the column should unlock after the brake pedal is pressed and the vehicle is started. No message will display during a remote start.
- A message that the steering wheel must be turned and the vehicle must be started again indicates that the column lock mechanism is bound, the column locking device was unable to unlock the steering

column, and the vehicle did not start. If this happens, immediately turn the steering wheel from side to side to unbind the column lock. If this does not unlock the steering column, turn the vehicle off and open the driver door to reset the system. Then turn the vehicle on and immediately turn the steering wheel side to side for about 15 seconds. In some cases, it may take significant force to unbind the column.

To keep the steering column from binding, straighten the front wheels before turning off the vehicle.

Immobilizer Operation

This vehicle has a passive theft-deterrent system.

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

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

The immobilization system is disarmed when the ignition is turned on or to accessory mode and a valid remote key is present in the vehicle.



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

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

When trying to start the vehicle, the security light may come on briefly.

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

If the vehicle will not change ignition modes (accessory mode, on, off), and the remote key appears to be undamaged, try another remote key. Or, you may try placing the remote key in the backup location. See *Remote Key* ⇨ 7.

If the ignition modes will not change with the other remote key or in the backup location, the vehicle needs service. If the ignition does change modes, the first remote key may be faulty. See your dealer.

It is possible for the immobilizer system to learn new or replacement remote keys. Up to eight remote keys can be programmed for the vehicle. To program additional remote keys, see your dealer.

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

Exterior Mirrors

Convex Mirrors

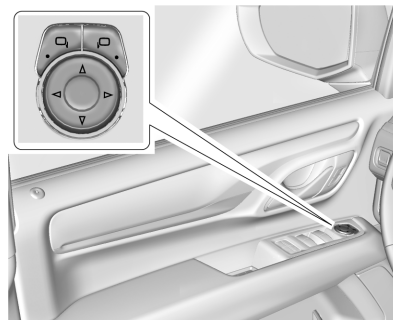
Warning

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

Keys, Doors, and Windows 27

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

Power Mirrors



To adjust the mirrors:

1. Press  or  to select the driver or passenger side mirror. The indicator light comes on.
2. Press the arrows on the control pad to move the mirror up, down, right, or left.
3. Adjust the outside mirror so that the side of the vehicle and the area behind are seen.
4. Press either  or  again to deselect the mirror. The indicator light goes off.

28 Keys, Doors, and Windows

Turn Signal Indicator

If equipped, the mirror has turn signal indicator lights, which flash in the direction of the turn or lane change.

Puddle Lamps

If equipped, puddle lamps project light from the bottom of the mirror to the area of ground below the driver and passenger doors. See *Entry Lighting* ⇨ 143 and *Exit Lighting* ⇨ 143.

Memory Mirrors

The vehicle may have memory mirrors. See *Memory Seats* ⇨ 40.

Lane Change Alert (LCA)

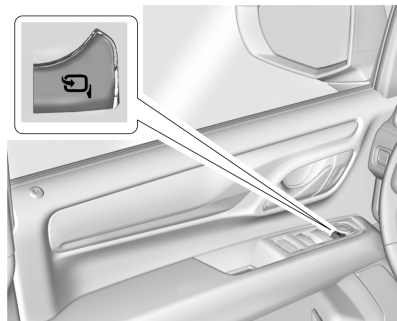
The vehicle may have LCA. See *Lane Change Alert (LCA)* ⇨ 257.

Folding Mirrors

Manual Folding

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

Power Folding



To adjust power folding mirrors, if equipped:

1. Press  to fold the mirrors inward.
2. Press  again to return the mirrors to the driving position.

The outside mirrors may automatically unfold when the vehicle is driven above 20 km/h (12 mph), but may be folded with the power folding mirror switch. If the vehicle speed is driven above 40 km/h (25 mph), they may automatically unfold and may not be refolded with the power folding mirror switch.

Resetting the Power Folding Mirrors

Reset the power folding mirrors if:

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

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

Remote Mirror Folding

If equipped with power folding mirrors and the mirrors have been folded with the power folding mirror switch, they may not be unfolded by use of remote key.

If equipped with power folding mirrors and the mirrors have not been folded with the power folding mirror switch and the vehicle is in P (Park), they may be automatically folded/unfolded as follows:

1. If doors are locked by double pressing  on the remote key for one second, the mirrors will fold. If doors are unlocked by double pressing  on the remote key for one second, the mirrors will unfold. See *Remote Key Operation* ⇨ 7.
2. If doors are locked by pressing the door handle button, the mirrors will fold. If doors are unlocked by pressing the door handle button, the mirrors will unfold. See “Keyless Unlocking/Locking from the Driver Door” in *Remote Key Operation* ⇨ 7.
3. If passive locking is enabled and doors are locked by that feature, the mirrors will fold. See “Passive Locking” in *Remote Key Operation* ⇨ 7.

Heated Mirrors

For vehicles with heated mirrors:



REAR : Press to heat the mirrors.

See “Rear Window Defogger” under *Dual Automatic Climate Control System* ⇨ 184.

Automatic Dimming Mirror

If equipped, the driver outside mirror automatically adjusts for the glare of the headlamps from behind. This feature comes on when the vehicle is started.

Reverse Tilt Mirrors

If equipped with reverse tilt mirrors and 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) may move from their tilted position when:

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

To view available settings from the infotainment screen, touch Settings > Vehicle > Comfort and Convenience.

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.

Manual Rearview Mirror

If equipped, push the tab forward for daytime use and pull it rearward for nighttime use to avoid glare of the headlamps from behind.

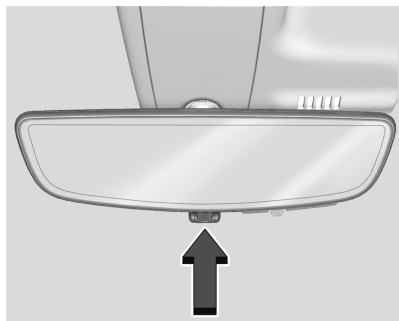
Automatic Dimming Rearview Mirror

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

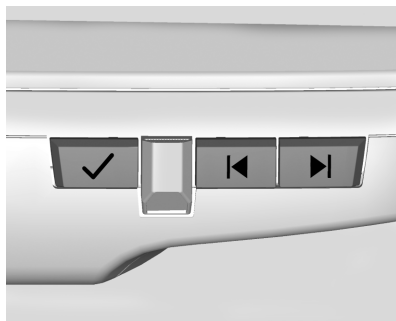
Rear Camera Mirror

If equipped, this automatic dimming mirror provides a wide angle camera view of the area behind the vehicle.

30 Keys, Doors, and Windows



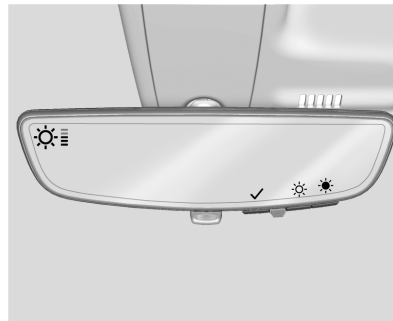
Pull the tab to turn on the display. Push the tab to turn it off. When off the mirror is automatic dimming. Adjust the mirror for a clear view of the area behind the vehicle while the display is off.



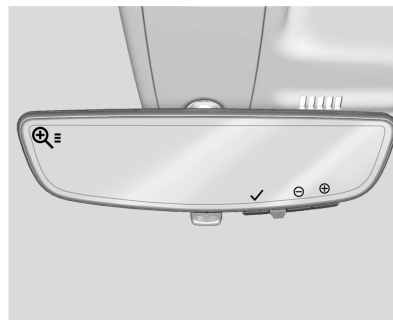
Press ✓ to scroll through the adjustment options.

Press ◀ and ▶ to adjust the settings using the indicators on the mirror. The indicators will remain visible for five seconds after the last button activation, and the settings will remain saved.

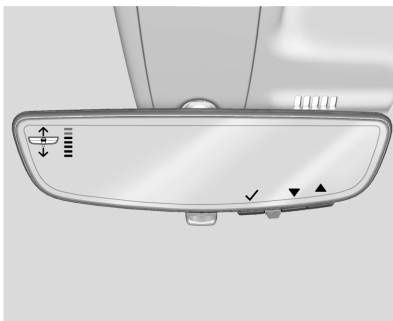
The adjustment options are:



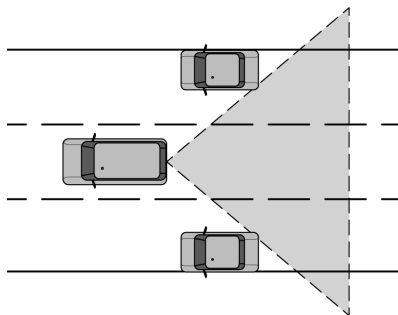
- Brightness



- Zoom



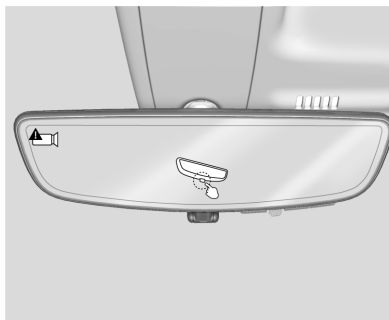
- Tilt



Warning

The Rear Camera Mirror (RCM) has a limited view. Portions of the road, vehicles, and other objects may not be seen. Do not drive or park the vehicle using only this camera. Objects may appear closer than they are. Check the outside mirrors or glance over your shoulder when making lane changes or merging. Failure to use proper care may result in injury, death, or vehicle damage.

Troubleshooting



See your dealer for service if a blue screen and  are displayed in the mirror, and the display shuts off. Also, push the tab as indicated to return to the automatic dimming mode.

The Rear Camera Mirror may not work properly or display a clear image if:

- There is glare from the sun or headlamps. This may obstruct objects from view. If needed, push the tab to turn off the display.
- Dirt, snow, or other debris blocks the camera lens. Clean the lens with a soft damp cloth, or, if equipped, with the Rear Camera Washer. See *Rear Window Wiper/Washer* ⇨ 99.
- The camera's mounting on the vehicle has been damaged, and/or the position or the mounting angle of the camera has changed.

32 Keys, Doors, and Windows



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.

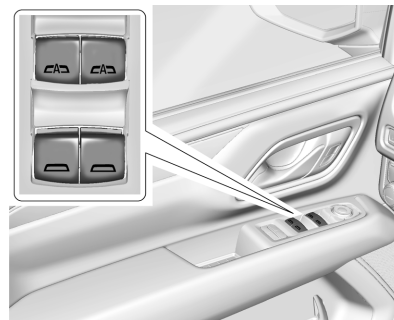
Power Windows

Warning

Children could be seriously injured or killed if caught in the path of a closing window. Never leave the remote key in a vehicle with children. When there are
(Continued)

Warning (Continued)

children in the rear seat, use the window lockout switch to prevent operation of the windows. See *Keys* ⇨ 6.



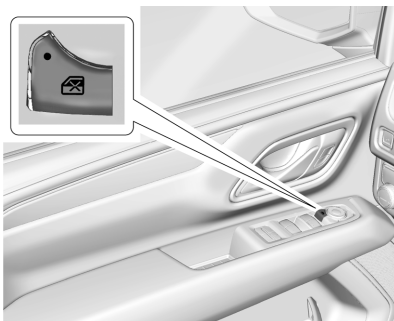
The power windows work when the ignition is on, in accessory mode, or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP)* ⇨ 210.

Using the window switch, press to open or pull to close the window.

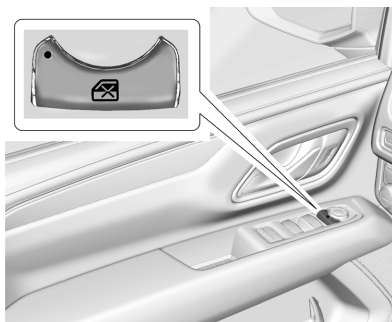
The windows may be temporarily disabled if they are used repeatedly within a short time.

Window Lockout

This feature stops the rear passenger window switches from working.



With Folding Mirrors



Without Folding Mirrors

- Press  to engage the rear window lockout feature. The indicator light is on when engaged.
- Press  again to disengage.

Window Express Movement

All windows can be opened without holding the window switch. Press the switch down fully and quickly release to express open the window.

If equipped, pull the window switch up fully and quickly release to express close the window.

Briefly press or pull the window switch in the same direction to stop that window's express movement.

Window Automatic Reversal System

The express-close feature will reverse window movement if it comes in contact with an object. Extreme cold or ice could cause the window to auto-reverse. The window will operate normally after the object or condition is removed.

Automatic Reversal System Override

Warning

If automatic reversal system override is active, the window will not reverse automatically. You or others could be injured and the window could be damaged. Before using automatic reversal system override, make sure that all people and obstructions are clear of the window path.

When the engine is on, override the automatic reversal system by pulling and holding the window switch if conditions prevent it from closing.

34 Keys, Doors, and Windows

Programming the Power Windows

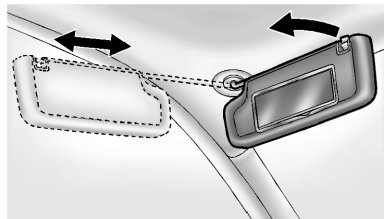
Programming may be necessary if the vehicle battery has been disconnected or discharged. If the window is unable to express-up, program each express-close window:

1. Close all doors.
2. Turn the ignition on or to accessory mode.
3. Partially open the window to be programmed. Then close it and continue to pull the switch briefly after the window has fully closed.
4. Open the window and continue to press the switch briefly after the window has fully opened.

Remote Window Operation

If equipped, this feature allows the windows to be opened remotely. If enabled in vehicle personalization, press and hold  on the remote key. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Remote Lock, Unlock, Start”.

Sun Visors



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

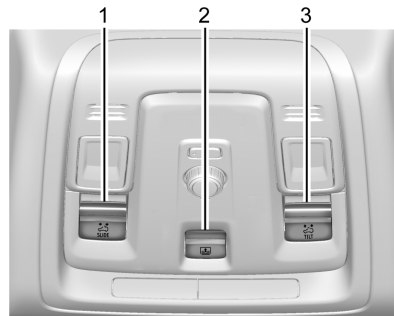
Roof

Sunroof

If equipped, the ignition must be on or in accessory mode, or Retained Accessory Power (RAP) must be active to operate the sunroof. See *Ignition Positions* ⇨ 207 and *Retained Accessory Power (RAP)* ⇨ 210.

While the sunroof always operates in express mode, movement can be stopped by pressing the switch again.

The sunroof cannot be opened or closed if the vehicle has an electrical failure.



1. SLIDE Switch
2. Power Sunshade Switch
3. TILT Switch

Sunroof Operation:

- Press and release  (1) to express-open to the fully open position. This vehicle may be equipped with a comfort stop position to prevent excessive wind noise. The sunroof will stop approximately halfway open during an express open. To fully open the sunroof, press and release  (1) again.
- Pull and release  (1) to express-close.

- Press or pull  (1) again to stop at the desired location.

Sunshade Operation:

- Press and release  (2) to express-open.
- Pull and release  (2) to express-close.
- Press or pull  (2) again to stop at the desired location.

Sunroof Vent Operation:

- Press and release  (3) to vent the sunroof.
- Pull and release  (3) to close the sunroof vent.

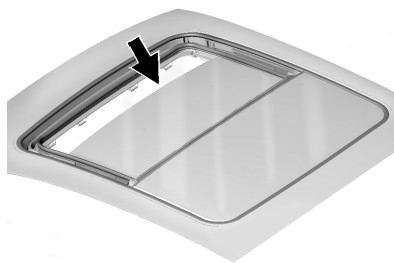
Automatic Reversal System

The sunroof and power sunshade, if equipped, have an automatic reversal system that is only active when the sunroof and power sunshade are operated in express-close mode.

If an object is in the path while express-closing, the reversal system will detect an object, stop, and open the sunroof or power sunshade slightly.

If this condition occurs, attempt to remove the object, then pull and release the switch to express close. If the reversal occurs

multiple times, the DIC message OPEN THEN CLOSE SUNROOF will display, and express is disabled. To operate sunroof while express is disabled, the switch must be either pressed or pulled and held.



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.

36 Seats and Restraints

Seats and Restraints

Head Restraints

Head Restraints	36
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Front Seats

Power Seat Adjustment	39
Reclining Seatbacks	39
Lumbar Adjustment	40
Memory Seats	40
Heated and Ventilated Front Seats	43

Rear Seats

Rear Seats	44
Second Row Seats	44
Heated Rear Seats	48
Third Row Seats	49

Seat Belts

Seat Belts	52
How to Wear Seat Belts Properly	53
Lap-Shoulder Belt	55
Seat Belt Use During Pregnancy	58
Safety System Check	58
Seat Belt Care	58
Replacing Seat Belt System Parts after a Crash	59

Airbag System

Airbag System	59
Where Are the Airbags?	60

When Should an Airbag Inflate?	62
What Makes an Airbag Inflate?	63
How Does an Airbag Restrain?	63
What Will You See after an Airbag Inflates?	63
Rollover Detection Disable Button	64
Passenger Sensing System	65
Servicing the Airbag-Equipped Vehicle	69
Adding Equipment to the Airbag-Equipped Vehicle	69
Airbag System Check	70
Replacing Airbag System Parts after a Crash	70

Child Restraints

Older Children	70
Infants and Young Children	72
Child Restraint Systems	74
Where to Put the Restraint	75
Lower Anchors and Tethers for Children (LATCH System)	77
Replacing LATCH System Parts After a Crash	83
Securing Child Restraints (With the Seat Belt in the Rear Seat)	84
Securing Child Restraints (In the Center Front Seat)	86
Securing Child Restraints (With the Seat Belt in the Front Passenger Seat)	86

Head Restraints

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.

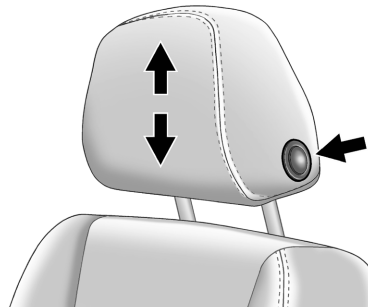
If your vehicle has rear head restraints that fold down, always return them to the full upright position whenever an occupant is seated in the seat.



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

Front Seats

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



The height of the head restraint can be adjusted.

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

The front seat outboard head restraints are not removable.

Rear Seats

Second Row Seats

The vehicle's second row seats have head restraints in the outboard seating positions that cannot be adjusted.

The second row outboard head restraints are not removable.

The second row outboard head restraints are designed to be folded.

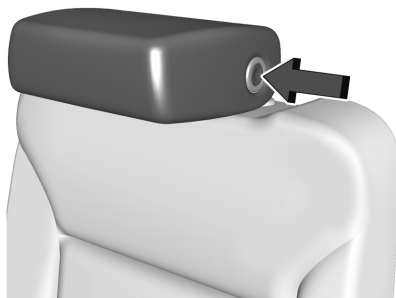
When folding the second row seatbacks down, the head restraint will automatically fold out of the way as the seat is folded down.

The second row outboard head restraints can be folded forward to allow for better visibility when the rear seat is unoccupied.

38 Seats and Restraints



To fold the head restraint, press the button on the side of the head restraint.



The head restraint will fold forward automatically.

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

Third Row Seats

The vehicle's third row seats have head restraints in the outboard seating positions that cannot be adjusted up or down.

The third row outboard head restraints are not removable.

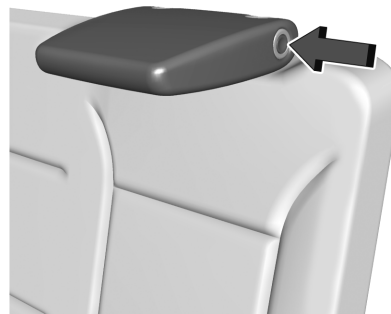
The third row outboard head restraints are designed to be folded.

When folding the third row seatbacks down, the head restraint will automatically fold out of the way as the seat is folded down.

The head restraint can be folded forward 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.



The head restraint will fold forward automatically.

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

Front Seats

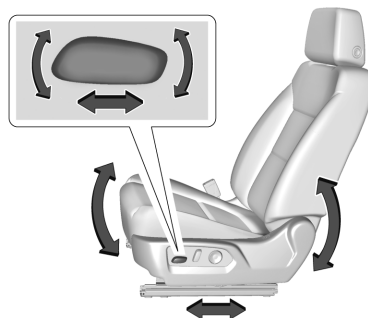
Power Seat Adjustment

Warning

You can lose control of the vehicle if you try to adjust a driver seat while the vehicle is moving. Adjust the driver seat only when the vehicle is not moving.

Warning

The power seats will work with the ignition off. Children could operate the power seats and be injured. Never leave children alone in the vehicle.



To adjust the seat:

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

Reclining Seatbacks



To recline the seatback:

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

Warning

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

(Continued)

40 Seats and Restraints

Warning (Continued)

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.

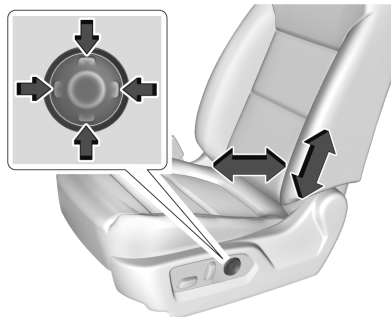
The lap belt could go up over your abdomen. The belt forces would be there, not at your pelvic bones. This could cause serious internal injuries.

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



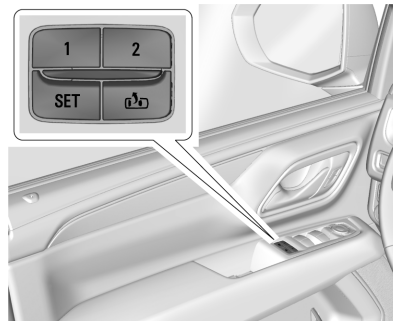
Do not have a seatback reclined if the vehicle is moving.

Lumbar Adjustment



- Press and hold the front or rear of the control to increase or decrease lumbar support.
- If equipped, press and hold the top or bottom of the control to raise or lower lumbar support.

Memory Seats



Overview

If equipped, the memory seat feature allows drivers to save their unique driving positions and a shared exit position. See “Saving Seating Positions” later in this section. The saved positions can be recalled manually by all drivers, see “Manually Recalling Seating Positions” later in this section, and drivers with remote key 1 and 2 can also recall them automatically. See “Auto Seat Entry Memory Recall” or “Auto Seat Exit Memory Recall” later in this section. To enable automatic recalls, turn on Seat Entry Memory and/or Seat Exit Memory. See “Enabling Automatic Recalls” later in this

section. The memory recalls may be canceled at any time during the recall. See “Cancel Memory Seating Recalls” later in this section.

Identifying Driver Number

The vehicle identifies the current driver by their remote key number 1–8. The current remote key number may be identified by Driver Information Center (DIC) welcome message, “You are driver x for memory recalls.” This message is displayed the first few times the vehicle is turned on when a different remote key is used. For Seat Entry Memory to work properly, save positions to the 1 or 2 memory button matching the driver number of this welcome message. To aid in identifying remote key IDs, it is recommended to only carry one remote key when entering the vehicle. Perform the following if the welcome message is not displayed:

1. Move all keys and remote keys away from the vehicle.
2. Start the vehicle with another remote key. A DIC welcome message should display indicating the driver number of the other remote key. Turn the vehicle off and remove the other key or remote key from the vehicle.

3. Start the vehicle with the initial key or remote key. The DIC welcome message should display the driver number of the initial remote key.

Saving Seating Positions

Read these instructions completely before saving memory positions.

To save preferred driving positions to 1 and 2:

1. Turn the vehicle on or to accessory mode. A DIC welcome message may indicate the driver number of the current remote key. See “Identifying Driver Number” previously in this section.
2. Adjust all available memory features to the desired driving position.
3. Press and release SET; a beep will sound.
4. Immediately upon releasing SET, press and hold memory button 1 or 2 matching the current Driver’s remote key number until two beeps sound. If too much time passes between releasing SET and pressing 1 or 2, the two beeps will not sound indicating memory position were not saved. Repeat Steps 3 and 4 to try again.

5. Repeat Steps 1–4 for the other remote key 1 or 2 using the other 1 or 2 memory button.

It is recommended to save the preferred driving positions to both 1 and 2 if you are the only driver.

To save the common exit seating position to  that is used by all drivers for Manually Recalling Seating Positions and Auto Seat Exit Memory Recall features, repeat Steps 1–4 using , the exit button.

Manually Recalling Seating Positions

Press and hold 1, 2, or  button until the recall is complete, to recall the positions previously saved to that button.

Manual Memory recall movement for 1, 2 or  buttons may be initiated and will complete to the saved memory position if the vehicle is in or out of P (Park).

Enabling Automatic Recalls

- Seat Entry Memory moves the driver seat to the selected 1 or 2 position when the vehicle is started. Select Settings > Vehicle > Seating Position > Seat Entry Memory > ON or OFF. See “Auto Seat Entry Memory Recall” later in this section.

42 Seats and Restraints

- Seat Exit Memory moves the driver seat to the preferred exit position of the  button when the vehicle is turned off and the door is opened. Select Settings > Vehicle > Seating Position > Seat Exit Memory > ON or OFF. See “Auto Seat Exit Memory Recall” later in this section.

Auto Seat Entry Memory Recall

Seat Entry Memory will automatically begin movement to the seating positions of the 1 or 2 button corresponding to the driver's remote key number 1 or 2 detected by the vehicle when:

- The vehicle is turned ON.
- Seating positions have been previously saved to the same 1 or 2 button. See “Saving Seating Positions” previously in this section.
- Seat Entry Memory is enabled. See “Enabling Automatic Recalls” previously in this section.
- The vehicle is in P (Park).

Seat Entry Memory Recall will continue if the vehicle is shifted out of P (Park) prior to reaching the saved memory position.

If the saved memory seat position does not automatically recall, verify the recall is enabled. See “Enabling Automatic Recalls” previously in this section.

If the memory seat recalls to the wrong position, the driver's remote key number 1 or 2 may not match the memory button number positions they were saved to. Try the other remote key or try saving the positions to the other 1 or 2 memory button. See “Saving Seating Positions” previously in this section.

Automatic Seat Entry Memory recalls are only available for driver's remote key numbers 1 and 2. Remote keys 3–8 will not provide Seat Entry Memory recalls.

Auto Seat Exit Memory Recall

Seat Exit Memory will begin movement to the seating position of the  button when:

- The vehicle is turned off and the driver door is open or opened within a short time.
- A seating position has been previously been saved to the  memory button. See “Saving Seating Positions” previously in this section.

- Seat Exit Memory is enabled. See “Enabling Automatic Recalls” previously in this section.
- The vehicle is in P (Park).

Seat Exit Memory recall will continue if the vehicle is shifted out of P (Park) prior to reaching the saved memory position.

Seat Exit Memory is not linked to the driver's remote key. The seating position saved to  is used for all drivers.

Cancel Memory Seating Recalls

- During any memory recall:
Press a power seat control
Press SET memory button
- During Manual memory recall:
Release 1, 2, or  memory button
- During Auto Seat Entry Memory Recall:
Turn vehicle off
Press SET, 1, 2, or  memory buttons
- During Auto Seat Exit Memory Recall:
Press SET, 1, 2, or  memory buttons

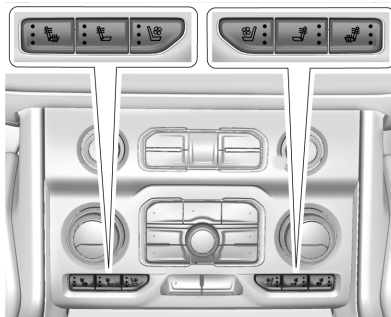
Obstructions

If something has blocked the seat while recalling a memory position, the recall may stop. Remove the obstruction and try the recall again. If the memory position still does not recall, see your dealer.

Heated and Ventilated Front Seats

Warning

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



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

If equipped, the buttons are near the climate controls on the center stack. To operate, the engine must be on.

Press  or  to heat the driver or passenger seatback.

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

Press  or , if available, to ventilate the driver or passenger seat. A ventilated seat has a fan that pulls or pushes air through the seat. The air is not cooled.

When this feature is off, the heated and ventilated seat symbols on the buttons are white. When a heated seat is turned on, the symbol turns red. When a ventilated seat is turned on, the symbol turns blue.

Press the button once for the highest setting. With each press of the button, the seat will change to the next lower setting, and then to the off setting. The indicator lights next to the buttons indicate three for the highest setting and one for the lowest. If the heated seats are on high, the level may automatically be lowered after approximately 30 minutes.

The passenger seat may take longer to heat up.

Auto Heated and Ventilated Seats

When the vehicle is on, this feature, if enabled, will automatically activate the heated or ventilated seats at the level required by the vehicle's interior temperature.

The active high, medium, low, or off heated or ventilated seat level will be indicated by the manual heated or ventilated seat buttons on the center stack. Use the manual heated or ventilated seat buttons on the center stack to turn auto heated or

44 Seats and Restraints

ventilated seats off. If the passenger seat is unoccupied, the auto heated or ventilated seats feature will not activate that seat. To enable or disable auto heated or ventilated seats, select Settings > Vehicle > Climate and Air Quality > Auto Cooled or Auto Heated Seats > ON or OFF.

Remote Start Heated and Ventilated Seats

During a remote start, the heated or ventilated seats, if equipped, can be turned on automatically. When it is cold outside, the heated seats turn on, and when it is hot outside the ventilated seats turn on. If the auto heated or ventilated seats feature, if equipped, is not turned on, the heated or ventilated seats may be canceled when the vehicle is turned on. If necessary, press the heated or ventilated seat button to use the heated or ventilated seats after the vehicle is started.

The heated or ventilated seat indicator lights may turn on during a remote start.

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

To enable or disable remote start heated or ventilated seats, select Settings > Vehicle > Remote Lock, Unlock, and Start > Remote

Start Auto Heat Seats or Remote Start Auto Cool Seats > ON or OFF. See *Remote Vehicle Start* ⇨ 13.

Rear Seats

Rear Seat Reminder

If equipped, the message REAR SEAT REMINDER LOOK IN REAR SEAT displays under certain conditions indicating there may be an item or passenger in the rear seat. Check before exiting the vehicle.

This feature will activate when a second row door is opened while the vehicle is on or up to 10 minutes before the vehicle is turned on. There will be an alert when the vehicle is turned off. The alert does not directly detect objects in the rear seat; instead, under certain conditions, it detects when a rear door is opened and closed, indicating that there may be something in the rear seat.

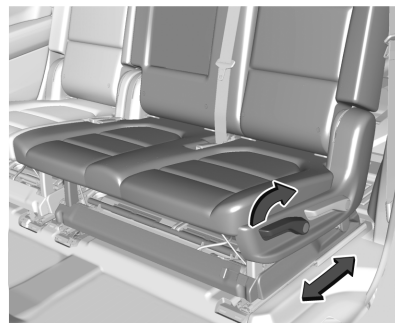
The feature is active only once each time the vehicle is turned on and off, and will require reactivation by opening and closing the second row doors. There may be an alert even when there is nothing in the rear

seat; for example, if a child entered the vehicle through the rear door and left the vehicle without the vehicle being shut off.

The feature can be turned on or off. Select Settings > Vehicle > Rear Seat Reminder > ON or OFF.

Second Row Seats

Rear Seat Adjustment

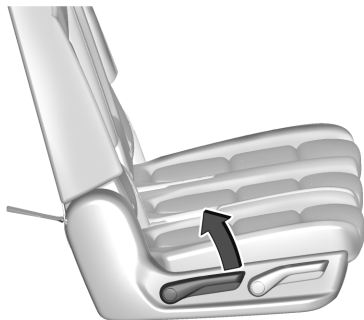


To adjust the seat position:

1. Remove objects on the floor in front of or on the second row seat, or in the seat tracks on the floor.
2. Lift the lever below the seat cushion and slide the seat forward or backward.

Reclining Seatbacks

To recline the seatback:



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

To return the seatback to the upright position:

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.

1. Lift the lever fully while applying pressure to the seatback, and the seatback will return to the upright position. If the lever is lifted without applying pressure, the seat will release to a folded position.
2. Push and pull on the seatback to make sure it is locked.

Entering and Exiting the Third Row

Manual Fold and Tumble Feature

Warning

Do not leave the second row seat in a tumbled position while the vehicle is in motion. A tumbled seat is not locked. It can move when the vehicle is in

(Continued)

Warning (Continued)

motion. People in the vehicle could be injured in a sudden stop or crash. Be sure to return the seat to the passenger seating position before driving the vehicle. Push and pull on the seat to make sure it is locked into place.

Caution

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

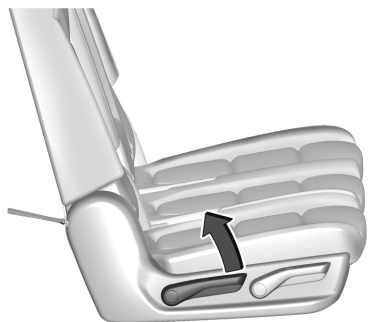
The second row seats can be folded for additional cargo space or folded and tumbled for easy entry and exit to the third row seat.

Folding and Tumbling the Seat

To fold and tumble the seat:

1. Make sure that there is nothing under, in front of, or on the seat.

46 Seats and Restraints



2. Lift the lever on the outboard side of the seat to release the seatback.



The seatback will fold forward to create a flat load floor.

If the seatback cannot fold flat, try moving the front seat forward and/or put the front seatback in the upright position.



3. Lift the lever again to release the rear of the seat from the floor. The seat will tumble forward.

Folding and Tumbling the Seat from the Third Row Seat

Warning

Using the third row seating position while the second row is folded, or folded and tumbled, could cause injury in a sudden stop or crash. Be sure to return

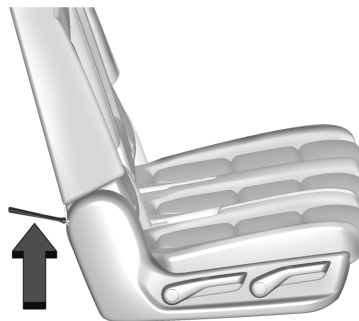
(Continued)

Warning (Continued)

the seat to the passenger seating position. Push and pull on the seat to make sure it is locked into place.

To fold and tumble the seat from the third row seat:

1. Make sure that there is nothing under, in front of, or on the seat.



2. Pull the strap on the bottom rear of the second row seat to release the seatback. The seatback will fold forward.



3. Pull the strap again to release the rear of the seat from the floor. The seat will tumble forward.

Automatic Fold and Tumble Feature

Warning

Do not leave the second row seat in a tumbled position while the vehicle is in motion. A tumbled seat is not locked. It can move when the vehicle is in motion. People in the vehicle could be injured in a sudden stop or crash. Be sure to return the seat to the passenger

(Continued)

Warning (Continued)

seating position before driving the vehicle. Push and pull on the seat to make sure it is locked into place.

Warning

Automatically folding and tumbling the seat when someone is sitting in the seat, could cause injury to the person sitting there. Always make sure there is no one sitting in the seat before pressing the automatic seat release switch.

Caution

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

The vehicle must be in P (Park) for this feature to work.

Folding and Tumbling the Seat

To fold and tumble the seat:

1. Make sure that there is nothing under, in front of, or on the seat.



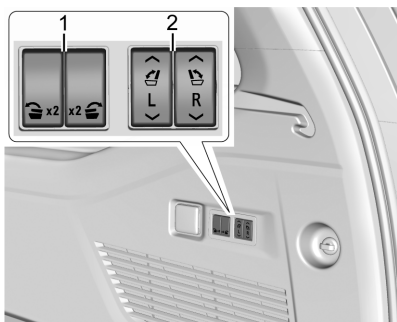
Driver Side Rear Panel Switch

2. Press the automatic seat release switch on the panel behind the rear doors. The seatback automatically folds flat.
3. Press the switch again to release the rear of the seat from the floor. The seat will tumble forward.

48 Seats and Restraints

Folding and Tumbling the Second Row Seat from the Cargo Area

The vehicle must be in P (Park) for this feature to work.



1. Second Row Power Seat Fold and Tumble Switches
2. Third Row Power Seat Fold and Raise Switches

To fold and tumble the seat from the cargo area:

1. Make sure that there is nothing under, in front of, or on the seat.
2. Press the switch (1) on the side trim of the cargo area to fold the second row seatback.

The left switch folds the left seatback, and the right switch folds the right seatback.

3. Press the switch again to release the rear of the seat from the floor. The seat will tumble forward.

The switches (2) can be used to fold the third row seatbacks from the cargo area. See *Third Row Seats* ⇨ 49.

Returning the Seat to the Sitting Position

Warning

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

To return the seat to the sitting position from the tumbled position:

1. Pull the seat down until it latches to the floor. The seatback cannot be raised if the seat is not latched to the floor.
2. Lift the seatback and push it rearward. Push and pull on the seatback to make sure it is locked.

3. For the 60/40 split-bench seat, make sure the seat belt in the center seating position is not caught between the two seats and is not twisted.

Heated Rear Seats

Warning

If temperature change or pain to the skin cannot be felt, the seat heater may cause burns. See the Warning under *Heated and Ventilated Front Seats* ⇨ 43.



If equipped, the buttons are on the rear of the center console.

With the engine running, press  or  to heat the left or right outboard seat cushion. An indicator on the rear climate control display appears when this feature is on.

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

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

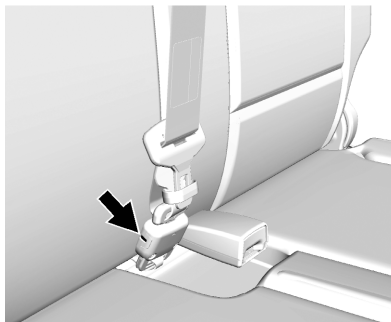
Third Row Seats

Caution

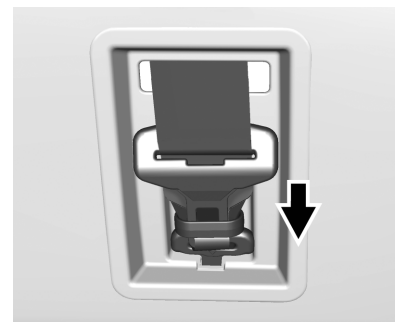
Folding a rear seat with the seat belts still fastened may cause damage to the seat or the seat belts. Always unbuckle the seat belts and return them to their normal stowed position before folding a rear seat.

The third row seatbacks can be folded to increase cargo space.

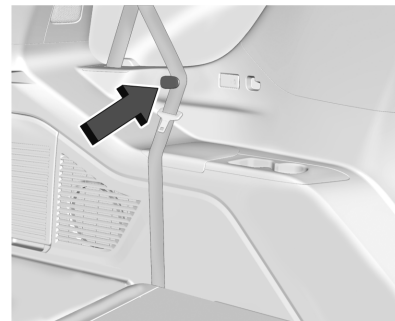
1. Open the liftgate to access the controls for the third row seat.
2. Make sure that there is nothing under, in front of, or on the seat.
3. If the second row seat is in the full rear position, adjust it forward to allow the third row seat to fold fully flat.



4. Disconnect the rear seat belt mini-latch, using a key in the slot on the mini-buckle, and let the belt retract into the headliner.



5. Stow the mini-latch in the holder in the headliner.



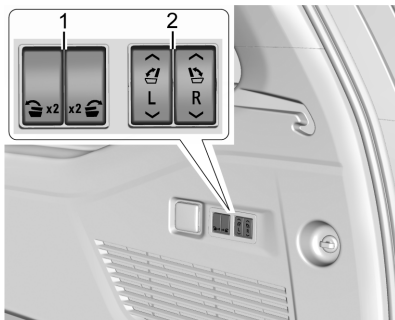
50 Seats and Restraints

6. Stow the seat belt in the belt stowage clip.

Repeat the steps to fold the other seatback, if desired.

Power Seatback Folding (If Equipped)

The vehicle must be in P (Park) for this feature to work.



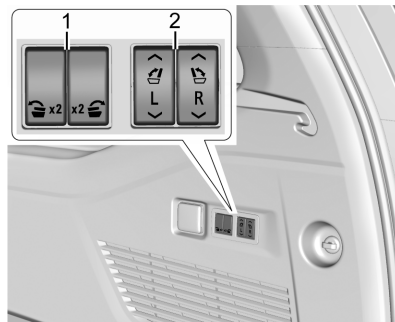
1. Second Row Power Seat Fold and Tumble Switches
 2. Third Row Power Seat Fold and Raise Switches
1. Press and hold the switch (2) on the side trim of the cargo area to fold the third row seatback.

The left switch folds the left seatback, and the right switch folds the right seatback.

2. Repeat the steps for the other seatback, if desired.

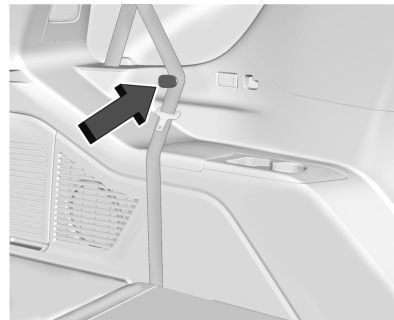
The switches (1) can be used to fold or fold and tumble the second row seats from the cargo area. See *Second Row Seats* ⇨ 44.

Returning the Third Row Seatback to the Upright Position



1. Second Row Power Seat Fold and Tumble Switches
2. Third Row Power Seat Fold and Raise Switches

To return the third row seatback to the upright position:



1. Ensure the seat belt is in the belt stowage clip.
2. Open the liftgate to access the controls for the seat.
3. Press and hold the switch (2) on the side trim of the cargo area to raise the third row seatback.

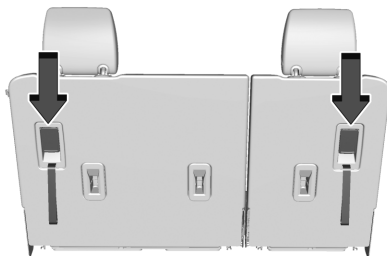
The left switch raises the left seatback, and the right switch raises the right seatback.

 Warning

A seat 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 seat belts are properly routed and attached, and are not twisted.

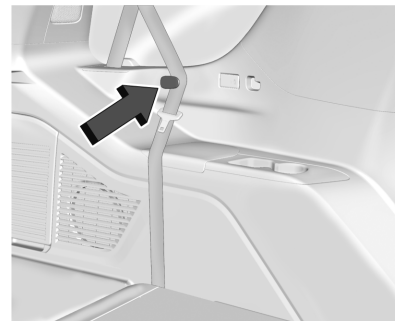
4. Reconnect the center seat belt mini-latch to the mini-buckle. Do not let it twist.
5. Pull on the seat belt to be sure the mini-latch is secure.
6. Repeat the steps for the other seatback, if desired.

Manual Seatback Folding (If Equipped)



1. Pull up on the lever to release the seatback.
2. Push the seatback forward to lay flat.
3. Repeat for the other seatback, if necessary.

Returning the Third Row Seatback to the Upright Position



1. Ensure the seat belt is in the belt stowage clip.
2. From the rear of the vehicle, raise the seatback to the upright position using the pull strap on the back of the third row seat, or lift the seatback and push it into place from inside the vehicle.

52 Seats and Restraints

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.

3. Push and pull on the seatback to make sure it is locked in place.

Warning

A seat 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 seat belts are properly routed and attached, and are not twisted.

4. Reconnect the center seat belt mini-latch to the mini-buckle. Do not let it twist.
5. Pull on the seat belt to be sure the mini-latch is secure.

Folding the Third Row Seats from the Overhead Console



To fold the seats from the overhead console, if equipped:

The vehicle must be in P (Park) for this feature to work.

1. Press and hold the switch to fold the third row seatback.
The left switch folds the left seatback, and the right switch folds the right seatback.
2. Repeat the steps for the other seatback, if desired.
3. Press and hold the switch to return the seatback to the seating position.

If equipped, the red light on the switch will illuminate if the third row seatback is not in the seating position.

There are additional switches which can be used to fold the third row seatbacks from the cargo area. See *Third Row Seats* ⇨ 49.

Seat Belts

This section describes how to use seat belts properly, and some things not to do.

Warning

Do not let anyone ride where a seat belt cannot be worn properly. In a crash, if you or your passenger(s) are not wearing seat belts, injuries can be much worse than if you are wearing seat 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

(Continued)

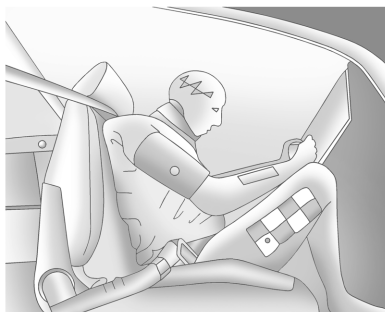
Warning (Continued)

injured or killed. Do not allow passengers to ride in any area of the vehicle that is not equipped with seats and seat belts.

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

This vehicle has indicators as a reminder to buckle the seat belts. See *Seat Belt Reminders* ⇨ 114.

Why Seat 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 seat belts!

When you wear a seat 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 seat belts. That is why wearing seat belts makes such good sense.

Questions and Answers About Seat Belts

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

A: You *could* be — whether you are wearing a seat 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 seat belts?

A: Airbags are supplemental systems only. They work *with* seat 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 regions, the law requires wearing seat belts.

How to Wear Seat Belts Properly

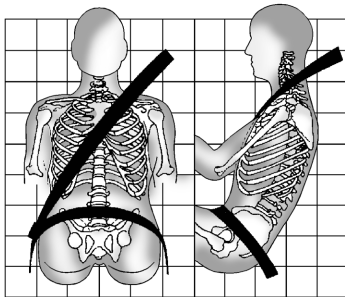
Follow these rules for everyone's protection.

There are additional things to know about seat belts and children, including smaller children and infants. If a child will be riding in the vehicle, see *Older Children* ⇨ 70 or *Infants and Young Children* ⇨ 72. Review and follow the rules for children in addition to the following rules.

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 seat belts.

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

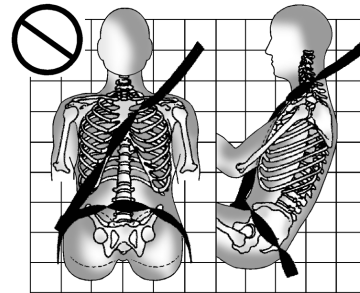
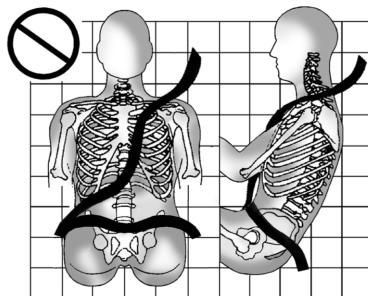
54 Seats and Restraints



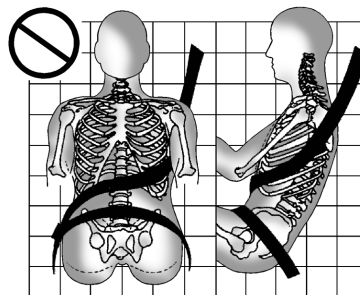
- Sit up straight and always keep your feet on the floor in front of you (if possible).
- Wear the lap part of the belt low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong pelvic bones and you would be less likely to slide under the lap belt. If you slid under 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.

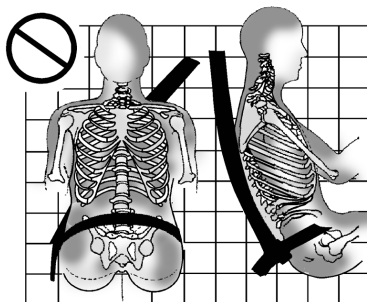
Warning

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

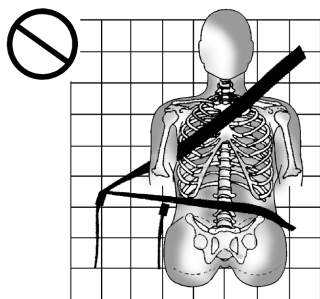


Never allow the lap or shoulder belt to become loose or twisted.

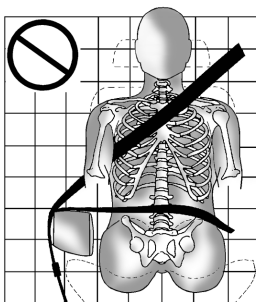




Never wear the shoulder belt under both arms or behind your back.



Always use the correct buckle for your seating position.



Never route the lap or shoulder belt over an armrest.

Warning

The seat belt can be pinched if it is routed under plastic trim on the seat, such as trim around the rear seatback folding handle or side airbag. In a crash, pinched seat belts might not provide adequate protection. Never allow seat belts to be routed under plastic trim pieces.

Warning

You can be seriously injured or killed if the shoulder belt is worn behind your back, under your legs, or wrapped around your 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 you. You may have to cut the seat belt if it is locked and tightened around you.

Lap-Shoulder Belt

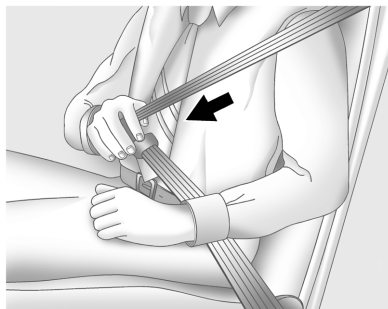
All seating positions in the vehicle have a lap-shoulder belt.

If you are using a rear seating position with a detachable seat belt and the seat belt is not attached, see *Third Row Seats* ⇨ 49 for instructions on reconnecting the seat belt to the mini-buckle.

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.

56 Seats and Restraints

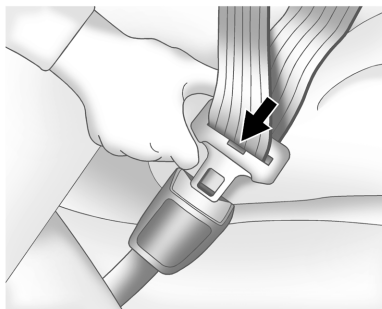


2. Pick up the latch plate and pull the belt across you. Do not let it get twisted.

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. See *Child Restraint Systems* ⇨ 74. If this occurs, let the belt go back all the way and start again. If the locking feature stays engaged after letting the belt go back to stowed

position on the seat, move the seat rearward or recline the seat until the shoulder belt retractor lock releases. Engaging the child restraint locking feature in the front outboard seating position may affect the passenger sensing system. See *Passenger Sensing System* ⇨ 65.

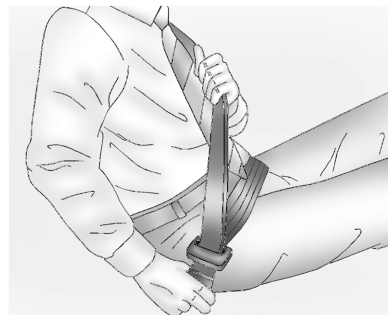


3. Push the latch plate into the buckle until it clicks.

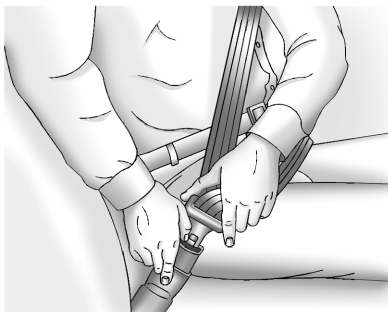
Pull up on the latch plate to make sure it is secure.

Position the release button on the buckle so that the seat 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” in this section for instructions on use and important safety information.



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



To unlatch the belt, push the button on the buckle. The belt should return to its stowed position.

Always stow the seat belt slowly. If the seat belt webbing returns quickly to the stowed position, the retractor may lock and cannot be pulled out. If this happens, pull the seat 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 seat belt is out of the way. If a door is slammed against a seat belt, damage can occur to both the seat belt and the vehicle.

Shoulder Belt Height Adjuster

The vehicle has a shoulder belt height adjuster for the driver and front outboard passenger 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 seat belt in a crash. See *How to Wear Seat Belts Properly* ⇨ 53.



Push the release button to move the height adjuster to the desired position.

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

Seat Belt Pretensioners

This vehicle has seat belt pretensioners for the front outboard occupants.

Although the seat belt pretensioners cannot be seen, they are part of the seat belt assembly. They can help tighten the seat belts during the early stages of a moderate to severe frontal or near frontal crash if the threshold conditions for pretensioner activation are met.

Seat belt pretensioners can also help tighten the seat belts in a side crash or rollover event.

Pretensioners work only once. If the pretensioners activate in a crash, the pretensioners and probably other parts of the vehicle's seat belt system will need to be replaced. See *Replacing Seat Belt System Parts after a Crash* ⇨ 59.

58 Seats and Restraints

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

Seat Belt Use During Pregnancy

Seat belts work for everyone, including pregnant women. Like all occupants, they are more likely to be seriously injured if they do not wear seat 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 seat 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 seat belts effective is wearing them properly.

Safety System Check

Periodically check the seat belt reminder, seat belts, buckles, latch plates, retractors, shoulder belt height adjusters (if equipped), and seat belt anchorages to make sure they are all in working order. Look for any other loose or damaged seat belt system parts that might keep a seat belt system from performing properly. See your dealer to have it repaired. Torn, frayed, or twisted seat belts may not protect you in a crash. Torn or frayed seat belts can rip apart under impact forces. If a belt is torn or frayed, have it replaced immediately. If a belt is twisted, it may be possible to untwist by reversing the latch plate on the webbing. If the twist cannot be corrected, ask your dealer to fix it.

Make sure the seat belt reminder light is working. See *Seat Belt Reminders* ⇨ 114.

Keep seat belts clean and dry. See *Seat Belt Care* ⇨ 58.

Seat Belt Care

Keep belts clean and dry.

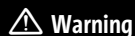
Seat belts should be properly cared for and maintained.

Seat belt hardware should be kept dry and free of dust or debris. As necessary, exterior hard surfaces and seat 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.

Warning

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

Replacing Seat Belt System Parts after a Crash



Warning

A crash can damage the seat belt system in the vehicle. A damaged seat 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 seat 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 seat belts may not be necessary. But the seat belt assemblies that were used during any crash may have been stressed or damaged. See your dealer to have the seat belt assemblies inspected or replaced.

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

Have the seat 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* ⇨ 115.

Airbag System

The vehicle has the following airbags:

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

The vehicle may have the following airbag:

- A front center airbag for the driver and 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.

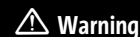
For the front center airbag, the word AIRBAG is on the inboard side of the driver seatback.

For seat-mounted side impact airbags, the word AIRBAG is on the side of the seatback or side of the seat 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 seat 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 seat belt, even with airbags. Airbags are designed to work with seat belts, not replace them. Also, airbags are not designed to inflate in every crash. In some crashes seat belts are the only restraint. See *When Should an Airbag Inflate?* ⇨ 62.

(Continued)

60 Seats and Restraints

Warning (Continued)

Wearing your seat 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 seat belts. Everyone in the vehicle should wear a seat 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. Seat belts help keep you in position before and during a crash. Always wear a seat belt, even with airbags. The driver should sit as far back as possible while still maintaining control of the vehicle. The seat belts and the front outboard passenger airbags are
(Continued)

Warning (Continued)

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 front center armrest or console in vehicles with a front center airbag.

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* ⇨ 70 or *Infants and Young Children* ⇨ 72.



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* ⇨ 115.

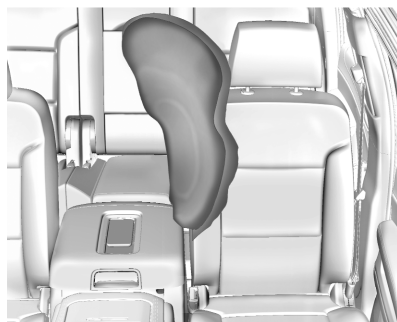
Where Are the Airbags?



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.



If the vehicle has a front center airbag, it is in the inboard side of the driver seatback.



Driver Side Shown, Passenger Side Similar

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



Driver Side Shown, Passenger Side Similar

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

⚠ Warning

If something is between an occupant and an airbag, the airbag might not inflate properly or it might force the object into that person causing severe injury or even death. The path of an inflating airbag must be kept clear. Do not put anything between an occupant and an airbag, and
(Continued)

62 Seats and Restraints

Warning (Continued)

do not attach or put anything on the steering wheel hub or on or near any other airbag covering.

Do not use seat or console accessories that block the inflation path of a seat-mounted side impact airbag or the front center airbag, if equipped.

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* ⇨ 59. 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 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.

The front center airbag, if equipped, is designed to inflate in moderate to severe side crashes depending upon the location of

the impact, when either side of the vehicle is struck. In addition, the front center airbag is designed to inflate when the sensing system predicts that the vehicle is about to roll over on its side. The front center airbag is not designed to inflate in frontal impacts, near frontal impacts, or rear impacts.

Seat-mounted side impact airbags are designed to inflate in moderate to severe side crashes depending on the location of the impact. These airbags may also inflate in some moderate to severe frontal impacts. Seat-mounted side impact airbags are not designed to inflate in 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 may 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 may inflate when either side of the vehicle is struck or 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?* ⇨ 60.

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 seat 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, second, and third 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?* ⇨ 62.

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

What Will You See after an Airbag Inflates?

After frontal and seat-mounted side impact airbags inflate, they quickly deflate, so quickly that some people may not even realize the airbags inflated. The front center airbag and 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?* ⇨ 60.

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

64 Seats and Restraints

airbags inflate. The feature may also activate, without airbag inflation, after an event that exceeds a predetermined threshold. After turning the ignition off and then on again, the fuel system will return to normal operation; the doors can be locked, the interior lamps can be turned off, and the hazard warning flashers can be turned off using the controls for those features. If any of these systems are damaged in the crash they may not operate as normal.

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* ⇨ 376 and *Event Data Recorders* ⇨ 376.
- 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.

Rollover Detection Disable Button

Some extreme off-road driving activities, such as rock climbing and driving on sand dunes, may place the vehicle at an extreme angle. Depending on other driving

conditions, operating the vehicle on extreme angles may deploy the rollover roof-rail airbags, even if the vehicle does not roll over. If equipped, the rollover detection disable button can be used to temporarily turn off the rollover detection system that deploys the roof-rail airbags, front center airbag if equipped, and seat belt pretensioners when the vehicle is about to roll over on its side.



If equipped, the rollover detection disable button will be on the center stack in either the first, second, or third position.

Warning

The rollover detection disable button will disable deployment of the roof-rail airbags, front center airbag if equipped, and seat belt pretensioners in the event of a vehicle rollover.

You can be seriously injured or killed in a rollover event if deployment of the roof-rail airbags, front center airbag if equipped, and seat belt pretensioners is disabled. See *Airbag System* ⇨ 59.

When the vehicle is first started, all vehicle airbags and the seat belt pretensioners are automatically enabled. To manually turn off the rollover detection system so that the roof-rail airbags, front center airbag if equipped, and seat belt pretensioners will not deploy during a rollover event:

1. Turn the ignition on.
2. Press and hold the rollover detection disable button until a beep sounds. The rollover detection system status indicator in the overhead console will come on and stay on when the rollover detection system is turned off. See *Rollover Detection System Status Indicator* ⇨ 116.

When the rollover detection system is turned off, the roof-rail airbags, front center airbag if equipped, and seat belt pretensioners will not deploy in a rollover event. The roof-rail airbags, front center airbag if equipped, and seat belt pretensioners will still deploy in moderate to severe side impacts, the roof-rail airbags and seat belt pretensioners will still deploy in moderate to severe frontal impacts, and the seat belt pretensioners will still deploy in a moderate to severe rear impact.

To turn the rollover detection system back on, turn the ignition off or press and hold the rollover detection disable button until a beep sounds. When the rollover detection system is turned back on, the rollover detection system status indicator in the overhead console will turn off. See *Rollover Detection System Status Indicator* ⇨ 116.

Warning

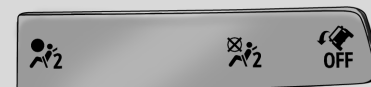
If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. For example, the roof-rail airbags could inflate even though the rollover detection system is turned off.

(Continued)

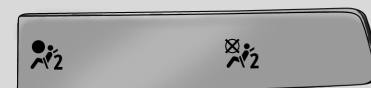
Warning (Continued)

If the airbag readiness light stays on, have the vehicle serviced right away. See *Rollover Detection System Status Indicator* ⇨ 116 for more information, including important safety information.

Passenger Sensing System



With Rollover Detection Disable



Without Rollover Detection Disable

66 Seats and Restraints

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.

The symbols for on and off, will be visible during the system check. When the system check is complete, either the symbol for on or off, will be visible. See *Passenger Airbag Status Indicator* ⇨ 116.

The passenger sensing system turns off the front outboard passenger frontal 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 seat belt. The sensors are designed to detect the presence of a properly seated occupant and determine if the front outboard passenger frontal airbag should be allowed to inflate or not.

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

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

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

(Continued)

Warning (Continued)

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.

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

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

- The front outboard passenger seat is unoccupied.
- The system determines 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.

When the passenger sensing system has turned off the front outboard passenger frontal airbag, the off indicator will light and stay lit as a reminder that the airbag is off. See *Passenger Airbag Status Indicator* ⇨ 116.

The passenger sensing system is designed to turn on the front outboard passenger frontal 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 airbag to be enabled, the on indicator will light and stay lit as a reminder that the airbag is 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, depending upon the person's seating posture and body build. Everyone in the vehicle who has outgrown child restraints should wear a seat belt properly — whether or not there is an airbag for that person.

Warning

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light* ⇨ 115 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 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 (In the Center Front Seat)* ⇨ 86 or *Securing Child Restraints (With the Seat Belt in the Rear Seat)* ⇨ 84 or *Securing Child Restraints (With the Seat Belt in the Front Passenger Seat)* ⇨ 86.

Make sure the seat 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 seat 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.

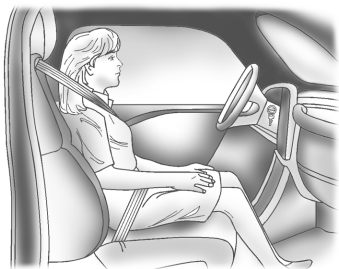
Also make sure the child restraint is not trapped under the vehicle head restraint. If this happens, adjust the head restraint. See *Head Restraints* ⇨ 36.

68 Seats and Restraints

6. Restart the vehicle.

The passenger sensing system may or may not turn off the airbag for a child in a child restraint depending upon the child's size. It is better to secure child restraints in a rear seat. Consider using another vehicle to transport the child when a rear seat is not available. 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.

Use the following steps to allow the system to detect that person and enable the front outboard passenger frontal airbag:

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

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

Seat 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 “Seat 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* ⇨ 69 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 articles under the passenger seat or between the passenger seat cushion and seatback may interfere with the proper operation of the passenger sensing system.

Servicing the Airbag-Equipped Vehicle

Airbags affect how the vehicle should be serviced. There are parts of the airbag system in several places around the vehicle. Your dealer and the service manual have information about servicing the vehicle and the airbag system.

 Warning

For up to 10 seconds after the vehicle is turned off and the battery is disconnected, an airbag can still inflate during improper service. You can be injured if you are close to an airbag when it inflates. Avoid yellow connectors. They are probably part of the airbag system. Be sure to follow proper service
(Continued)

Warning (Continued)

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, including improperly repairing or replacing, any parts of the following:

- Airbag system, including airbag modules, front or side impact sensors, sensing and diagnostic module, airbag wiring, or front center console
- Front seats, including stitching, seams or zippers
- Seat belts
- Steering wheel, instrument panel, overhead console, ceiling trim, or pillar garnish trim
- Inner door seals, including speakers

Your dealer and the service manual have information about the location of the airbag modules and sensors, sensing and diagnostic module, and airbag wiring along with the proper replacement procedures.

In addition, the vehicle has a passenger sensing system for the front outboard passenger position, which includes sensors that are part of the passenger's 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* ⇨ 65.

If the vehicle has rollover roof-rail airbags, see *Different Size Tires and Wheels* ⇨ 328 for additional important information.

70 Seats and Restraints

If the vehicle must be modified because you have a disability and 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, see your dealer.

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* ⇨ 115.

Caution

If an airbag covering is damaged, opened, or broken, the airbag may not work properly. Do not open or break the airbag coverings. If there are any opened or broken airbag coverings, have the airbag covering and/or airbag module replaced. For the location of the airbags, see *Where Are the Airbags?* ⇨ 60. See your dealer for service.

Replacing Airbag System Parts after a Crash

⚠ Warning

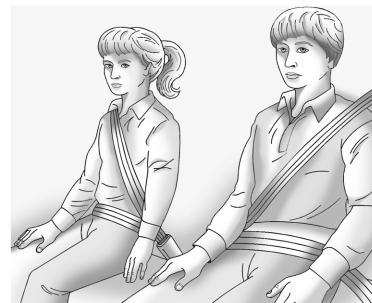
A crash can damage the airbag systems in the vehicle. A damaged airbag system may not properly protect you and your passenger(s) in a crash, resulting in serious injury or even death. To help make sure the airbag systems are working properly after a crash, have them inspected and any necessary replacements 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* ⇨ 115.

Child Restraints

Older Children



Older children who have outgrown booster seats should wear the vehicle's seat belts. Refer to *How to Wear Seat Belts Properly* ⇨ 53.

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, 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 seat 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 seat belts?

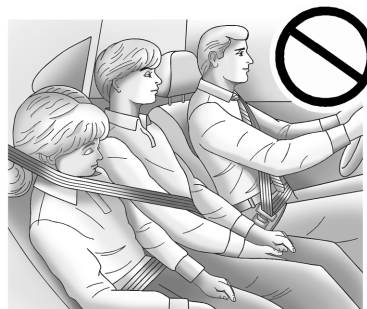
A: An older child should wear a lap-shoulder belt and get the additional restraint a shoulder belt can provide. The shoulder belt should not cross the face or neck. The lap belt should fit snugly below the hips, just touching the top of the thighs. This applies belt force to the child's pelvic bones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

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 seat belts properly.

Warning

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



Warning

Never allow a child to wear the seat belt shoulder belt under both arms or 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. That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.

72 Seats and Restraints



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.

Warning

Children can be seriously injured or killed if the shoulder belt is worn behind their back, under their legs, or 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 the child. Never leave children unattended in a vehicle and never allow children to improperly wear, or play with, the seat belts.

Every time infants and young children ride in vehicles, they should have the protection provided by appropriate child restraints. Neither the vehicle's seat 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 child 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 passenger 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 a forward-facing child restraint must be secured in the front passenger seat, always move the front passenger seat as far back as it will go.

If a child restraint is installed in the second row center seat, move the second row seat to the rearward position, whenever possible, to minimize contact with the front center airbag.



Child restraints are devices used to restrain, seat, or position children in the vehicle and are sometimes called child seats or car seats.

There are three basic types of child restraints:

- Forward-facing child restraints
- Rear-facing child restraints
- Belt-positioning booster seats

The proper child restraint for your child depends on their size, weight, and age, and also on whether the child restraint is compatible with the vehicle in which it will be used.

For each type of child restraint, there are many different models available. When purchasing a child restraint, be sure it is designed to be used in a motor vehicle.

The instruction manual that is provided with the child restraint states the weight and height limitations for that particular child restraint. In addition, there are many kinds of child 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 seat 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

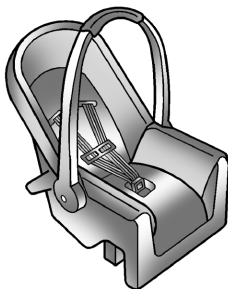
(Continued)

74 Seats and Restraints

Warning (Continued)

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 an appropriate child restraint.

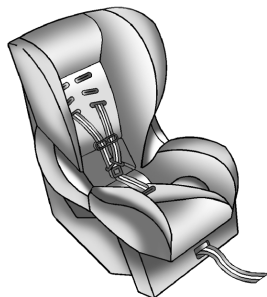
Child Restraint Systems



Rear-Facing Infant Restraint

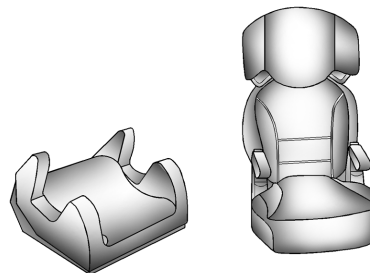
A rear-facing child restraint provides restraint with the seating surface against the back of the infant.

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



Forward-Facing Child Restraint

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



Booster Seats

A belt-positioning booster seat is used for children who have outgrown their forward-facing child restraint. Boosters are designed to improve the fit of the vehicle's seat belt system until the child is large enough for the vehicle seat belts to fit properly without a booster seat. See the seat belt fit test in *Older Children* ⇨ 70.

Securing an Add-On Child Restraint in the Vehicle

Warning

A child can be seriously injured or killed in a crash if the child restraint is not properly secured in the vehicle. Secure the child restraint properly in the vehicle using the vehicle seat 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 restraints 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)* ⇨ 77 for more information. 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 following:

1. Instruction labels provided on the child restraint

2. Instruction manual provided with the child restraint
3. This vehicle owner's 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.

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.

The vehicle may be equipped with a front center airbag in the inboard side of the driver seat. Even with a front center airbag, a child restraint can be installed in any second row 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
(Continued)

76 Seats and Restraints

Warning (Continued)

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 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* ⇨ 65 for additional information.

If a child restraint is installed in a second row center seat, move the second row seat to the rearward position, whenever possible, to minimize contact with the front center airbag.

Warning

A child in a child restraint in the center front seat can be badly injured or killed by the frontal airbags if they inflate. Never secure a child restraint in the center front seat. It is always better to secure a child restraint in a rear seat.

Do not use child restraints in the center front seat position.

When securing a child restraint with the seat belts in a rear seat 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. Do not install a child restraint in any rear seating position where it cannot be installed securely.

Depending on where you place the child restraint and the size of the child restraint, you may not be able to access adjacent seat 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 seat belt.

The seat in front of an installed child restraint should be adjusted to ensure proper installation according to the child restraint manual.

When installing a child restraint in an adjustable second row seating position, the seat should be adjusted fore or aft to ensure proper installation according to the child restraint manual. If the seat is able to recline, the seat back should be positioned to its full upright position before installing a child restraint.

Wherever a child restraint is installed, be sure to follow the instructions that came with the child restraint and secure the child restraint properly.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in 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. This 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 seat belts. Do not use both the seat belts and the LATCH anchorage system to secure a rear-facing or forward-facing child restraint.

Booster seats use the vehicle's seat belts to secure the child and 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 seat belts to properly secure the child restraint. A child restraint must never be attached using only the top tether.

For a forward-facing 5-pt harness child restraint where the combined weight of the child and restraint are up to 29.5 kg (65 lb), use either the lower LATCH anchorages with the top tether anchorage, or the seat belt with the top tether anchorage. Where the combined weight of the child and restraint are greater than 29.5 kg (65 lb), use the seat belt with the top tether anchorage only.

78 Seats and Restraints

Recommended Methods for Attaching Child Restraints

Restraint Type	Combined Weight of the Child + Child Restraint	Use Only Approved Attachment Methods Show with an X			
		LATCH-Lower Anchors Only	Seat Belt Only	LATCH-Lower Anchors and Top Tether Anchor	Seat Belt and Top Tether Anchor
Rear-Facing Child Restraint	Up to 29.5 kg (65 lb)	X	X		
Rear-Facing Child Restraint	Greater than 29.5 kg (65 lb)		X		
Forward-Facing Child Restraint	Up to 29.5 kg (65 lb)			X	X
Forward-Facing Child Restraint	Greater than 29.5 kg (65 lb)				X

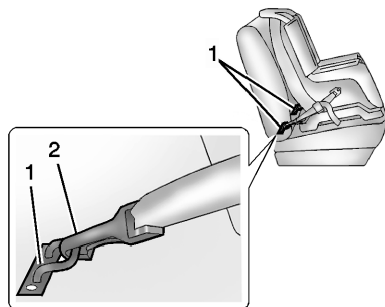
See *Securing Child Restraints (In the Center Front Seat)* ⇨ 86 or
Securing Child Restraints (With the Seat Belt in the Rear Seat) ⇨ 84 or
Securing Child Restraints (With the Seat Belt in the Front Passenger Seat) ⇨ 86.

Child restraints built after March 2014 are labeled with the maximum child weight, with which the LATCH system can be used for installing the child restraint.

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

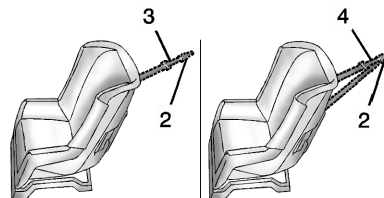
Not all vehicle seating positions have lower anchors. In this case, the seat belt must be used (with top tether where available) to secure the child restraint. See *Securing Child Restraints (In the Center Front Seat)* ⇨ 86 or *Securing Child Restraints (With the Seat Belt in the Rear Seat)* ⇨ 84 or *Securing Child Restraints (With the Seat Belt in the Front Passenger Seat)* ⇨ 86.

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



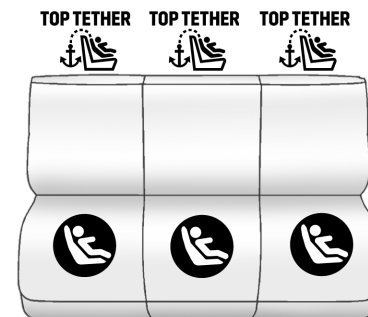
A top tether (3,4) is used to secure the top of the child restraint to the vehicle. A top tether anchor is built into the vehicle. The top tether attachment hook (2) on the child restraint connects to the top tether anchor in the vehicle in order to reduce the forward movement and rotation of the child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

The 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 with a top tether are designed for use with or without the top tether being attached. Others require the

top tether always to be attached. Be sure to read and follow the instructions for your child restraint.

Lower Anchor and Top Tether Anchor Locations

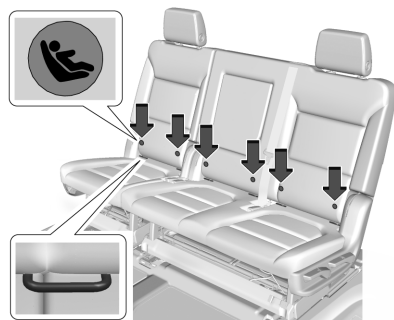


Second Row — 60/40

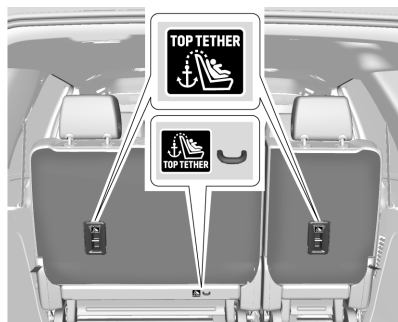
: Seating positions with two lower anchors.

: Seating positions with top tether anchors.

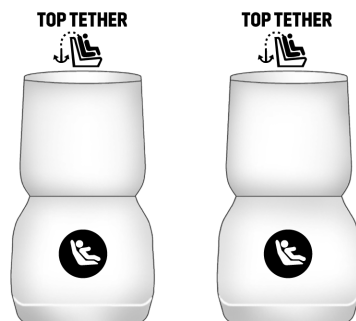
80 Seats and Restraints



The lower anchors are located in the crease between the seatback and seat cushion.



The top tether anchors are on the rear of the seatback for the outboard seating positions and the rear of the seat cushion for the center seating position in the second row. Be sure to use an anchor located directly behind the seating position where the child restraint will be placed.



Second Row — Bucket

 : Seating positions with two lower anchors.

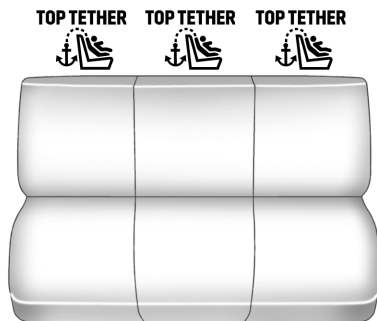
 : Seating positions with top tether anchors.



The lower anchors are located in the crease between the seatback and seat cushion.

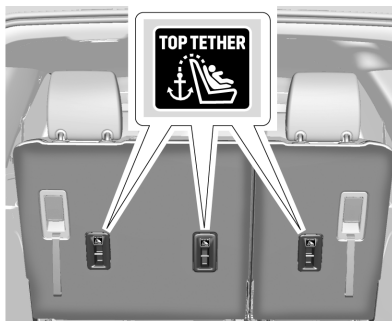


For models with bucket second row seating, the top tether anchors are on the rear of the seatback for each seating position in the second row. Be sure to use an anchor located directly behind the seating position where the child restraint will be placed.



Third Row Seat

 : Seating positions with top tether anchors.



For the third row seat, the top tether anchors are on the back of the seatback. Be sure to use an anchor located directly behind the seating position where the child restraint will be placed.

For models with a cargo cover, the top tether anchors are on the back of the rear seatbacks. Remove the cargo cover before installing the top tether. The cargo cover should remain off while the top tether is in use. Be sure to use an anchor directly behind 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* ⇨ 75 for additional information.

Securing a Child Restraint Designed for the LATCH System

Warning

A child could be seriously injured or killed in a crash if the child restraint is not properly attached to the vehicle using either the LATCH anchors or the vehicle seat belt. Follow the instructions 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
(Continued)

82 Seats and Restraints

Warning (Continued)

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 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 seat 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

(Continued)

Warning (Continued)

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

Caution

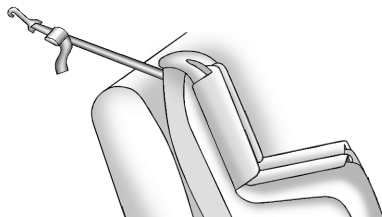
Do not let the LATCH attachments rub against the vehicle's seat belts. This may damage these parts. If necessary, move buckled seat belts to avoid rubbing the LATCH attachments.

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

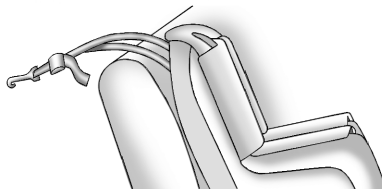
The vehicle is equipped with a front center airbag in the inboard side of the driver seat. Even with a front center airbag, a child restraint can be installed in any second row seating position.

If you need to secure more than one child restraint in the rear seat, see *Where to Put the Restraint* ⇨ 75.

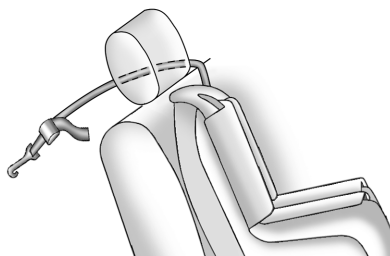
1. Attach and tighten the lower attachments to the lower anchors. If the child restraint does not have lower attachments or the desired seating position does not have lower anchors, secure the child restraint with the seat belt and top tether when recommended by the child restraint manufacturer. Refer to your child restraint manufacturer instructions and the instructions in this manual.
 - 1.1. Find the lower anchors for the desired seating position.
 - 1.2. Put the child restraint on the seat.
 - 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. Refer to the child restraint instructions and the following steps:
 - 2.1. Find the top tether anchor.
 - 2.2. Route, attach, and tighten the top tether according to your child restraint instructions and the following instructions:



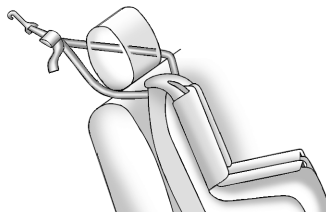
If the position you are using does not have a headrest or head restraint and you are using a single tether, route the tether over the seatback.



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 a fixed headrest or head restraint and you are using a single tether, route the tether around the inboard side of the headrest or head restraint.



If the position you are using has a fixed or an adjustable head restraint and you are using a dual tether, route the tether around the head restraint.

If the child restraint is installed next to a center seat, make sure the top tether does not interfere with the center seating position shoulder belt/retractor. If it does, find another suitable seating position to install the child restraint.

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.

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
(Continued)

84 Seats and Restraints

Warning (Continued)

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 (With the Seat Belt in the Rear Seat)

The vehicle may be equipped with a front center airbag in the inboard side of the driver seat. Even with a front center airbag, a child restraint can be installed in any second row seating position. If you install a child restraint in a second row center seat, move the second row seat to the rearward position, whenever possible, to minimize contact with the front center airbag.

When securing a child restraint with the seat belts in a rear seat 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)* ⇨ 77 for how and where to install the child restraint using LATCH. If a child restraint is secured in the vehicle using a seat belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ 77 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 tether must be anchored.

If the child restraint or vehicle seat position does not have the LATCH system, you will be using the seat belt to secure the child restraint. Be sure to follow the instructions that came with the child restraint.

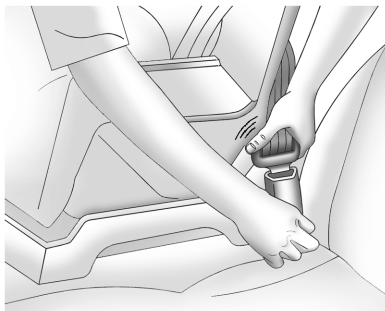
If more than one child restraint needs to be installed in the rear seat, be sure to read *Where to Put the Restraint* ⇨ 75.

If the child restraint manufacturer recommends using a top tether, attach and tighten the top tether to the top tether anchor. Refer to the instructions that came with the child restraint and see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ 77.

1. Put the child restraint on the seat.

If the head restraint interferes with the proper installation of the child restraint, the head restraint may be removed. See "Head Restraint Removal and Reinstallation" under *Lower Anchors and Tethers for Children (LATCH System)* ⇨ 77.

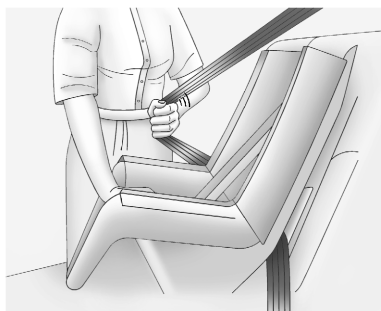
2. Pick up the latch plate and run the lap and shoulder portions of the vehicle seat belt through or around the child restraint. Ensure the seat belt webbing is routed as directly as possible and is not caught on seat handles or plastic trim. The child restraint instructions will show you how.



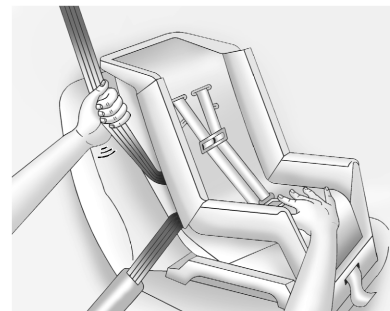
3. Push the latch plate into the buckle until it clicks.

Position the release button on the buckle, away from the child restraint, so that the seat belt could be quickly unbuckled if necessary.

There must not be direct contact of the child restraint to the push button.



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.

86 Seats and Restraints

- For forward-facing child restraints, attach and tighten the top tether to the top tether anchor (loop). Refer to the child restraint instructions, the vehicle LATCH anchor weight limits, and instructions listed in *Lower Anchors and Tethers for Children (LATCH System)* ⇨ 77.
- Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the seat 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 seat belt and let it return to the stowed position. If the top tether is attached to a top tether anchor, disconnect it.

If the head restraint was removed, reinstall it before the seating position is used. See "Head Restraint Removal and Reinstallation" under *Lower Anchors and Tethers for Children (LATCH System)* ⇨ 77 for additional information on installing the head restraint properly.

Securing Child Restraints (In the Center Front Seat)

Warning

A child in a child restraint in the center front seat can be badly injured or killed by the frontal airbags if they inflate. Never secure a child restraint in the center front seat. It is always better to secure a child restraint in a rear seat.

Do not use child restraints in the center front seat position.

Securing Child Restraints (With the Seat Belt in the 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* ⇨ 75.

In addition, the vehicle has a passenger sensing system which is designed to turn off the front outboard passenger frontal airbag under certain conditions. See *Passenger Sensing System* ⇨ 65 and *Passenger Airbag Status Indicator* ⇨ 116 for more information, including important safety information.

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

(Continued)

Warning (Continued)

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

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

See *Passenger Sensing System* ⇨ 65 for additional information.

If the child restraint uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System)* ⇨ 77 for top tether anchor locations.

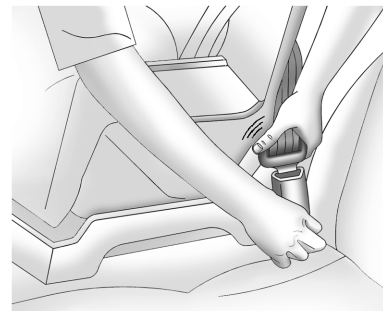
Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top tether must be anchored.

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 as far back 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. There must be finger clearance between the push button and the child restraint.

When the passenger sensing system has turned off the front outboard passenger frontal 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* ⇨ 116.

2. Put the child restraint on the seat.
3. Pick up the latch plate and run the lap and shoulder portions of the vehicle seat belt through or around the restraint. Ensure the seat belt webbing is routed as direct as possible and is not caught on seat handles or plastic trim. The child restraint instructions will show you how.



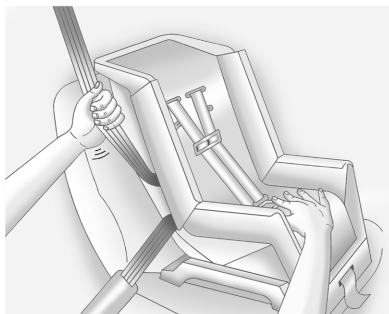
4. Push the latch plate into the buckle until it clicks.

Position the release button on the buckle, away from the child restraint, so that the seat belt could be quickly unbuckled if necessary.

88 Seats and Restraints



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.

There must be finger clearance between the push button and the child restraint. If there is not clearance between the buckle push button and the child restraint, move the seat upward and repeat prior installation steps. Otherwise secure the child restraint in a rear seat.

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

If a child restraint has been installed and the on indicator is lit, see "If the On Indicator Is Lit for a Child Restraint" under *Passenger Sensing System* ⇨ 65.

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

Storage

Storage Compartments

Storage Compartments	89
Instrument Panel Storage	89
Glove Box	89
Cupholders	89
Armrest Storage	90
Rear Storage	90
Center Console Storage	91
Floor Console Storage	92

Additional Storage Features

Cargo Tie-Downs	93
Convenience Net	93
Safety Kit	93

Roof Rack System

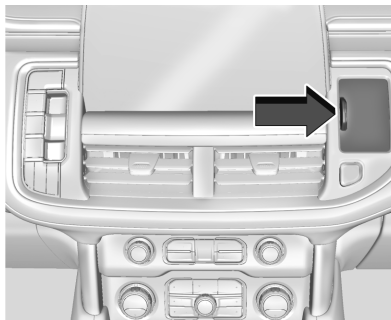
Roof Rack System	94
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Storage Compartments

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.

Instrument Panel Storage



There is storage on the instrument panel.

To open, if the storage is covered, press the button and slide the cover until it locks.

To close, press the button and release. The door will close automatically.

Glove Box

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

Cupholders

Bench Seat Cupholders



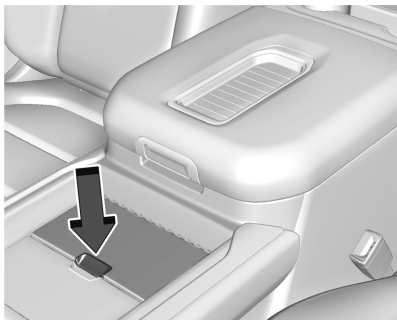
The cupholders are in front of the center console storage area when the armrest is down. See *Center Console Storage* ⇨ 91.

90 Storage

Bucket Seat Cupholders



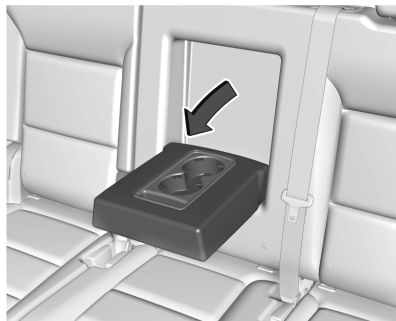
There are cupholders in front of and behind the center console storage area.



Denali

Press the button to open the cover, if equipped.

Rear Cupholders

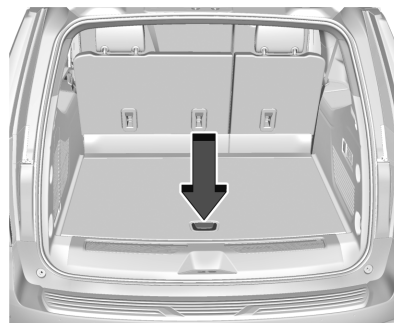


For second row bench seat, there are cupholders in the armrest. Pull down the armrest to access the cupholders.

Armrest Storage

For vehicles with a rear seat armrest, pull the loop at the top of the armrest down to access the cupholders.

Rear Storage

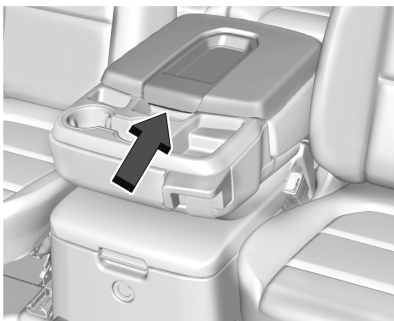


There is storage in the floor of the rear cargo area. Lift the handle to access.

Center Console Storage



Bench Seat

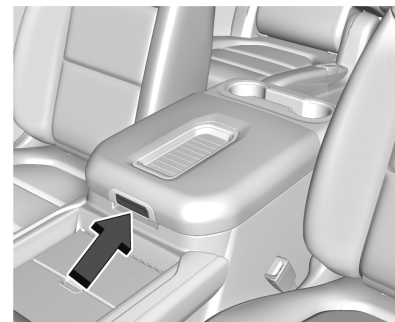


If equipped, pull the front center armrest down to access the storage area with cupholders.

Press the button and lift to open. There may be a removable divider.



Bucket Seat



Bucket Seat (Denali)

The SD card is used for navigation. Do not remove the card from the holder. See the infotainment section.

If equipped, press the latch and lift to open. Depending on the options, there may be a removable storage tray, SD card holder, auxiliary jack, and USB port(s) inside.

92 Storage

Center Console Refrigerator/Freezer



If equipped with a center console refrigerator/freezer, lift the armrest to access. A light will turn on when the armrest is up.

The refrigerator/freezer mode can only be used while the engine is running. If the vehicle is turned off and turned back on again, the last operating mode will be resumed.

Warning

Do not store glass and aluminum containers inside the bin when in freezer mode. Glass and aluminum containers
(Continued)

Warning (Continued)

can break when their contents are frozen. Use caution removing broken containers to avoid personal injury.

Warning

Do not touch bin surfaces with wet or damp hands while the freezer is on. Skin could stick to the bin surface.

Caution

Do not put any objects between the front seats and the center console side walls. The air path could be blocked and cause the unit to stop working.

To use in refrigerator mode, press the button once. One light on the button will be lit. The operating temperature is 5°C (41°F).

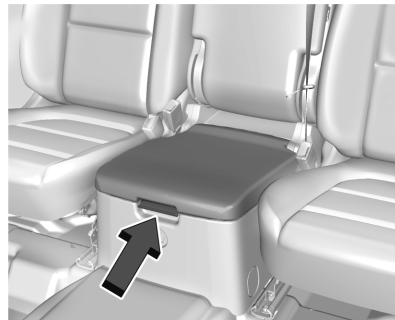
To use in freezer mode, press the button twice. Two lights on the button will be lit. The operating temperature is -5°C (23°F).

To turn off the refrigerator or freezer, press the button until its lights are off. The bin light can turn on when the refrigerator/freezer is off.

The bottom mat is removable. Clean with water and mild soap.

Clean the refrigerator/freezer bin while the vehicle and the feature are turned off. Use a damp, soft rag and wipe the bin carefully. Do not scratch or puncture the bin surfaces.

Floor Console Storage

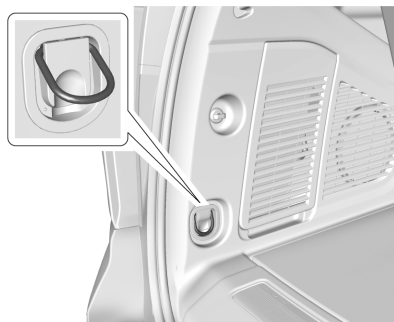


If equipped with front center seat storage, unlock with the mechanical key inside the remote key. See *Keys* ⇨ 6.

Press the latch, and lift to open.

Additional Storage Features

Cargo Tie-Downs



There are two cargo tie-downs in the rear cargo area. These can be used to strap cargo down and keep it from moving inside the vehicle.

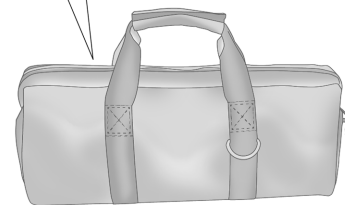
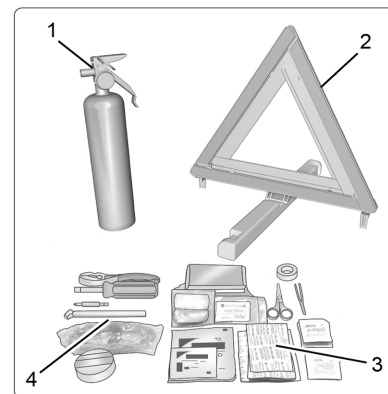
Convenience Net



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.

Safety Kit



Some items of the safety kit may be stored in the glove box or the cargo area.

94 Storage

The items stored in the safety kit bag include:

1. Fire Extinguisher
2. Warning Triangle
3. First Aid Kit
4. Highway Safety Kit

Warning

Perform fire extinguisher maintenance in intervals specified by its manufacturer. Periodically check:

- The internal pressure is still indicated by the green operating zone of the pressure gauge.
- The lead seal is not breached.
- The extinguisher validity is not expired.

If the fire extinguisher is put to use or if there is an issue with its operation, replace the extinguisher with a new one that meets current country regulations.

Lack of proper maintenance may lead to injury or death if the fire extinguisher does not function properly.

Roof Rack System

The vehicle may be equipped with side-rails for a roof rack system. Cargo must be secured with properly installed cross rails and other accessories designed to carry cargo. These can be purchased from your dealer.

Warning

Before driving and occasionally during a trip, check that cargo is securely fastened, rests evenly between the cross rails and does not block the vehicle's lamps or windows. Never load cargo directly on the roof of the vehicle or allow cargo to hang over the rear or sides of the vehicle. Never load cargo without first properly installing cross rails and other accessories designed to carry cargo. Personal injury, death or damage to the vehicle or other property may occur.

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.

Cargo Weight Limits

Do not exceed the maximum cargo weight for the roof rack system, including the weight of the cross rails and any other accessories used to carry the cargo such as bike racks or roof boxes. The maximum cargo weight that can be loaded onto the roof rack system is 100 kg (220 lb) or the weight designated in the instructions that came with the cross rails or other roof rack accessories, whichever is less.

Warning

Never load the roof rack with more weight than specified in this section. Loading cargo on the roof rack will make the vehicle's center of gravity higher. To avoid losing control of the vehicle, avoid overloading, high speeds, sudden starts, sharp turns, sudden braking, or abrupt maneuvers when carrying cargo on the roof rack.

The weight of any cargo carried on the roof rack system must be included in calculating the loaded weight of the vehicle. Do not exceed the maximum vehicle capacity when loading the vehicle, including cargo carried on the roof rack system and passengers and cargo carried in the vehicle. For more information on vehicle capacity and loading, see *Vehicle Load Limits* ⇨ 203.

A Center High-Mounted Stoplamp (CHMSL) is located above the rear window glass. Make sure items loaded on the roof of the vehicle do not block or damage the CHMSL.

96 Instruments and Controls

Instruments and Controls

Controls

Steering Wheel Adjustment	97
Heated Steering Wheel	97
Horn	98
Windshield Wiper/Washer	98
Rear Window Wiper/Washer	99
Compass	100
Clock	100
Power Outlets	101
Wireless Charging	102
Cigarette Lighter	104
Ashtrays	104

Warning Lights, Gauges, and Indicators

Warning Lights, Gauges, and Indicators	105
Instrument Cluster (Base Level)	105
Instrument Cluster (Uplevel)	108
Speedometer	111
Odometer	111
Trip Odometer	111
Tachometer	111
Fuel Gauge	111
Engine Oil Pressure Gauge	112
Engine Coolant Temperature Gauge	113
Transmission Temperature Gauge (Uplevel only)	113
Voltmeter Gauge	114

Seat Belt Reminders	114
Airbag Readiness Light	115
Rollover Detection System Status Indicator	116
Passenger Airbag Status Indicator	116
Charging System Light	117
Malfunction Indicator Lamp (Check Engine Light)	117
Brake System Warning Light	119
Electric Parking Brake Light	119
Service Electric Parking Brake Light	120
Antilock Brake System (ABS) Warning Light	120
Four-Wheel-Drive Light	120
Hill Descent Control Light	121
Lane Keep Assist (LKA) Light	121
Automatic Emergency Braking (AEB) Disabled Light	121
Vehicle Ahead Indicator	121
Pedestrian Ahead Indicator	122
Traction Off Light	122
StabiliTrak OFF Light	122
Traction Control System (TCS)/StabiliTrak Light	122
Engine Coolant Temperature Warning Light	123
Driver Mode Control Light	123
Four Corner Air Suspension Light	124
Tire Pressure Light	125
Engine Oil Pressure Light	125

Low Fuel Warning Light	126
Security Light	126
High-Beam On Light	126
Front Fog Lamp Light	126
Lamps On Reminder	126
Cruise Control Light	127
Door Ajar Light	127

Information Displays

Driver Information Center (DIC) (Base Level)	127
Driver Information Center (DIC) (Uplevel)	130
Head-Up Display (HUD)	132

Vehicle Messages

Vehicle Messages	135
Engine Power Messages	136
Vehicle Speed Messages	136

Controls

Steering Wheel Adjustment

Manual Tilt and Telescoping Steering Wheel



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.

Power Tilt and Telescoping Steering Wheel



To adjust the steering wheel, if equipped:

1. Press the control up or down to tilt the steering wheel up or down.
2. Press the control rearward or forward to move the steering wheel closer or away from you.

Do not adjust the steering wheel while driving.

Heated Steering Wheel



Yukon Shown, Tahoe/Suburban Similar

 : If equipped, press to turn the heated steering wheel on or off. An indicator next to the button is lit when the feature is turned on.

The steering wheel takes about three minutes to start heating.

Automatic Heated Steering Wheel

If equipped with remote start, the heated steering wheel may turn on during a remote start along with the heated seats when it is cold outside. The heated steering wheel indicator may come on in remote start.

98 Instruments and Controls

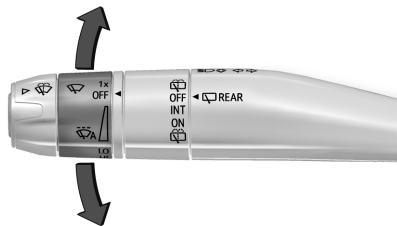
If equipped with auto heated seats, the heated steering wheel will turn on when the auto heated seat is activated. The heated steering wheel indicator will display the state of the steering wheel heat.

See *Heated and Ventilated Front Seats* ⇨ 43.

Horn

To sound the horn, press  on the steering wheel.

Windshield Wiper/Washer



With the ignition on or in accessory mode, move the windshield wiper band to select the wiper speed.

1X : For a single wipe, turn the  band downwards. For several wipes, hold the band lever down.

OFF : Use to turn the wipers off.

 **AUTO** : If equipped with Rainsense, use this setting for intermittent wipes when Rainsense is disabled, or Rainsense wipes when Rainsense is enabled. For intermittent wipes, move the windshield wiper lever to AUTO, then turn the band up for more frequent wipes or down for less frequent wipes. If Rainsense is turned on, see “Rainsense” later in this section.

LO : Use for slow wipes.

HI : Use for fast wipes.

Clear snow and ice from the wiper blades and windshield before using them. If frozen to the windshield, carefully loosen or thaw them. Damaged blades should be replaced. See *Wiper Blade Replacement* ⇨ 304.

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.

Warning

Before driving the vehicle, always clear snow and ice from the hood, windshield, washer nozzles, roof, and rear of the vehicle, including all lamps and windows. Reduced visibility from snow and ice buildup could lead to a crash.

Wiper Parking

If the ignition is turned off while the wipers are on LO, HI, or AUTO with Rainsense turned off, 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.

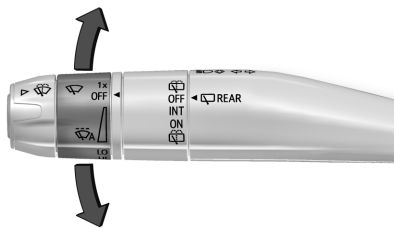
If the ignition is turned off while the wipers are performing wipes due to windshield washing or Rainsense, the wipers continue to run until they reach the base of the windshield.

Rainsense

If equipped with Rainsense and the feature is turned on, a sensor near the top center of the windshield detects the amount of water

on the windshield and controls the frequency of the windshield wiper based on the current sensitivity setting.

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 turn the Rainsense feature on or off, see “Rain Sense Wipers” under Settings > Vehicle> Comfort and Convenience > Rain Sense Wipers.

Wiper Arm Assembly Protection

When using an automatic car wash, move the windshield wiper lever to OFF. This disables the automatic Rainsense windshield wipers.

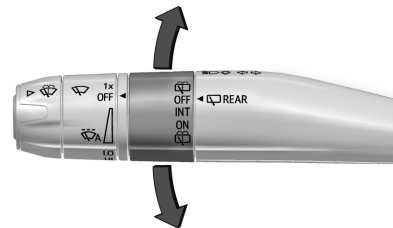
With Rainsense, if the transmission is in N (Neutral) and the vehicle speed is very slow, the wipers will automatically stop at the base of the windshield.

The wiper operations return to normal when the transmission is no longer in N (Neutral) or the vehicle speed has increased.

Windshield Washer

 ↑ : Push the button marked with the windshield washer symbol at the top of the turn signal lever to spray washer fluid and activate the wipers. The wipers will continue until the symbol is released or the maximum wash time is reached. When the button is released, additional wipes may occur depending on how long the windshield washer had been activated. See *Washer Fluid* ⇨ 299 for information on filling the windshield washer fluid reservoir.

Rear Window Wiper/Washer



The rear window wiper/washer controls are on the end of the turn signal/windshield wiper lever.

Turn the band to adjust the setting.

OFF : Turns the rear wiper off.

INT : Turns on the rear wiper with a delay between wipes.

ON : Turns on the rear wiper.

 : Turn the windshield wiper band fully upward or downward to spray washer fluid on the rear window. The wipers will clear the rear window and either stop or return to your preset speed. For more washer cycles, turn and hold the band.

100 Instruments and Controls

The rear window wiper/washer will not operate if the liftgate is open or ajar. If the liftgate is opened while the rear wiper is on, the wiper returns to the parked position and stops.

See “Rear Camera Washer” later in this section.

Rear Wiper Arm Assembly Protection

When using an automatic car wash, move the rear wiper control to OFF to disable the rear wiper. In some vehicles, if the transmission is in N (Neutral) and the vehicle speed is very slow, the rear wiper will automatically park under the rear spoiler.

The wiper operations return to normal when the transmission is no longer in N (Neutral) or the vehicle speed has increased.

Auto Wipe in Reverse Gear

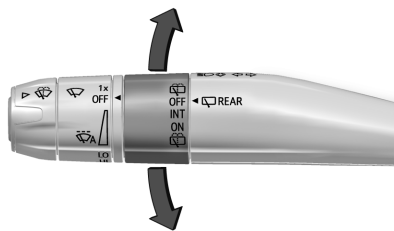
If the rear wiper control is off, the rear wiper will automatically operate continuously when the transmission is in R (Reverse), and the front windshield wiper is performing low or high speed wipes. If the rear wiper control is off, the transmission is in R (Reverse), and the front

windshield wiper is performing INT wipes, then the rear wiper automatically performs INT wipes.

This feature can be turned on or off. See “Auto Wipe in Reverse Gear” under Settings > Vehicle > Comfort and Convenience > Auto Wipe in Reverse Gear.

The windshield washer reservoir is used for the windshield, rear window, and rear mirror camera, if equipped. See *Rear Camera Mirror* ⇨ 29. Check the fluid level in the reservoir if either washer is not working. See *Washer Fluid* ⇨ 299.

Rear Camera Washer



If equipped, turn the windshield wiper band fully upward or downward to spray washer fluid on the rear camera. The wipers will clear the rear camera and either stop or

return to your preset speed. For more washer cycles, turn and hold the band. See *Rear Camera Mirror* ⇨ 29.

Compass

The vehicle may have a compass display on the Driver Information Center (DIC). The compass receives its heading and other information from the Global Positioning System (GPS) antenna, Electronic Stability Control (ESC), and vehicle speed information.

The compass system is designed to operate for a certain number of miles or degrees of turn before needing a signal from the GPS satellites. When the compass display shows CAL, drive the vehicle for a short distance in an open area where it can receive a GPS signal. The compass system will automatically determine when a GPS signal is restored and provide a heading again.

Clock

Set the time and date using the infotainment system. See “Time/Date” under Settings (Uplevel Radio) ⇨ 180 or Settings (Base Radio) ⇨ 178.

Power Outlets

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

The vehicle has one 12 Volt accessory power outlet under the climate control system and one 220/230 Volt Alternating Current outlet on the back of the center console.

Power Outlet 12 Volt Direct Current



Caution

Do not insert metal objects such as USB cord plugs, electronic accessories, keys, or coins into the 12-volt power outlet. Objects may become hot, melt, or cause a spark damaging the outlet or the metal object. Only use compatible 12-volt power accessories in the power outlet.

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 15 amp rating.

Certain power accessory plugs may not be compatible with the accessory power outlet and could overload vehicle or adapter fuses. If a problem is experienced, see your dealer.

When adding electrical equipment, be sure to follow the proper installation instructions included with the equipment.

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 220/230 Volt Alternating Current

The 220/230 volt power outlet is on the back of the center console.



102 Instruments and Controls

When the ignition is on, power to the 220 Volt outlet is enabled. 220 Volt power is supplied to the outlet when it is enabled and electrical equipment is plugged into that outlet. One power outlet can be used with electrical equipment that uses a maximum of 400 watts. Ensure that all connected devices do not exceed 400 watts.

An indicator light on the outlet illuminates when the system is enabled and no system fault is detected. The outlet will not provide power when the ignition is off or the plug is not fully seated into the outlet. The outlet does not operate while the engine is starting. If a USB powered streaming device is being used, it is suggested to use a USB port for power. See *USB Port* ⇨ 155. If uninterrupted power supply is required while driving, disable the auto-stop feature. See *Stop/Start System* ⇨ 209.

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 will flash.

Do not use a power outlet with a missing or damaged cover.

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

Wireless Charging

If equipped and enabled, the vehicle may have wireless charging in the bin below the climate control system. The system operates at 145 kHz and wirelessly charges one Qi compatible smartphone. The power output of the system is capable of charging at a rate up to 3 amp (15 W), as requested by the compatible smartphone.

Warning

Wireless charging may affect the operation of an implanted pacemaker or other medical devices. If you have one, it
(Continued)

Warning (Continued)

is recommended to consult with your doctor before using the wireless charging system.

The vehicle must be on, in accessory mode, or Retained Accessory Power (RAP) must be active. The wireless charging feature may not correctly indicate charging when the vehicle is in RAP, during a Bluetooth phone call, or when phone projection (e.g. Apple CarPlay / Android Auto) is active. See *Retained Accessory Power (RAP)* ⇨ 210.

The operating temperature is -40 °C (-40 °F) to 85 °C (185 °F) for the charging system and 0 °C (32 °F) to 35 °C (95 °F) for the phone. A charging stopped alert may be displayed on the infotainment screen, if the wireless charger or smartphone are outside of normal operating temperature. Charging will automatically resume when a normal operating temperature is reached.

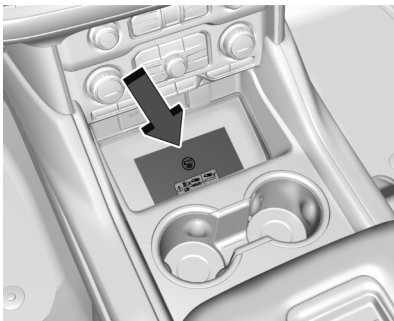
Warning

Remove all objects from the charger before charging your compatible smartphone. Objects, such as coins, keys,
(Continued)

Warning (Continued)

rings, paper clips, or cards, between the smartphone and charger may become very hot.

On the rare occasion that the charging system does not detect an object, and the object gets wedged between the smartphone and charger, remove the smartphone and allow the object to cool before removing it from the charger, to prevent burns.



To charge a compatible smartphone:

1. Confirm the smartphone is capable of wireless charging.
2. Remove all objects from the charging pad. The system may not charge if there are any objects between the smartphone and charger.
3. Place the smartphone face up against the rear of the charger.
To maximize the charge rate, ensure the smartphone is fully seated and centered in the holder with nothing under it.
A thick smartphone case may prevent the charger from working, or reduce the charging performance. See your dealer for additional information.
4. A green ⚡ will appear on the infotainment display, next to the phone icon. This indicates that the smartphone is detected.
5. If a smartphone is placed on the charger and ⚡ turns off or a yellow triangle appears, remove the smartphone and any objects from the pad. Turn the smartphone 180 degrees and wait a few seconds before placing/aligning it on the pad again.
6. If a smartphone is placed on the charger and a red circle appears, the charger and/or the smartphone is overheated.

Remove the smartphone and any objects from the charger in order to cool the system.

The smartphone may become warm during charging. This is normal. In warmer temperatures, the speed of charging may be reduced.

For vehicles with wireless phone projection, the smartphone may overheat during wireless charging. The smartphone may slow down, stop charging, or shut down to protect the battery. The phone may need to be removed from its case to prevent overheating. The ⚡ may flash while the phone is cooling down enough for wireless charging to automatically resume. This is normal. Individual phone performance may vary.

Software Acknowledgements

Certain Wireless Charging Module product from LG Electronics, Inc. ("LGE") contains the open source software detailed below. Refer to the indicated open source licenses (as are included following this notice) for the terms and conditions of their use.

104 Instruments and Controls

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Freescal-WCT library

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Cigarette Lighter

If equipped with a cigarette lighter, it is in the front console bin or below the climate controls.

To use the cigarette lighter, push it in, and let go. When it is ready, it will pop back out by itself.

Caution

Holding a cigarette lighter in while it is heating does not let the lighter back away from the heating element when it is hot. Damage from overheating can occur to the lighter or heating element, or a fuse could be blown. Do not hold a cigarette lighter in while it is heating.

Ashtrays

If equipped, the ashtray is in the center console cupholder.

Caution

If papers, pins, or other flammable items are put in the ashtray, hot cigarettes or other smoking materials could ignite

(Continued)

Caution (Continued)

them and possibly damage the vehicle.
Never put flammable items in the
ashtray.

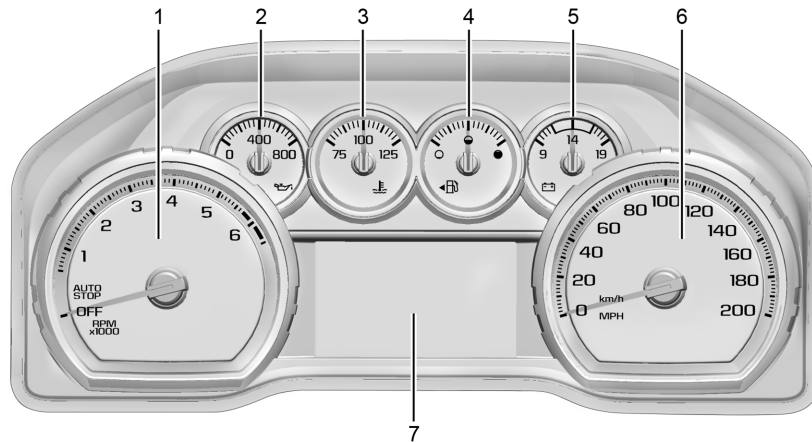
To remove the ashtray, pull it from the
cupholder. Push it back down to be sure it is
secure.

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)



1. *Tachometer* ⇨ 111

2. *Engine Oil Pressure Gauge* ⇨ 112

3. *Engine Coolant Temperature Gauge*
⇨ 113

4. *Fuel Gauge* ⇨ 111

5. *Voltmeter Gauge* ⇨ 114

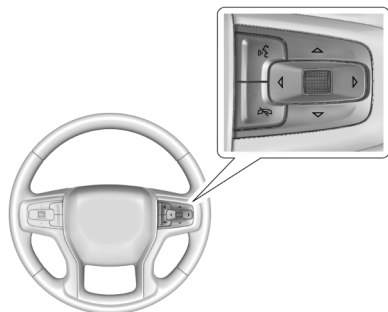
6. *Speedometer* ⇨ 111

7. *Driver Information Center (DIC) (Base
Level)* ⇨ 127 or
*Driver Information Center (DIC)
(Uplevel)* ⇨ 130

106 Instruments and Controls

Cluster Menu

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



Press ◀ or ▶ to change between the instrument cluster applications at the top of the display. The currently selected Application will be highlighted.

Use the thumbwheel within an application to scroll through a list of available application options. Press the thumbwheel to select.

Not all applications will be available on all vehicles. Some may be temporarily restricted when vehicle is in OFF.

- Home App
- Info App. This is where the selected Driver Information Center (DIC) displays can be viewed. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.
- Audio App
- Navigation App
- Phone App
- Options

Home

Information displayed here can be customized from the Options menu.

Speedometer : Displays how fast the vehicle is moving in either kilometers per hour (km/h) or miles per hour (mph).

Speed Sign : Shows sign information, which comes from a roadway database in the onboard navigation, if equipped.

Time : Displays the current time.

Fuel Range : Displays the approximate distance the vehicle can be driven without refueling. The fuel range estimate is based on an average of the vehicle's fuel economy over recent driving history and the amount of fuel remaining in the fuel tank. Fuel range cannot be reset.

Audio

In the Audio app, use the thumbwheel to scroll through options, browse for music, select from favorites, or change the audio source. In the main view, scroll to change the station or go to the next or previous track.

Navigation

In the Navigation app, if there is no active route, a compass will be displayed. If there is an active route, press the thumbwheel to cancel or resume route guidance, mute or unmute voice guidance, or access Recents or Favorites.

Phone

In the Phone app, if there is no active phone call, view recent calls, scroll through contacts, select from the favorites, or change the phone source. If there is an active call, mute the phone or switch to handset operation.

Options

Use the thumbwheel to scroll through items in the Options menu.

Units : Press the thumbwheel while Units is displayed to enter the Units menu. Choose US or metric units by pressing the thumbwheel while the desired item is highlighted. A selected mark will be displayed next to the selected item.

Info Page Options : Press the thumbwheel while Info Page Options is displayed to enter and select the items to be displayed in the Info app. A selected mark will be displayed next to the selected item.

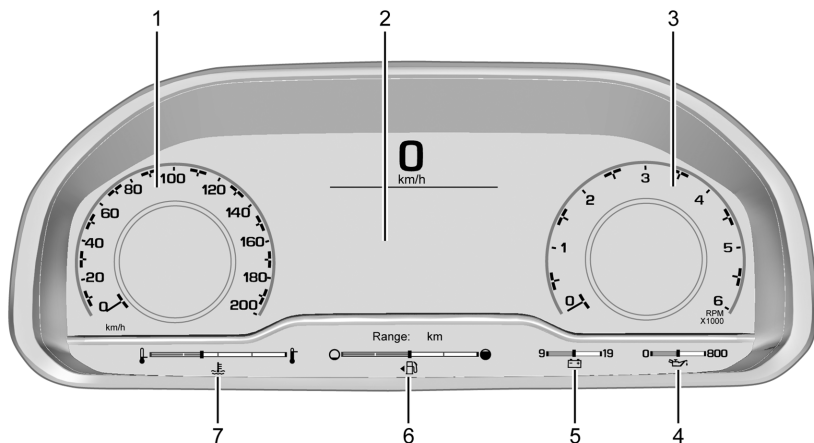
Home : Press the thumbwheel to select the available elements to display. Not all elements will be available on all vehicles: Speedometer, Speed Sign, Time, Fuel Range, and the current outside air temperature.

Speed Warning : Allows the driver to set a speed that they do not want to exceed. To set the Speed Warning, press the thumbwheel when Speed Warning is displayed, or press the thumbwheel on the main view to set the speed value. Scroll to adjust the value. Press the thumbwheel to set the speed. Once the speed is set, this feature can be turned off by pressing the thumbwheel while viewing this page. If the selected speed limit is exceeded, a pop-up warning is displayed with a chime.

Software Information : Press the thumbwheel while Software Information is highlighted to display open source software information.

108 Instruments and Controls

Instrument Cluster (Uplevel)



Chevrolet Classic Display Shown, GMC Similar

- | | |
|---|---|
| 1. Speedometer ⇨ 117 | 5. Voltmeter Gauge ⇨ 114 |
| 2. Driver Information Center (DIC) (Base Level) ⇨ 127 or
Driver Information Center (DIC) (Uplevel) ⇨ 130 | Transmission Temperature Gauge (Uplevel only) ⇨ 113 |
| 3. Tachometer ⇨ 111 | 6. Fuel Gauge ⇨ 111 |
| 4. Engine Oil Pressure Gauge ⇨ 112 | 7. Engine Coolant Temperature Gauge ⇨ 113 |

Reconfigurable Instrument Cluster

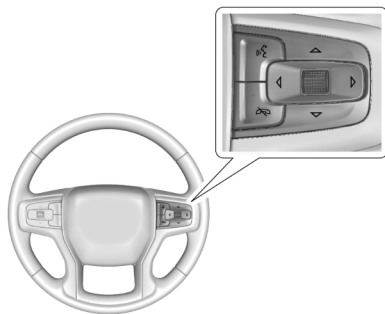
The instrument cluster layout can be changed. There are four display configurations to choose from: Classic, Progressive, Digital, and Clean. The Classic, Progressive, and Digital, layouts may also be configured with one, two, or four gauges. See “Lower Gauges” under “Options.” The Clean layout will only display the fuel gauge. Use the steering wheel control to move between the different display zones and scroll through the different displays. See “Display Layout” under “Options.”

- Classic configuration displays a larger speedometer and tachometer on the far left and right sides of the display. There are info display areas inside of the speedometer and tachometer. The DIC area is located in the center of the display.
- Progressive configuration displays a smaller speedometer and tachometer on the far left and right sides of the display. There are info display areas inside of the speedometer and tachometer. The DIC area is larger and located in the center of the display.

- Digital configuration displays the info display areas on the far left and right sides of the display. The DIC area is larger and located in the center of the display.
- Clean configuration is a simplified display that has a digital speed in the center. The DIC area is located on the far right of the display.

Cluster Menu

There are interactive display areas in the instrument cluster. Locations vary by the selected display layout.



Chevrolet Shown, GMC Similar

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

Press ◀ or ▶ to access the instrument cluster applications. Use the thumbwheel to scroll through the list of available applications. Press the thumbwheel to select. Not all applications or features are available on all vehicles.

- Info App. This is where the selected Driver Information Center (DIC) displays can be viewed. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.
- Audio
- Navigation
- Phone
- Options

Left/Right Side Info

Information displayed here can be customized from the Options menu. See “Options” below.

Compass : If equipped, shows the direction the vehicle is heading. This info is the default option for the left side.

Time & Outside Temperature : Displays the current time and outside air temperature.

Tire Pressure : Shows the approximate pressures of all four tires. Tire pressure is displayed in either kilopascal (kPa) or in pounds per square inch (psi). If the pressure is low, the value for that tire is shown in amber.

Average Fuel Economy : Displays the approximate average liters per 100 kilometers (L/100 km), kilometers per liter (km/L), or miles per gallon (mpg). This number is calculated based on the value recorded since the last time this menu item was reset in the Fuel Economy info page. This number reflects only the approximate average fuel economy that the vehicle has at that moment, and changes as driving conditions change.

Transmission Fluid Temperature : Shows the temperature of the automatic transmission fluid in either degrees Celsius (°C) or degrees Fahrenheit (°F).

Drive Mode Enhanced : Displays the state of the drive mode, ride height, and transfer case. This info is only available as a right side option and is the default selection for the right side.

110 Instruments and Controls

None : Displays the info area as empty.

Audio

Browse music, select from the favorites, or change the audio source. Use the thumbwheel to change the station or go to the next or previous track.

Navigation

If there is an active route, the Turn-by-Turn directions will appear on the Navigation Page, if there is no active route a compass will be displayed.

Phone

If there is no active phone call, view recent calls, or scroll through contacts.

Options

Use the thumbwheel to scroll through items in the Options menu.

Display Layout : Choose Classic, Progressive, Digital, and Clean layout by pressing the thumbwheel while the desired item is highlighted. Exit the Layout menu by pressing ◀.

Left/Right Side Info : Press the thumbwheel to select the items to be displayed in the display areas. See "Left/Right Side Info" previously in this section.

Lower Gauges : Choose one of three gauge configurations by pressing the thumbwheel while the desired item is highlighted. The selected configuration will be displayed at the bottom of the display.

Maximum displays fuel level, coolant temperature, engine oil pressure, and battery voltage. Transmission fluid temperature displays instead of battery voltage while in Tow Haul mode.

Medium displays fuel level, and coolant temperature.

Minimum displays only the fuel level.

Info Page Options : Press the thumbwheel to select the items to be displayed in the Info app. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.

Speed Warning : Allows the driver to set a speed that they do not want to exceed. To set the Speed Warning press the thumbwheel when Speed Warning is displayed. Use the thumbwheel to adjust the value and press to set the speed.

Once the speed is set, this feature can be turned off by pressing the thumbwheel while viewing this page. If the selected speed limit is exceeded, a pop-up warning is displayed with a chime.

Speed Sign Display : Shows sign information, which comes from a roadway database in the onboard navigation system, if equipped. The sign will show "–" when offline maps are unavailable. See *Maps* ⇨ 163.

Head-up Display (HUD) : If equipped, this feature allows for adjusting the angle of the HUD image and changing or turning off the Speed Limit Sign.

HUD Rotation: Press the thumbwheel while Adjust Rotation is highlighted to enter Adjust Mode. Scroll to adjust the angle of the HUD display. Press the thumbwheel to confirm and save the setting. This feature may only be available in P (Park).

Speed Limit Style: Press the thumbwheel while Speed Limit Style is highlighted to change the speed sign style or to turn it off.

Software Information : Displays open source software information.

Reset To Defaults : Allows the driver to reset to default settings.

Speedometer

The speedometer shows the vehicle speed in kilometers per hour (km/h) or miles per hour (mph).

This vehicle is equipped with an overspeed warning device. When the vehicle's speed reaches 120 km/h (75 mph), a chime will sound. A message also displays in the Driver Information Center (DIC).

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)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.

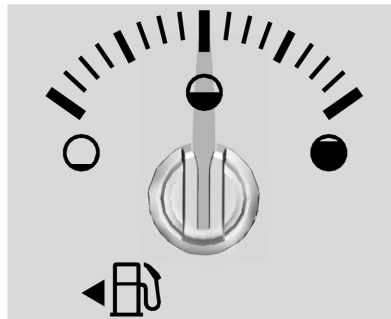
Tachometer

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

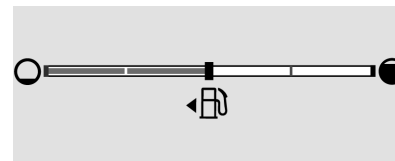
For vehicles with the Stop/Start system, when the ignition is on, the tachometer indicates the vehicle status. When pointing to AUTO STOP, the engine is off but the vehicle is on and can move. The engine could auto start at any time. When the indicator points to OFF, the vehicle is off.

When the engine is on, the tachometer will indicate the rpm. The tachometer may vary by several hundred rpm, during Auto Stop mode, when the engine is shutting off and restarting.

Fuel Gauge



Base Level



Uplevel Chevrolet Shown, GMC Similar

When the ignition is on, the fuel gauge indicates the approximate amount of fuel left in the tank.

There is an arrow near the fuel gauge pointing to the side of the vehicle the fuel door is on.

When the indicator nears empty, the low fuel light comes on. There still is a little fuel left, but the vehicle should be refueled soon.

The fuel gauge may:

- Take a little more, or less fuel to fill up than it indicates. For example, the gauge may have indicated the tank is half full, but it actually takes a little more, or less than half the tank's capacity to fill the tank.
- Moves a little while turning a corner, speeding up, or braking.

112 Instruments and Controls

- Takes a few seconds to stabilize after the ignition is turned on and goes back to empty when the ignition is turned off.

These are normal conditions, none of which indicate a problem with the fuel gauge.

Fuel Range

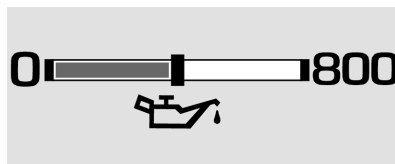
The uplevel instrument cluster has a estimated fuel range located in the bottom center of the display. The fuel range is displayed with the approximate distance the vehicle can be driven without refueling. The fuel range estimate is based on an average of the vehicle's fuel economy over recent driving history and the amount of fuel remaining in the fuel tank.

When the estimated fuel range is low, the range shows LOW and a message may also display in the Driver Information Center (DIC).

Engine Oil Pressure Gauge



Base Level



Uplevel Chevrolet Shown, GMC Similar

The engine oil pressure gauge shows the engine oil pressure in kPa (kilopascals) or psi (pounds per square inch) when the engine is running.

Oil pressure can vary with engine speed, outside temperature, coolant temperature, and oil viscosity.

On some models, the oil pump will vary engine oil pressure according to engine needs. Oil pressure may change quickly as the engine speed or load varies. This is normal. If the oil pressure warning light or Driver Information Center (DIC) message indicates oil pressure outside the normal operating range, check the engine oil as soon as possible.

See *Engine Oil* ⇨ 290.

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.

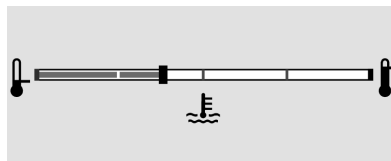
Uplevel

This gauge displays while the lower gauges are configured to display four gauges. To change gauge configurations, see "Options" under *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108.

Engine Coolant Temperature Gauge



Base Level

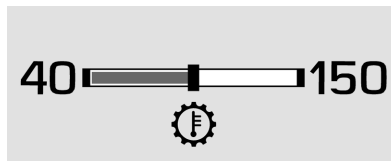


Uplevel Chevrolet Shown, GMC Similar

This gauge measures the temperature of the vehicle's engine coolant.

While driving under normal operating conditions, if the needle moves into the red warning area, the engine is too hot. Pull off the road, stop the vehicle, and turn off the engine as soon as possible.

Transmission Temperature Gauge (Uplevel only)



Chevrolet Shown, GMC Similar

This gauge displays while the vehicle is in the Tow/Haul driver mode, and the lower gauges are configured to display four gauges. The transmission fluid temperature is also selectable as Left/Right side info. To change gauge configurations, see "Options" under *Instrument Cluster (Base Level)* ⇨ 105 or

Instrument Cluster (Uplevel) ⇨ 108.

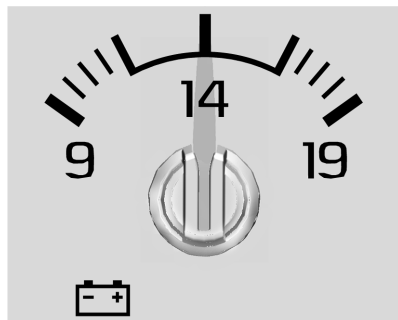
The transmission temperature gauge shows the transmission fluid temperature. If the gauge is reading in the red area and/or a message appears in the Driver Information Center (DIC), the vehicle must be stopped and the cause checked. One possible cause is a low fluid level in the transmission.

Caution

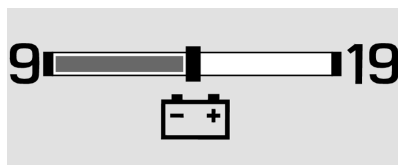
Do not drive the vehicle while the transmission fluid is overheating, or the transmission can be damaged. This could lead to costly repairs that would not be covered by the warranty.

114 Instruments and Controls

Voltmeter Gauge



Base Level



Uplevel Chevrolet Shown, GMC Similar

When the ignition is on, this gauge indicates the battery voltage.

When the engine is running, this gauge shows the condition of the charging system. The gauge can transition from a higher to lower or a lower to higher reading. This is

normal. If the vehicle is operating outside the normal operating range, the charging system light comes on. See *Charging System Light* ⇨ 117. The voltmeter gauge may also read lower when in fuel economy mode. This is normal.

Readings outside the normal operating range can also occur when a large number of electrical accessories are operating in the vehicle and the engine is left idling for an extended period. This condition is normal since the charging system is not able to provide full power at engine idle. As engine speeds are increased, this condition should correct itself as higher engine speeds allow the charging system to create maximum power.

The vehicle can only be driven for a short time with the readings outside the normal operating range. If the vehicle must be driven, turn off all accessories, such as the radio and air conditioner.

Readings outside the normal operating range indicate a possible problem in the electrical system. Have the vehicle serviced as soon as possible.

Uplevel

This gauge displays while the lower gauges are configured to display four gauges. When the vehicle is in the Tow/Haul driver mode this gauge is replaced by the transmission temperature gauge. To change gauge configurations, see “Options” under *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108.

Seat Belt Reminders

Driver Seat Belt Reminder Light

There is a driver seat 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 seat 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 seat belt is buckled, neither the light nor the chime comes on.

Front Passenger Seat Belt Reminder Light

The vehicle may have a front passenger seat belt reminder light near the passenger airbag status indicator. See *Passenger Sensing System* ⇨ 65.



When the vehicle is started, this light flashes and a chime may come on to remind passengers to fasten their seat 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 seat belt is buckled, neither the chime nor the light comes on.

The front passenger seat belt reminder light and chime may come 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 seat belt.

Second and Third Row Passenger Seat Belt Reminder Light

The vehicle may have second and third row passenger seat belt reminder lights.



When the vehicle is started, these lights come on solid to remind rear passengers to fasten their seat belt. Then each light may stay on solid or flash, and a chime may come on if the rear passenger remains unbuckled, or becomes unbuckled, when the vehicle is moving. An X indicates the seat belt is not buckled. A check mark indicates the seat belt is buckled.

If the all rear passenger seat belts are buckled, neither the chime nor the lights come on.

For information on the front seat belt reminder lights, see "Driver Seat Belt Reminder Light" and "Front Passenger Seat Belt Reminder Light" listed previously.

The rear passenger seat belt reminder light and chime may come 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 seat belt.

Airbag Readiness Light

This light shows if there is an electrical problem with the airbag system. It is located in the instrument cluster. 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* ⇨ 59.



116 Instruments and Controls

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.

Rollover Detection System Status Indicator



If the vehicle has a rollover detection disable button on the center stack, it also has a rollover detection system status indicator in the overhead console.

When the vehicle is started, the rollover detection system status indicator (and the passenger airbag status indicator lights) turn on for several seconds as a system check. See *Passenger Airbag Status Indicator* ⇨ 116. Then, after several more seconds, the rollover detection system status indicator will turn off to let you know the rollover detection system is enabled.

When the rollover detection system is manually turned off using the rollover detection disable button on the center stack, the rollover detection system status indicator will come on and stay on as a reminder that the rollover detection system has been turned off. The indicator will turn off when the rollover detection system has been turned back on. See *Rollover Detection Disable Button* ⇨ 64 for more information, including important safety information.

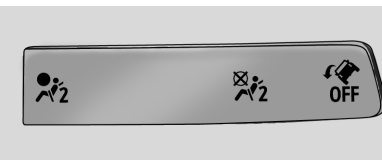
Warning

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. For example, the roof-rail airbags could inflate even though the rollover detection system is turned off.

If the airbag readiness light stays on, have the vehicle serviced right away. See *Rollover Detection Disable Button* ⇨ 64 for more information, including important safety information.

Passenger Airbag Status Indicator

The vehicle has a passenger sensing system. See *Passenger Sensing System* ⇨ 65 for important safety information. The overhead console has a passenger airbag status indicator.



With Rollover Detection Disable



Without Rollover Detection Disable

When the vehicle is started, the passenger airbag status indicator will light the symbols for on and off for several seconds as a system check. Then, after several more seconds, the status indicator will light either the on or off symbol to let you know the status of the front outboard passenger frontal airbag.

If the on symbol is lit on the passenger airbag status indicator, it means that the front outboard passenger frontal airbag is allowed to inflate.

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

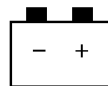
If, after several seconds, both status indicator lights remain on, or if there are no lights at all, or if the airbag readiness light

is on, there may be a problem with the lights or the passenger sensing system. See your dealer for service right away.

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* ⇨ 115 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. It should go out when the engine is started.

If the light stays on, or comes on while driving, there may be a problem with the electrical charging system. Have it checked by your dealer. Driving while this light is on could drain the battery.

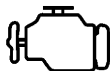
When this light comes on, or is flashing, the Driver Information Center (DIC) also displays a message.

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. Find a safe place to stop the vehicle.

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 Mode. See *Ignition Positions* ⇨ 207.

118 Instruments and Controls



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

(Continued)

Caution (Continued)

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* ⇨ 285.

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.

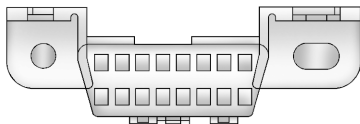
Check the following:

- If fuel has been added to the vehicle using the capless fuel funnel adapter, make sure that it has been removed. See "Filling the Tank with a Portable Gas Can" under *Filling the Tank* ⇨ 262. The diagnostic system can detect if the adapter has been left installed in the vehicle, allowing fuel to evaporate into the atmosphere. A few driving trips with the adapter removed may turn off the light.
- 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 *Recommended Fuel (5.3L Engine)* ⇨ 261 or *Recommended Fuel (6.2L Engine)* ⇨ 261.

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* ⇨ 282. 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 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



This light comes on briefly when the vehicle is turned on to show that the light is working. 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. Have the brake system inspected right away. This light may come on if the brake fluid is low. See *Brake Fluid* ⇨ 301.

If the light comes on while driving, pull off the road and stop carefully. The brake system has electric brake boost. Vehicle speed may be limited when the brake system warning light comes on. The brake pedal might be harder to push, or the brake pedal may go closer to the floor. It could

Instruments and Controls 119

take longer to stop. If the light is still on, have the vehicle towed for service. See *Transporting a Disabled Vehicle* ⇨ 345.

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



This light comes on when the parking brake is applied. If the light continues flashing after the parking brake is released, or while driving, there is a problem with the Electric Parking Brake system. A message may also display in the Driver Information Center (DIC).

120 Instruments and Controls

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

Service Electric Parking Brake Light



This light may come on briefly when the vehicle is turned on. If it does not come on, have it fixed so it will be ready to warn if there is a problem.

If this light stays on or comes on while driving, there is a problem with the Electric Parking Brake (EPB). Take the vehicle to a dealer as soon as possible. In addition to the parking brake, other safety functions that utilize the EPB may also be degraded.

A message may also display in the Driver Information Center (DIC). See *Electric Parking Brake* ⇨ 221.

Antilock Brake System (ABS) Warning Light



This light comes on briefly when the vehicle is turned on to show that the light is working. 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 ABS warning light stays on, or comes on again while driving, the vehicle needs service. A chime may also sound when the light stays on.

If the ABS warning light is the only light on, the vehicle has regular brakes, but ABS is not functioning.

If both the ABS warning light and the brake system warning light are on, ABS is not functioning and there is a problem with the regular brakes. See your dealer for service.

See *Brake System Warning Light* ⇨ 119.

Four-Wheel-Drive Light



Auto Mode Shown, Other Modes Similar

If equipped, the four-wheel-drive light displays what mode the vehicle is in. The light will show each mode: 2WD, 4↑, AUTO (all transfer cases); 4↓ and N (two-speed transfer case only).

The light will flash when a shift is in progress. Once the shift is complete the light will be steady.

If the light turns amber, there may be a malfunction with the four-wheel-drive system. See your dealer.

See *Four-Wheel Drive* ⇨ 217.

Hill Descent Control Light



If equipped, the Hill Descent Control light comes on when the system is ready for use. When the light flashes, the system is active.

See *Hill Descent Control (HDC)* ⇨ 225.

Lane Keep Assist (LKA) Light



If equipped, the Lane Keep Assist Light may display the following colors:

- Blank: LKA is disabled.
- White: Appears when the vehicle starts. A steady white light indicates that LKA is not ready to assist.

- Green: Appears when LKA is turned on and ready to assist. LKA will gently turn the steering wheel if the vehicle approaches a detected lane marking.
- Amber: Appears when LKA is active. The light flashes amber as a Lane Departure Warning (LDW) alert to indicate that the lane marking has been unintentionally crossed. If the system detects you are steering intentionally (to pass or change lanes), the LDW alert may not display.

LKA will not assist or alert if the turn signal is active in the direction of lane departure, or if LKA detects that you are accelerating, braking, or actively steering. See *Lane Keep Assist (LKA)* ⇨ 259.

Automatic Emergency Braking (AEB) Disabled Light



This indicator displays when you turn off Automatic Emergency Braking (AEB) or Front Pedestrian Braking (FPB).

This indicator will also display if AEB or FPB is unavailable due to malfunction, weather conditions, or if the windshield is not clean.

See *Automatic Emergency Braking (AEB)*

⇨ 253.

See *Front Pedestrian Braking (FPB) System*

⇨ 255.

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*

⇨ 251.

122 Instruments and Controls

Pedestrian Ahead Indicator



If equipped, this indicator will display amber when a nearby pedestrian is detected in front of the vehicle.

See *Front Pedestrian Braking (FPB) System* ⇨ 255.

Traction Off Light



This light comes on briefly when the vehicle is turned on to show that the light is working. If it does not come on then, have it fixed so it will be ready to warn you if there is a problem.

The traction off light comes on when the Traction Control System (TCS) has been turned off. If StabiliTrak/Electronic Stability Control (ESC) is turned off, TCS is also turned off. To turn TCS and ESC off and on, see *Traction Control/Electronic Stability Control* ⇨ 223.

If TCS is off, wheel slip during acceleration is not limited unless necessary to help protect the driveline from damage. Adjust driving accordingly.

StabiliTrak OFF Light



This light comes on briefly when the vehicle is turned on to show that the light is working. If it does not come on then, have it fixed so it will be ready to warn you if there is a problem.

This light comes on when the StabiliTrak/Electronic Stability Control (ESC) system is turned off. If StabiliTrak/ESC is off, the

Traction Control System (TCS) is also off. To turn ESC off and on, see *Traction Control/Electronic Stability Control* ⇨ 223.

If ESC and TCS are off, the systems do not assist in controlling the vehicle. Adjust driving accordingly.

Traction Control System (TCS)/ StabiliTrak Light



This light comes on briefly when the vehicle is turned on to show that the light is working. 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 is on and not flashing, the TCS and potentially the StabiliTrak/ESC system are not fully operational and may not assist in maintaining control. Adjust driving accordingly. If the condition persists, see your dealer as soon as possible. A Driver Information Center (DIC) message may display.

The light flashes when the TCS and/or the StabiliTrak/ESC system is actively working.

See *Traction Control/Electronic Stability Control* ⇨ 223.

The light may also flash when ABS is active. See *Antilock Brake System (ABS)* ⇨ 221.

Trailer Sway Control Light (Uplevel Cluster)



This light will flash when Trailer Sway Control is active. See *Trailer Sway Control (TSC)* ⇨ 281.

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 engine and it may not be covered by the vehicle warranty. See *Engine Overheating* ⇨ 297.

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* ⇨ 297.

Driver Mode Control Light



This light comes on when Normal Mode is selected.



This light comes on when Sport Mode is selected.



124 Instruments and Controls

This light comes on when Snow Mode is selected.



This light comes on when Terrain Mode is selected.



This light comes on when Off-Road Mode is selected.



This light comes on when the Tow/Haul Mode is selected.

Four Corner Air Suspension Light



This light comes on when the air suspension is raised to maximum ground clearance height.



This light comes on when the air suspension is raised to increased ground clearance height. This light may vary depending on the number of heights that are available on your vehicle.



This light comes on when the air suspension is lowered for easy entry and exit from the vehicle. This light may vary depending on the number of heights that are available on your vehicle.



This light comes on when the vehicle is changing to a higher ride height.



This light comes on when the vehicle is changing to a lower ride height.



This light comes on when the air suspension is in Service Mode or Alignment Mode.

See *Four Corner Air Suspension System* ⇨ 229.

Tire Pressure Light



If equipped with the Tire Pressure Monitor System (TPMS), this light comes on briefly when the vehicle 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. Stop as soon as possible, and inflate the tires to the pressure value shown on the Tire and Loading Information label. See *Tire Pressure* ⇨ 320.

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 every time the vehicle is started. See *Tire Pressure Monitor Operation* ⇨ 323.

Engine Oil Pressure Light

Caution

Driving the vehicle with low engine oil pressure can damage the engine and the repairs would not be covered by the vehicle warranty.

If the engine oil pressure light comes on while driving:

1. Stop in a safe location and turn off the engine.
2. Check the oil level. See *Engine Oil* ⇨ 290.
3. Add oil if the oil level is below the normal operating range.

(Continued)

Caution (Continued)

4. Restart the vehicle. If the engine oil pressure light stays on for more than 10 seconds, turn the vehicle back off. Do not restart the vehicle. See your dealer for service.



This light should come on briefly when the engine starts. When the engine is off and the vehicle is on, the light should remain illuminated. If it does not come on under either condition, contact your dealer.

If the light comes on and stays on when the engine is running, it may not have adequate oil pressure. The oil level may be low or there may be some other oil system problem. Turn the engine off when it is safe to do so and contact your dealer.

126 Instruments and Controls

Low Fuel Warning Light



A Low Fuel Warning Light near the fuel gauge comes on briefly when the ignition is turned on as a check to show it is working. For vehicles with a reconfigurable cluster, this light is in the display area and may not come on when the ignition is turned on.

It also comes on when the fuel gauge indicator nears empty. 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* ⇨ 26.

High-Beam On Light



This light comes on when the high-beam headlamps are in use. See *Headlamp High/Low-Beam Changer* ⇨ 139.

IntelliBeam Light



This light comes on when the IntelliBeam system, if equipped, is enabled. See *Exterior Lamp Controls* ⇨ 137.

Front Fog Lamp Light



For vehicles with fog lamps, this light comes on when the fog lamps are turned on.

The light goes out when the fog lamps are turned off. See *Fog Lamps* ⇨ 141.

Lamps On Reminder



This light comes on when the exterior lamps are in use, except when only the Daytime Running Lamps (DRL) are active. See *Exterior Lamp Controls* ⇨ 137.

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* ⇨ 232.

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.

Curve Speed Control Light



If equipped, this light may illuminate green when ACC is actively controlling the vehicle speed and detects a sharp curve on the road ahead.

ACC automatically slows the vehicle down while navigating the curve and may increase speed out of the curve, but will not exceed the set speed.

See *Adaptive Cruise Control (Advanced)* ⇨ 234.

Door Ajar Light

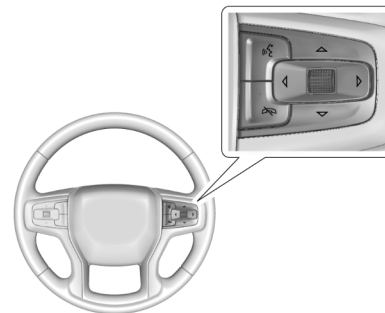


This light comes on when a door is open or not securely latched. Before driving, check that all doors are properly closed.

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 (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108. The displays show the status of many vehicle systems.



◀ or ▶ : Press to move left or right between the interactive display zones in the instrument cluster. Press the thumbwheel to select.

128 Instruments and Controls

△ or ▽ : Use the thumbwheel to scroll up or down in a list. Press the thumbwheel to open a menu or select a menu item. Press and hold to reset values on certain screens.

Info Page Options

The info pages on the DIC can be turned on or off through the Options menu.

1. Press ◀ or ▶ to scroll to the Options application.
2. Scroll △ or ▽ to choose Info pages and press the thumbwheel.
3. Scroll △ or ▽ to move through the list of possible information displays.
4. Press the thumbwheel, while an item is highlighted, to select or deselect that item.

The info pages can also be turned on or off through the DIC page Info Page Options.

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 Options app. See “Info Page Options” earlier in this section.

Speed : Shows the vehicle speed in either kilometers per hour (km/h) or miles per hour (mph). The vehicle odometer is also shown on this page. If equipped, press the thumbwheel to open the menu and select to display speed limit signs.

Speed limit signs in your vehicle may vary from actual road speed depending on the version of your current navigation map.

Trip 1 or Trip 2, and Average Fuel Economy

Economy : Shows the current distance traveled, in either kilometers (km) or miles (mi), since the trip odometer was last reset.

The Average Fuel Economy display shows the approximate average kilometers per litre (km/L). This number is calculated based on the value recorded since the last time this menu item was reset. This number reflects only the approximate average fuel economy that the vehicle has at that moment, and changes as driving conditions change.

Press the thumbwheel while this display is active to reset the trip odometer and the average fuel economy.

Fuel Range : Shows 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.

Timer : To start the timer, press the thumbwheel 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 the thumbwheel briefly while this display is active and the timer is running.

Press the thumbwheel while this display is active to reset the timer.

Oil Life : Shows an estimate of the remaining oil 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. The oil should be changed as soon as possible. See *Engine Oil* ⇨ 290. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended. See *Maintenance Schedule* ⇨ 356.

The Oil Life display must be reset after each oil change. It will not reset itself. Do not reset the Oil Life display at any time other than when the oil has just been changed. It cannot be reset accurately until the next oil change. To reset, see *Engine Oil Life System* ⇨ 292.

Tire Pressure : Shows the approximate pressures of all four tires. Tire pressure is displayed in either kilopascal (kPa) or in pounds per square inch (psi). If the pressure is low, the value for that tire is shown in amber. See *Tire Pressure Monitor System* ⇨ 322 and

Tire Pressure Monitor Operation ⇨ 323.

Air Filter Life : Shows an estimate of the remaining engine air filter's life and the state of the system. Engine Air Filter Life 95% means 95% of the current air filter life remains. Messages will display based on the engine air filter life and the state of the system. When the REPLACE SOON message displays, the engine air filter should be replaced at the earliest convenience.

The Air Filter Life display must be reset after the engine air filter replacement. To reset, see *Engine Air Filter Life System* ⇨ 293.

Brake Pad Life : Displays an estimate of the remaining life of the front and rear brake pads. Messages will display based on brake pad wear and the state of the system. Reset the Brake Pad Life display after replacing the brake pads. See *Brake Pad Life System* ⇨ 300.

Fuel Economy : Displays average fuel economy, the best fuel economy over the selected distance, and a bar graph showing instantaneous fuel economy.

Press the thumbwheel to change the selected distance. Press and hold the thumbwheel while this display is active to reset the best fuel economy and average fuel economy. This display can also be reset by selecting Reset in the menu.

Engine Hours (Hourmeter) : Shows the total number of hours the engine has run. This display also shows the engine idle hours.

Transmission Fluid Temperature : Shows the temperature of the automatic transmission fluid in either degrees Celsius (°C) or degrees Fahrenheit (°F).

Trailer Brake : On vehicles with the Integrated Trailer Brake Control (ITBC) system, the trailer brake display appears in the DIC.

TRAILER GAIN shows the trailer gain setting. This setting can be adjusted from 0.0 to 10.0 with either a trailer connected or disconnected.

OUTPUT shows the power output to the trailer any time a trailer with electric brakes is connected. Output is displayed as a bar graph. Dotted lines may appear in the OUTPUT display if a trailer is not connected.

Off Road : If equipped, displays vehicle pitch and roll information, road wheel angle, and four-wheel drive (4WD) status.

Follow Distance : If equipped, the current follow time to the vehicle ahead is displayed as a time value on this page.

Driver Assistance : If equipped, shows information for Lane Keep Assist (LKA) and Forward Collision Alert (FCA).

Info Page Options : Scroll to choose which info pages appear on the DIC. Press the thumbwheel to select or deselect.

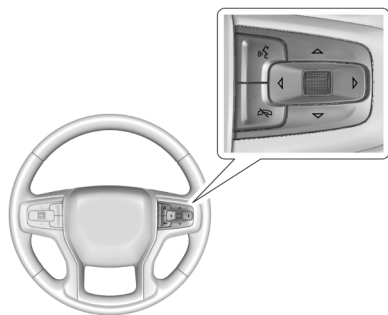
Blank Page : Shows no information.

130 Instruments and Controls

Driver Information Center (DIC) (Uplevel)

The DIC displays are shown in the center of the instrument cluster in the Info app. See *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108. The displays show the status of many vehicle systems.

If the vehicle has a diesel engine, see the Duramax diesel supplement.



Chevrolet Shown, GMC Similar

◀ or ▶ : Press to move left or right between the interactive display zones in the instrument cluster. Press the thumbwheel to select.

△ or ▽ : Use the thumbwheel to scroll up or down in a list. Press the thumbwheel to open a menu or select a menu item. Press and hold to reset values on certain screens.

Info Page Options

The info pages on the DIC can be turned on or off through the Options menu.

1. Press ◀ or ▶ to scroll to the Options application.
2. Scroll △ or ▽ to choose Info pages and press the thumbwheel.
3. Scroll △ or ▽ to move through the list of possible information displays.
4. Press the thumbwheel, while an item is highlighted, to select or deselect that item.

The info pages can also be turned on or off through the DIC page Info Page Options.

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 Options app. See “Info Page Options” earlier in this section.

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

Drive Summary : Displays the current distance traveled, in either kilometers (km) or miles (mi).

It also includes the Average Fuel Economy. Average Fuel Economy shows the approximate average liters per 100 kilometers (L/100 km), kilometers per liter (km/L), or miles per gallon (mpg). This number only reflects the approximate Average Fuel Economy that the vehicle has at that moment, and changes as driving conditions change.

The timer shows the time in the current drive cycle.

All values in the Drive Summary are automatically reset each time the vehicle is started.

Trip 1 or Trip 2, Average Fuel Economy, and Average Speed : Shows the current distance traveled, in either kilometers (km) or miles (mi), since the trip odometer was last reset.

The Average Fuel Economy display shows the approximate average liters per 100 kilometers (L/100 km), kilometers per

liter (km/L), or miles per gallon (mpg). This number is calculated based on the value recorded since the last time this menu item was reset. This number reflects only the approximate average fuel economy that the vehicle has at that moment, and changes as driving conditions change.

Average Speed shows the average speed of the vehicle in kilometers per hour (km/h) or miles per hour (mph). This average is calculated based on various vehicle speeds recorded since the last reset of this value.

Press the thumbwheel while this display is active to reset the values.

Timer : To start the timer, press the thumbwheel 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 the thumbwheel briefly while this display is active and the timer is running.

Press the thumbwheel while this display is active to reset the timer.

Tire Pressure : Shows the approximate pressures of all four tires. Tire pressure is displayed in either kilopascal (kPa) or in pounds per square inch (psi). If the pressure is low, the value for that tire is shown in

amber. See *Tire Pressure Monitor System* ⇨ 322 and

Tire Pressure Monitor Operation ⇨ 323.

Fuel Economy : Displays average fuel economy, the best fuel economy over the selected distance, and a bar graph showing instantaneous fuel economy.

Press the thumbwheel to change the selected distance. This display can be reset by selecting Reset in the menu.

Driver Assistance : If equipped, shows information for Adaptive Cruise Control (ACC), Lane Keep Assist (LKA), Forward Collision Alert (FCA), and Follow Distance Indicator(FDI).

Oil Life : Shows an estimate of the remaining oil 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. The oil should be changed as soon as possible. See *Engine Oil* ⇨ 290. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended. See *Maintenance Schedule* ⇨ 356.

The Oil Life display must be reset after each oil change. It will not reset itself. Do not reset the Oil Life display at any time other than when the oil has just been changed. It cannot be reset accurately until the next oil change. To reset, see *Engine Oil Life System* ⇨ 292.

Brake Pad Life : Displays an estimate of the remaining life of the front and rear brake pads. Messages will display based on brake pad wear and the state of the system. Reset the Brake Pad Life display after replacing the brake pads. See *Brake Pad Life System* ⇨ 300.

Air Filter Life : Shows an estimate of the remaining engine air filter's life and the state of the system. Engine Air Filter Life 95% means 95% of the current air filter life remains. Messages will display based on the engine air filter life and the state of the system. When the REPLACE SOON message displays, the engine air filter should be replaced at the earliest convenience.

The Air Filter Life display must be reset after the engine air filter replacement. To reset, see *Engine Air Filter Life System* ⇨ 293.

132 Instruments and Controls

Trailer Brake : On vehicles with the Integrated Trailer Brake Control (ITBC) system, the trailer brake display appears in the DIC.

TRAILER GAIN shows the trailer gain setting. This setting can be adjusted from 0.0 to 10.0 with either a trailer connected or disconnected.

OUTPUT shows the power output to the trailer any time a trailer with electric brakes is connected. Output is displayed as a bar graph. Dotted lines may appear in the OUTPUT display if a trailer is not connected.

Off Road : If equipped, displays vehicle pitch and roll information, road wheel angle, and four-wheel drive (4WD) status. If the vehicle has low traction, a low traction indicator and the wheels affected will display amber in the Off-Road page.

Engine Hours (Hourmeter) : Shows the total number of hours the engine has run. This display also shows the engine idle hours.

Transmission Fluid Temperature : Shows the temperature of the automatic transmission fluid in either degrees Celsius (°C) or degrees Fahrenheit (°F).

Info Page Options : Scroll to choose which info pages appear on the DIC. Press the thumbwheel to select or deselect.

Blank 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 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.

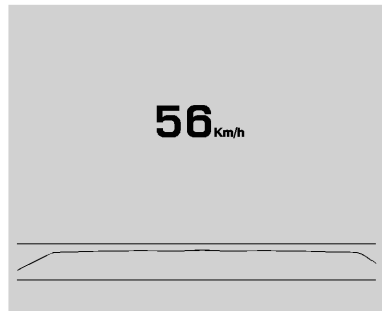
If equipped with HUD, some information about the operation of the vehicle is projected onto the windshield. The image is projected through the HUD lens on top of the instrument panel. The information appears as an image focused out toward the front of the vehicle.

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. 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 are changed through the instrument cluster. See *Settings (Uplevel Radio)* ⇨ 180 or *Settings (Base Radio)* ⇨ 178 and "Options" under *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108.



HUD Display on the Windshield

Depending on how the vehicle is equipped, the HUD may display some of the following vehicle information and vehicle messages or alerts:

- Speed
- Audio
- Phone
- Navigation
- Driver Assistance Features
- Vehicle Messages

Some vehicle messages or alerts displayed in the HUD may be cleared by using the steering wheel controls.



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 or pull 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.

±☀ : Pull and hold to brighten the display. Press and hold to dim the display. Continue to hold down to turn the display off.

The HUD image will automatically dim and brighten to compensate for outside lighting. Use **±☀** to adjust 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.

Head-Up Display (HUD) Rotation Option

If equipped, this feature under the Options menu of the instrument cluster allows for adjusting the angle of the HUD image and changing or turning off the Speed Limit Sign.

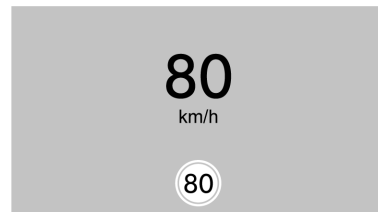
HUD Rotation: In the options menu, press the thumbwheel. Select HUD Display and then select Rotation. Scroll the thumbwheel to adjust the angle of the HUD display. Press the thumbwheel to confirm and save settings. This feature may only be available in P (park).

Speed Limit Style Adjustment

If equipped, the speed limit style can be changed to a speed limit bar or speed limit sign from the Options menu in the instrument cluster. Press the thumbwheel while Speed Limit Style is highlighted to change the speed sign style or to turn it off.

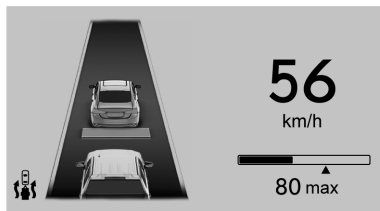
HUD Views

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



134 Instruments and Controls

Speed View : This displays the speedometer reading in English or metric units, and speed limit. Some information only appears on vehicles that have these features, and when they are active.



Active Safety View : This displays the speed view along with a driver assistance graphic on the left. Driver assistance graphics show own vehicle, vehicle ahead, gap setting, and lane status information. In addition to driver assistance graphics, pedestrian, and trailer sway indicators will be displayed.



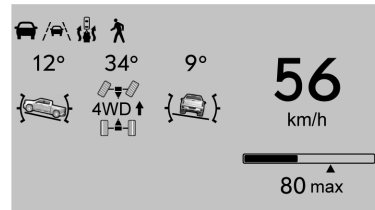
Turn-by-turn



Compass

Navigation View : This displays the speed view along with the vehicle ahead indicator; and indicators for Lane Departure Warning/Lane Keep Assist, trailer sway, and pedestrian advisory. Turn-by-turn navigation information is shown during active route. The compass heading is displayed when navigation routing is not active.

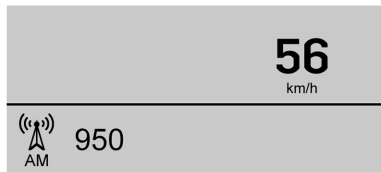
Navigation Turn-by-Turn Alerts shown in the instrument cluster may also be displayed in any HUD view.



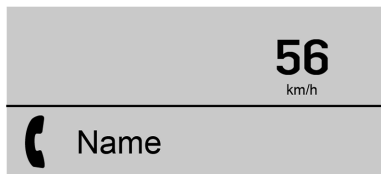
Off Road View : This displays the speed view along with indicators for vehicle ahead, Lane Departure Warning/Lane Keep Assist, trailer sway, four-wheel drive status, and pedestrian advisory. Off-road information such as pitch angle, steering angle, and rolling angle is also shown.

Temporary Overlays

Infotainment: Audio, and Phone, are temporary overlays linked to cluster layouts.



Audio Overlay



Phone Overlay

Audio/Phone Overlay : This displays digital speed, indicators from speed view along with audio/phone information, vehicle ahead indicator, Lane Departure Warning/Lane Keep Assist, Adaptive Cruise Control, and set speed. The current radio station, media type, and incoming calls will also be displayed.

Audio overlays display when the audio app is selected on the instrument cluster. 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.

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.
- The HUD brightness setting is not too dim or too bright.
- The HUD is adjusted to the proper height.
- Polarized sunglasses are not worn.
- The windshield and HUD lens are clean.

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

The windshield is part of the HUD system. See *Windshield Replacement* ⇨ 305.

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.

If a SERVICE message appears, see your dealer.

Follow the instructions given in the messages. The system displays messages regarding the following topics:

- Service Messages
- Fluid Levels
- Vehicle Security
- Brakes
- Steering

136 Instruments and Controls

- Ride Control Systems
- Driver Assistance Systems
- Cruise Control
- Lighting and Bulb Replacement
- Wiper/Washer Systems
- Doors and Windows
- Seat Belts
- Airbag Systems
- Engine and Transmission
- Tire Pressure
- Battery
- Four Corner Air Suspension System

Engine Power Messages

REDUCED ACCELERATION DRIVE WITH CARE

This message displays when the vehicle's propulsion power is reduced. A reduction in propulsion power can affect the vehicle's ability to accelerate. If this message is on, but there is no observed reduction in performance, proceed to your destination. Under certain conditions the performance may be reduced the next time the vehicle is driven. The vehicle may be driven 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.

Under certain operating conditions, propulsion will be disabled. Try restarting after the ignition has been off for two minutes.

Vehicle Speed Messages

SPEED LIMITED TO XXX KM/H (MPH)

This message shows that the vehicle speed has been limited to the speed displayed. The limited speed is a protection for various propulsion and vehicle systems, such as lubrication, thermal, brakes, suspension, Teen Driver if equipped, or tires.

Lighting

Exterior Lighting

Exterior Lamp Controls	137
Exterior Lamps Off Reminder	138
Headlamp High/Low-Beam Changer ...	139
Flash-to-Pass	139
Daytime Running Lamps (DRL)	139
Automatic Headlamp System	139
Hazard Warning Flashers	140
Turn and Lane-Change Signals	140
Fog Lamps	141

Interior Lighting

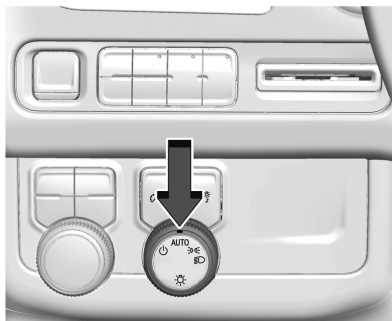
Instrument Panel Illumination Control	141
Dome Lamps	141
Reading Lamps	142

Lighting Features

Entry Lighting	143
Exit Lighting	143
Battery Load Management	143
Battery Power Protection	144
Exterior Lighting Battery Saver	144

Exterior Lighting

Exterior Lamp Controls



The exterior lamp control is on the instrument panel to the left of the steering wheel.

There are four positions:

OFF : Turns off the automatic headlamps and Daytime Running Lamps (DRL). Turn the headlamp control to **OFF** again to turn the automatic headlamps or DRL back on.

AUTO : Automatically turns on the headlamps, parking lamps, taillamps, instrument panel lights, roof marker lamps (if equipped), and license plate lamps.

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

HEADLAMP : Turns on the headlamps, parking lamps, and instrument panel lights.

When the headlamps are turned on while the vehicle is on, the headlamps turn off automatically 10 minutes after the vehicle is turned off. When the headlamps are turned on while the vehicle is off, the headlamps will stay on for 10 minutes before turning off to prevent the battery from being drained. Turn the headlamp control off and then back to the headlamp on position to make the headlamps stay on for an additional 10 minutes.

To keep the lamps on for more than 10 minutes, the ignition must be on or in accessory mode.

IntelliBeam System

If equipped, this system turns the vehicle 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.

138 Lighting



This light displays on the instrument cluster when the IntelliBeam system is enabled.

Turning On and Enabling IntelliBeam

To enable the IntelliBeam system, activate the high/low-beam changer two times within two seconds while the exterior lamp control is in AUTO or

Driving with IntelliBeam

The system only activates the high beams when driving over 40 km/h (25 mph).

The blue high-beam on light appears on the instrument cluster when the high beams are on.

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 speed drops below 20 km/h (12 mph).

The IntelliBeam system can be disabled by the High/Low-Beam Changer or the Flash-to-Pass feature. If this happens, the High/Low-Beam Changer must be activated on then off within two seconds to reactivate the IntelliBeam system. The instrument cluster light will come on to indicate the IntelliBeam is reactivated. See *Headlamp High/Low-Beam Changer* ⇨ 139 and *Flash-to-Pass* ⇨ 139.

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 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.
- The vehicle is being driven 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 reminder chime sounds when the headlamps or parking lamps are manually turned on, the vehicle is turned off, and a door is open. To disable the chime, turn the lamps off.

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.



When the high-beam headlamps are on, this indicator light on the instrument cluster will also be on.

Flash-to-Pass

This feature lets you use the high-beam headlamps to signal a driver in front of you that you want to pass. It works even if the headlamps are in the automatic position.

To use it, pull the turn signal lever toward you, then release it.

Depending on the type of headlamp, they will either turn off after a short duration or stay on as long as you hold the lever

toward you. The high-beam indicator on the instrument cluster will come on. Release the lever to return to normal operation.

Daytime Running Lamps (DRL)

DRL can make it easier for others to see the front of the vehicle during the day.

The DRL system comes on when the following conditions are met:

- The ignition is on.
- The exterior lamp control is in AUTO.
- 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  and then release.

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.

If the vehicle is started in a dark garage, the automatic headlamp system comes on immediately. If it is light outside when the vehicle leaves the garage, there is a slight delay before the automatic headlamp system changes to the DRL. During that delay, the instrument cluster may not be as bright as usual. Make sure the instrument

140 Lighting

panel brightness control is in the full bright position. See *Instrument Panel Illumination Control* ⇨ 141.

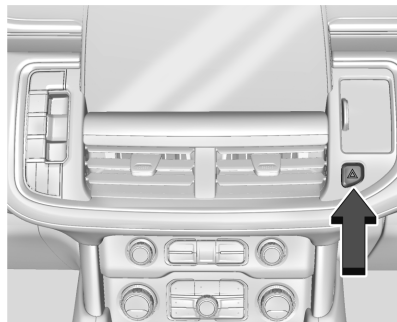
When it is bright enough outside, the headlamps will turn off or may change to Daytime Running Lamps (DRL).

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  to disable this feature.

Hazard Warning Flashers

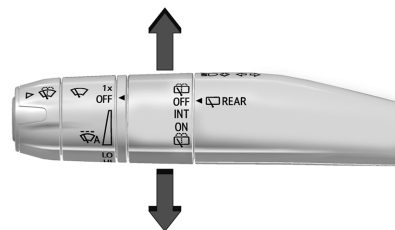


Tahoe, Suburban, Yukon, Yukon XL is shown, Denali similar

 : Press this button to make the front and rear turn signal lamps flash on and off. Press again to turn the flashers off.

When the hazard warning flashers are on, the vehicle's turn signals will not work.

Turn and Lane-Change Signals



An arrow on the instrument cluster flashes in the direction of the turn or lane change.

Move the turn signal lever all the way up or down to signal a turn.

Raise or lower the lever for less than one second until the arrow starts to flash to signal a lane change. This causes the turn signals to automatically flash three times. It will flash six times if Tow/Haul Mode is active. Holding the turn signal lever for more than one second will cause the turn signals to flash until the lever is released.

The lever returns to its starting position whenever it is released.

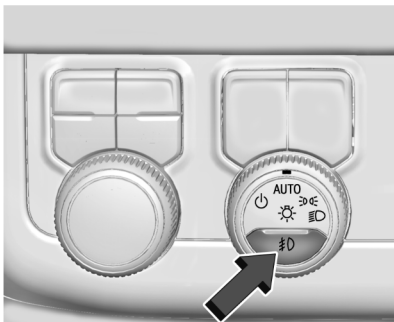
If after signaling a turn or a lane change the arrows flash rapidly or do not come on, a signal bulb could be burned out.

Replace any burned out bulbs. If a bulb is not burned out, check the fuse. See *Fuses and Circuit Breakers* ➔ 309.

Turn Signal On Chime

If the turn signal is left on for more than 1.2 km (0.75 mi), a chime sounds at each flash of the turn signal. The message TURN SIGNAL ON will also appear in the Driver Information Center (DIC). To turn the chime and message off, move the turn signal lever to the off position.

Fog Lamps



If equipped with fog lamps, the button is on the exterior lamp control, to the left of the steering column.

The vehicle must be on for the fog lamps to come on.

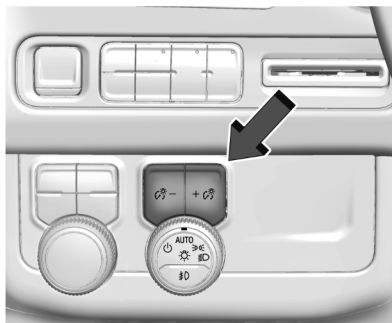
 : Press to turn the fog lamps on or off. A light will come on in the instrument cluster.

When the fog lamps are turned on, the parking lamps automatically turn on.

Some localities have laws that require the headlamps to be on with the fog lamps.

Interior Lighting

Instrument Panel Illumination Control



This feature adjusts the brightness of all illuminated controls. The instrument panel illumination control is above the exterior lamp control.

 : Press the - or + to brighten or dim the lights.

This feature is functional at night, or when the headlamps or parking lamps are ON.

Dome Lamps



There are dome lamps in the overhead console.

The dome lamps come on when any door is opened,  on the remote key is pressed, or when the vehicle is turned off.

142 Lighting

To change the dome lamp settings, press the following:

 **OFF** : Press to turn off the dome lamps. An indicator light on the button will turn on when the dome lamp override is activated. Press  **OFF** again to deactivate this feature and the indicator light turns off.

Press and hold any of the overhead console lenses to turn all dome lamps on or off manually.

Reading Lamps

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

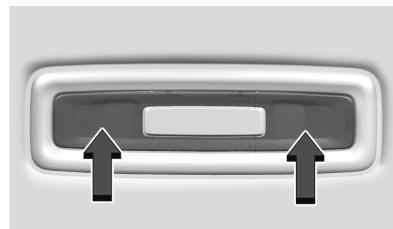
Front Reading Lamps



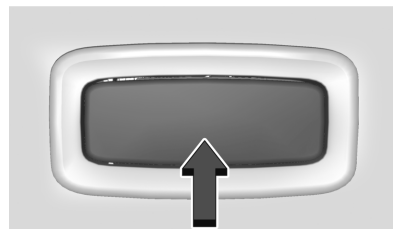
The front reading lamps are in the overhead console. Press the lamp lenses to turn the front reading lamps on or off.

Rear Reading Lamps

The rear reading lamps are over the rear seats.



Without Sunroof



With Sunroof

Press the lens on each reading lamp to turn it on or off.

Lighting Features

Entry Lighting

The interior lamps turn on when pressing  on the remote key or opening any doors, and the dome lamp control is in the door position.

Some exterior lamps also turn on when pressing  on the remote key or opening any doors. Low-Beam lamps will only turn on briefly at night, or in areas with limited lighting.

All lamps will gradually fade out after about 30 seconds.

Entry lighting can be disabled manually by closing all doors, pressing  on the remote key, or starting the vehicle.

This feature can be changed. On the infotainment home page, select the Settings icon > Vehicle > Vehicle Locator Lights.

Exit Lighting

Some exterior lamps and interior lamps turn on when the driver door is opened after the vehicle is turned off.

The exterior and interior lamps remain on for a set amount of time, then automatically turn off.

The interior lights turn on when the vehicle is turned off.

The exterior lamps turn off immediately by turning the exterior lamp control off.

This feature can be changed. On the infotainment home screen, select the Settings icon > Vehicle > Exit Lighting.

Battery Load Management

The vehicle has Electric Power Management (EPM), which estimates the battery's temperature and state of charge. It then adjusts the voltage for best performance and extended life of the battery.

When the battery's state of charge is low, the voltage is raised slightly to quickly bring the charge back up. When the state of charge is high, the voltage is lowered slightly to prevent overcharging. The voltmeter gauge or the voltage display on the Driver Information Center (DIC), if equipped, may show the voltage moving up or down. This is normal. If there is a problem, an alert will be displayed.

The battery can be discharged at idle if the electrical loads are very high. This is true for all vehicles. This is because the generator (alternator) may not be spinning fast enough at idle to produce all the power that is needed for very high electrical loads.

A high electrical load occurs when several of the following are on, such as: headlamps, high beams, fog lamps, rear window defogger, climate control fan at high speed, heated seats, engine cooling fans, trailer loads, and loads plugged into accessory power outlets.

EPM works to prevent excessive discharge of the battery. It does this by balancing the generator's output and the vehicle's electrical needs. It can increase engine idle speed to generate more power, whenever needed. It can temporarily reduce the power demands of some accessories.

Normally, these actions occur in steps or levels, without being noticeable. In rare cases at the highest levels of corrective action, this action may be noticeable to the driver. If so, a DIC message might be displayed and it is recommended that the driver reduce the electrical loads as much as possible.

144 Lighting

Battery Power Protection

This feature helps prevent the battery from being drained, if the interior courtesy lamps or reading lamps are accidentally left on. If any of these lamps are left on, they automatically turn off after 10 minutes, if the ignition is off. The lamps will not come back on again until one of the following occurs:

- The ignition is turned on.
- The doors are closed and then re-opened.

Exterior Lighting Battery Saver

The exterior lamps turn off about 10 minutes after the vehicle 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  or  position.

To keep the lamps on for more than 10 minutes, the vehicle must be on or in accessory mode.

Infotainment System

Introduction

Introduction	145
Overview	146
Steering Wheel Controls	148
Using the System	148
Software Updates	151

Radio

AM-FM Radio (Base Radio)	151
AM-FM Radio (Uplevel Radio)	152
Radio Data System (RDS)	154
Radio Reception	154
Multi-Band Antenna	154

Audio Players

Avoiding Untrusted Media Devices	155
Avoiding Untrusted Media Devices	155
USB Port	155
Bluetooth Audio (Base Radio)	155
Bluetooth Audio (Uplevel Radio)	156

Rear Seat Infotainment

Rear Seat Infotainment (RSI) System	156
--	-----

Navigation

Using the Navigation System	163
Maps	163
Navigation Symbols	164

Destination	164
Global Positioning System (GPS)	165
Vehicle Positioning	165
Problems with Route Guidance	166

Voice Recognition

Voice Recognition	166
-------------------------	-----

Phone

Bluetooth (Overview)	167
Bluetooth (Pairing and Using a Phone for Base Radio)	168
Bluetooth (Pairing and Using a Phone for Uplevel Radio)	172
Apple CarPlay and Android Auto (Base Radio)	175
Apple CarPlay and Android Auto (Uplevel Radio)	177

Settings

Settings (Base Radio)	178
Settings (Uplevel Radio)	180

Trademarks and License Agreements

Trademarks and License Agreements	182
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Introduction

Read the following pages to become familiar with the 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 features when driving. These features may gray out when they are unavailable. Many infotainment features are also available through the instrument cluster and steering wheel controls.

146 Infotainment System

Before driving:

- Become familiar with the operation, center stack controls, steering wheel controls, and infotainment display.
- 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 control or by using a single voice command.

See *Distacted Driving* ⇨ 193.

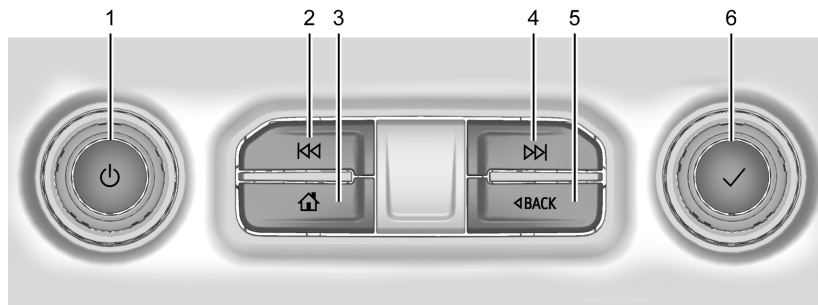
Active Noise Cancellation (ANC)

If equipped, ANC reduces engine noise in the vehicle's interior. ANC requires the factory-installed audio system, radio, speakers, amplifier (if equipped), induction system, and exhaust system to work properly. Deactivation is required by your dealer if related aftermarket equipment is installed.

Overview

Infotainment System

The infotainment system is controlled by using the infotainment display, controls on the center stack, steering wheel controls, and voice recognition, if available.



1. ⏻ (Power)

- Press to turn the power on.
- Press to mute/unmute the system when on.
- Press and hold to display the power off screen or the option to display the power off screen.
- Turn to decrease or increase the volume.

2. ⏮

- Radio: Press and release to go to the previous strong station or channel. Press and hold to scroll through the stations or channels. Release to stop at the next previous strong station or channel. See *AM-FM Radio (Base Radio)* ⇨ 151 or *AM-FM Radio (Uplevel Radio)* ⇨ 152.

- USB/Bluetooth: Press and hold to fast reverse the current song if supported by the device. Release to return to playing speed. See *USB Port* ⇨ 155 or *Bluetooth Audio (Base Radio)* ⇨ 155 or *Bluetooth Audio (Uplevel Radio)* ⇨ 156.
3. 
- Press to go to the Home Page. See “Home Page” later in this section.
 - Press to exit Android Auto or Apple CarPlay. To enter back into Android Auto or Apple CarPlay, press and hold. See *Apple CarPlay and Android Auto (Base Radio)* ⇨ 175 or *Apple CarPlay and Android Auto (Uplevel Radio)* ⇨ 177.
4. 
- Radio: Press and release to go to the next strong station or channel. Press and hold to scroll through the stations or channels. Release to stop at the next strong station or channel.

- USB/Bluetooth: Press and hold to fast forward the current song if supported by the device. Release to return to playing speed. See *USB Port* ⇨ 155 or *Bluetooth Audio (Base Radio)* ⇨ 155 or *Bluetooth Audio (Uplevel Radio)* ⇨ 156.
5.  BACK
- Press to return to the previous display in a menu.
6. 
- Turn to change tuner sources only (AM/FM/SXM/DAB where available), while in the audio app. Does not support non-tuner sources. Turn to scroll through selections in phone projection apps.

Home Page

The Home Page is where vehicle application icons are accessed. Some applications are disabled when the vehicle is moving.

Swipe left or right across the display to access the pages of icons.

Managing Home Page Icons

1. Touch and hold any of the Home Page icons to enter edit mode.
2. Continue holding the icon and drag it to the desired position.
3. Release your finger to drop the icon in the desired position.

Move an Icon to Another Page

1. Drag the icon to the edge of the display toward the desired page.
2. Continue dragging and dropping application icons as desired.

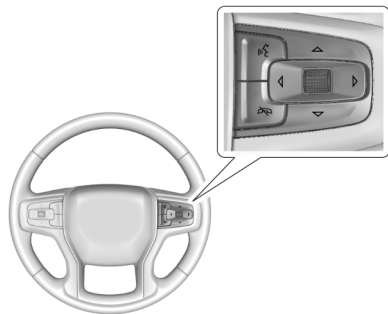
Move an Icon to the Application Tray

For uplevel radio only:

To move an icon to the application tray on the left side of the screen, drag the icon to the applications tray.

148 Infotainment System

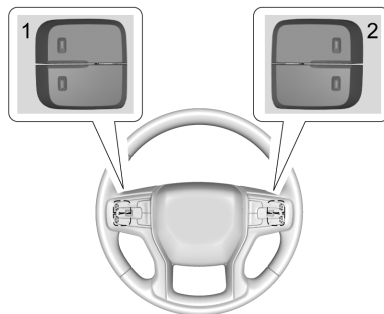
Steering Wheel Controls



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

 : Press to answer an incoming call or start voice recognition. See *Bluetooth (Pairing and Using a Phone for Uplevel Radio)* ⇨ 172 or *Bluetooth (Pairing and Using a Phone for Base Radio)* ⇨ 168 or *Bluetooth (Overview)* ⇨ 167.

 : Press to decline an incoming call or end a current call. Press to mute or unmute the infotainment system when not on a call.



The favorites and volume switches are on the back of the steering wheel.

1. Favorite: When on a radio source, press to select the next or previous audio broadcast favorite. When listening to a media device, press to select the next or previous track.
2. Volume: Press to increase or decrease the volume.

Using the System

Audio

Touch the Audio icon to display the active audio source page. Examples of available sources may include AM, FM, USB, AUX, and Bluetooth.

Phone

Touch the Phone icon to display the Phone main page. See *Bluetooth (Pairing and Using a Phone for Uplevel Radio)* ⇨ 172 or *Bluetooth (Pairing and Using a Phone for Base Radio)* ⇨ 168 or *Bluetooth (Overview)* ⇨ 167.

Maps

If equipped, touch the Maps icon to display the Google Maps screen. See *Using the Navigation System* ⇨ 163.

Google Assistant

If equipped, touch the Google Assistant icon to open the Google Assistant app. See *Voice Recognition* ⇨ 166.

Google Play

If equipped, touch to download some of your favorite apps in your vehicle. Downloading apps on Google Play require you to sign into a Google Account with an active service plan with data. Some third-party apps require a separate account and, in some cases, a paid subscription for in-vehicle access.

Settings

Touch the Settings icon to display the Settings menu. See *Settings (Uplevel Radio)* ⇨ 180 or *Settings (Base Radio)* ⇨ 178.

Apple CarPlay

If equipped, touch the Apple CarPlay icon to activate Apple CarPlay after a supported device is connected. See *Apple CarPlay and Android Auto (Base Radio)* ⇨ 175 or *Apple CarPlay and Android Auto (Uplevel Radio)* ⇨ 177.

Android Auto

If equipped, touch the Android Auto icon to activate Android Auto after a supported device is connected. See *Apple CarPlay and Android Auto (Base Radio)* ⇨ 175 or *Apple CarPlay and Android Auto (Uplevel Radio)* ⇨ 177.

Camera

If equipped, touch the Camera icon to access the camera application. See *Assistance Systems for Parking or Backing* ⇨ 245.

Shortcut Tray

For uplevel radios, the shortcut tray is left of the display. It shows up to five applications.

For base radios, the shortcut tray is near the bottom of the display. It shows up to four applications.

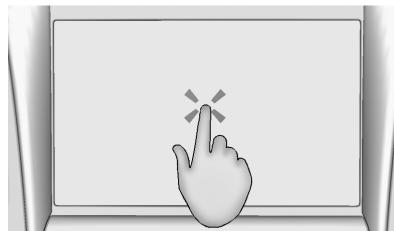
Infotainment Display Features

Infotainment display features show on the display when available. When a feature is unavailable, it may gray out. When a feature is touched, it may highlight.

Infotainment Gestures

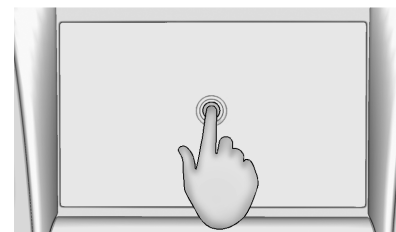
Use the following finger gestures to control the infotainment system.

Touch/Tap



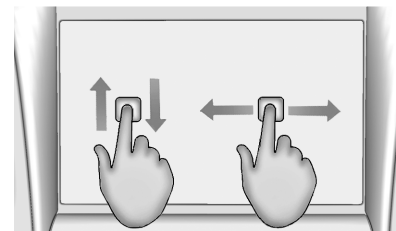
Touch/tap is used to select an icon or option, activate an application, or change the location inside a map.

Touch and Hold



Touch and hold can be used to start another gesture, or to move or delete an application.

Drag

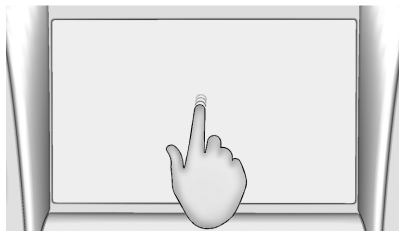


Drag is used to move applications on the Home Page, or to pan the map. To drag the item, it must be held and moved along the

150 Infotainment System

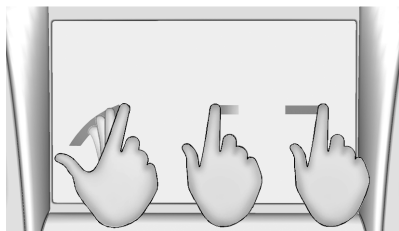
display to the new location. This can be done up, down, right, or left. This feature is only available when vehicle is parked and not in motion.

Nudge



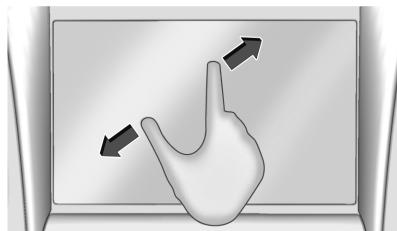
Nudge is used to move items a short distance on a list or a map. To nudge, hold and move the selected item up or down to a new location.

Fling or Swipe



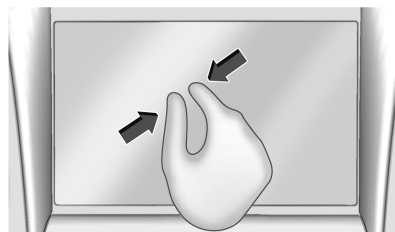
Fling or swipe is used to scroll through a list, pan the map, or change page views. Do this by placing a finger on the display then moving it rapidly up and down or right and left.

Spread



Spread is used to zoom in on a map, certain images, or a web page. Place finger and thumb together on the display, then move them apart.

Pinch



Pinch is used to zoom out on a map, certain images, or a web page. Place finger and thumb apart on the display, then move them together.

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

Over-the-Air Software Updates

If equipped, see “Updates” under *Settings (Uplevel Radio)* ⇨ 180 or *Settings (Base Radio)* ⇨ 178 for details on software updates.

Radio

AM-FM Radio (Base Radio)

Playing the Radio

From the Home Page, touch the Audio icon to display the active audio source page. Choose from the three most recently used sources listed at the left side of the display or touch the More option to display a list of available sources. Examples of available sources may include AM, FM, MyMedia, USB, AUX (if equipped), and Bluetooth.

Infotainment System Sound Menu

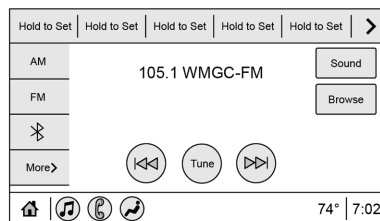
From any of the audio source main pages, touch Sound to display the following:

Equalizer : Touch to adjust Bass, Midrange, and Treble using the controls on the infotainment display.

Fade/Balance : Touch to adjust using the controls on the infotainment display or by tapping/dragging the crosshair.

Finding a Station

Seeking a Station



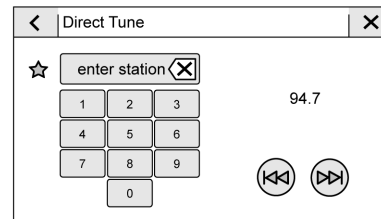
From the AM or FM option, press ⏮ or ⏭ on the center stack to search for the previous or next strong station.

Browsing Stations

From the AM or FM screen, touch Browse to display all available stations. Navigate up and down through all stations by scrolling the list. Touch the station you want to listen to. Touch ☆ to save the station as a favorite.

If equipped, touch Update Station List to update the active stations in your area.

Direct Tune



Access Direct Tune by touching the Tune icon on the AM or FM screen to bring up the keypad. Navigate up and down through all frequencies using ⏮ or ⏭. Directly enter a station using the keypad. When a new station is entered, the information about that station displays on the right side. This information updates with each new valid frequency tuned to.

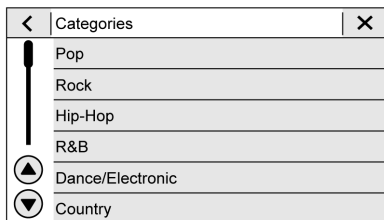
The keypad grays out entries that do not contribute to a valid frequency and automatically places a decimal point within the frequency number.

Touch (X) next to enter station to delete one number at a time or touch and hold to delete all numbers.

152 Infotainment System

A valid AM or FM station automatically tunes to the new frequency but not close the Direct Tune display. Touch **<** or **✕** at the top of the display to exit out of Direct Tune.

FM Categories



From the FM screen, touch Browse to display all available stations. Touch Categories at the top of the station list to access a list of available genres. The list contains genres associated with the FM stations. Touch a category name to display a list of stations for that category. Touching a station from the list will tune the radio to that station.

Storing Radio Station Favorites

Favorites are displayed in the area at the top of the display.

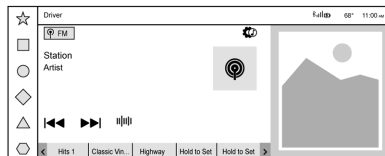
AM or FM : Touch and hold Hold to Set or a previously stored station to overwrite it at the top of the screen to store the current station as a favorite. Touch a saved favorite to recall a favorite station.

Favorites can also be stored by touching ☆ in a station list. This will highlight indicating that it is now saved as a favorite.

The number of favorites displayed is automatically adjusted by default, but can be manually adjusted in Settings in the System tab under Favorites and then Set Number of Audio Favorites. It can also be adjusted in Settings in the Apps tab under Audio and then Set Number of Audio Favorites.

AM-FM Radio (Uplevel Radio)

Playing the Radio



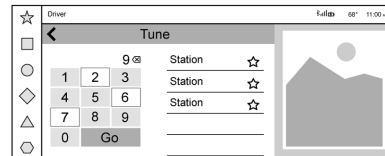
From the Home Page, touch the Audio icon to display the now playing screen for the active audio source. Touch the source button such as FM or AM in the left corner to change your source.

Finding a Station

Seeking a Station

From the AM or FM screen, touch the back or forward buttons to search for the previous or next strong station.

Tune



Touch **|||||** on the infotainment display to enter the Tune screen. Enter a frequency using the keypad.

Touch the ☆ to save the station as a favorite.

Entering a valid AM or FM frequency will automatically tune to the new station but not close the Tune screen.

Touch the Go button or frequency in the list to begin playing the station. The tune page will close and return to the now playing screen.

Storing Radio Station Favorites

Saved favorite stations will show at the bottom of the now playing screen.

AM, FM, and DAB (if applicable) favorites can be stored by pressing and holding a favorite slot.

Audio Settings

Audio settings vary by region.

From the now playing screen, touch  and the following may display.

Sound

- Equalizer
- Fade/Balance
- Sound Mode (if equipped)

Bose AudioPilot

If equipped, adjusts the volume based on the noise inside the vehicle and vehicle speed.

Manage Favorites

Displays a list of audio favorites that can be moved or deleted.

Radio Text (RDS)

When on, radio station call letters and messages from radio stations will be shown.

Radio Text Category

When on, category information about current radio content will be shown.

Traffic Program Alert (TP)

When on and the radio detects a traffic alert, a notification will be shown and an audio message will be heard.

Region

When on, radio settings will automatically adjust to your current region.

DAB Announcements

Allows you to choose which categories you would like to receive DAB Announcements for.

DAB-DAB Linking

When on and a DAB radio station's signal becomes weak, the radio can tune to the same station on a different DAB ensemble if it's available.

DAB-FM Linking

When on and a DAB radio station's signal becomes weak, the radio will try tuning to the station's FM variant. If DAB-DAB Linking is available, the radio will try linking to the station on another DAB ensemble first.

Radio Data System (RDS)

RDS relies on receiving specific RDS information from radio stations and only works when the information is available. It is possible that a radio station could broadcast information that causes the radio to work improperly.

In addition, RDS features are region and country of sale specific. This means specific RDS content may not be available in your listening area or in the country you operate the vehicle.

To turn RDS features on or off, see "Audio Settings" previously.

The following core and region specific RDS features may be supported by radio broadcasters in your listening area:

Core RDS features

- Display radio station call letters
- Display messages from radio stations

154 Infotainment System

- Provide radio station category information (when available)

Region Specific RDS features

- Support Traffic Program (TP) Alerts
- Support Alternate Frequency (AF) Switching
- Support Region Switching

Radio Data System (RDS)

RDS relies on receiving specific RDS information from radio stations and only works when the information is available. It is possible that a radio station could broadcast information that causes the radio to work improperly.

In addition, RDS features are region and country of sale specific. This means specific RDS content may not be available in your listening area or in the country you operate the vehicle.

To turn RDS features on or off, select Settings > Apps> Audio> RDS> Select ON or OFF.

The following core and region specific RDS features may be supported by radio broadcasters in your listening area:

Core RDS features

- Display radio station call letters
- Display messages from radio stations
- Provide radio station category information (when available)

Region Specific RDS features

- Support Traffic Program (TP) Alerts
- Support Alternate Frequency (AF) Switching
- Support Region Switching

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.

Mobile Device Usage

Mobile device usage, such as making or receiving calls, charging, or just having the mobile device on may cause static interference in the radio. Unplug the mobile device or turn it off if this happens.

Multi-Band Antenna

The multi-band roof antenna may be used for radio, navigation, and other communication systems, depending on the equipped options. To ensure clear reception, keep the antenna clear of obstructions, such as snow and ice. If the vehicle has a sunroof, and it is open, or a roof loaded with cargo, reception may be affected.

Audio Players

Avoiding Untrusted Media Devices

When using media devices such as USB and mobile devices, consider the source. Untrusted media devices could contain files that affect system operation or performance and should be avoided.

Avoiding Untrusted Media Devices

When using media devices such as USB and mobile devices, consider the source. Untrusted media devices could contain files that affect system operation or performance and should be avoided.

USB Port

The vehicle may be equipped with multiple USB ports. Ports may also be used for charging. Music may be played from a connected USB device.

Caution

To avoid vehicle damage, unplug all accessories and disconnect all accessory cables from the vehicle when not in use. Accessory cables left plugged into the

(Continued)

Caution (Continued)

vehicle, unconnected to a device, could be damaged or cause an electrical short if the unconnected end comes in contact with liquids or another power source such as the accessory power outlet.

USB Audio

To play music via USB:

1. On the audio now playing page, touch source and select USB.
2. If there is no device connected, follow the screen prompts to connect the device.

Supported media content will appear on the display.

Bluetooth Audio (Base Radio)

Music may be played from a connected Bluetooth device. See *Bluetooth (Pairing and Using a Phone for Uplevel Radio)* ⇨ 172 or *Bluetooth (Pairing and Using a Phone for Base Radio)* ⇨ 168 or *Bluetooth (Overview)* ⇨ 167 for help pairing a device.

Volume and song selection may be controlled by using the infotainment controls or the mobile device. If Bluetooth is selected and no volume is present, check the volume setting on the infotainment system.

Music can be launched by touching Bluetooth from the recent sources list on the left of the display or by touching the More option and then touching the Bluetooth device.

To play music via Bluetooth:

1. Power on the device, and pair to connect the device.
2. Once paired, touch Audio from the Home Page, then touch Bluetooth from the recent sources list on the left of the display.

Bluetooth Sound Menu

See “Infotainment System Sound Menu” under *AM-FM Radio (Base Radio)* ⇨ 151 or *AM-FM Radio (Uplevel Radio)* ⇨ 152.

Manage Bluetooth Devices

From the Home Page:

1. Touch Audio.
2. Touch Devices to add or delete devices.

156 Infotainment System

When touching Bluetooth, the radio may not be able to launch the audio player on the connected device to start playing. When the vehicle is not moving, use the mobile device to begin playback.

All devices launch audio differently. When selecting Bluetooth as a source, the radio may show as paused on the display. Press play on the device or touch  on the display to begin playback.

Browse functionality will be provided where supported by the Bluetooth device. This media content will not be part of the MyMedia source mode.

Some smartphones 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, see your dealer.

Bluetooth Audio (Uplevel Radio)

Music may be played from a connected Bluetooth device.

Volume and song selection may be controlled by using the infotainment controls. If Bluetooth is selected and no volume is present, check the volume setting on the infotainment system.

To play music via Bluetooth:

1. On the audio now playing page, touch source and select the desired Bluetooth device.
2. If there is no device connected, follow the screen prompts to pair the device.
3. Supported media content will appear on the display.

Manage Bluetooth Devices

Managing Bluetooth devices allows you to add, delete, or select another paired device.

Only one Bluetooth device can be active at a time.

Rear Seat Infotainment

Rear Seat Infotainment (RSI) System

If equipped, the system includes two HDMI ports, two Bluetooth headphones, and video touchscreen displays in back of the driver and passenger seats.

The RSI system may not operate properly until the temperature is above -20°C (-4°F) and below 55°C (131°F).

System Operation

To use:

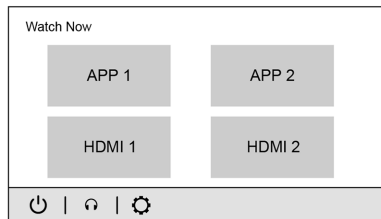
1. Double-tap anywhere on either screen to power on and view the Home screen.
2. Touch  on the status bar to turn the screen off.

The screens can be turned on and off through each individual touchscreen, independently from the other, and through front seat control.

Playback of any media playing through that specific screen is paused when the screen is turned off.

Screens can be locked via the front seat control.

Sources



- HDMI 1
- HDMI 2
- Apps (if equipped)

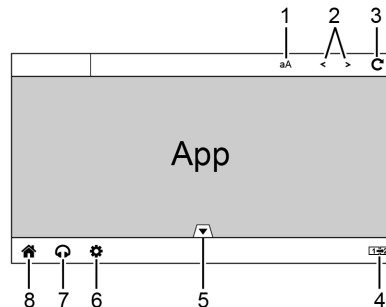
Status Bar:

- : Touch to turn off the screen. Double-tap anywhere on the screen to turn the screen on again.
- : Touch to go to Bluetooth Headphone Setup menu. See “Settings” later in this section.
- : Touch to go to the Settings menu.

HDMI Input

An HDMI cable is required to connect an HDMI device to the RSI hub. The RSI HDMI inputs allow connection to video games, disc players, cameras, smartphones, tablets, streaming devices, and A/V dongles that have HDMI (version 1.4a) outputs.

App View



1. Touch to adjust the zoom level.
2. Touch to navigate page history back or forward.
3. Touch to reload the page.
4. Touch to share screen with the other rear screen.

5. Touch or swipe down to close the overlay. Touching anywhere on the screen or waiting about three seconds will also slide the overlay down.
6. Touch to open the settings menu.
7. Touch to pair or connect the Bluetooth headphones, adjust the headphone volume or have the audio play through the vehicle's interior speakers.
8. Touch to open the Home Screen.

Touch, swipe, or drag input to navigate within an app.

Touching an ad will open it in a second tab. To close the second tab, touch the first tab, or touch the **X**.

Rear Screen Settings

From the rear screen home page, touch to access the settings menu.

The menu may contain the following:

Screen Brightness

Select Screen Brightness. Move the bar left or right to adjust the display brightness. Each screen may be uniquely adjusted.

158 Infotainment System

Customer Owned Bluetooth Headphones

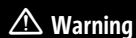
The RSI system supports Bluetooth headphones. Up to four Bluetooth headphones can be paired to each REAR SCREEN. This screen provides a list of all Bluetooth headphones that have been paired to the RSI system, as well as control over their use and settings. New Bluetooth headphones can be connected, or the Bluetooth headphone settings can be changed from or on this screen.

To pair Bluetooth headphones to one of the rear screens:

1. Select Bluetooth Headphones or touch  from the desired Rear Screen Home Page.
2. Select Connect Headphones.
3. Make sure the Bluetooth headphones are in pairing mode. Once recognized by the system, the Bluetooth headphones are displayed on the list of Available Headphones.
4. Select the Bluetooth headphones from the list. The headphones may need to be unpaired from your phone before pairing to the RSI.

5. Once a headphone is paired, touch options for that headphone to access the menu where the headphone can be renamed, connected, disconnected, or to forget.

Provided Bluetooth Headphones



Warning

The headphones have a built-in rechargeable lithium ion battery pack that presents a serious fire hazard if damaged, defective, or improperly used.

To avoid battery leakage and/or a potential fire:

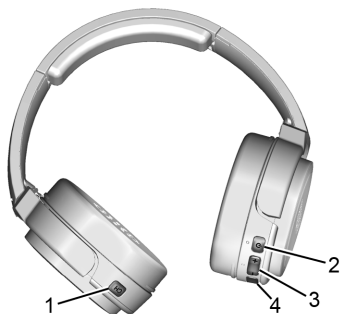
- Do not attempt to burn, crush, or cut the battery
- Do not expose the battery to environments with extremely low air pressures or temperatures above 60 °C (140 °F)
- Do not charge the battery at temperatures above 45 °C (113 °F)
- Do not charge the battery if the headphones are defective or damaged

Caution

Do not store the headphones in heat or direct sunlight. This could damage the headphones and repairs would not be covered by the vehicle warranty. Storage in extreme cold can weaken the batteries. Keep the headphones stored in a cool, dry place.



Batteries in this product should not be disposed of with household waste. Batteries should be recycled at an appropriate facility. Contact local authorities for details on recycling.



1. CH-Channel Select
2. Power
3. Volume
4. USB-C Charging Port

The RSI includes two new Bluetooth wireless headphones. The headphones are used to listen to various multimedia. The wireless headphones have a power button, channel select button, and a volume control button.

To use the included Bluetooth Wireless Headphones:

- Press the POWER button for one second to turn the headphones on. The power indicator will illuminate.

- While the headphones are powered off, press and hold the power button for two seconds to enter pairing mode. The headphone name will display as “GM RSI BT HP.” See “Pairing to RSI Screen” below for pairing instructions with RSI screen.
- To power off, press and hold the power button for two seconds while the power is on.
- Press the CH-CHANNEL SELECT button (1) to change between the audio associated with Screen 1 or Screen 2. This function only works after pairing to both RSI Screens.

Pairing to RSI Screen

Only two headphones can be active per RSI Screen.

To pair a Bluetooth headphone to one of the rear screens:

1. Touch the Headphone icon from the desired Rear Screen Home Page.
2. Select Add New Headphones.
3. Make sure the Bluetooth headphone is in pairing mode.
4. Once recognized by the system, the Bluetooth headphone is displayed on the list of Available Headphones.

5. Select the Bluetooth headphone from the list. Once connected, touch OK at the Pairing Successful pop-up.
6. Touch OK.

To un-pair the Headphones from the screens, touch the Headphone icon from the desired Rear Screen Home page. Then touch the options button under the Headphone that you want to un-pair. Select Forget Headphones. This step must be done separately for each screen.

Voice Over

If equipped, the RSI system has a Voice Over feature to benefit the visually and hearing impaired.

When activated, Voice Over provides audible feedback to the user about which area on the screen they are touching, identifying active buttons, as well as providing information feedback of screen identification, current status, list content, metadata, and pop-up information. It allows for the user to activate features through a double tap anywhere on the screen which relates to the last single touched and audibly announced actionable button.

160 Infotainment System

To turn Voice Over on or off, touch , touch the toggle, and then press OK to confirm. Voice Over turns off every time the vehicle is turned off.

Reset Rear Media

Select to reset the Apps and log out users.

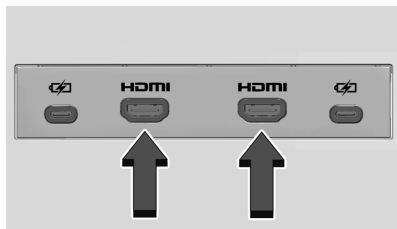
Open Source License

Select to show the license information.

Rear Consumer Ports (RCP)

If equipped with RSI, the RCP are in the rear of the center console. These include two HDMI ports and two USB-C charge only ports.

HDMI



The HDMI input allows an HDMI A/V cable to be connected from an auxiliary device such as a camcorder, video game system, or Apple device. A cable from Apple is required for Apple devices.

Touch the HDMI port that the external device was connected to on the home screen.

For certain HDMI devices that support USB charging, the USB ports can be used as a power source.

Content from these HDMI ports are NOT accessible through the infotainment display.

To use the HDMI input of the RSI system:

1. Connect the auxiliary device with an HDMI cable.
2. Power on both the auxiliary device and the RSI video screen.
3. Touch  (Home) on the desired display and select HDMI as the source.

HDMI

HDMI Connection

The RCP provides two HDMI ports to mirror video devices.

Connect the external device to watch the device content through the RSI screen.

Touch the HDMI port that was connected to the external device on the home screen.

HDMI Playing View



HDMI playing view shows the video content and includes:

-  (Home): Touch  to return to the RSI Home selection screen.
-  (Headphones): Touch  to access the Bluetooth Headphone Setup menu. See "Settings" later in this section.
- Share: Touch to share the screen with the other rear screen. The screen can be shared through the connected device.

Rear Media App from the Home Screen

The Rear Media App allows a front user to control the Rear Seat Video Screen sources. To access, touch the Rear Media App icon from the Home Page.

The Rear Screens may be powered on or off from the Rear Media App. Touch Screen 1 or Screen 2 to select a screen. Touch summary to view both Rear Screens together. Touching the Power icon next to the highlighted screen icon turns that screen on or off.

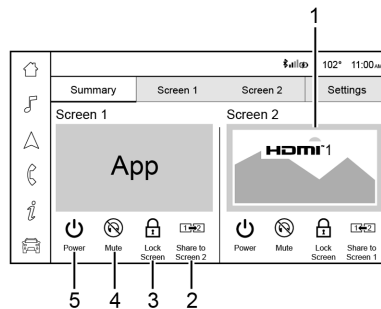
The audio for the rear users can be muted by the front user by pressing the mute icon associated with the left or right rear screen on the Rear Media App screen.

The current source from the desired Rear Screen can also be shown on the other Rear Screen by pressing the Share button on the lower right side of the RSI screens.

Source Selecting from the Rear Media App

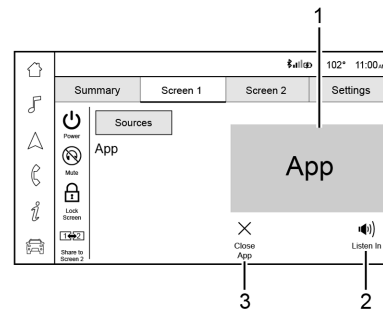
Sources may be selected for the highlighted Rear Screen. Select Sources from the Rear Media App screen, then select from the list of available sources shown on the RSI Sources screen.

Summary View



1. Current source for rear screens.
2. Touch to share screen to the other rear screen.
3. Touch to lock rear screen from touch inputs.
4. Touch to mute the rear screen audio.
5. Touch to power rear screen on or off.

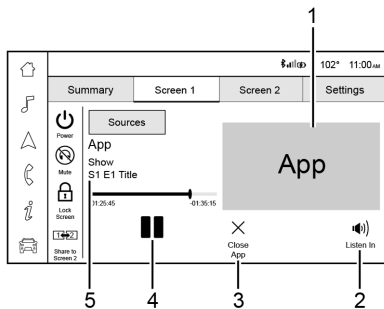
Screen Detail View without Content Playing



1. Shows source name.
2. Touch to have the audio play through the vehicle's interior speakers.
3. Touch to close an app on the rear screen.

162 Infotainment System

Screen Detail View with Content Playing



1. Art shown for current content playing.
2. Touch to have the audio play through the vehicle's interior speakers.
3. Touch to close an app on the rear screen.
4. Touch to play or pause the currently playing content.
5. Name and info of currently playing content (if available).

Rear Media Settings

From the Rear Media page, touch Settings to access the settings menu.

The menu may contain the following:

Remember Screen Power Status

Select to have rear screens automatically power on when the vehicle is started.

Rear Screen Voice-Over

Select to have Video Voice Over for the individual rear screens.

Allowed Applications

Select to choose which applications are visible.

Account

Select to show the vehicle data plan.

Reset Rear Media

Select to reset the applications.

Rear Media Terms of Use

Select to view the terms of use.

Privacy Statement

Select to view the Privacy statement.

RSI Troubleshooting

No power : The ignition might not be on or in accessory mode.

There is no sound from the headphones

with the indicator light on : Make sure the headphones have sufficient charge. Plug the headphones to a USB-C port to charge.

Check to see if headphones are paired to the screens. Make sure that you are listening in to the correct screen by pressing the channel select button.

If the steps above do not work, then unpair the headphones from the RSI screens, turn the headphones off, turn them back on and attempt to pair them. See pairing procedures for the Bluetooth headphone previously in this section.

Video Distortion

Video distortion can occur when operating cellular phones, scanners, CB radios, Global Positioning Systems (GPS), two-way radios, mobile faxes, or walkie talkies.

It might be necessary to turn off the video player when operating one of these devices in or near the vehicle.

Navigation

Using the Navigation System

The Navigation software is provided by Google Maps. The information provided in this section is a general overview and is subject to change. For the latest functional information, see g.co/mapsincar.

Accept the Terms and Conditions to use.

Internet Connectivity

Google Maps relies on a subscription data plan for full functionality, including availability of offline maps. With an applicable connected services plan, Google Maps can be used offline when driving through connectivity dead zones by auto-downloading offline maps prior to going offline.

Profiles

Sign in to a Google Account for personalized service. Information available in the Google Account will be shown.

To log into a profile, see *Accounts* under *Settings (Uplevel Radio)* ⇨ 180 or *Settings (Base Radio)* ⇨ 178.

Voice Assistant

If equipped, Google Maps can be controlled by voice commands, see *Google Assistant* under *Voice Recognition* ⇨ 166.

Language and Units

To change the language, see *Settings (Uplevel Radio)* ⇨ 180 or *Settings (Base Radio)* ⇨ 178.

To change the units, see *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108.

Mute Settings

During active route guidance, Google Maps can give audible voice directions, traffic alerts, or can be muted. In the Google Maps app, touch *Settings*, then *Mute settings* to access the options. Alternatively, audible voice directions and traffic alerts can be muted by touching the sound icon on the turn card during active navigation.

Compass

The Google Maps orientation can be changed between the direction currently traveling and pointing North. Touch the compass to switch between these options.

To recenter the map to the current location, touch the location icon.

Maps

Auto-downloaded Maps

Google Maps downloads offline maps automatically for use when not connected to the Internet and for making map data available to vehicle features regardless of connectivity. These offline maps are only available when the vehicle has a subscription data plan.

To turn on auto-download:

1. Open Google Maps.
2. Touch *Settings*.
3. Touch *Privacy Center*, then select *Offline maps*.
4. Select *Auto-download offline maps*.
5. Check the Internet connection and wait for the download to finish.

Downloading Offline Maps

1. Open Google Maps.
2. Touch *Settings*, then *Offline maps*.
3. Touch the square with the *Select your own map* icon.

164 Infotainment System

4. Adjust the map to cover the desired area to download.
5. Touch Download.

Navigation Symbols

The following are the most common symbols that may appear in Google Maps.



This indicates the vehicle's current location and direction on the map.



The destination pin marks the location of the final destination. Touch the pin to view the destination address or to add it or remove it from the Favorites list. Hide the information by touching the pin one more time. It will automatically time out if no action is taken.

A second pin in the menu is the route overview. Touch this pin to show more details of the destination or to remove the destination.

Destination

Searching for a Destination

A destination can be searched using Google Assistant.

To search for a destination without Google Assistant:

1. Open Google Maps.
2. Touch the Search field.
3. Enter the destination.
4. Touch Start.

Alternate Routes

Alternate routes are displayed as separate lines. While in either turn-by-turn navigation or on the route overview, touch the suggested alternate route.

Adding a Stop on Route by Voice

1. While in turn-by-turn navigation, touch the Search icon at the bottom.
2. Touch the Google Assistant mic icon and say the destination to search by voice.

3. Select the desired search result from the list.

4. Touch Add stop.

Adding a Stop on Route by Category

1. While in turn-by-turn navigation, touch the Search icon at the bottom.
2. Select a category.
3. Select the desired search result from the list.
4. Touch Add stop.

Adding a Home or Work Address

To edit a home or work address, an account must be logged in. See Accounts under *Settings (Uplevel Radio)* ⇨ 180 or *Settings (Base Radio)* ⇨ 178.

1. Open Google Maps.
2. Touch Settings and then touch Edit home or work.
3. Enter the address.

Search by Category

Destinations can be searched by category, such as restaurant or grocery store.

1. Open Google Maps.
2. Touch the search bar.
3. Touch Categories, then select a category.

4. Touch the desired location, then touch Start.

Avoid Tolls, Highways, or Ferries

1. Open Google Maps.
2. Touch Settings.
3. Select Route options.
4. Select the desired options and then touch close.

An Alternative Way for General Route Options

1. During active route guidance, touch Route Overview.
2. Select Route options.
3. Select the desired option and then touch close.

Traffic Layers

1. Open Google Maps.
2. Touch Settings.
3. Toggle between Traffic on or off.

Global Positioning System (GPS)

The current position of the vehicle is determined by using satellite signals and various vehicle signals.

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.

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* ⇨ 166.

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 are installed on the vehicle.
- 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 has been 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.

166 Infotainment System

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.
- 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 Maps.

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.

Voice Recognition

If equipped, Google Assistant allows for hands-free use of media and messaging, navigation and climate control functionality in the vehicle. This feature can be started by pressing  on the steering wheel, touching Google Assistant on the Home screen, or by using the wake up words "Hey Google" or "OK Google."

However, not all features within these areas are supported by voice commands and requires the user to have a valid data subscription plan in order to use some of the Google Assistant features.

Using Voice Recognition

Voice recognition becomes available once the system is initialized. This begins when the vehicle is turned on. Initialization may take a few moments.

1. Press  on the steering wheel controls, touch Google Assistant on the Home screen, or use the wake up words "Hey Google" or "OK Google" to activate voice recognition. Google Assistant must be set as the Default Assistant for the  and the wake word options to work.
2. Clearly speak one of the commands described later in this section.

Canceling Google Assistant

- Press  on the steering wheel controls to cancel the Google Assistant request.

Helpful Hints for Speaking Commands

Voice recognition identifies commands that are naturally stated in sentence form, or direct commands that state the application and the task.

For best results:

- Speak the command naturally, not too fast, not too slow.
- Use direct commands without a lot of extra words. For example, "Call <name> at work," "Play" followed by the artist or song name, or "Play" followed by the radio station number.

Direct commands are more clearly understood by the system. An example of a direct command is “Call <number>.”

If a cell phone number was saved with a name and a place, the direct command should include both. For example “Call <name> at work.”

Voice Recognition for the Radio

When voice is touched, the voice recognition commands for AM, FM, and media apps (if supported) are available.

“Play <AM frequency> AM” : Tune to the radio station frequency identified in the command (like “nine fifty”).

“Play <FM frequency> FM” : Tune to the radio station frequency identified in the command (like “one oh one point one”).

“Play <Media> on <Audio Source>” : Play media like a song or channel using a specified audio source such as Pandora or Spotify. This command may require an online connection.

Voice Recognition for the Phone

Make sure the phone is paired using Bluetooth to use the phone related voice commands.

“Call <contact name>” : Initiate a call to a stored contact. The command may include location if the contact has location numbers stored. You must accept Personal Results permission during set up for access to the contacts.

“Call < phone number>” : Initiate a call to a phone number of seven digits or 10 digits.

“Send a message to <contact name>” : Send a message to a stored contact.

Voice Recognition for Navigation

Navigation commands can be used to start, cancel route, or add way points/POI.

“Navigate to <destination address>” : Initiate navigation to the address in the command.

“Find a <Place of Interest>” : Find and initiate navigation to a POI in the command in the command.

“Add <destination> on my way” : Adds a way-point to the current route.

“Take me home” : Starts navigation to Home location set in Google maps.

Onboard Vehicle Commands

These commands can be used to adjust vehicle temperature, control window defrosters, etc.

“Turn on the A/C” : Turns on the air conditioning.

“Set temperature to <desired number> degrees” : Set to a specific temperature inside your vehicle.

Phone Assistant Voice Recognition

While a device is connected via Bluetooth, Android Auto, or CarPlay, press and hold  on the steering wheel controls to pass through and launch the Voice Assistant on the connected mobile phone (e.g, Google assistant, Siri, etc.).

Phone

Bluetooth (Overview)

The Bluetooth-capable system can interact with many mobile devices to:

- Place and receive calls in a hands-free mode.
- Share the device’s address book or contact list with the vehicle.

168 Infotainment System

- Stream audio (music, podcasts).
- Notify receipt of text messages.

To minimize driver distraction, before driving, and with the vehicle parked:

- Become familiar with the features of the mobile device. Organize the phone book and contact lists clearly and delete duplicate or rarely used entries.
- Review the controls and operation of the infotainment system.
- Pair mobile device(s) to the vehicle. The system may not work with all mobile devices. See “Pairing” later in this section.

Vehicles with a Bluetooth system can use a Bluetooth-capable mobile device 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 the vehicle is on. The range of the Bluetooth system can be up to 9.1 m (30 ft). Not all mobile devices support all functions and not all mobile devices work with the Bluetooth system. See your dealer for more information about compatible mobile devices.

Controls

Use the controls on the infotainment display and the steering wheel to operate the Bluetooth system.

Steering Wheel Controls

 : Press and release to answer incoming calls on your connected Bluetooth mobile device. Press and hold for mobile device assistant.

 : 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 *Using the System* ⇨ 148.

Audio System

When using the Bluetooth mobile device system, sound comes through the vehicle's front audio system speakers and overrides the audio system. The volume level while on a mobile device call can be adjusted by pressing the steering wheel controls or the volume control on the center stack. The

adjusted volume level remains in memory for later calls. The volume cannot be lowered beyond a certain level.

Bluetooth (Pairing and Using a Phone for Base Radio)

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.

- If multiple paired cell phones are within range of the system, the system connects to the paired cell phone that is set to First to Connect. If there is no phone set to First to Connect, it will link to the device which was used last. To link to a different paired phone, see “Linking to a Different Phone” later in this section.

Pairing a Phone

1. Make sure Bluetooth has been enabled on the cell phone before starting pairing.
2. Touch the PHONE icon on the Home Page or the phone shortcut on the applications tray at the bottom of the screen.
3. Touch Phone at the top of the infotainment display. There may also be an Add option in the middle of the Phone screen. Touching this Add Phone option will shortcut to the Phone List menu.
4. Touch Add Phone.
5. Select the vehicle name shown on the infotainment display from your phone's Bluetooth Settings list.
6. Follow the instructions on the cell phone to confirm the six-digit code shown on the infotainment display and touch Pair.
7. 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. Once the cell phone is paired, it will show under Connected.
8. If the vehicle does not appear on your phone, there are a few ways to start the pairing process over:
 - Turn the phone off and then back on.
 - Go back to the beginning of the Phone menus on the infotainment display and restart the pairing process.
 - Reset the phone, but this step should be done as a last effort.
9. 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.
10. Repeat Steps 1-8 to pair additional phones.

First to Connect Paired Phones

If multiple paired cell phones are within the range of the system, the system connects to the paired cell phone that is set as First to Connect. To enable a paired phone as the

First to Connect phone, make sure the phone is turned on, then touch Settings, then System, and then touch Phones. Phones will display all paired and all connected phones, and media player devices. Phones can be added and removed, connected and disconnected. To set a phone as First to Connect, touch  to the right of the phone to open the phone's settings menu. Select the First to Connect option, to enable the setting for that device.

Secondary Phone

A cell phone can be enabled as a Secondary Phone by touching  to the right of the paired cell phone name to open the phone settings menu. If a cell phone is enabled as a Secondary Phone, it can connect simultaneously alongside another Bluetooth mobile device. In doing so, the Secondary Phone will be labeled as Incoming Calls. This means the device can only receive calls. The Address Book of a Secondary Phone will not be available and hands-free outgoing calls cannot be placed using this cell phone.

If needed, touch the Secondary Phone while in the Phones list to swap it into the Outgoing and Incoming role. This role makes it possible to place outgoing calls from the Contacts and Recents list.

170 Infotainment System

Listing All Paired and Connected Phones

1. Touch PHONE on the Home Page or the phone shortcut on the applications tray at the bottom of the display.
2. Touch Phones.

Disconnecting a Connected Phone

1. Touch PHONE on the Home Page.
2. Touch Phones.
3. Touch the pencil next to the connected cell phone or mobile device to display the cell phone's or mobile device's information display.
4. Touch Disconnect.

Deleting a Paired Phone

1. Touch PHONE on the Home Page or the phone shortcut on the applications tray at the bottom of the display.
2. Touch Phones.
3. Touch the pencil next to the connected cell phone to display the cell phone's or mobile device's information display.
4. Touch Forget Device.

Linking to a Different Phone

To link to a different cell phone, the new cell phone must be in the vehicle and paired to the Bluetooth system.

1. Touch PHONE on the Home Page or the phone shortcut on the applications tray at the bottom of the display.
2. Touch Phones.
3. Touch the new cell phone to link to from the not connected phone list. See "First to Connect Paired Phones" previously in this section for more information about setting the device as the First to Connect or as a Secondary Phone.

Switching to Handset or Handsfree Mode

To switch between handset or handsfree mode:

- While the active call is hands-free, touch the Handset display option to switch to the handset mode.
The mute icon will not be available nor functional while Handset mode is active.
- While the active call is on the handset, touch the Handset display icon to switch to the hands-free mode.

Making a Call Using Contacts and Recent Calls

Calls can be made through the Bluetooth system using personal cell phone contact information for all cell phones that support

the Phone Book feature. Become familiar with the cell phone settings and operation. Verify the cell phone supports this feature.

The Contacts menu accesses the phone book stored in the cell phone.

The Recents menu accesses the recents call list from your cell phone.

To make a call using the Contacts menu:

1. Touch Phone on the Home Page.
2. Touch Contacts.
3. The Contacts list can be searched by using the first character. Touch A-Z on the infotainment display to scroll through the list of names.
Select the name to call.
4. Select the desired contact number to call.

To make a call using the Recents menu:

1. Touch Phone on the Home Page.
2. Touch Recents.
3. Touch the name or number to call.

Making a Call Using the Keypad

To make a call by dialing the numbers:

1. Touch Phone on the Home Page.
2. Touch Keypad and enter a phone number.

3. Touch  to start dialing the number.

Searching Contacts Using the Keypad

To search for contacts using the keypad:

1. Touch Phone on the Home Page.
2. Touch Keypad and enter partial phone numbers or contact names using the digits on the keypad to search.

Results appear on the right side of the screen. Touch one to place a call.

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

There are three ways to accept a call:

- Press  on the steering wheel controls.
- Touch Answer on the infotainment display.
- Select Answer on the instrument cluster using the select control.

Declining a Call

There are three ways to decline a call:

- Press  on the steering wheel controls.
- Touch Ignore on the infotainment display.

- Select Ignore on the instrument cluster using the select control.

Call Waiting

Call waiting must be supported on the Bluetooth cell phone and enabled by the wireless service carrier to work.

Accepting a Call

There are three ways to accept a call-waiting call:

- Press  on the steering wheel controls.
- Touch Switch on the infotainment display.
- Select Switch on the instrument cluster using the select control.

Declining a Call

There are three ways to decline a call-waiting call:

- Press  on the steering wheel controls.
- Touch Ignore on the infotainment display.
- Select Ignore on the instrument cluster using the select control.

Switching Between Calls (Call Waiting Calls Only)

To switch between calls, press the phone icon on the Home Page to display the 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 Call to add another call.
2. Initiate the second call by selecting from Recents, Contacts, or Keypad.
3. When the second call is active, press the merge icon to conference the three-way call together.

Ending a Call

- Press  on the steering wheel controls.
- Touch  next to a call to end only that call.
- Select End on the instrument cluster using the select control.

172 Infotainment System

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. Use the Keypad to enter the number.

Bluetooth (Pairing and Using a Phone for Uplevel Radio)

Pairing

A Bluetooth-enabled mobile device must be paired to the Bluetooth system and then connected to the vehicle before it can be used. See the mobile device manufacturer's user guide for Bluetooth functions before pairing the device.

Pairing Information

- Touch the Phone icon on the home page of the infotainment display.
- If no mobile device has been paired, a message on the infotainment display will show the Manage Phones option. Touch this option and the Phones screen will display. See "Pairing a Phone" later in this section.

- A Bluetooth smartphone with music capability can be paired to the vehicle as a smartphone 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.
- If multiple paired cell phones are within range of the system, the system connects to the paired cell phone that is set to First to Connect. If there is no cell phone set to First to Connect, it will link to the cell phone which was used last. To link to a different paired cell phone, see "Linking to a Different Phone" later in this section.

Pairing a Phone

1. Make sure Bluetooth has been enabled on the cell phone before starting the pairing process.
2. Touch the Phone icon on the Home Page.

3. If no mobile device is connected, touch Manage Phones and the Phones screen will display.
If another mobile device is connected already, touch Settings, Connections, and then Phones.
4. Touch Add Phone.
If a previously added phone is disconnected, the "Add Phone" card will just be a "+" card.
5. Follow the on-screen prompts to pair the cell phone.
6. Follow the instructions on the cell phone to confirm the six-digit code showing on the infotainment display and touch Pair. The code on the cell phone and infotainment display needs to be acknowledged for a successful pair.
7. 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. Once the cell phone is paired, it will show as Connected.

8. If the vehicle name does not appear on your cell phone, there are a few ways to start the pairing process over:
 - Make sure there is not an entry for the vehicle under the previously connected list. If the vehicle and cell phone were previously paired and one still remembers the other, it will not identify as a new device when searching.
 - Turn the Bluetooth off and on the device.
 - Go back to the beginning of the Phone menus on the infotainment display and restart the pairing process.
 - Turn the cell phone off and then back on.
 - Reset the cell phone, but this step should be done as a last effort.
9. If the cell phone prompts to accept connection or allow phone book download, touch Always Accept and Allow. The phone book may not be available if not accepted.
10. To pair additional cell phones, touch Settings, Connections, and then Phones.

First to Connect Paired Phones

If multiple paired cell phones are within range of the system, the system connects to the paired cell phone that is set as First to Connect. To enable a paired cell phone as the First to Connect phone:

1. Make sure the cell phone is turned on.
2. Touch the Settings icon on the home page.
3. Touch Connections.
4. Touch Phone.
5. Touch Options under the connected phone.
6. Touch First to Connect from the cell phone's settings menu. The settings will be enabled for that device.

Cell phones and mobile devices can be added, removed, connected, and disconnected. A sub-menu will display whenever a request is made to add or manage cell phones and mobile devices.

Accessing the Device List Screen

There are two ways to access the device list screen:

Using the Settings Icon

1. Touch the Settings icon on the Home Page or the Settings icon on the shortcut tray near the left of the display.
2. Touch Connections.
3. Touch Phones.

Using the Phone Icon

1. Touch the Phone icon on the Home Page or the Phone icon on the shortcut tray near the left of the display.
2. Touch  on the top right of the Phones screen.
3. Touch Connected Phone.

Disconnecting a Connected Phone

To disconnect a phone:

1. Open the Device List Screen. See "Accessing the Device List Screen" previously in this section.
2. Touch Option on the phone card to show the cell phone's or mobile device's settings.
3. Touch Disconnect.

174 Infotainment System

Deleting a Paired Phone

To delete a paired phone:

1. Open the Device List Screen. See “Accessing the Device List Screen” previously in this section.
2. Touch Option on the phone card to show the cell phone’s or mobile device’s settings.
3. Touch Forget Phone.

Linking to a Different Phone

To link to a different cell phone, the new cell phone must be in the vehicle and paired to the Bluetooth system.

To link to a different phone:

1. Open the Device List Screen. See “Accessing the Device List Screen” previously in this section.
2. Touch the new cell phone to link to from the list of available phones. See “First to Connect Paired Phones” previously in this section.

Switching to Handset or Hands-Free Mode

To switch between handset or hands-free mode:

- While the active call is hands-free, touch the Audio Output option, then touch Phone to switch to the handset mode. The mute icon will not be available or functional while Handset mode is active.
- While the active call is on the handset, touch the Audio Output option, then touch Car Speakers to switch to the hands-free mode.

Making a Call Using Contacts

Calls can be made through the Bluetooth system using personal cell phone contact information for all cell phones that support the Phone Book feature. Become familiar with the cell phone settings and operation and that the phone is set to allow the sharing of contacts over Bluetooth with the vehicle. Verify the cell phone supports this feature and that the phone is set to allow the sharing of contacts over Bluetooth with the vehicle..

The Contacts menu accesses the phone book stored in the cell phone.

To make a call using the Contacts menu:

1. Touch the Phone icon on the Home Page or on the shortcut tray near the left of the display.
2. Touch Contacts.
3. There are two methods to search for contacts:
 - Search bar – Touch the search icon on the top right of the Phones window and type the name or number of the contact on the keyboard. Search results will be displayed corresponding to the user input. Touch the name to call.
 - Scroll – Touch the list and scroll, or use the scrollbar on the left side of the Phones window. Touch the name to call.

Making a Call Using the Recents Menu

The Recents menu accesses the recents call list from your cell phone.

To make a call using the Recents menu:

1. Touch the Phone icon on the Home Page or on the shortcut tray near the left of the display.
2. Touch Recents.
3. Touch the name or number to call.

Making a Call Using the Keypad

To make a call by dialing the numbers:

1. Touch the Phone icon on the Home Page or on the shortcut tray near the left of the display.
2. Touch Keypad and enter a phone number.
3. Touch the phone icon on the infotainment display to start dialing the number.

Searching Contacts Using the Keypad

To search for contacts using the keypad:

1. Touch the Phone icon on the Home Page.
 2. Touch Keypad and enter partial phone numbers or contact names using the digits on the keypad to search.
- Results appear on the right side of the display. Touch one to place a call.

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

There are two ways to accept a call:

- Press  on the steering wheel controls.

- Touch Answer on the infotainment display.

Declining a Call

There are two ways to decline a call:

- Press  on the steering wheel controls.
- Touch Decline on the infotainment display.

Call Waiting

Call waiting must be supported on the Bluetooth cell phone and enabled by the wireless service carrier to work.

Accepting a Call

Press  to answer, then touch Switch on the infotainment display.

Declining a Call

Press  to decline, then touch Decline on the infotainment display.

Switching Between Calls (Call Waiting Calls Only)

To switch between calls, touch Phone on the Home Page to display Call View. While in Call View, touch the call information of the call on hold to change calls.

Ending a Call

- Press  on the steering wheel controls.
- Touch  on the infotainment display, 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. Use the Keypad to enter the number.

Apple CarPlay and Android Auto (Base Radio)

If equipped, Android Auto and/or Apple CarPlay capability may be available through a compatible smartphone. If available, the Android Auto and Apple CarPlay icons will change from gray to color on the Home Page of the infotainment display.

To use Android Auto and/or Apple CarPlay:

For Wired Phone Projection

1. Download the Android Auto app to your smartphone from the Google Play store. There is no app required for Apple CarPlay.

176 Infotainment System

2. Connect your Android phone or Apple iPhone by using the factory-provided phone USB cable and plugging into a USB data port. For best performance, it is highly recommended to use the device's factory-provided USB cable, which should be replaced after significant wear to maintain connection quality. Aftermarket or third-party cables may not work.
3. When the phone is first connected to activate Apple CarPlay or Android Auto, accept the terms and conditions on both the infotainment system and the phone.
4. Follow the instructions on the phone.

The Android Auto and Apple CarPlay icons on the Home Page will illuminate depending on the smartphone. Android Auto and/or Apple CarPlay may automatically launch upon USB connection. If not, touch the Android Auto or Apple CarPlay icon on the Home Page to launch.

Press  on the center stack to return to the Home Page.

For Wireless Phone Projection (If equipped)

Verify your phone is wireless compatible by visiting the Google Android Auto or Apple CarPlay support page.

1. Download the Android Auto app to your smartphone from the Google Play store. There is no app required for Apple CarPlay.
2. For first time connection, there are two ways to set up wireless projection:
 - Connect your Android phone or Apple iPhone by using the factory-provided phone USB cable and plugging into a USB data port. For best performance, it is highly recommended to use the device's factory-provided USB cable, which should be replaced after significant wear to maintain connection quality. Aftermarket or third-party cables may not work.
 - Connecting the phone over Bluetooth. See *Bluetooth (Pairing and Using a Phone for Uplevel Radio)* ⇨ 172 or *Bluetooth (Pairing and Using a Phone for Base Radio)* ⇨ 168 or *Bluetooth (Overview)* ⇨ 167.
3. Make sure wireless is turned on the phone for wireless projection to work.
4. When the phone is first connected to activate Apple CarPlay or Android Auto, agree to the terms and conditions on both the infotainment system and the phone.

5. Follow the instructions on the phone.

The Android Auto and Apple CarPlay icons on the Home Page will illuminate depending on the smartphone. Android Auto and/or Apple CarPlay may automatically launch upon wireless connection. If not, touch the Android Auto or Apple CarPlay icon on the Home Page to launch.

Wireless CarPlay and/or Wireless Android Auto may experience occasional service disruption due to outside Wi-Fi interference.

To disconnect the phones wireless projection:

1. Select Settings from the Home Page.
2. Select Phones
3. Touch the pencil next to the phone to be disconnected.
4. Turn off Apple CarPlay or Android Auto.

Press  on the center stack to return to the Home Page.

Features are subject to change. For further information on how to set up Android Auto and Apple CarPlay in the vehicle, see your dealer.

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Press  on the center stack to exit Android Auto or Apple CarPlay. To enter back into Android Auto or Apple CarPlay, press and hold  on the center stack.

Apple CarPlay and Android Auto can be disabled from the infotainment system. To do this, touch Home, Settings, and then touch the Apps tab along the top of the display. Use the On/Off toggled to turn off Apple CarPlay or Android Auto.

Apple CarPlay and Android Auto (Uplevel Radio)

If equipped, Android Auto and/or Apple CarPlay capability may be available through a compatible smartphone. If available, the Android Auto and Apple CarPlay icons will change from gray to color on the Home Page of the infotainment display.

To use Android Auto and/or Apple CarPlay:

For Wired Phone Projection

1. Download the Android Auto app to your smartphone from Google Play for phones running Android 9 and below. There is no app required for Apple CarPlay or newer versions of Android.
2. Connect your Android phone or Apple iPhone by using the factory-provided phone USB cable and plugging into a USB data port. For best performance, it is highly recommended to use the device's factory-provided USB cable, which should be replaced after significant wear to maintain connection quality. Aftermarket or third-party cables may not work.

3. When the phone is first connected to activate Apple CarPlay or Android Auto, accept the terms and conditions on both the infotainment system and the phone.

4. Follow the instructions on the phone.

The Android Auto and Apple CarPlay icons on the Home Page will illuminate depending on the smartphone. Android Auto and/or Apple CarPlay may automatically launch the next time the USB is connected. If not, touch the Android Auto or Apple CarPlay icon on the Home Page to launch.

Press  on the center stack to return to the Home Page.

For Wireless Phone Projection

If available for your region, verify your phone is wireless compatible by visiting the Android Auto or Apple CarPlay support page.

1. Download the Android Auto app to your smartphone from Google Play for phones running Android 9 and below. There is no app required for Apple CarPlay or newer versions of Android.

178 Infotainment System

2. For first time connection, there are two ways to set up wireless projection:
 - Connect your Android phone or Apple iPhone by using the factory-provided phone USB cable and plugging into a USB data port. For best performance, it is highly recommended to use the device's factory-provided USB cable, which should be replaced after significant wear to maintain connection quality. Aftermarket or third-party cables may not work.
 - Connecting the phone over Bluetooth. See *Bluetooth (Pairing and Using a Phone for Uplevel Radio)* ⇨ 172 or *Bluetooth (Pairing and Using a Phone for Base Radio)* ⇨ 168 or *Bluetooth (Overview)* ⇨ 167.
3. Make sure Wi-Fi and Bluetooth is turned on the phone for wireless projection to work.
4. When the phone is first connected to activate Apple CarPlay or Android Auto, agree to the terms and conditions on both the infotainment system and the phone.
5. Follow the instructions on the phone.

The Android Auto and Apple CarPlay icons on the Home Page will illuminate depending on the smartphone. Android Auto and/or Apple CarPlay may automatically launch upon wireless connection. If not, touch the Android Auto or Apple CarPlay icon on the Home Page to launch.

Wireless CarPlay and/or Wireless Android Auto may experience occasional service disruption due to outside Wi-Fi interference.

To disconnect the phones wireless projection:

1. Select the Settings icon from the Home Page or the Settings icon on the shortcut tray near the left of the display.
2. Select Connections.
3. Touch Phones.
4. Touch Option on the phone card to show the cell phone's or mobile device's settings.
5. Turn off Apple CarPlay or Android Auto.

Press  on the center stack to return to the Home Page.

Features are subject to change. For further information on how to set up Android Auto and Apple CarPlay in the vehicle, visit your brand website. See your dealer for details.

Android Auto is provided by Google and is subject to Google's terms and privacy policy. Apple CarPlay is provided by Apple and is subject to Apple's terms and privacy policy. Data plan rates apply. For Android Auto support and to see if your phone is compatible, see <https://www.android.com/auto/compatibility>. For Apple CarPlay support and to see if your phone is compatible, see www.apple.com/ios/carplay/. Apple or Google may change or suspend availability at any time. Google, Android, Android Auto, Google Maps, and other marks are trademarks of Google LLC. Apple CarPlay is a trademark of Apple Inc.

Press  on the center stack to exit Android Auto or Apple CarPlay. To enter back into Android Auto or Apple CarPlay, press and hold  on the center stack.

Settings

Settings (Base Radio)

The settings menu may be organized into three categories. Select the desired category by touching System, Apps, or Vehicle.

To access the menus:

1. Touch the Settings icon on the Home Page on the infotainment display.
2. Touch the desired category to display a list of available options.
3. Touch to select the desired feature setting.
4. Touch ○ or | to turn off or on a feature.
5. Touch ✕ to go to the top level of the SETTINGS menu.

The menu may contain the following:

System

The menu may contain the following:

Time / Date

Allows setting of the clock.

Language

Sets the display language used on the infotainment display.

Phones

Allows connecting to a different cell phone or mobile device source, disconnect a cell phone or media device, or delete a cell phone or media device.

Wi-Fi Networks

Shows connected and available Wi-Fi networks.

If a 4G LTE data package is not active on the vehicle, the infotainment system can be connected to an external protected Wi-Fi network, such as a mobile device or home hotspot, to utilize connected services.

Wi-Fi Hotspot

Allows adjustment of different Wi-Fi features.

Display

Allows adjustment of the infotainment display.

Sounds

Allows adjustment of the infotainment system sounds.

Favorites

Allows adjustment of the infotainment favorite settings.

About

Shows the infotainment system software information.

Return to Factory Settings

Allows resetting the infotainment system settings in the vehicle.

Apps

The menu may contain the following:

Android Auto

Allows interacting directly with a mobile device on the infotainment display. See *Apple CarPlay and Android Auto (Base Radio)* ⇨ 175 or *Apple CarPlay and Android Auto (Uplevel Radio)* ⇨ 177.

Apple CarPlay

This feature allows you to interact directly with your mobile device on the infotainment display. See *Apple CarPlay and Android Auto (Base Radio)* ⇨ 175 or *Apple CarPlay and Android Auto (Uplevel Radio)* ⇨ 177.

Audio

Adjusts different audio settings.

Phone

Adjusts different phone settings.

180 Infotainment System

Vehicle

The menu may contain the following:

Rear Seat Reminder

Allows for a chime and a message when the rear door has been opened before or during operation of the vehicle.

Climate and Air Quality

Adjusts different climate settings.

Collision/Detection Systems

Adjusts different driver assistance system settings.

Comfort and Convenience

Adjusts different comfort and convenience settings.

Lighting

Adjusts different lighting settings.

Power Door Locks

Adjusts different door lock settings.

Remote Lock, Unlock, and Start

Adjusts different remote lock settings.

Ride Height

Adjusts different ride height settings.

Power Assist Steps

Adjusts different running board settings.

Seating Position

Adjusts different seat settings.

Suspension

Adjusts different suspension settings.

Settings (Uplevel Radio)

Certain settings can be managed in the Owner Center sites when an account is established, and may be modified if other users have accessed the vehicle or created accounts. This may result in changes to the security or functionality of the infotainment system. Some settings may also be transferred to a new vehicle, if equipped. For instructions, see your dealer.

Refer to the User Terms and Privacy Statement for important details. To view, touch the Settings icon on the Home Page of the infotainment display.

To access the personalization menus:

1. Touch Settings on the Home Page on the infotainment display.
2. Touch the desired category to display a list of available options.

3. Touch to select the desired feature setting.
4. Touch the options on the infotainment display to disable or enable a feature.
5. Touch < to go back.

The Settings menu may contain the following:

Connections

Phones

Allows connecting to a different cell phone or mobile device source, disconnect a cell phone or media device, or delete a cell phone or media device.

Vehicle-to-Phone Sharing

Vehicle

The menu may contain the following:

Rear Seat Reminder

Allows for a chime and a message when the rear door has been opened before or during operation of the vehicle.

Climate and Air Quality

Adjusts different climate settings.

Collision/Detection Systems

Adjusts different driver assistance system settings.

Comfort and Convenience

Adjusts different comfort and convenience settings.

Lighting

Adjusts different lighting settings.

Power Door Locks

Adjusts different door lock settings.

Remote Lock, Unlock, and Start

Adjusts different remote lock settings.

Ride Height

Adjusts different ride height settings.

Power Assist Steps

Adjusts different running board settings.

Seating Position

Adjusts different seating position settings.

Suspension

Adjusts different suspension settings.

Apps & Permissions

Shows a list of installed apps and the permissions used.

Time/Date

Allows setting of the clock.

Display

Allows adjustment of the infotainment display.

Sounds

Allows adjustment of the infotainment system sounds.

Privacy

Allows adjustment of the privacy settings.

Storage

This menu shows the storage info on the infotainment system.

Security

This menu allows adjustment of the infotainment security settings.

System

The menu may contain the following:

Language

This will set the display language used on the infotainment display.

Keyboard & speech

Touch to change keyboard and speech settings.

Reset Options

Touch to change reset settings.

About

Touch to view the infotainment system software information.

Legal Information

Touch to view legal and license information.

Local System Update

This menu allows adjustment of the vehicle update settings.

Google

This menu allows adjustment of the Google settings.

182 Infotainment System

Trademarks and License Agreements



"Made for iPhone," means that an electronic accessory has been designed to connect specifically to iPhone, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPhone may affect wireless performance. iPhone are trademarks of Apple Inc., registered in the U.S. and other countries.



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184 Climate Controls

Climate Controls

Climate Control Systems

Dual Automatic Climate Control
System 184
Rear Climate Control System 187

Air Vents

Air Vents 188

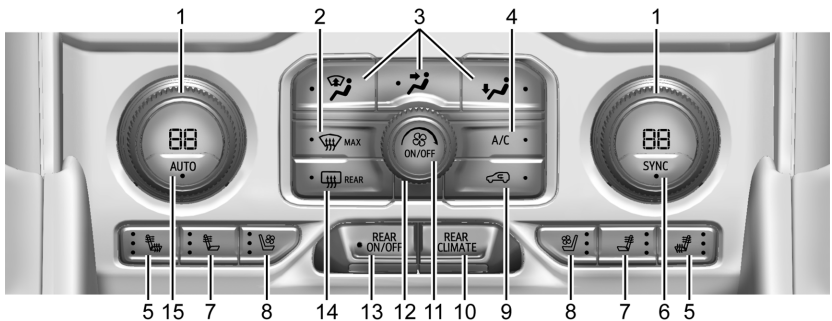
Maintenance

Passenger Compartment Air Filter 189
Service 191

Climate Control Systems

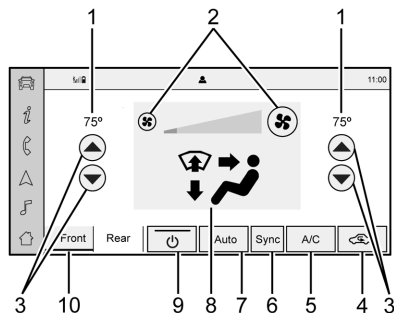
Dual Automatic Climate Control System

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



- | | |
|--|--------------------------------|
| 1. Driver and Passenger Temperature Controls | 9. Recirculation |
| 2. MAX Defrost | 10. Rear Climate Control |
| 3. Air Delivery Mode Controls | 11. Power Button |
| 4. A/C (Air Conditioning) | 12. Fan Control |
| 5. Heated Seat & Heated Backrest | 13. Rear Climate Power Button |
| 6. SYNC (Synchronized Temperature) | 14. Rear Window Defogger |
| 7. Heated Seat | 15. AUTO (Automatic Operation) |
| 8. Vented Seat | |

Front Climate Control Display

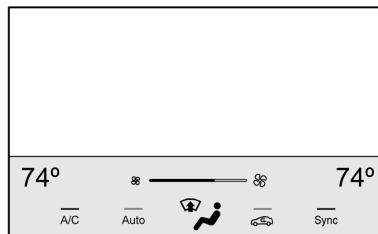


Uplevel Shown

1. Driver and Passenger Temperature Settings
2. Fan Control
3. Driver and Passenger Temperature Controls
4. Recirculation
5. A/C (Air Conditioning)
6. Sync (Synchronized Temperature)
7. Auto (Automatic Operation)
8. Air Delivery Mode Controls
9. On/Off (Power)
10. Front Climate Selection

The fan, air delivery mode, air conditioning, driver and passenger temperatures, and Sync settings can be controlled by touching CLIMATE on the infotainment Home Page. A selection can then be made on the front climate control page displayed. See the infotainment manual.

Climate Control Status Display



On some models, the climate control status display appears briefly when the center stack climate controls are adjusted.

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 pressed, 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 when automatically controlled. See  under "Manual Operation" for more details.

During hands free calling the blower level may automatically reduce. The blower level can be manually adjusted if desired.

186 Climate Controls

Manual Operation

Fan Control : Turn clockwise or counterclockwise to increase or decrease the fan speed. Press the knob to turn the fan off. When off is selected, a small amount of air may still come out of the outlets depending on vehicle speed. If any buttons are pressed or knobs are turned, the climate control system will turn on and operate at the current setting.

Press AUTO to return to automatic operation.

Driver and Passenger Temperature Control : The temperature can be adjusted separately for the driver and passenger.

Turn the knob clockwise or counterclockwise to increase or decrease the driver or passenger temperature setting. The driver side or passenger side temperature display shows the temperature setting increasing or decreasing.

SYNC : Press to link the passenger and rear temperature setting to the driver setting. The SYNC indicator light will turn on. When the passenger setting is adjusted, the SYNC indicator light will turn off.

Air Delivery Mode Control : Press , , or  to change the direction of the airflow. Any combination of the three controls can be selected. An indicator light comes on in the selected mode button.

Changing the mode cancels the automatic operation and the system goes into manual mode. Press AUTO to return to automatic operation.

To change the current mode, select one or more of the following:

 : Air is directed to the windshield, outboard a/c outlets, and side window outlets.

 : Air is directed to the a/c outlets.

 : Air is directed to the floor outlets, with some air directed to the windshield, outboard a/c outlets, and side window outlets.

 **MAX** : Air is directed to the windshield and the fan runs at a higher speed if not already above a medium fan speed. This mode overrides the previous mode selected and clears fog or frost from the windshield more quickly. When the control is pressed again, the system returns to the previous mode setting and fan speed.

For best results, clear all snow and ice from the windshield before defrosting.

 : Press to turn on recirculation. An indicator light comes on. Air is recirculated to quickly cool the inside of the vehicle. It can also be used to help reduce outside air and odors that enter the vehicle.

Avoid using recirculation for long periods of time in cold or damp conditions. Using recirculation in cold or damp conditions can result in window fogging.

A/C : Press to turn the air conditioning on or off. An indicator light comes on to show that the air conditioning is enabled. If the fan is turned off, the air conditioner will not run. The A/C light will stay on even if the outside temperatures are below freezing.

Rear Window Defogger

 **REAR** : If equipped, 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 rear window defogger only works when the engine is running. The defogger turns off if the vehicle is turned off or to accessory mode.

If equipped with heated outside mirrors, press  to turn them on or off. See *Heated Mirrors* ⇨ 29.

Caution

Using a razor blade or sharp object to clear the inside rear window can damage the rear window defogger. Repairs would not be covered by the vehicle warranty. Do not clear the inside rear window with sharp objects.

Remote Start Climate Control Operation : If Equipped: When the vehicle is started remotely, the climate control system, rear window defog— and if equipped, heated or ventilated seats or a heated steering wheel — may run based on climate conditions. When this occurs, the window defog indicator will not light up as it does normally. See *Remote Vehicle Start* ⇨ 13, *Heated and Ventilating Front Seats* ⇨ 43, and *Heated Steering Wheel* ⇨ 97.

Sensors



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.

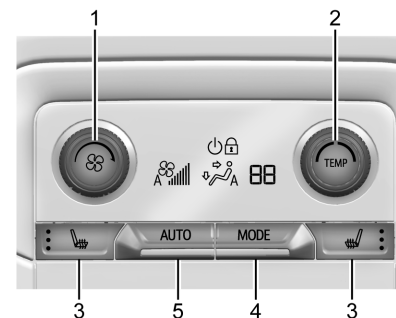
Do not cover the sensor; otherwise the automatic climate control system may not work properly.

Afterblow Feature

If equipped, under certain conditions, the fan may stay on or may turn on and off several times after you turn off and lock the vehicle. This is normal.

Rear Climate Control System

The rear climate control system is located on the rear of the center console storage. The rear climate settings can be adjusted with this system.

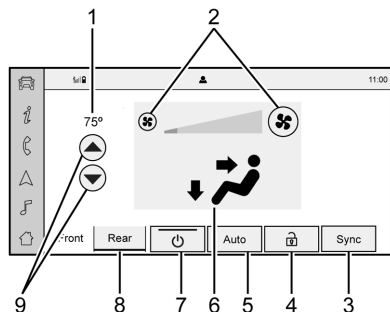


1. Fan Control
2. TEMP (Temperature Control)
3. Heated Rear Seats (If Equipped)
4. MODE (Air Delivery Mode Control)

188 Climate Controls

5. AUTO (Automatic Operation)

If the dual automatic climate control system rear climate control lockout feature is locked, the rear climate control settings can only be adjusted from the front seat.



Rear Climate Display, Uplevel Shown

1. Rear Climate Temperature Setting
2. Fan Control
3. Sync (Synchronized Temperatures)
4. Rear Control Lockout
5. Auto (Automatic Operation)
6. Air Delivery Mode Control
7. On/Off (Power)
8. Rear Climate Selection

9. Rear Climate Temperature Control

Automatic Operation

AUTO : Press AUTO to automatically control the temperature, air delivery, and fan speed for rear seat passengers. AUTO is indicated in the display when automatic operation is active.

If any of the rear climate control settings are manually adjusted, full automatic operation is canceled. Press AUTO to return to 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.

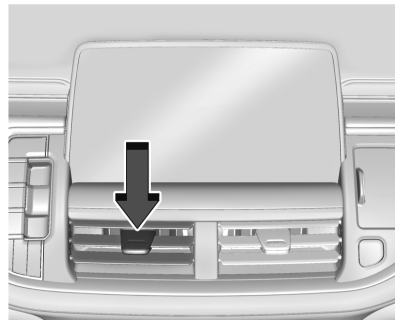
TEMP : Turn clockwise or counterclockwise to increase or decrease the airflow temperature into the passenger area. If the SYNC button is pressed on the front climate controls, the rear climate temperature is linked to the driver temperature setting.

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.

 or  : If equipped, press  or  to heat the left or right outboard seat cushion. See *Heated Rear Seats* ⇨ 48.

Air Vents

Adjustable air vents are in the center and on the side of the instrument panel.



Chevrolet Shown, GMC Similar

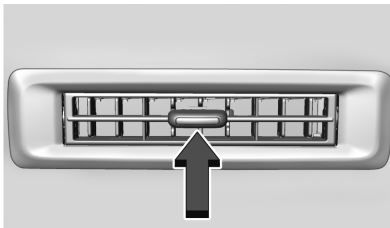
Move the slider knobs to change the direction of the airflow. To close the vent, adjust slider knob away from you.

Rear System Air Vents

This vehicle has four round or rectangular air vents in the headliner above the second and third row seats.



Press on the center vane rear edge to open the round outlet. Use the center vane to rotate the outlet and change the direction of the airflow. Press on the center vane leading edge to shut off the air flow.



Move the slider knob on rectangular vents and rotate the outlet barrel left to right to change the direction of the air flow and to shut off the air flow.

Operation Tips

- Clear away any ice, snow, or leaves from the air inlets at the base of the windshield that could block the flow of air into the vehicle.
- Clear snow off the hood to improve visibility and help decrease moisture drawn into the vehicle.
- When you enter a vehicle in cold weather, press the fan up button to the maximum fan level before driving. This helps clear the intake ducts of snow and moisture, and reduces the chance of fogging the inside of the window.

- Keep the air path under the front seats clear of objects to help circulate the air inside of the vehicle more effectively.
- Use of non-GM approved hood deflectors can adversely affect the performance of the system. Check with your dealer before adding equipment to the outside of the vehicle.

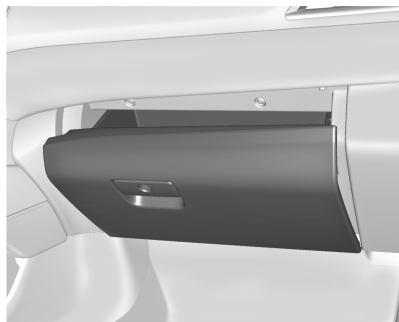
Maintenance

Passenger Compartment Air Filter

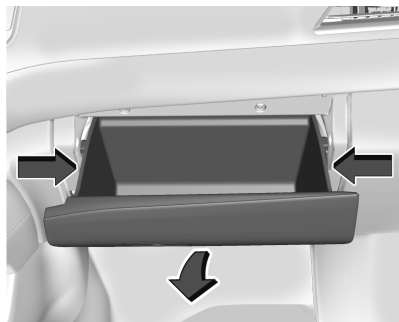
The filter reduces the dust, pollen, and other airborne irritants from outside air that is pulled into the vehicle.

The filter should be replaced as part of routine scheduled maintenance. See *Maintenance Schedule* ⇨ 356. To find out what type of filter to use, see *Maintenance Replacement Parts* ⇨ 363.

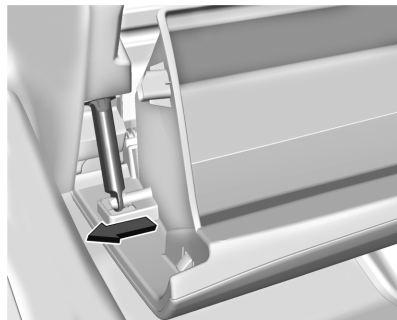
190 Climate Controls



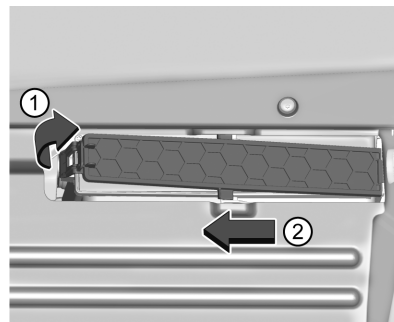
1. Open the lower glove box door completely.



2. Press the sides of the glove box bin inward to clear the stoppers and rotate downward to lower the bin.



3. Unsnap dampener by pushing outwards to fully remove the glove box bin.



4. Pull the lever (1) on the left side of the filter door and slide left (2), then remove the door. Remove the old filter.
5. Install the new air filter.
6. Reinstall the filter door.
7. Reverse the steps to reinstall the glove box.

See your dealer if additional assistance is needed.

Service

All vehicles have a label underhood that identifies the refrigerant used in the vehicle. The refrigerant system should only be serviced by trained and certified technicians. The air conditioning evaporator should never be repaired or replaced by one from a salvage vehicle. It should only be replaced by a new evaporator to ensure proper and safe operation.

During service, all refrigerants should be reclaimed with proper equipment. Venting refrigerants directly to the atmosphere is harmful to the environment and may also create unsafe conditions based on inhalation, combustion, frostbite, or other health-based concerns.

The air conditioning system requires periodic maintenance. See *Maintenance Schedule*
⇨ 356.

192 Driving and Operating

Driving and Operating

Driving Information

Driving for Better Fuel Economy	193
Distracted Driving	193
Defensive Driving	194
Control of a Vehicle	194
Braking	194
Steering	194
Off-Road Recovery	195
Loss of Control	196
Off-Road Driving	196
Driving on Wet Roads	199
Hill and Mountain Roads	200
Winter Driving	201
If the Vehicle Is Stuck	202
Vehicle Load Limits	203

Starting and Operating

New Vehicle Break-In	206
Ignition Positions	207
Starting the Engine	208
Stop/Start System	209
Retained Accessory Power (RAP)	210
Shifting Into Park	210
Shifting out of Park	211
Parking over Things That Burn	212
Dynamic Fuel Management	212
Extended Parking	212

Engine Exhaust

Engine Exhaust	212
Running the Vehicle While Parked	213

Automatic Transmission

Automatic Transmission	213
Manual Mode	216

Drive Systems

Four-Wheel Drive	217
------------------------	-----

Brakes

Electric Brake Boost	220
Antilock Brake System (ABS)	221
Electric Parking Brake	221
Brake Assist	222
Hill Start Assist (HSA)	222

Ride Control Systems

Traction Control/Electronic Stability Control	223
Hill Descent Control (HDC)	225
Driver Mode Control	225
Magnetic Ride Control	228
Locking Rear Axle	229
Four Corner Air Suspension System ...	229

Cruise Control

Cruise Control	232
Adaptive Cruise Control (Advanced) ...	234

Driver Assistance Systems

Driver Assistance Systems	243
Assistance Systems for Parking or Backing	245
Rear Vision Camera (RVC)	245
Surround Vision System	246
Park Assist	248
Reverse Automatic Braking (RAB)	249
Rear Pedestrian Alert	250
Rear Cross Traffic Alert (RCTA) System	251
Assistance Systems for Driving	251
Forward Collision Alert (FCA) System	251
Automatic Emergency Braking (AEB) ...	253
Front Pedestrian Braking (FPB) System	255
Side Blind Zone Alert (SBZA)	256
Lane Change Alert (LCA)	257
Lane Keep Assist (LKA)	259

Fuel

Top Tier Fuel	261
Recommended Fuel (5.3L Engine)	261
Recommended Fuel (6.2L Engine)	261
Prohibited Fuels	262
Fuel Additives	262
Filling the Tank	262
Filling a Portable Fuel Container	264

Trailer Towing
General Towing Information 264
Driving Characteristics and
Towing Tips 264
Trailer Towing 268
Towing Equipment 272
Trailer Sway Control (TSC) 281

Conversions and Add-Ons
Add-On Electrical Equipment 282

Driving Information

Driving for Better Fuel Economy

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

- Set the climate controls to the desired temperature after the engine is started, or turn them off when not required.
- 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.

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, keep your eyes on the road, keep your hands on the steering wheel, and focus your attention on driving.

- 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.

194 Driving and Operating

- 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 seat belt. See *Seat Belts* ⇨ 52.

- Assume that other road users (pedestrians, bicyclists, and other drivers) are going to be careless and make mistakes. Anticipate what they may do and be ready.
- Allow enough following distance between you and the driver in front of you.
- Focus on the task of driving.

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:

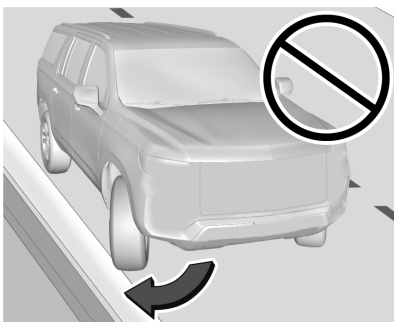
- Keep enough distance between you and the vehicle in front of you.
- Avoid needless heavy braking.
- Keep pace with traffic.

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

Caution

To avoid damage to the steering system, do not drive over curbs, parking barriers, or similar objects at speeds greater than 3 km/h (1 mph). Use care when driving over other objects such as lane dividers and speed bumps. Damage caused by misuse of the vehicle is not covered by the vehicle warranty.



Electric Power Steering

The vehicle is equipped with an electric power steering system, which reduces the amount of effort needed to steer the vehicle. It does not have power steering fluid. Regular maintenance is not required.

If the vehicle experiences a system malfunction and loses power steering, greater steering effort may be required. Power steering assist also may be reduced if you turn the steering wheel as far as it can turn and hold it there with force for an extended period of time.

See your dealer if there is a problem.

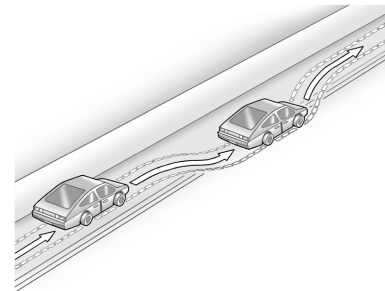
Curve Tips

- 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.
- 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.

196 Driving and Operating

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.

Off-Road Driving

Four-wheel-drive vehicles can be used for off-road driving. Vehicles without four-wheel drive and vehicles not equipped with All Terrain (AT) or On-Off Road (OOR) tires must not be driven off-road except on a level, solid surface. For contact information about the original equipment tires, see the warranty manual.

One of the best ways for successful off-road driving is to control the speed.

Warning

When driving off-road, bouncing and quick changes in direction can easily throw you out of position. This could cause you to lose control and crash. You and your passengers should always wear seat belts.

Before Driving Off-Road

- Have all necessary maintenance and service work completed.
- Fuel the vehicle, fill fluid levels, and check inflation pressure in all tires, including the spare, if equipped.
- Read all the information about four-wheel-drive vehicles in this manual.
- Know the local laws that apply to off-road driving.

Loading the Vehicle for Off-Road Driving

Warning

- Unsecured cargo on the load floor can be tossed about when driving over rough terrain. You or your passengers can be struck by flying objects. Secure the cargo properly.

(Continued)

Warning (Continued)

- Keep cargo in the cargo area as far forward and as low as possible. The heaviest things should be on the floor, forward of the rear axle.
- Heavy loads on the roof raise the vehicle's center of gravity, making it more likely to roll over. You can be seriously or fatally injured if the vehicle rolls over. Put heavy loads inside the cargo area, not on the roof.

For more information about loading the vehicle, see *Vehicle Load Limits* ⇨ 203 and *Tires* ⇨ 318.

Environmental Concerns

- Always use established trails, roads, and areas that have been set aside for public off-road recreational driving and obey all posted regulations.
- Do not damage shrubs, flowers, trees, or grasses or disturb wildlife.
- Do not park over things that burn. See *Parking over Things That Burn* ⇨ 212.

Driving on Hills

Driving safely on hills requires good judgment and an understanding of what the vehicle can and cannot do.

Warning

Many hills are simply too steep for any vehicle. Driving up hills can cause the vehicle to stall. Driving down hills can cause loss of control. Driving across hills can cause a rollover. You could be injured or killed. Do not drive on steep hills.

Before driving on a hill, assess the steepness, traction, and obstructions. If the terrain ahead cannot be seen, get out of the vehicle and walk the hill before driving further.

When driving on hills:

- Use a low gear and keep a firm grip on the steering wheel.
- Maintain a slow speed.
- When possible, drive straight up or down the hill.
- Slow down when approaching the top of the hill.

Warning

Driving to the top of a hill at high speed can cause a crash. There could be a drop-off, embankment, cliff, or even another vehicle. You could be seriously injured or killed. As you near the top of a hill, slow down and stay alert.

- Use headlamps even during the day to make the vehicle more visible.
- Never go downhill forward or backward with either the transmission or transfer case in N (Neutral). The brakes could overheat and you could lose control.

Warning

If the vehicle has the two-speed automatic or electronic transfer case, shifting the transfer case to N (Neutral) can cause your vehicle to roll even if the transmission is in P (Park). This is because the N (Neutral) position on the transfer case overrides the transmission. You or someone else could be injured. If leaving the vehicle, set the parking brake and
(Continued)

198 Driving and Operating

Warning (Continued)

shift the transmission to P (Park). Shift the transfer case to any position but N (Neutral).

- When driving down a hill, keep the vehicle headed straight down. Use a low gear because the engine will work with the brakes to slow the vehicle and help keep the vehicle under control.

Warning

Heavy braking when going down a hill can cause your brakes to overheat and fade. This could cause loss of control and you or others could be injured or killed. Apply the brakes lightly when descending a hill and use a low gear to keep vehicle speed under control.

- Avoid turns that take the vehicle across the incline of the hill. Driving across an incline puts more weight on the downhill wheels, which could cause a downhill slide or a rollover.

- Loose gravel, muddy spots, or even wet grass can cause the tires to slip sideways, downhill. If the vehicle slips sideways, it can hit something and potentially roll over.
- Hidden obstacles can make the steepness of the incline more severe. If a rock is driven across with the uphill wheels, or if the downhill wheels drop into a rut or depression, the vehicle can tilt even more.
- If an incline must be driven across, and the vehicle starts to slide, turn downhill. This should help straighten out the vehicle and prevent the side slipping.

If the vehicle stalls on a hill:

1. Apply the brakes to stop the vehicle, and then apply the parking brake.
2. Shift into P (Park) and then restart the engine.
 - If driving uphill when the vehicle stalls, shift to R (Reverse), release the parking brake, and back straight down.
 - Never try to turn the vehicle around. If the hill is steep enough to stall the vehicle, it is steep enough to cause it to roll over.

- If you cannot make it up the hill, back straight down the hill.
- Never back down a hill in N (Neutral) using only the brake. The vehicle can roll backward quickly and you could lose control.
- If driving downhill when the vehicle stalls, shift to a lower gear, release the parking brake, and drive straight down the hill.

3. If the vehicle cannot be restarted after stalling, set the parking brake, shift into P (Park), and turn the vehicle off.

- 3.1. Leave the vehicle and seek help.
- 3.2. Stay clear of the path the vehicle would take if it rolled downhill.

Warning

Getting out of the vehicle on the downhill side when stopped across an incline is dangerous. If the vehicle rolls over, you could be crushed or killed. Always get out on the uphill side of the vehicle and stay well clear of the rollover path.

Driving in Mud, Sand, Snow, or Ice

Use a low gear when driving in mud — the deeper the mud, the lower the gear. Keep the vehicle moving to avoid getting stuck.

Traction changes when driving on sand. On loose sand, such as on beaches or sand dunes, the tires tend to sink into the sand. This affects steering, accelerating, and braking. Drive at a reduced speed and avoid sharp turns or abrupt maneuvers.

Traction is reduced on hard packed snow and ice and it is easy to lose control. Reduce vehicle speed when driving on hard packed snow and ice.

Warning

Driving on frozen lakes, ponds, or rivers can be dangerous. Ice conditions vary greatly and the vehicle could fall through the ice; you and your passengers could drown. Drive your vehicle on safe surfaces only.

Driving in Water

Warning

Driving through rushing water can be dangerous. Deep water can sweep your vehicle downstream and you and your passengers could drown. If it is only shallow water, it can still wash away the ground from under your tires. Traction could be lost, and the vehicle could roll over. Do not drive through rushing water.

Caution

Do not drive through standing water if it is deep enough to cover the wheel hubs, axles, or exhaust pipe. Deep water can damage the axle and other vehicle parts.

If the standing water is not too deep, drive through it slowly. At faster speeds, water can get into the engine and cause it to stall. Stalling can occur if the exhaust pipe is under water. Do not turn off the ignition when driving through water. If the exhaust pipe is under water, the engine will not start. When going through water, the brakes get wet and it may take longer to stop. See “Driving on Wet Roads” later in this section.

After Off-Road Driving

Remove any brush or debris that has collected on the underbody or chassis, or under the hood. These accumulations can be a fire hazard.

After operation in mud or sand, have the brake linings cleaned and checked. These substances can cause glazing and uneven braking. Check the body structure, driveline, steering, suspension, wheels, tires, and exhaust system for damage and check the fuel lines and cooling system for any leakage.

More frequent maintenance service is required. See the *Maintenance Schedule* ⇨ 356.

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.

200 Driving and Operating

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* ⇨ 318.
- 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, and cooling system.
- 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 assist. 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, crash).
- 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

Caution

To avoid damage to the wheels and brake components, always clear snow and ice from inside the wheels and underneath the vehicle before driving.

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* ⇨ 223.
- The 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)* ⇨ 221.

- 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.

Cold Weather Mode

In very low temperatures, a cold weather message may display on the Driver Information Center (DIC). The engine speed, transmission shift patterns, and cabin fan speed may operate differently to enable the vehicle to warm up quicker. You can manually override the cabin fan speed in cold weather mode.

Blizzard Conditions

Stop the vehicle in a safe place and signal for help. Stay with the vehicle unless there is help nearby. 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 the fan speed to the highest setting. See “Climate Control Systems.”

For more information about CO, see *Engine Exhaust* ⇨ 212.

202 Driving and Operating

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. See “Rocking the Vehicle to Get It Out” later in this section.

The Traction Control System (TCS) can often help to free a stuck vehicle. See *Traction Control/Electronic Stability Control* ⇨ 223. If TCS cannot free the vehicle, see “Rocking the Vehicle to Get it Out” following.

Warning

If the vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 56 km/h (35 mph).

For information about using tire chains on the vehicle, see *Tire Chains* ⇨ 330.

Rocking the Vehicle to Get It Out

Turn the steering wheel left and right to clear the area around the front wheels. For four-wheel-drive vehicles, shift into Four-Wheel Drive High. Turn the TCS off. Shift back and forth between R (Reverse) and a forward gear, spinning the wheels as little as possible. To prevent transmission wear, wait until the wheels stop spinning before shifting gears. 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. See *Transporting a Disabled Vehicle* ⇨ 345. Recovery hooks can be used, if equipped.

Recovery Hooks

Warning

Never pull on recovery hooks from the side. The hooks could break and you and others could be injured. When using recovery hooks, always pull the vehicle from the front.



Tahoe/Suburban Shown, Yukon Similar

Caution

Never use recovery hooks to tow the vehicle. The vehicle could be damaged, and the repairs would not be covered by the vehicle warranty.

If the vehicle has recovery hooks at the front of the vehicle, use them if the vehicle is stuck off-road and needs to be pulled some place to continue driving.

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 was designed to carry, the Tire and Loading Information label and the Certification/Tire label.

Warning

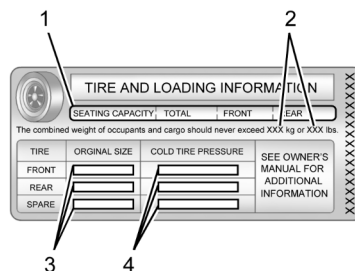
Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash.

(Continued)

Warning (Continued)

Overloading can also reduce stopping performance, damage the tires, and shorten the life of the vehicle.

Tire and Loading Information Label



Label Example

A vehicle specific Tire and Loading Information label is attached to the 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* ⇨ 318 and *Tire Pressure* ⇨ 320.

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 axles. See "Certification/Tire Label" later in this section.

"Steps for Determining Correct Load Limit–

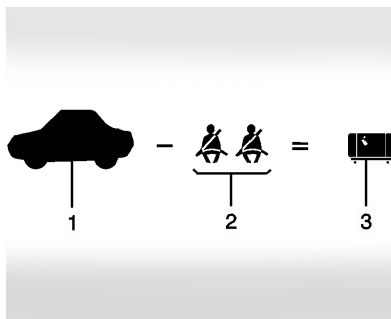
1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs." on your vehicle's placard.

204 Driving and Operating

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

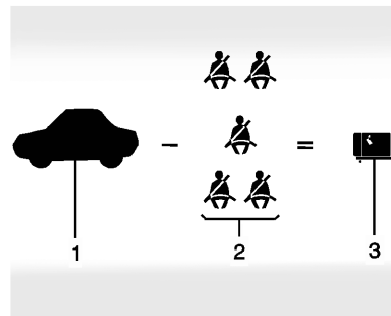
reduces the available cargo and luggage load capacity of your vehicle."

See *Trailer Towing* ⇨ 268 for important information on towing a trailer, towing safety rules, and trailering tips.



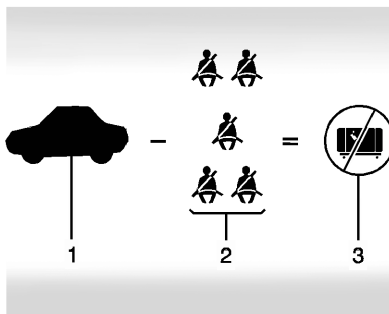
Example 1

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 = 136 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) $\times 5 = 453$ 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

The image shows a sample of a Certification/Tire label. It includes fields for GVWR (KG/LB), GAWR FRT (KG/LB), and GAWR RR (KG/LB). There are also fields for TIRE SIZE (FRT, RR, SPA), RIM, and MODEL.

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. This is called Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, and cargo.

The Certification/Tire label also may show the maximum weights for the front and rear axles, called Gross Axle Weight Rating (GAWR). To find out the

actual loads on the front and rear axles, weigh the vehicle at a weigh station. Your dealer can help with this. Be sure to spread your load equally on both sides of the centerline.

The Certification/Tire label may also include information about the Front Axle Reserve Capacity.

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 performance, damage the tires, and shorten the life of the vehicle.

206 Driving and Operating

Caution

Overloading the vehicle may cause damage. Repairs would not be covered by the vehicle warranty. Do not overload the vehicle.

The label will help decide how much cargo and installed equipment the truck can carry.

Using heavier suspension components to get added durability might not change the weight ratings. Ask your dealer to help load the vehicle the right way.

Warning

Things you put 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. Try to spread the weight evenly.

(Continued)

Warning (Continued)

- 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.
- When you carry something inside the vehicle, secure it whenever you can.
- Do not leave a seat folded down unless you need to.

There is also important loading information for off-road driving in this manual. See “Loading Your Vehicle for Off-Road Driving” under *Off-Road Driving* ⇨ 196.

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 800 km (500 mi). Do not make full-throttle starts. Avoid downshifting to brake or slow the vehicle.
- Avoid making hard stops for the first 300 km (200 mi) or so. During this time the new brake linings are not yet broken in. Hard stops with new linings can mean premature wear and earlier replacement. Follow this breaking-in guideline every time you get new brake linings.
- Do not tow a trailer during break-in. See *Trailer Towing* ⇨ 268 for the trailer towing capabilities of the vehicle and more information.

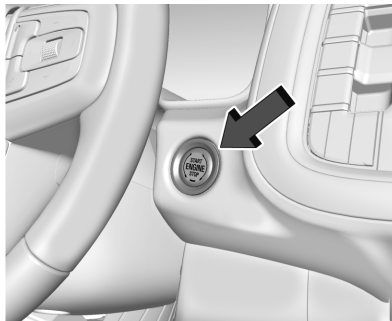
Following break-in, engine speed and load can be gradually increased.

On new vehicles, the various mechanical and electrical systems experience a “break-in” period during the first 6 400 km (4,000 mi) of routine driving. As the vehicle is driven, the mechanical systems adjust to provide optimal fuel economy and transmission shift performance.

Electrical systems will adapt and calibrate during the break-in period. A one-time occurrence of clicks and similar vehicle noises is normal during this process.

Normal driving charges the vehicle’s battery to achieve the best operation of the vehicle, including fuel economy and the Stop/Start System. See *Stop/Start System* ⇨ 209.

Ignition Positions



Vehicles equipped with Keyless Access have pushbutton starting.

The Remote Key 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 Key Operation* ⇨ 7.

To shift out of P (Park), the ignition must be on or in Service Mode, and the brake pedal must be applied.

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.

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)* ⇨ 210.

If the vehicle is not in P (Park), the ignition will return to accessory mode and display the message SHIFT TO PARK in the Driver Information Center (DIC). When the vehicle is shifted into P (Park), the ignition system will turn off.

The vehicle may have an electric steering column lock. The lock is activated when the ignition is turned 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

208 Driving and Operating

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.

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. Hold the brake pedal down and shift to P (Park). The vehicle must be in P (Park) to turn the ignition off.
4. Continue to hold the brake pedal down.
5. Set the parking brake. See *Electric Parking Brake* ⇨ 221.
6. Press ENGINE START/STOP once to turn the ignition off.
7. Release the brake pedal.

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.

Accessory Mode (Amber Indicator Light) :

This mode allows some electrical accessories to be used 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 accessory mode.

The ignition will switch from accessory mode 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 turn the ignition on. Once engine cranking begins, release the button. Engine cranking will continue until the engine starts. See *Starting the Engine* ⇨ 208.

Service 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 Mode. The instruments and audio systems will operate as they do when the ignition is on, but the vehicle will not be able to be driven. The engine will not start in Service Mode. Press the button again to turn the ignition off.

Starting the Engine

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* ⇨ 282.

Shift the vehicle into 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.

Starting Procedure

1. The remote key 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. Operate the engine and transmission gently to allow the oil to warm up and lubricate all moving parts.

When the low fuel warning light is on and the FUEL LEVEL LOW message is displayed in the Driver Information Center (DIC), press the ENGINE START/STOP position to continue engine cranking.

Caution

Cranking the engine for long periods of time, by trying to start the engine 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 while pressing 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 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

If equipped and enabled, the Stop/Start system will shut off the engine to help conserve fuel. It has components designed for the increased number of starts.

Warning

The automatic engine Stop/Start feature causes the engine to shut off while the vehicle is still on. Do not exit the vehicle before shifting to P (Park). The vehicle may restart and move unexpectedly. Always shift to P (Park), and then turn the ignition off before exiting the vehicle.

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* ⇨ 111. When the brake pedal is released or the accelerator pedal is pressed, the engine will restart.

To maintain vehicle performance, other conditions may cause the engine to automatically restart before the brake pedal is released.

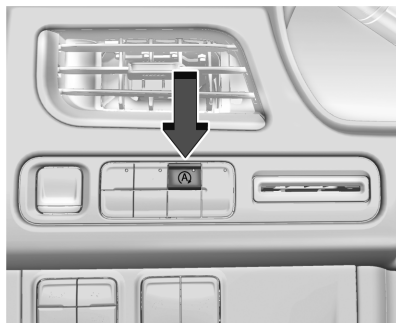
Auto Stops may not occur and/or Auto Starts may occur because:

- The climate control settings require the engine to be running to cool or heat the vehicle interior.
- The vehicle battery needs to charge.

210 Driving and Operating

- The vehicle battery has recently been disconnected.
- Minimum vehicle speed has not been reached since the last Auto Stop.
- The accelerator pedal is pressed.
- The engine or transmission is not at the required operating temperature.
- The outside temperature is not in the required operating range.
- The vehicle is shifted out of D (Drive) to any gear other than P (Park).
- Certain driver modes have been selected. See *Driver Mode Control* ⇨ 225 and *Four-Wheel Drive* ⇨ 217.
- The vehicle is on a steep hill or grade.
- The driver door has been opened or the driver seat belt has been unbuckled.
- The hood has been opened.
- The Auto Stop has reached the maximum allowed time.

Auto Stop Disable Switch



Uplevel Shown, Others Similar

The automatic engine Stop/Start feature can be disabled and enabled by pressing (A). Auto Stop/Start is enabled each time you start the vehicle.

When the (A) indicator is illuminated, the system is enabled.

Retained Accessory Power (RAP)

When the vehicle is turned from on to off, the following features (if equipped) will continue to function for up to 10 minutes, or until the driver door is opened. These features will also work when the vehicle is on or in accessory mode:

- Infotainment System
- Power Windows (during RAP this functionality will be lost when any door is opened)
- Sunroof (during RAP this functionality will be lost when any door is opened)
- Auxiliary Power Outlet
- Audio System
- OnStar System

Shifting Into Park

Warning

Parking on grades with poor traction such as ice, snow, mud, or gravel may cause the vehicle to unintentionally move and could result in injury, death, and/or vehicle damage. If equipped with four-wheel drive, use AUTO or 4 (HI) to
(Continued)

Warning (Continued)

provide additional traction. Be sure to apply the parking brake. See *Electric Parking Brake* ⇨ 221 and *Four-Wheel Drive* ⇨ 217.

Warning

It can be dangerous to get out of the vehicle if the vehicle is not in P (Park) with the parking brake set. The vehicle can roll. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, use the steps that follow. If you are pulling a trailer, see *Driving Characteristics and Towing Tips* ⇨ 264.

1. Hold the brake pedal down and set the parking brake. See *Electric Parking Brake* ⇨ 221.
2. Press the P (Park) switch on the center stack.
3. Press ENGINE START/STOP to turn the engine off.

If the vehicle is shifted into P (Park) on a hill, the Electric Parking Brake (EPB) may apply automatically. The driver may not be able to release the EPB using the EPB switch. It should automatically release when the vehicle is shifted out of P (Park).

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 vehicle is not in P (Park) with the parking brake 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 shift the vehicle to P (Park). See *Shifting Into Park* ⇨ 210. If you are towing a trailer, see *Driving Characteristics and Towing Tips* ⇨ 264.

If you have to leave the vehicle with the engine running, the vehicle must be in P (Park) with the parking brake set.

Confirm that the vehicle is in P (Park).

Shifting out of Park

This vehicle is equipped with an electronic transmission.

To shift out of P (Park):

1. Ensure the engine is running.
2. Apply the brake pedal.
3. Press or pull the desired shift switch. For N (Neutral) press and hold the N (Neutral) switch until the N indicator illuminates red.
4. The P indicator will turn white and the gear indicator will turn red when the vehicle is no longer in P (Park).

If the vehicle cannot shift from P (Park), a Driver Information Center (DIC) message may be displayed. Check that the ignition is on, the engine is running, and the brake pedal is applied when you are attempting to shift out of P (Park). If all of these are met but the vehicle will not shift out of P (Park), see your dealer for service.

212 Driving and Operating

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.

Dynamic Fuel Management

If equipped, Dynamic Fuel Management allows the engine to operate in multiple cylinder patterns, up to the full 8-cylinder operation, depending on driving conditions. When less power is required, such as cruising at a constant vehicle speed, the system will reduce any combination of operating cylinders enabling the vehicle to achieve better fuel economy. When greater power is required, such as passing or merging onto a freeway, the system will maintain full 8-cylinder operation.

Extended Parking

It is best not to park with the vehicle running. If the vehicle is left running, be sure it will not move and there is adequate ventilation.

See *Shifting Into Park* ⇨ 210 and *Engine Exhaust* ⇨ 212.

If the vehicle is left parked and running with the remote key outside the vehicle, it will continue to run for up to 15 minutes.

If the vehicle is left parked and running with the remote key inside the vehicle, it will continue to run for up to 30 minutes.

The vehicle could turn off sooner if it is parked on a hill, due to lack of available fuel.

The timer will reset if the vehicle is taken out of P (Park) while it is running.

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.
- There are holes or openings in the vehicle body from damage or aftermarket modifications that are not completely sealed.

(Continued)

Warning (Continued)

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* ⇨ 210 and *Engine Exhaust* ⇨ 212.

If parking on a hill and pulling a trailer, see *Driving Characteristics and Towing Tips* ⇨ 264.

Automatic Transmission



The shift switches are on the center stack. The selected gear position will illuminate red on the shift switch, while all others will be displayed in white. If the shift is not immediate, as in very cold conditions, the indicator on the shift switch may blink until it is fully engaged.

The transmission does not operate when the vehicle is off.

If the vehicle is in accessory mode, the transmission can be shifted into P (Park).

If ENGINE START/STOP is pressed twice while at a relatively high speed, the engine will turn off and the transmission will automatically shift to N (Neutral). Once the vehicle is stopped, P (Park) can be selected.

P : This position locks the drive wheels. Use P (Park) when starting the engine to prevent the vehicle from moving easily.

⚠ Warning

It is dangerous to get out of the vehicle if the transmission is not in P (Park) with the parking brake set. The vehicle can roll.

Do not leave the vehicle when the engine is running. If the engine has been left running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when on fairly level ground, always set the parking brake and place the transmission into P (Park). See *Shifting Into Park* ⇨ 210 and *Driving Characteristics and Towing Tips* ⇨ 264.

214 Driving and Operating

This vehicle is equipped with an electronic transmission. The R (Reverse) and D (Drive) shift switches are designed to prevent inadvertent shifting out of P (Park) unless the vehicle is on, and the brake pedal is applied.

When the vehicle is stopped, press ENGINE START/STOP to turn off the vehicle. The transmission will shift to P (Park) automatically.

The vehicle will not shift into P (Park) if it is moving too fast. Stop the vehicle and shift into P (Park).

To shift in and out of P (Park), see *Shifting Into Park* ⇨ 210 and *Shifting out of Park* ⇨ 211.

R : Use this gear to back up.

If the vehicle is shifted from either R (Reverse) to D (Drive), or D (Drive) to R (Reverse) while the speed is too high, the vehicle will shift to N (Neutral). Reduce the vehicle speed and try the shift again.

To shift into R (Reverse):

1. Bring the vehicle to a complete stop.
2. Pull the R (Reverse) switch on the center stack.

To shift out of R (Reverse):

1. Bring the vehicle to a complete stop.
2. Shift to the desired gear.

At low vehicle speeds, R (Reverse) can be used to rock the vehicle back and forth to get out of snow, ice, or sand without damaging the transmission. See *If the Vehicle Is Stuck* ⇨ 202.

N : In this position, the engine does not connect with the wheels. To restart the engine when the vehicle is already moving, use N (Neutral) only.

Warning

Shifting into a drive gear while the engine is running at high speed is dangerous. Unless your foot is firmly on the brake pedal, the vehicle could move very rapidly. You could lose control and hit people or objects. Do not shift into a drive gear while the engine is running at high speed.

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.

Caution

The vehicle is not designed to stay in N (Neutral) for extended periods of time. It will automatically shift into P (Park).

To shift into N (Neutral), press the N (Neutral) switch until the N indicator is red.

To shift out of N (Neutral):

1. Bring the vehicle to a complete stop.
2. Shift to the desired gear.

Car Wash Mode

This vehicle includes a Car Wash Mode that allows the vehicle to remain in N (Neutral) for use in automatic car washes.

Car Wash Mode is not to be used for vehicle towing. If the vehicle needs to be towed, see *Transporting a Disabled Vehicle* ⇨ 345.

Caution

The vehicle is not designed to stay in N (Neutral) for extended periods of time. It will automatically shift into P (Park) if left in Car Wash Mode.

Car Wash Mode (Engine Off – Driver in Vehicle)

To place the vehicle in N (Neutral) with the engine off and the vehicle occupied:

1. Drive to the entrance of the car wash.
2. Apply the brake pedal.
3. Shift to N (Neutral).
4. Turn off the engine and release the brake pedal.
5. The indicator should continue to show N. If it does not, start the engine and repeat Steps 2–4.
6. The vehicle is now ready for the car wash.

Car Wash Mode (Engine Off – Driver out of Vehicle)

To place the vehicle in N (Neutral) with the engine off and the vehicle unoccupied:

1. Drive to the entrance of the car wash.
2. Apply the brake pedal.
3. Open the door.
4. Shift to N (Neutral).
5. Turn off the engine and release the brake pedal.
6. The indicator should continue to show N. If it does not, start the engine and repeat Steps 2–5.
7. Exit the vehicle and close the door. The vehicle is now ready for the car wash.
8. The vehicle may automatically shift to P (Park) upon re-entry.

Car Wash Mode (Engine On – Driver in Vehicle)

To place the vehicle in N (Neutral) with the engine on and the vehicle occupied:

1. Drive to the entrance of the car wash.
2. Apply the brake pedal.
3. Shift to N (Neutral).
4. Release the brake pedal. The vehicle is now ready for the car wash.

Car Wash Mode (Engine On – Driver out of Vehicle)

To place the vehicle in N (Neutral) with the engine on and the vehicle unoccupied:

1. Drive to the entrance of the car wash.
2. Apply the brake pedal.
3. Open the door.
4. Shift to N (Neutral), then release the brake pedal.
5. The indicator should continue to show N. If it does not, repeat Steps 2–4.
6. Exit the vehicle and close the door. The vehicle is now ready for the car wash.
7. The vehicle may automatically shift to P (Park) upon re-entry.

Caution

A transmission hot message may display if the automatic transmission fluid is too hot. Driving under this condition can damage the vehicle. Stop and idle the engine to cool the automatic transmission fluid. This message clears when the transmission fluid has cooled sufficiently.

216 Driving and Operating

D : This position is for normal driving. If more power is needed for passing, press the accelerator pedal down.

To shift into D (Drive):

1. Bring the vehicle to a complete stop.
2. Pull the D (Drive) switch on the center stack.

To shift out of D (Drive):

1. Bring the vehicle to a complete stop.
2. Shift to the desired gear.

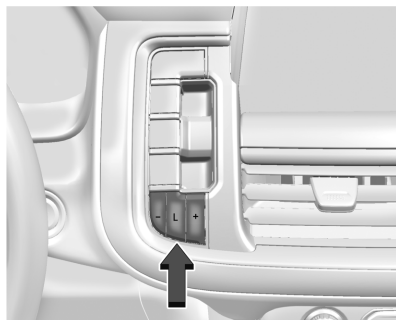
Downshifting the transmission in slippery road conditions could result in skidding. See “Skidding” under *Loss of Control* ⇨ 196.

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 the vehicle is stuck, do not spin the tires. When stopping on a hill, use the brakes to hold the vehicle in place.

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 towing a trailer 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. With the vehicle in D (Drive), press the L (Low) button.
2. Press the plus or minus button 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)* ⇨ 127 or

Driver Information Center (DIC) (Uplevel) ⇨ 130. 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, 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 ERS, cruise control can be used.

Drive Systems

Four-Wheel Drive

If equipped, four-wheel drive engages the front axle for extra traction.

Read the appropriate section for transfer case operation before using.

Caution

Do not drive on clean, dry pavement in 4 ↑ and 4 ↓ (if equipped) for an extended period of time. These conditions may cause premature wear on the vehicle's powertrain.

Driving on clean, dry pavement in 4 ↑ or 4 ↓ may:

- Cause a vibration to be felt in the steering system.
- Cause tires to wear faster.

Warning

If equipped with four-wheel drive, the vehicle will be free to roll if the transfer case is in N (Neutral), even when the transmission is in P (Park). You or someone else could be seriously injured. Be sure the transfer case is in a drive gear — 2 ↑, 4 ↑, or 4 ↓ — or set the parking brake before placing the transfer case in N (Neutral). See *Shifting Into Park* ⇨ 210.

Caution

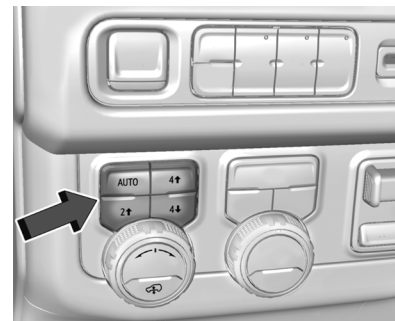
Extended high-speed operation in 4 ↓ may damage or shorten the life of the drivetrain.

An engagement noise and bump is normal when shifting between 4 ↓ and 4 ↑ or N (Neutral), with the engine running.

Shifting into 4 ↓ will turn Traction Control and StabiliTrak/Electronic Stability Control (ESC) off. See *Traction Control/Electronic Stability Control* ⇨ 223.

Automatic Transfer Case

Two-Speed Transfer Case



If equipped, the transfer case controls are used to shift into and out of four-wheel drive.

To shift the transfer case, press the desired button. The graphic in the instrument cluster will flash while a shift is in progress. The graphic displayed will change to indicate the setting requested.

When the shift is complete the graphic will stop flashing. The DIC message turns off once the shift is complete. If the transfer case cannot complete a shift request, it will go back to its last chosen setting.

218 Driving and Operating

The settings are:

N (Neutral) : Use only when the vehicle needs to be towed. See *Transporting a Disabled Vehicle* ⇨ 345.

2 ↑ (Two-Wheel Drive High) : Use for driving on most streets and highways. The front axle is not engaged. This setting provides the best fuel economy.

AUTO (Automatic Four-Wheel Drive) : Use when road surface conditions are variable. When driving in AUTO, the front axle is engaged, and the vehicle's power is sent to the front and rear wheels automatically based on driving conditions. This setting provides slightly lower fuel economy than 2 ↑.

4 ↑ (Four-Wheel Drive High) : Use this setting when extra traction is needed, such as when driving on snowy or icy roads, when off-roading, or when plowing snow.

4 ↓ (Four-Wheel Drive Low) : This setting engages the front axle and delivers extra torque. Choose 4 ↓ when driving off-road in deep sand, deep mud, or deep snow, and while climbing or descending steep hills. While driving in 4 ↓, keep vehicle speed below 72 km/h (45 mph).

Shifting into 4 ↓ will turn Traction Control and StabiliTrak/ESC off. See *Traction Control/Electronic Stability Control* ⇨ 223.

Shifts between 2 ↑, 4 ↑, and AUTO

Any of these shifts can be made at normal driving speed.

The actual 4x4 shift request is only made after the button is released. The 4x4 graphic will remain flashing until the shift request has completed. A DIC message displays to indicate that the 4x4 transfer case has been requested to shift to the new desired state.

Once the 4x4 shift has completed, the DIC message disappears, the 4x4 graphic stops flashing, and the current setting is indicated.

When a shift to 2 ↑ is completed successfully while in P (Park), the parking brake will engage. To resume driving, shift the transmission to the desired gear and manually release the parking brake or press the accelerator pedal to begin driving. See *Electric Parking Brake* ⇨ 221.

If equipped, use 4 ↓, AUTO, or 4 ↑ to provide additional traction when parking on a steep grade with poor traction such as ice, snow, mud, or gravel.

Shifting Into 4 ↓

1. The ignition must be on and the vehicle must be stopped or moving less than 5 km/h (3 mph) with the transmission in N (Neutral). It is best for the vehicle to be moving 1.6 to 3.2 km/h (1 to 2 mph).
2. Press 4 ↓. The actual 4x4 shift request is only made after the button is released. The 4x4 graphic will remain flashing until the shift request has completed. A DIC message displays to indicate that the 4x4 transfer case has been requested to shift to the new desired state. Once the 4x4 shift has completed, the DIC message disappears, the 4x4 graphic stops flashing and the current setting is indicated.

If vehicle speed is higher when shift request occurs, a DIC message displays. Reduce vehicle speed.

If the transmission is not in N (Neutral) when shift request occurs, a DIC message displays. The vehicle will allow 20 seconds for the shift to occur. After this time, a graphic in the instrument cluster will indicate that the transfer case is in 4 ↓.

Caution

Shifting the transmission into gear before the requested mode indicator light has stopped flashing could damage the transfer case.

If the transmission is not shifted into N (Neutral) or the vehicle has not slowed to 5 km/h (3 mph) within 20 seconds, the transfer case will remain in its original state. This will be indicated in the instrument cluster.

With the vehicle moving less than 5 km/h (3 mph) and the transmission in N (Neutral), attempt the shift again.

Shifting Out of 4 ↓

1. The vehicle must be stopped or moving less than 5 km/h (3 mph) with the transmission in N (Neutral) and the ignition on. It is best for the vehicle to be moving 1.6 to 3.2 km/h (1 to 2 mph).
2. Press 4 ↑, AUTO, or 2 ↑. The actual 4x4 shift request is only made after the button is released. The 4x4 graphic will remain flashing until the shift request has completed. A DIC message displays to indicate the state of the request.

Once the 4x4 shift has completed, the DIC message disappears, the 4x4 graphic stops flashing, and the current setting is indicated.

If vehicle speed is higher when shift request occurs, a DIC message displays. Reduce vehicle speed.

If the transmission is not in N (Neutral) when shift request occurs, DIC messages will display. The vehicle will allow 20 seconds for this shift to occur. After this time, a graphic in the instrument cluster will indicate that the transfer case is in 4 ↓.

Caution

Shifting the transmission into gear before the requested mode indicator light has stopped flashing could damage the transfer case.

If the transmission is not shifted into N (Neutral) or the vehicle has not slowed to 5 km/h (3 mph) within 20 seconds, the transfer case will remain in its original state. This will be indicated in the instrument cluster.

With the vehicle moving less than 5 km/h (3 mph), and the transmission in N (Neutral), attempt the shift again.

Shifting Into N (Neutral)

To shift into N (Neutral):

1. Start the vehicle.
2. Shift the transmission to N (Neutral).
3. Shift the transfer case to 2 ↑.
4. Apply the parking brake and/or brake pedal.
5. Press 2 ↑ five times in 10 seconds until the N (Neutral) graphic starts flashing in the instrument cluster. When the shift is complete, the graphic stops flashing. If the parking brake and/or brake pedal is not applied within 20 seconds, the transfer case will remain in the original state.
6. If the transmission is not shifted into N (Neutral) or the vehicle has not slowed to 5 km/h (3 mph) within 20 seconds, the transfer case will remain in its original state. This will be indicated in the instrument cluster.

Shifting Out of N (Neutral)

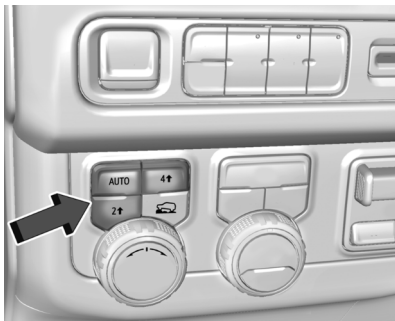
To shift out of N (Neutral):

1. Turn the ignition on with the engine off. See *Ignition Positions* ⇨ 207.

220 Driving and Operating

2. Set the parking brake. See *Electric Parking Brake* ⇨ 221.
3. Shift the transmission to N (Neutral).
4. Shift the transfer case to 2 ↑. Transfer case shifts out of N (Neutral) can only be made into 2 ↑. When the shift to 2 ↑ is complete, the graphic in the instrument cluster will stop flashing. If the transfer case cannot complete a shift, the graphic will return to the previously selected setting.

Single Speed Transfer Case



If equipped, the transfer case controls are used to shift into and out of four-wheel drive.

To shift the transfer case, press the desired button. The graphic in the instrument cluster will flash while a shift is in progress. The graphic displayed will change to indicate the setting requested.

When the shift is complete the graphic will stop flashing. The DIC message turns off once the shift is complete. If the transfer case cannot complete a shift request, it will go back to its last chosen setting.

The settings are:

2 ↑ (Two-Wheel Drive High) : Use for driving on most streets and highways. The front axle is not engaged. This setting provides the best fuel economy.

4 ↑ (Four-Wheel Drive High) : Use this setting when extra traction is needed, such as when driving on snowy or icy roads, when off-roading, or when plowing snow.

AUTO (Automatic Four-Wheel Drive)

Use when road surface conditions are variable. When driving in AUTO, the front axle is engaged, and the vehicle's power is sent to the front and rear wheels automatically based on driving conditions. This setting provides slightly lower fuel economy than 2 ↑.

Shifts between 2 ↑, 4 ↑, and AUTO

Any of these shifts can be made at normal driving speed.

The actual 4x4 shift request is only made after the button is released. The 4x4 graphic will remain flashing until the shift request has completed. A DIC message displays.

Once the 4x4 shift has completed, the DIC message disappears, the 4x4 graphic stops flashing, and the current setting is indicated.

The actual 4x4 shift request is only made after the button is released. The 4x4 graphic will remain flashing until the shift request has completed.

A DIC message displays. Once the 4x4 shift has completed, the DIC message disappears, the 4x4 graphic stops flashing, and the current setting is indicated.

Brakes

Electric Brake Boost

Vehicles equipped with electric brake boost have hydraulic brake circuits that are electronically controlled when the brake pedal is applied during normal operation. The system performs routine tests and turns

off within a few minutes after the vehicle is turned off. Noise may be heard during this time. If the brake pedal is pressed during the tests or when the electric brake boost system is off, a noticeable change in pedal force and travel may be felt. This is normal.

Antilock Brake System (ABS)

The Antilock Brake System (ABS) helps prevent a braking skid and maintain steering while braking hard.



If there is a problem with ABS, this warning light stays on. See *Antilock Brake System (ABS) Warning Light* ⇨ 120.

ABS does not change the time needed to get a foot on the brake pedal and does not always decrease stopping distance. If you get too close to the vehicle ahead, there will not be enough time to apply the brakes if that vehicle suddenly slows or stops. Always leave enough room ahead to stop, even with ABS.

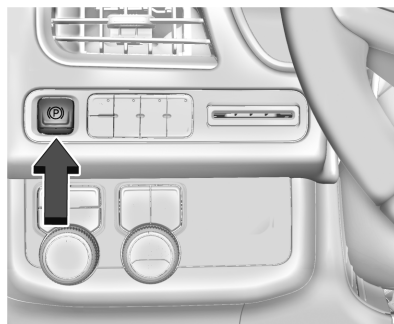
Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly. Hearing and feeling ABS operate is normal.

Braking in Emergencies

ABS allows steering and braking at the same time. In many emergencies, steering can help even more than braking.

Electric Parking Brake



The Electric Parking Brake (EPB) can be applied when the vehicle is off. If there is not enough electrical power, the EPB cannot

be applied or released. To prevent draining the battery, avoid unnecessary repeated cycles of the EPB.

The system has a red EPB status light and an amber service EPB warning light. See *Electric Parking Brake Light* ⇨ 119 and *Service Electric Parking Brake Light* ⇨ 120. There are also parking brake-related Driver Information Center (DIC) messages.

Before leaving the vehicle, check the red EPB status light to ensure that the EPB is applied.

If a message displays on the DIC indicating the transmission is unable to shift soon, the service electric parking brake is on, and the EPB light flashes at the same time, the system must be reset. Start the vehicle, apply the EPB, and then release it. The message and the light should turn off. See *Electric Parking Brake Light* ⇨ 119 and *Service Electric Parking Brake Light* ⇨ 120.

EPB Apply

To apply the EPB:

1. Be sure the vehicle is at a complete stop.
2. Press the EPB switch.

222 Driving and Operating

The red EPB status light will flash and then stay on once the EPB is fully applied. If the red EPB 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 EPB light is flashing. See your dealer.

If the amber service EPB warning light is on, press the EPB switch. Continue to hold the switch until the red EPB status light remains on. If the amber service EPB 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 pressed. If the switch is pressed 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, or as required by other safety functions that utilize the EPB.

If the EPB fails to apply, block the rear wheels to prevent vehicle movement.

EPB Release

To release the EPB:

1. Turn the ignition on or to accessory mode.
2. Apply and hold the brake pedal.
3. Press the EPB switch momentarily.

The EPB is released when the red EPB status light is off.

If the amber service EPB warning light is on, release the EPB by pressing and holding the EPB switch. Continue to hold the switch until the red EPB 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.

If you are towing a trailer and parking on a hill, see *Driving Characteristics and Towing Tips* ⇨ 264.

Automatic EPB Release

The EPB automatically releases if the vehicle is running, placed into gear, and an attempt is made to drive. Avoid rapid acceleration when the EPB is applied to preserve parking brake lining life.

Brake Assist

Brake Assist detects rapid brake pedal applications due to emergency braking situations and provides additional braking to activate the Antilock Brake System (ABS) if the brake pedal is not pushed hard enough to activate ABS normally. Minor noise, brake pedal pulsation, and/or pedal movement during this time may occur. Continue to apply the brake pedal as the driving situation dictates. Brake Assist disengages when the brake pedal is released.

Hill Start Assist (HSA)

Warning

Do not rely on the HSA feature. HSA does not replace the need to pay attention and drive safely. You may not hear or feel alerts or warnings provided by this system. Failure to use proper care when
(Continued)

Warning (Continued)

driving may result in injury, death, or vehicle damage. See *Defensive Driving* ⇨ 194.

When the vehicle is stopped on a grade, Hill Start Assist (HSA) prevents the vehicle from rolling in an unintended direction during the transition from brake pedal release to accelerator pedal apply. The brakes release when the accelerator pedal is applied. If the accelerator pedal is not applied within a few minutes, the Electric Parking Brake will apply. The brakes may also release under other conditions. Do not rely on HSA to hold the vehicle.

HSA is available when the vehicle is facing uphill in a forward gear, or when facing downhill in R (Reverse). The vehicle must come to a complete stop on a grade for HSA to activate.

Ride Control Systems

Traction Control/Electronic Stability Control

System Operation

The vehicle has a Traction Control System (TCS) and StabiliTrak/Electronic Stability Control (ESC). These systems help limit wheel spin 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/ESC activates when the vehicle senses a difference between the intended path and the direction the vehicle is actually traveling. StabiliTrak/ESC selectively applies braking pressure to any one of the vehicle wheel brakes to assist the driver in keeping the vehicle on the intended path. Trailer Sway Control (TSC) is also on automatically when the vehicle is started. See *Trailer Sway Control (TSC)* ⇨ 281.

If cruise control is being used and traction control or StabiliTrak/ESC 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* ⇨ 202 and "Turning the Systems Off and On" later in this section.

When the transfer case (if equipped) is in Four-Wheel Drive Low, the TCS and StabiliTrak/ESC are automatically disabled,  comes on, and the appropriate message will appear on the Driver Information Center (DIC).

224 Driving and Operating



The indicator light for both systems is in the instrument cluster. This light will:

- Flash when TCS is limiting wheel spin.
- Flash when StabiliTrak/ESC is activated.
- Turn on and stay on when either system is not working.

See *Traction Control System (TCS)/StabiliTrak Light* ⇨ 122.

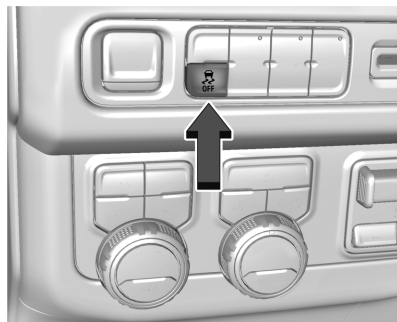
If either system fails to turn on or to activate, a message displays in the DIC, and  comes on and stays on to indicate that the system is inactive and is not assisting the driver in maintaining control. Without the assistance of properly functioning StabiliTrak/ESC the possibility of rollover is increased. Adjust driving 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, see your dealer.

Turning the Systems Off and On



The button for TCS and StabiliTrak/ESC is on the instrument panel to the left of the steering wheel.

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 traction off light  displays in the instrument cluster. The appropriate message

will display in the DIC. To turn TCS on again, press and release . The traction off light  displayed in the instrument cluster will turn off.

If TCS is limiting wheel spin when  is pressed, the system will not turn off until the wheels stop spinning.

To turn off both TCS and StabiliTrak/ESC, press and hold  until the traction off light  and the StabiliTrak OFF light  come on and stay on in the instrument cluster, then release. The appropriate message will display in the DIC.

To turn TCS and StabiliTrak/ESC on again, press and release . The traction off light  and the StabiliTrak OFF light  in the instrument cluster turn off.

For vehicles without four corner air suspension StabiliTrak/ESC will automatically turn on if the vehicle exceeds 56 km/h (35 mph). Traction control will remain off.

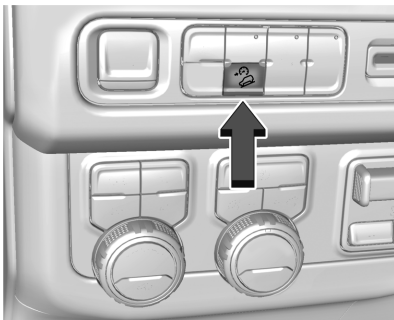
For vehicles with four corner air suspension StabiliTrak/ESC will automatically turn on if the vehicle exceeds 32 km/h (20 mph).

The vehicle has a Trailer Sway Control (TSC) feature and a Hill Start Assist (HSA) feature. See *Trailer Sway Control (TSC)* ⇨ 281 or *Hill Start Assist (HSA)* ⇨ 222.

Adding accessories can affect the vehicle performance. See *Accessories and Modifications* ⇨ 285.

Hill Descent Control (HDC)

If equipped, Hill Descent Control (HDC) sets and maintains vehicle speed while driving down steep grades in a forward or reverse gear. The HDC switch is on the instrument panel to the left of the steering wheel.



Press  to enable or disable HDC. Vehicle speed must be below 60 km/h (37 mph).



When enabled, the HDC light displays on the instrument cluster.

A blinking HDC light indicates the system is actively applying the brakes to maintain vehicle speed. HDC can maintain vehicle speeds between 1 and 30 km/h (1 and 19 mph) on grades greater than or equal to 5%.

If HDC is to be used for more than three minutes or on grades steeper than 25%, the transfer case should be put into Four-Wheel Drive Low (4 ↓) to reduce the possibility of brake overheating.

Noise from the hydraulic brake control module is normal when HDC is active.

When HDC is activated, the initial HDC speed is set to the current driving speed. It can be increased or decreased by pressing +RES or SET- on the steering wheel, or by applying the accelerator or brake pedal. This adjusted speed becomes the new set speed.

HDC will remain enabled between 30 and 60 km/h (19 and 37 mph); however, vehicle speed cannot be set or maintained in this range. HDC will automatically disable if the vehicle speed is above 80 km/h (50 mph) or above 60 km/h (37 mph) for at least 30 seconds.

 must be pressed again to re-enable HDC. HDC may disable after an extended period of use. If this happens, HDC will require time to cool down. The length of time HDC remains active depends on road conditions, grade, set speed, vehicle loading, and outside temperature.

When enabled, if the vehicle speed is above 30 km/h (19 mph) and below 60 km/h (37 mph), a DIC message will display.

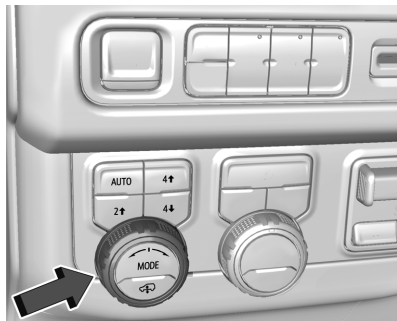
Driver Mode Control

Driver Mode Control (DMC) allows the driver to adjust the overall driving experience to better suit preference by adjusting multiple subsystems simultaneously. Drive Mode availability and affected vehicle subsystems are dependent upon vehicle trim level, region, and optional features.

226 Driving and Operating

Normal Mode is the default mode every time the vehicle is started. A unique and persistent indicator is displayed in the instrument cluster for each mode.

Depending on trim level, Normal, Sport, Snow/Ice, Off-Road, Tow/Haul, and Terrain modes may be available.



To activate each mode, turn the Mode knob on the instrument cluster to the left of the steering wheel.



To activate Terrain Mode, press the Terrain Mode button located next to the Mode knob.

Normal Mode : Use this mode for normal city and highway driving to provide a smooth ride. This setting provides balance between comfort and handling. This is the standard/default mode. There is no persistent indicator in the instrument cluster for this mode.

Sport Mode : Use this mode where road conditions or personal preference demand a more controlled response. When in Sport Mode the vehicle automatically down shifts. In this mode, the vehicle also monitors driving behaviors and automatically enables

Performance Shift Features when spirited driving is detected. These features maintain lower transmission gears to increase available engine braking and improve acceleration response. The vehicle resumes normal operation after a short period when no spirited driving is detected. The steering changes to provide precise control.

Snow/Ice Mode : Use this mode to improve vehicle acceleration on snow and ice covered roads. When active, Snow/Ice Mode adjusts acceleration to optimize traction on slippery surfaces. This can compromise the acceleration on dry asphalt. This feature is not intended for use when the vehicle is stuck in sand, mud, ice, snow, or gravel. If the vehicle becomes stuck, see *If the Vehicle Is Stuck* ⇨ 202.

Off-Road Mode : Use this mode for off-road recreational driving. Off-Road Mode should be used to improve driving at moderate speeds, on grass, gravel, dirt, unpaved roads, or snow-covered roads. The accelerator pedal is tuned for off-road use. This mode modifies pedal mapping, ride height, and Traction Control System (TCS) performance. For more information on off-road driving, see *Off-Road Driving* ⇨ 196.

Tow/Haul Mode : Use this mode when hauling heavy loads to provide increased performance and vehicle control. Tow/Haul Mode adjusts the transmission shift pattern, steering, and Electronic Stability Control (ESC) performance.

If the vehicle is turned off while in Tow/Haul Mode and then restarted within four hours or less, it will remain active. Otherwise, the vehicle will start in Normal Mode.

For more information, see *Towing Equipment* ⇨ 272 or *Transporting a Disabled Vehicle* ⇨ 345.



If equipped, select Terrain Mode by pressing the  below the 4 ↑ transfer case button.

Terrain Mode : Use this mode when traveling on very rough roads at very low speeds, such as a two-track or heavily rutted road. This mode can also be used for pulling a boat out of the water on a trailer. When in Terrain Mode, the vehicle shifts automatically, but will hold a lower gear longer to maximize engine torque. This mode has a unique pedal map and transmission shift pattern for better control at lower speeds and over rough terrain. This mode modifies accelerator pedal mapping, transmission shift pattern, ride height, and electronic Limited Slip Differential (eLSD).

When the vehicle comes to a stop on an upward grade, automatic vehicle hold is engaged until the driver presses the accelerator pedal. Stop/Start and cruise control are disabled in Terrain Mode.

Active Braking during lift throttle will be engaged. This feature automatically applies light braking to simulate heavy engine braking of four-wheel-drive low. It also applies light braking in D (Drive) until the vehicle is at idle speeds. In L1 and L2 light

braking will typically bring the vehicle to a stop. Active Braking during lift throttle also reduces trailer braking.

Terrain Mode automatically exits to Normal Mode if the brake temperatures become too hot, electronic parking brake becomes inoperable, or the vehicle cannot perform braking or vehicle hold.

For more information on off-road driving, see *Off-Road Driving* ⇨ 196 and *Hill and Mountain Roads* ⇨ 200.

228 Driving and Operating

Terrain Mode Drive Select	Expected Vehicle Behavior	Ideal Terrain
Drive (L3-Lx)	Minor deceleration when off throttle and mild ability to modulate throttle; mimics performance of 4 ↓ without torque multiplication.	Grassy fields, mild two tracks, rutted roads, large rolling hills
L2	Moderate deceleration when off throttle and moderate ability to modulate throttle; brings vehicle to a stop in most cases.	Mild rock crawling, heavy ruts, short, steeper grades
L1	Significant deceleration when off throttle and significant ability to modulate throttle; brings vehicle to a stop in most cases.	Rock crawling downhill

Vehicle Hold Features

- When the vehicle comes to a stop on an incline grade in forward gear or on a decline grade in reverse gear, Vehicle Hold is engaged until the accelerator pedal is pressed.
- When the vehicle is in forward gear on a decline, the vehicle will creep down the hill when the brake pedal is released

without pressing the accelerator pedal. The vehicle will also creep forward on flat ground.

- If the driver seat belt is removed and the driver door is opened while the vehicle is being held, Electric Parking Brake (EPB) is engaged.
- EPB engages if the vehicle is held for an extended period.

Terrain Mode is only available on vehicles equipped with the single speed transfer case.

Terrain Mode can only be active when:

- Vehicle speed is less than 80 km/h (50 mph).
- The transfer case is in 4 ↑.

Frequent use of this mode may cause brake wear due to the light braking.

The vehicle automatically exits the mode if the brakes get too hot. Terrain Mode can be turned back on after the brakes have cooled.

When Terrain Mode is selected:

- Auto Engine Start/Stop is disabled.
- The Terrain Mode indicator displays on the instrument cluster.

Magnetic Ride Control

This vehicle may have a semi-active damping system called Magnetic Ride Control. With this feature, improved vehicle ride and handling is provided under a variety of passenger and loading conditions.

Locking Rear Axle

Vehicles with a locking rear axle can give more traction on snow, mud, ice, sand, or gravel. It works like a standard axle most of the time, but when traction is low, this feature will allow the rear wheel with the most traction to move the vehicle.

Four Corner Air Suspension System

The Four Corner Air Suspension feature provides full time load leveling capability along with the benefit of adjusting ride height for increased convenience and capability.

Warning

To help avoid personal injury or death, make sure the area underneath the vehicle and inside the wheel wells is clear when lowering the vehicle.

Warning

To help avoid personal injury or death, always select the lowest ride height for the current driving conditions. Higher ride heights raise the vehicle's center of gravity, increasing the chance of a rollover during extreme maneuvers.

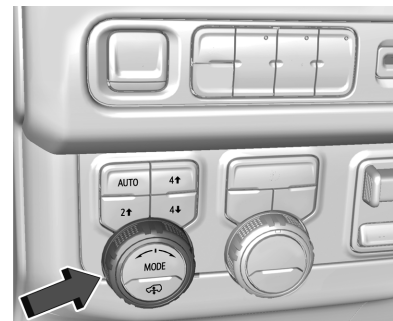
Warning

Heavy loads on the roof rack will make the vehicle's center of gravity higher, increasing the possibility of a rollover. To avoid losing control of the vehicle, always select the normal height setting and avoid high speeds, sudden starts, sharp turns, sudden braking, or abrupt maneuvers when carrying cargo on the roof rack.

Changing Ride Height



Press the Ride Height button to open the Ride Height Menu on the Instrument Panel.



230 Driving and Operating

Turn the knob left or right to select the desired ride height in the menu. To finalize the selection, either press the Ride Height button again or wait three seconds for the menu to timeout. Ride Heights that are unavailable for selection will be greyed out in the menu.

Ride Height Descriptions

Normal Height is the standard vehicle height used for everyday driving.

Entry/Exit Height

Entry/Exit Height is 50 mm (2 in) lower than Normal Height. This ride height lowers the vehicle for easy entry and exit from the vehicle as well as providing a lower height for loading and unloading cargo from any door or the rear liftgate.

This ride height can be selected in the Ride Height Menu at any vehicle speed. When Entry/Exit Height is selected at higher speeds, the vehicle will wait to lower until the vehicle slows to less than 12 km/h (7 mph).

The vehicle will automatically raise to Normal Height from Entry/Exit Height when speed increases above 8 km/h (5 mph). If no door has been opened since lowering to Entry/Exit Height, the vehicle will wait to

raise to Normal Height until 30 km/h (19 mph). This gives the driver more flexibility when lowering to Entry/Exit Height for passenger pick up and drop off.

The driver can enable Automatic Entry/Egress Mode to automatically lower to Entry/Exit Height when the vehicle is shifted to P (PARK). Automatic Entry/Egress Mode may be enabled via the infotainment screen under Settings/Vehicle/Ride Height. When the vehicle is higher than Normal Height, Automatic Entry/Egress Mode is disabled. When the vehicle is in Tow/Haul Driver Mode, Off-Road Driver Mode, or it senses a trailer is connected, Automatic Entry/Egress Mode is disabled.

Increased Height

Increased Height is 25 mm (1 in) higher than Normal Height. This ride height raises the vehicle for off-road use, allows for higher speeds than Maximum Height, and is only available with specific optional content.

Increased Height can be selected in the Ride Height Menu while vehicle speed is less than 80 km/h (50 mph). If vehicle speed exceeds 80 km/h (50 mph), the vehicle will automatically lower to Normal Height.

Off-Road Driver Mode and Terrain Driver Mode will automatically set Increased Height when vehicle speed is less than 80 km/h (50 mph). If vehicle speed exceeds 80 km/h (50 mph), the vehicle will lower to Normal Height. Normal Height will be maintained until vehicle speed is slowed to less than 16 km/h (10 mph) and then the vehicle will automatically raise back to Increased Height.

The vehicle will automatically lower from Increased Height to Normal Height to provide improved stability if aggressive maneuvers are detected.

Maximum Height

Maximum Height is 50 mm (2 in) higher than Normal Height. This ride height raises the vehicle for off-road use and is only available with specific optional content.

To raise the vehicle to Maximum Height, first shift the transfer case to 4 ↓. Once the transfer case is in 4 ↓ and vehicle speed is less than 48 km/hr (30 mph), select Maximum Height in the Ride Height Menu. If vehicle speed exceeds 48 km/h, the vehicle will automatically lower to Increased Height.

The vehicle will automatically lower from Maximum Height to Normal Height to provide improved stability if aggressive maneuvers are detected.

Aerodynamic Height

Aerodynamic Height is 20 mm (0.75 in) lower than Normal Height. This ride height lowers the vehicle at higher vehicle speeds to improve aerodynamics.

The vehicle will lower to Aerodynamic Height when vehicle speed exceeds 105 km/h (65 mph) for a period of time. The vehicle will raise to Normal Height when the vehicle slows to less than 48 km/h (30 mph).

Aerodynamic Height is automatically disabled when a trailer is connected to the vehicle or Tow/Haul Driver Mode is active.

Suspension Modes

The air suspension has two special modes located in the infotainment screen under Settings/Vehicle/Suspension. When either is active, the following amber icon will be illuminated in the instrument cluster.



See *Four Corner Air Suspension Light* ⇨ 124.

Service Mode

Service Mode will disable all air suspension operation including raising and lowering the vehicle and operation of the air compressor. This mode is useful when the vehicle is being towed on a flat bed or when any work under the vehicle is being performed.

Service Mode is automatically enabled when the vehicle is put on a hoist or a floor jack is used to raise a corner. Service Mode may temporarily enable during intense off-road situations to prevent damaging air suspension activity. Service Mode automatically disables when vehicle speed exceeds 16 km/h (10 mph).

Alignment Mode

Alignment Mode will optimize the vehicle height to provide the most accurate wheel alignment. This mode should be enabled once the vehicle is driven onto the alignment station.

To enable Alignment Mode, ensure the vehicle is at Normal Height and shift the vehicle to Neutral. Alignment Mode automatically disables when vehicle speed exceeds 16 km/h (10 mph).

Air Suspension Operation with Door(s) or Hood Open

The air suspension will temporarily suspend all height changes while the hood or any door is open. The air suspension resumes height changes once the hood and all doors are closed. An open rear liftgate does not suspend the air suspension operation.

System Over-Temperature

If the air suspension is under heavy use, the system may temporarily suspend all height changes to allow compressor cooldown. When this occurs and a height change is requested, a 'Leveling System Unavailable' message will be displayed in the instrument cluster.

Suspension Lowered for Stability

In the event of a loss of Electronic Stability Control, the air suspension will lower the vehicle at higher speeds to provide increased stability. This will be accompanied by a 'Vehicle Lowering for Stability' message in the instrument cluster.

232 Driving and Operating

Excessive Vehicle Loading

If the air suspension detects excessive vehicle loading, it will not raise above Normal Height.

Air Suspension Service

If a 'Service Leveling System' message is displayed in the instrument cluster, see your authorized dealer immediately.

Cruise Control

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.

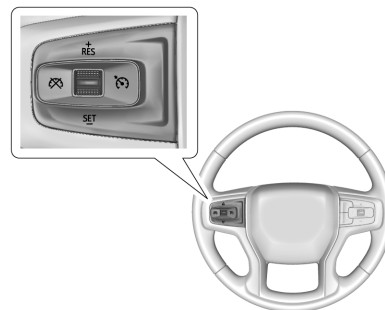
Cruise control can be dangerous on slippery roads. On such roads, fast changes in tire traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.

If equipped with cruise control, a speed of about 40 km/h (25 mph) or more can be maintained without keeping your foot on the accelerator. Cruise control does not work at speeds below about 40 km/h (25 mph).

If the cruise control is being used and the Traction Control System (TCS) or StabiliTrak/Electronic Stability Control (ESC) begins to limit wheel spin, the cruise control will automatically disengage. See *Traction Control/Electronic Stability Control* ⇨ 223. If a collision alert occurs when cruise control is activated, cruise control is disengaged. See *Forward Collision Alert (FCA) System* ⇨ 251. When road conditions allow you to safely use it again, cruise control can be turned back on.

Turning off the TCS or StabiliTrak/ESC system will disengage the cruise control.

If the brakes are applied, cruise control disengages.



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

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

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

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

Setting Cruise Control

If  is on when not in use, SET- or +RES could get pressed and go into cruise when not desired. Keep  off when cruise is not being used.

1. Press  to turn the cruise system on.
2. Get up to the desired speed.
3. Press and release SET-.
4. Remove your foot from the accelerator.

The cruise control indicator on the instrument cluster turns green after cruise control has been set to the desired speed. See *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108.

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 previously set speed.

Increasing Speed While Using Cruise Control

Do one of the following:

- Press and hold +RES up until the desired speed is reached, then release it.
- To increase vehicle speed in small increments, press +RES up briefly. For each press, the vehicle goes about 1 km/h (1 mph) faster.

The speedometer reading can be displayed in either English or metric units. See *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108. The increment value used depends on the units displayed.

Reducing Speed While Using Cruise Control

Do one of the following:

- Press and hold SET- down until the desired lower speed is reached, then release it.
- To slow down in small increments, press SET- down briefly. For each press, the vehicle goes about 1 km/h (1 mph) slower.

The speedometer reading can be displayed in either English or metric units. See *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108. The increment value used depends on the units displayed.

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 control set to the current vehicle speed.

Using Cruise Control on Hills

How well the cruise control works on hills depends on the vehicle speed, the load, and the steepness of the hills. When going up steep hills, pressing the accelerator pedal may be necessary to maintain vehicle speed.

While going downhill, cruise braking helps maintain driver selected speed.

Cruise Grade Braking is enabled when the vehicle is started and cruise control is active. It is not enabled in Range Selection Mode. It assists in maintaining driver selected

234 Driving and Operating

speed when driving on downhill grades by using the engine and transmission to slow the vehicle.

For other forms of descent control, see *Hill Descent Control (HDC)* ⇨ 225, *Automatic Transmission* ⇨ 213, and *Tow/Haul Mode*, see *Driver Mode Control* ⇨ 225.

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 the ignition is turned off.

Adaptive Cruise Control (Advanced)

If equipped with Adaptive Cruise Control (ACC), it allows for selecting the cruise control set speed and following gap. Read this entire section before using this system. ACC uses a camera and radar sensor(s) to detect other vehicles.

The following gap is the following time (or distance) 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.

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 the vehicle speed when the Traction Control System (TCS) or StabiliTrak/Electronic Stability Control (ESC) system activates, ACC may automatically disengage. See *Traction Control/Electronic Stability Control* ⇨ 223. When road conditions allow ACC to be safely used, ACC can be turned back on.

Disabling the TCS or StabiliTrak/ESC system will disengage and prevent engagement of ACC.

ACC can reduce the need for you to frequently brake and accelerate, especially when used on expressways, freeways, and interstate highways. When used on other roads, you may need to take over the control of braking or acceleration more often.

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” later 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* ⇨ 194.

Warning

ACC will not detect or brake for children, pedestrians, animals, or other objects.

Do not use ACC when:

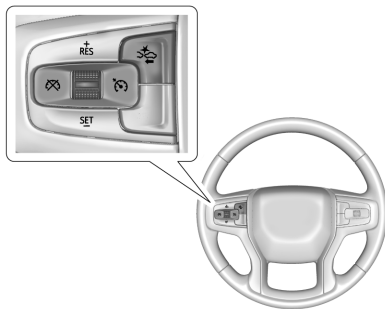
- On winding and hilly roads or when the sensors are blocked by snow, ice, or dirt. The system may not detect a vehicle ahead. Keep the entire front of the vehicle clean.
- Visibility is poor due to rain, snow, fog, dirt, insect residue, or dust; when other foreign objects obscure the

(Continued)

Warning (Continued)

camera and/or radar; or when the vehicle in front or oncoming traffic causes additional environmental obstructions, such as road spray. 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. The indicator turns white on the instrument cluster when ACC is turned on.

RES+ : Press briefly to resume the previous set speed or to increase vehicle speed if ACC is already activated. To increase speed by about 1 km/h (1 mph), press RES+ briefly. To increase speed to the next 5 km/h (5 mph) mark on the speedometer, hold RES+.

SET- : Press briefly to set the speed and activate ACC or to decrease vehicle speed if ACC is already activated. To decrease speed by about 1 km/h (1 mph), press SET- briefly. To decrease speed to the next 5 km/h (5 mph) mark on the speedometer, hold SET-.

 : Press to disengage ACC without erasing the selected set speed.

 : Press to select a following gap setting for ACC of Far, Medium, or Near.

The speedometer reading can be displayed in either English or metric units. See *Instrument Cluster (Base Level)* ⇨ 105 or *Instrument Cluster (Uplevel)* ⇨ 108. The increment value used depends on the units displayed.

Switching Between ACC and Regular Cruise Control

To switch between ACC and regular cruise control, press and hold . A Driver Information Display (DIC) message displays. See *Vehicle Messages* ⇨ 135.



ACC Indicator



Regular Cruise Control Indicator

When ACC is engaged, a green  indicator will be lit on the instrument cluster and the following gap will be displayed. When the regular cruise control is engaged, a green  indicator will be lit on the instrument cluster; the following gap will not display.

When the vehicle is turned on, the cruise control mode will be set to the last mode used before the vehicle was turned off.

236 Driving and Operating

Warning

Always check the cruise control indicator on the instrument cluster to determine which mode cruise control is in before using the feature. If ACC is not active, the vehicle will not automatically brake for other vehicles, which could cause a crash if the brakes are not applied manually. You and others could be seriously injured or killed.

Setting Adaptive Cruise Control

If  is on when not in use, it could get pressed and go into ACC when not desired. Keep  off when cruise is not being used.

Select the set speed desired for ACC. This is the vehicle speed when no vehicle is detected in your path.

While the vehicle is moving, ACC will not set at a speed less than 5 km/h (3 mph), although it can be resumed. The minimum allowable set speed is 25 km/h (15 mph).

To set ACC while moving:

1. Press .
2. Get up to the desired speed.
3. Press and release SET-.

4. Remove foot from the accelerator pedal.

After ACC is set, it may immediately apply the brakes if a vehicle ahead is detected closer than the selected following gap.

ACC can also be set while the vehicle is stopped if ACC is on and the brake pedal is applied.



The ACC indicator displays on the instrument cluster and Head-Up Display (HUD), if equipped. When ACC is turned on, the indicator will be lit white. When ACC is engaged, the indicator will be lit 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, ACC is disengaged without erasing the set speed from memory.

To begin using ACC again, press RES+ up briefly.

- If the vehicle is moving more than 5 km/h (3 mph), it returns to the previous set speed.
- If the vehicle is stopped with the brake pedal applied, press RES+ and release the brake pedal. ACC will hold the vehicle until RES+ or the accelerator pedal is pressed.

A green ACC indicator and the set speed display on the instrument cluster. The vehicle ahead indicator may be flashing if a vehicle ahead was present and moved. See “Approaching and Following a Vehicle” later in this section.

Once ACC has resumed, the vehicle speed will increase to the set speed under the following conditions:

- There is no vehicle ahead.
- The vehicle ahead is beyond the selected following gap.
- The vehicle speed is not being limited because of a sharp turn.

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. Briefly press and release SET- and release 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. While overridden, the ACC indicator will turn blue on the instrument cluster and Head-Up Display (HUD), if equipped.

- Press and hold RES+ until the desired set speed is displayed, then release it.
- To increase vehicle speed in smaller increments, press RES+ briefly. For each press, the vehicle goes about 1 km/h (1 mph) faster.
- To increase vehicle speed in larger increments, hold RES+. While holding RES+, the vehicle speed increases to the next 5 km/h (5 mph) step, then continues to increase by 5 km/h (5 mph) at a time.

The set speed can also be increased while the vehicle is stopped.

- If stopped with the brake pedal applied, press RES+ until the desired set speed is displayed.
- If ACC is holding the vehicle at a stop and there is another vehicle directly ahead, pressing RES+ will increase the set speed.

- Pressing RES+ when there is no longer a vehicle ahead or the vehicle ahead is pulling away and the brake is not applied will cause the ACC to resume.

When it is determined that there is no vehicle ahead or the vehicle ahead is beyond 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. Release the brake and press SET-. The vehicle will now cruise at the lower speed.
- Press and hold SET- 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 or (1 mph) slower.
- To decrease the vehicle speed in larger increments, hold SET-. While holding SET-, the vehicle speed decreases to the next 5 km/h (5 mph) step, then continues to decrease by 5 km/h (5 mph) at a time.

The set speed can also be decreased while the vehicle is stopped.

- If stopped with the brake applied, press or hold SET- until the desired set speed is displayed.

Selecting the Follow Distance Gap

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. Each press cycles the gap button through three settings: Far, Medium, or Near.

When pressed, the current gap setting displays briefly on the instrument cluster and HUD (if equipped). The gap setting will be maintained until it is changed.

Gap Adjust



Far Gap Setting

238 Driving and Operating

Gap Adjust



Medium Gap Setting

Gap Adjust



Near Gap Setting

If equipped, and a trailer is electrically connected, the gap setting display will be as follows:

Gap Adjust - Towing



Far Gap Setting with Trailer

Gap Adjust - Towing



Medium Gap Setting with Trailer

Gap Adjust - Towing



Near Gap Setting with Trailer

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* ⇨ 251.

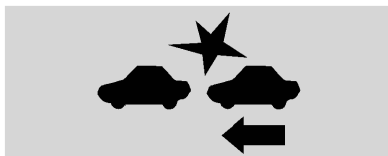
Courtesy Gap

Press and hold  on the steering wheel when vehicle is moving to temporarily increase the gap with the vehicle ahead to allow for merging traffic.

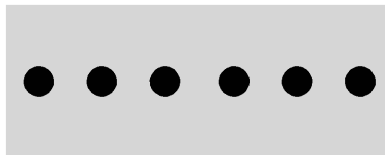
Press and hold  when stopped to cancel ACC from resuming automatically (if the stop is brief) and remain stationary. This can be used to allow traffic to merge between you and the vehicle ahead. Press RES+ or the accelerator pedal to resume ACC.

Following distance gap will return to the original selection after hold.

Alerting the Driver



With Head-Up Display



Without 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, the collision alert symbol will flash on the windshield. Either eight beeps will sound from the front, or both sides of the Safety Alert Seat (if equipped) will pulse five times. Touch the Settings icon on the infotainment home page. Select "Vehicle" to display the list of available options and select "Collision/Detection Systems".

See *Defensive Driving* ⇨ 194.

Approaching and Following a Vehicle



The vehicle ahead indicator is in the instrument cluster and HUD, if equipped. It 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 a detected vehicle ahead at the selected following gap. The vehicle speed increases or decreases to follow a detected vehicle in front of your vehicle when that vehicle is traveling slower than your vehicle 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.

240 Driving and Operating

Passing a Vehicle While Using ACC

If the set speed is high enough, and the left turn signal is used to pass a vehicle ahead in the selected following gap, ACC may assist by gradually accelerating the vehicle prior to the lane change.

Warning

When using ACC to pass a vehicle or perform a lane change, the following distance to the vehicle being passed may be reduced. ACC may not apply sufficient acceleration or braking when passing a vehicle or performing a lane change. Always be ready to manually accelerate or brake to complete the pass or lane change.

Stationary or Very Slow-Moving Objects

Warning

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
(Continued)

Warning (Continued)

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 driving and you should be ready to take action and apply the brakes.

Irregular Objects Affecting ACC

ACC may have difficulty detecting the following objects:

- Vehicles with cargo extending from the back end.
- Non-standard shaped vehicles, such as vehicle transport, vehicles with a side car fitted, or horse carriages.
- Objects that are close to the front of your vehicle.

ACC Automatically Disengages

ACC may automatically disengage and the driver will need to manually apply the brakes to slow the vehicle if:

- The sensors are blocked.
- The Traction Control System (TCS) or StabiliTrak/ESC system has activated or been disabled.

- There is a fault in the system.
- The radar falsely reports blockage when driving in a desert or remote area with no other vehicles or roadside objects. A DIC message may display to indicate that ACC is temporarily unavailable.

The ACC indicator will turn white when ACC is no longer active.

In some cases, when ACC is temporarily unavailable, regular cruise control may be used. See “Switching Between ACC and Regular Cruise Control” previously in this section. Always consider driving conditions before using either cruise control system.

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 ahead before proceeding. In addition, the left and right sides of the Safety Alert Seat (if equipped) will pulse three times, or three beeps will sound. Touch the Settings icon on the infotainment home page. Select “Vehicle” to display the

list of available options and select "Alert Type" and "Adaptive Cruise Go Notifier" in "Collision/Detection Systems".

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 seat 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* ⇨ 221.

A DIC warning message may display indicating to shift to P (Park) before exiting the vehicle. See *Vehicle Messages* ⇨ 135.

 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, the ACC indicator turns blue on the instrument cluster indicating ACC braking will not occur. 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, 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

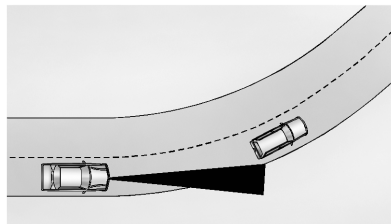
On curves, ACC may respond to a vehicle in another lane, or may not have time to react to a vehicle in your lane. You could crash into a vehicle ahead of you, or lose control of your vehicle. Give extra attention in curves and be ready to use the brakes if necessary. Select an appropriate speed while driving in curves.

ACC may operate differently in a sharp curve. It may briefly reduce the vehicle speed if the curve is too sharp.

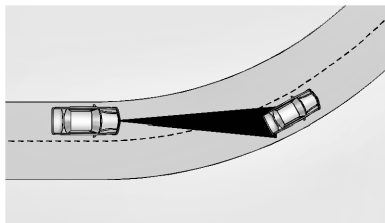
242 Driving and Operating

The curve speed control indicator  may illuminate green when ACC is actively controlling the vehicle speed and detects a sharp curve on the road ahead.

ACC automatically slows the vehicle down while navigating the curve and may increase speed out of the curve, but will not exceed the set speed.



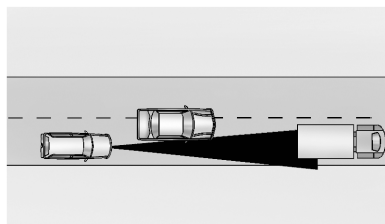
When following a vehicle and entering a curve, ACC may not detect the vehicle ahead and accelerate to the set speed. When this happens, the vehicle ahead indicator will not appear.



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 or 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 brakes may need to be manually applied.

Objects Not Directly in Front of Your Vehicle

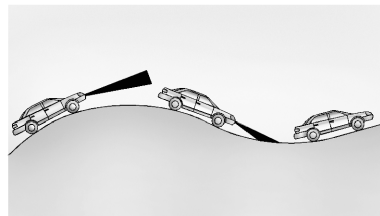
The detection of objects in front of the vehicle may not be possible if:

- The vehicle or object ahead is not within your lane.
- The vehicle ahead is shifted, not centered, or is shifted to one side of the lane.

Driving in Narrow Lanes

Vehicles in adjacent traffic lanes or roadside objects may be incorrectly detected when located along the roadway.

Do Not Use ACC on Hills



Do not use ACC when driving on steep hills as ACC may not detect a vehicle ahead.

Towing with ACC

Towing a trailer with ACC is not recommended with an aftermarket brake controller. Aftermarket brake controllers may not integrate properly with the ACC system.

If equipped when towing a trailer, ACC driving characteristics such as following gap, acceleration rates and braking rates may be modified to provide a better towing experience.

ACC may be used when towing a trailer when trailer attached is within GM-approved allowable size and weight limits. See *Trailer Towing* ⇨ 268.

When towing a trailer with ACC, it is important to properly set the Trailer Gain. See “Integrated Trailer Brake Control System” in *Towing Equipment* ⇨ 272 for Trailer Gain Adjustment Procedure.

Use Tow/Haul mode when driving down steep hills or mountain grades, or when hauling heavy loads. See *Driver Mode Control* ⇨ 225.

Disengaging ACC

There are three ways to disengage ACC:

- Step lightly on the brake pedal.
- Press .

- Press .

Erasing Speed Memory

The ACC set speed is erased from memory if  is pressed or if the ignition is turned off.

Weather Conditions Affecting ACC

System operation may be limited under snow, heavy rain, or road spray conditions.

Accessory Installations and Vehicle Modifications

Do not install or place any object around the front camera windshield area that would obstruct the front camera view.

Do not install objects on top of the vehicle that overhang and obstruct the front camera, such as a canoe, kayak, or other items that can be transported on a roof rack system. See *Roof Rack System* ⇨ 94.

Do not modify the hood, headlamps, or fog lamps, as this may limit the camera's ability to detect an object.

Cleaning the Sensing System

The camera sensor on the windshield behind the rearview mirror, and the sensors on the front of the vehicle can become blocked by

snow, ice, dirt, mud, or debris. This area needs to be cleaned for ACC to operate properly.

If ACC will not operate, regular cruise control may be available. See “Switching Between ACC and Regular Cruise Control” previously in this section. Always consider driving conditions before using either cruise control system.

For cleaning instructions, see “Washing the Vehicle” under *Exterior Care* ⇨ 346.

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.

(Continued)

244 Driving and Operating

Warning (Continued)

Failure to use proper care when driving may result in injury, death, or vehicle damage. See *Defensive Driving* ⇨ 194.

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.
- Work if the detection sensor is covered up, such as with a sticker, magnet, or metal plate.
- Work if the area surrounding the detection sensor is damaged or not properly repaired.

(Continued)

Warning (Continued)

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

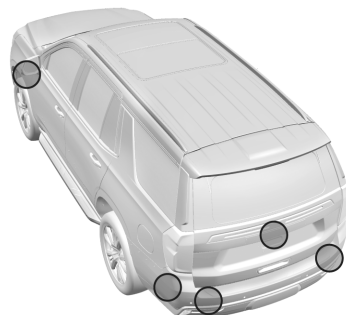
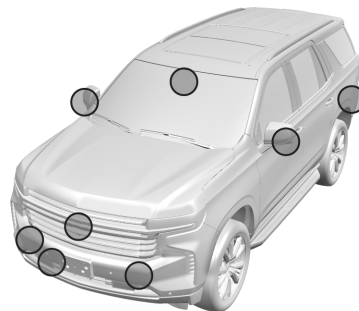
Some driver assistance features alert the driver of obstacles by beeping. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Comfort and Convenience”.

If equipped with the Safety Alert Seat, the driver seat cushion may provide a vibrating pulse alert instead of beeping. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Collision/ Detection Systems”.

Cleaning

Depending on vehicle options, keep these areas of the vehicle clean to ensure the best driver assistance feature performance. Driver

Information Center (DIC) messages may display when the systems are unavailable or blocked.



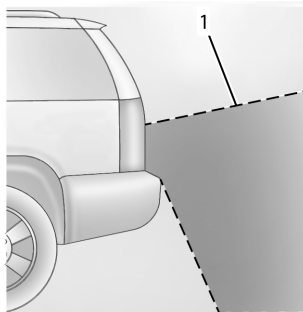
- Front and rear bumpers and the area below the bumpers
- Front grille and headlamps
- Front camera lens in the front grille or near the front emblem
- Front side and rear side panels
- Outside of the windshield in front of the rearview mirror
- Side camera lens on the bottom of the outside mirrors
- Rear side corner bumpers
- Rear Vision Camera above the license plate

Assistance Systems for Parking or Backing

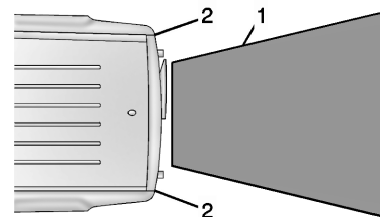
If equipped, the Rear Vision Camera (RVC), Rear Park Assist (RPA), Front Park Assist (FPA), Surround Vision, and Rear Cross Traffic Alert (RCTA) may help the driver park or avoid objects. Always check around the vehicle when parking or backing.

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 infotainment 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 Home or Back on the infotainment system, shift into P (Park), or reach a vehicle speed of approximately 12 km/h (8 mph) while in D (Drive). The rear vision camera is above the license plate.



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 to show that RPA or RCTA has detected an object. This triangle changes from amber to red and increases in size the closer the object.

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

(Continued)

246 Driving and Operating

Warning (Continued)

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.

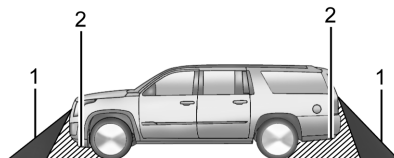
Surround Vision System

If equipped, Surround Vision displays an image of the area surrounding the vehicle, along with the front or rear camera views in the infotainment display. 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.

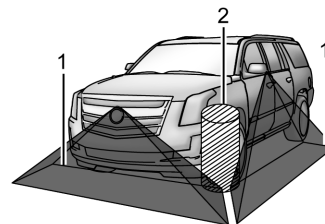
The Surround Vision system can be accessed by selecting CAMERA in the infotainment display or when the vehicle is shifted into R (Reverse). To return to the previous screen sooner, press any button on the infotainment system, shift into P (Park), or reach a vehicle speed of approximately 12 km/h (8 mph).

Warning

The Surround Vision cameras have blind spots and will not display all objects near the corners of the vehicle. Folding outside mirrors that are out of position may not display surround view correctly. Always check around the vehicle when parking or backing.

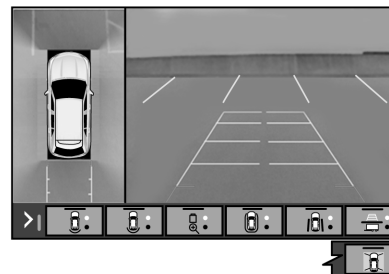


1. Views Displayed by the Surround Vision Cameras
2. Area Not Shown



1. Views Displayed by the Surround Vision Cameras
2. Area Not Shown

Camera Views



Touch the camera view buttons along the bottom of the infotainment display.

Front/Rear Standard View : Displays an image of the area in front or behind the vehicle. Touch Front/Rear Standard View on the infotainment display when a camera view is active. Touching the button multiple times will toggle between front and rear camera views.

If equipped, the front view camera also displays when the Park Assist system detects an object within 30 cm (12 in).

Front/Rear Junction View : Displays a front or rear cross traffic view that shows objects directly to the left and right of the front or back of the vehicle. Touch Junction View on the infotainment display when a camera view is active. Touching the button multiple times will toggle between front and rear camera views.

Front/Rear Overhead View : Displays a Front or Rear Overhead View of the vehicle. Touching the button will toggle between the two views.

Front/Rear Bowl View : Displays a view of the vehicle from either the front or the back of the vehicle. Touch Bowl View on the infotainment display when a camera view is active. Touching the button multiple times

will toggle between forward and rearward views. Park Assist and RCTA are not available when Bowl view is active.

Side Forward/Rearward View : Displays a view that shows objects next to the front or rear sides of the vehicle. Touch Side Forward/Rearward View on the infotainment display when a camera view is active. Touching the button multiple times will toggle between forward and rearward views. Park Assist and RCTA overlays are not available when Side Forward/Rearward view is active.

Hitch View : If equipped, assists while connecting to a trailer. Displays a zoomed-in view of the hitch to help align the vehicle's hitch ball with the trailer coupler. Shifting into P (Park) while in this view will automatically engage the Electric Parking Brake (EPB).

Guidance Lines : Displays available guidelines. The horizontal markings represent distance from the vehicle.

Top Down View : Displays an image of the area surrounding the vehicle, along with other views in the infotainment display. Top Down can be enabled or disabled by pressing the Top Down View button multiple times.

Hitch Guidance

If equipped, the feature displays a single, centered guideline on the camera display to assist with aligning a vehicle's hitch ball with a trailer coupler. Select the trailer guidance line button, then align the trailer guidance line over the trailer coupler. Continuously steer the vehicle to keep the guidance line centered on the coupler when backing. RVC Park Assist overlays will not display when the trailer guidance line is active. Hitch Guidance is only available in Standard View.

To check the trailer when in a forward gear above 12 km/h (8 mph), touch CAMERA on the infotainment display to view the rear camera. Touch X to exit the view or it will be removed automatically after eight seconds.

Warning

Use Hitch Guidance only to help back the vehicle to a trailer hitch or, when traveling above 12 km/h (8 mph), to briefly check the status of your trailer. Do not use for any other purpose, such as making lane change decisions. Before making a lane change, always check the
(Continued)

248 Driving and Operating

Warning (Continued)

mirrors and glance over your shoulder. Improper use could result in serious injury to you or others.

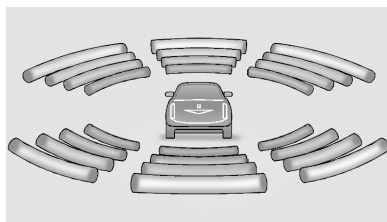
Park Assist

The vehicle may be equipped with the Rear Park Assist (RPA) and Front Park Assist (FPA). The Park Assist system may provide assistance to driver while backing up and parking. Park Assist uses ultrasonic sensors in the bumper to measure the distance between the vehicle and objects. The system calculates the distance between vehicle and object via measuring the time it takes for the ultrasonic waves to bounce back from the object. Park Assist works only at speeds up to about 11 Km/h (7 mph). An illuminated indicator light in the parking system is ready to operate. The sensors on the bumpers may detect objects up to 1.8m (6 ft) behind and 1.25m (4 ft) in front of the vehicle within a one 25 cm (10) 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 wash in freezing temperatures.

Warning

The Park Assist System is no substitute for careful and attentive driving. The Park 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 11 km/h (7 mph). To prevent injury, death, or vehicle damage, even with Park Assist, always check the area around the vehicle and check all mirrors before moving forward or backing.



How the system works

The instrument cluster may have a Park Assist display with bars that show distance to object, driving direction, and object location information for the Park Assist system. As the object gets closer, more bars light up and the bars change color from yellow to amber to red.

When an object is very close to the vehicle rear (<0.6m (2 ft)), five beeps will sound from the rear followed by a continuous beep from the rear, or both sides of the Safety Alert Seat will pulse five times. When an object is very close to the vehicle front (<0.3m (1 ft)), a continuous beep will sound from the front, or both sides of the Safety Alert Seat will pulse five times. Beeps for FPA are higher pitched than for RPA.

Turning the Features On or Off

The **P** button located in the customizing menu is used to turn on or off the Park Assist.

Front and Rear Park Assist can be set to Off, On, or On with Towbar through vehicle personalization. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select "Vehicle" to display the list of available

options and select “Collision/Detection Systems”. If Park Assist is turned off through vehicle personalization, the Park Assist button will be disabled. To turn the Park Assist on again, select On in vehicle personalization. The On with Towbar setting allows for Park Assist to work properly with an attached trailer hitch. Turn off Park Assist when towing a trailer.

To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Collision/Detection Systems”. On some models, select the guidance lines button on the infotainment display to turn them on or off.

Reverse Automatic Braking (RAB)

Backing Warning and Reverse Automatic Braking (RAB)

If equipped, vehicles with Adaptive Cruise Control (ACC) have the Backing Warning System and Reverse Automatic Braking (RAB) system. When in R (Reverse), Backing Warning alerts of rear objects at vehicle speeds greater than 8 km/h (5 mph), and RAB may automatically brake hard at speeds between 1–32 km/h (0.5–20 mph).

The Backing Warning System will beep once from the rear when an object is first detected, or pulse twice on both sides of the Safety Alert Seat. When the system detects a potential crash, beeps will be heard from the rear, or five pulses will be felt on both sides of the Safety Alert Seat. There may also be a brief, sharp application of the brakes.

Warning

The Backing Warning System only operates at speeds greater than 8 km/h (5 mph). It does not detect children, pedestrians, bicyclists, animals, or objects below the bumper or that are too close or too far from the vehicle. In some situations, such as at higher backing speeds, there may not be enough time for the short, sharp application of the vehicle brake system to occur. To prevent injury, death, or vehicle damage, even with the Backing Warning System, always check the area around the vehicle and check all mirrors before backing.

When the vehicle is in R (Reverse), if the system detects the vehicle is backing too fast to avoid a crash with a detected object

behind your vehicle in your path, it may automatically brake hard to a stop to help avoid or reduce the harm caused by a backing crash.

Warning

RAB may not avoid many types of backing crashes. Do not wait for the automatic braking to apply. This system is not designed to replace driver braking and only works in R (Reverse) when an object is detected directly behind the vehicle. It may not brake or stop in time to avoid a crash. It will not brake for objects when the vehicle is moving at very low speeds. It does not detect children, pedestrians, bicyclists, animals, or objects below the bumper or that are too close or too far from the vehicle. To prevent injury, death, or vehicle damage, even with RAB, always check the area around the vehicle before and while backing.

Pressing the brake pedal after the vehicle comes to a stop will release RAB. If the brake pedal is not pressed soon after the

250 Driving and Operating

stop, the Electric Parking Brake (EPB) may be set. When it is safe, press the accelerator pedal firmly at any time to override RAB.

Warning

There may be instances where unexpected or undesired automatic braking occurs. If this happens, either press the brake pedal or firmly press the accelerator pedal to release the brakes from the RAB system. Before releasing the brakes, check the RVC and check the area around the vehicle to make sure it is safe to proceed.

Unexpected braking events are possible with a static installed accessory, such as a bike rack or hitch-mounted cargo carrier.

Rear Pedestrian Alert

If equipped, and under certain conditions, this feature can provide alerts for a pedestrian within the system's range directly behind the vehicle. This feature only works in R (Reverse) below 12 km/h (8 mph), and detects pedestrians up to 8 m (26 ft) away during daytime driving. During nighttime driving, feature performance is very limited.



Rear Pedestrian Alert Indicator

When a pedestrian is detected within the system's range directly behind the vehicle, this symbol flashes amber on the infotainment display, along with five beeps from the rear, or if equipped, two pulses from both sides of the driver seat. When a pedestrian is detected close to the vehicle, the symbol flashes red on the infotainment display, along with ten beeps from the rear, or if equipped, seven pulses from both sides of the driver seat.

Warning

Rear Pedestrian Alert does not automatically brake the vehicle. It also does not provide an alert unless it detects a pedestrian, and it may not detect all pedestrians if:

(Continued)

Warning (Continued)

- The pedestrian is not directly behind the vehicle, fully visible to the Rear Vision Camera (RVC), or standing upright.
- The pedestrian is part of a group.
- The pedestrian is a child.
- Visibility is poor, including nighttime conditions, fog, rain, or snow.
- The RVC is blocked by dirt, snow, or ice.
- The RVC, taillamps, or back-up lamps are not cleaned or in proper working condition.
- The vehicle is not in R (Reverse).

To help avoid death or injury, always check for pedestrians around the vehicle before backing up. Be ready to take action and apply the brakes. See *Defensive Driving* ⇨ 194. Keep the RVC, taillamps, and back-up lamps clean and in good repair.

Rear Pedestrian Alert can be set to Off or Alert. To view available settings from the infotainment screen, touch Settings > Vehicle > Collision/Detection Systems > Rear Pedestrian Detection.

If equipped, alerts can be set to beeps or seat pulses. To view available settings from the infotainment screen, touch Settings > Vehicle > Collision/Detection Systems > Alert Type.

Rear Cross Traffic Alert (RCTA) System

If equipped, Rear Cross Traffic Alert (RCTA) displays a red warning triangle with a left or right pointing arrow on the infotainment display 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.

Driving With a Trailer

Use caution while backing up when towing a trailer. The RCTA feature is automatically disabled when a trailer is attached to the vehicle.

Turning the Features On or Off

To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Collision/Detection Systems”.

Assistance Systems for Driving

If equipped, when driving the vehicle in a forward gear, Forward Collision Alert (FCA), Front Pedestrian Braking (FPB), Lane Keep Assist (LKA), Side Blind Zone Alert (SBZA), Lane Change Alert (LCA), and/or Automatic Emergency Braking (AEB) 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 8 km/h (5 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 (Advanced)* ⇨ 234.

Warning

FCA is a warning system and does not apply the brakes. When approaching a slower-moving or 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* ⇨ 194.

252 Driving and Operating

FCA can be disabled through vehicle settings. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Collision/Detection Systems”.

Detecting the Vehicle Ahead

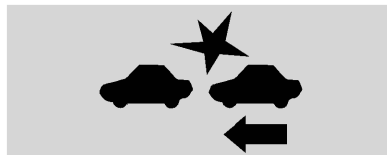


FCA warnings will not occur unless the FCA system detects a vehicle ahead. When a vehicle is detected, the vehicle ahead indicator will display green. Vehicles may not be detected on curves, highway exit ramps, or hills, due to poor visibility; or if a vehicle ahead is partially blocked by pedestrians or other objects. FCA will not detect another vehicle ahead until it is completely in the driving lane.

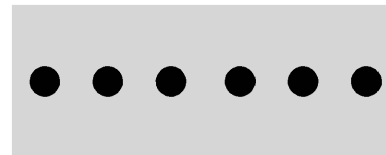
Warning

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, 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.

Tailgating Alert



The vehicle-ahead indicator will display amber when you are following a vehicle ahead much too closely.

Selecting the Alert Timing



The Collision Alert control is on the steering wheel. Press  to set the FCA timing to Far, Medium, or Near. The first button press shows the current setting on the 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 timing 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 ACC following gap setting (Far, Medium, or Near).

Following Distance Indicator

The following distance to a moving vehicle ahead in your path is indicated in following time in seconds on the Driver Information Center (DIC). See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130. 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 for 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, this may correct the issue:

- Clean the outside of the windshield in front of the rearview mirror.
- Clean the entire front of the vehicle.
- Clean the headlamps.

For cleaning instructions, see “Washing the Vehicle” under *Exterior Care* ⇨ 346.

System operation may also be limited under snow, heavy rain, or road spray conditions.

Automatic Emergency Braking (AEB)

If equipped, the AEB system may help avoid or reduce the harm caused by front-end crashes. AEB also 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 automatic emergency 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* ⇨ 251.

The system works when driving in a forward gear between 8 km/h (5 mph) and 80 km/h (50 mph), or on vehicles with Adaptive Cruise Control (ACC), above 4 km/h (2 mph). It can detect vehicles up to approximately 60 m (197 ft).

254 Driving and Operating

Warning

AEB is an emergency crash preparation feature and is not designed to avoid crashes. Do not rely on AEB to brake the vehicle. AEB will not brake outside of its operating speed range and only responds to detected vehicles.

AEB may not:

- Detect a vehicle ahead on winding or hilly roads.
- 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.

AEB may slow the vehicle to a complete stop to try to avoid a potential crash. If this happens, AEB may hold the vehicle at a stop momentarily. Firmly press the accelerator to continue driving.

Warning

AEB 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 AEB, 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.

AEB and IBA can be disabled through vehicle personalization. To view available settings for this feature, touch the Settings icon on the infotainment home page. Select “Vehicle” to display the list of available options and select “Collision/Detection Systems”.

Warning

Using AEB or IBA while towing a trailer could cause you to lose control of the vehicle and crash. Turn the system to Alert or Off when towing a trailer. If the vehicle is equipped with Super Cruise or Adaptive Cruise Control, AEB and IBA may be used while towing a trailer.

A system unavailable message may display if:

- The front of the vehicle or windshield is not clean.

- Heavy rain or snow is interfering with object detection.
- There is a problem with the StabiliTrak/Electronic Stability Control (ESC) system.

The AEB system does not need service.

Front Pedestrian Braking (FPB) System

If equipped, the FPB system may help avoid or reduce the harm caused by front-end crashes with nearby pedestrians when driving in a forward gear. FPB displays an amber indicator, , when a nearby pedestrian is detected ahead. When approaching a detected pedestrian too quickly, FPB provides a red flashing alert on the windshield and rapidly beeps or pulses the driver seat. FPB can provide a boost to braking or automatically brake the vehicle. This system includes Intelligent Brake Assist (IBA), and the Automatic Emergency Braking (AEB) system may also respond to pedestrians. See *Automatic Emergency Braking (AEB)* ⇨ 253.

The FPB system can detect and alert to pedestrians in a forward gear at speeds between 8 km/h (5 mph) and 80 km/h (50 mph). During daytime driving, the

system detects pedestrians up to a distance of approximately 40 m (131 ft). During nighttime driving, system performance is very limited.

Warning

FPB does not provide an alert or automatically brake the vehicle, unless it detects a pedestrian. FPB may not detect pedestrians, including children:

- When the pedestrian is not directly ahead, fully visible, or standing upright, or when part of a group.
- Due to poor visibility, including nighttime conditions, fog, rain, or snow.
- If the FPB sensor is blocked by dirt, snow, or ice.
- If the headlamps or windshield are not cleaned or in proper condition.

Be ready to take action and apply the brakes. For more information, see *Defensive Driving* ⇨ 194. Keep the windshield, headlamps, and FPB sensor clean and in good repair.

FPB can be set to Off, Alert, or Alert and Brake through vehicle settings. To view available settings from the infotainment screen, touch Settings > Vehicle > Collision/Detection Systems.

Detecting the Pedestrian Ahead



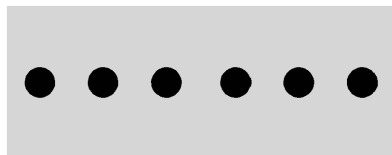
FPB alerts and automatic braking will not occur unless the FPB system detects a pedestrian. When a pedestrian that may enter the vehicle's forward path is detected, the pedestrian ahead indicator will display amber.

Front Pedestrian Alert



With Head-Up Display

256 Driving and Operating



Without Head-Up Display

When the vehicle approaches a pedestrian ahead too rapidly, the red FPB alert display will flash on the windshield. Eight rapid high-pitched beeps will sound from the front, or both sides of the Safety Alert Seat will pulse five times. When this Pedestrian 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 Front Pedestrian Alert occurs.

Automatic Braking

If FPB detects it is about to crash into a pedestrian directly ahead, and the brakes have not been applied, FPB may automatically brake moderately or brake hard. This can help to avoid some very low speed pedestrian crashes or reduce pedestrian injury. FPB can automatically brake to detected pedestrians between

8 km/h (5 mph) and 80 km/h (50 mph). Automatic braking levels may be reduced under certain conditions, such as higher speeds.

FPB may slow the vehicle to a complete stop to try to avoid a potential collision with a pedestrian. If this happens, the vehicle may be held at a stop momentarily. Firmly press the accelerator to drive forward.

Warning

FPB may alert or automatically brake the vehicle suddenly in situations where it is unexpected and undesired. It could falsely alert or brake for objects similar in shape or size to pedestrians, including shadows. This is normal operation and the vehicle does not need service. To override Automatic Braking, firmly press the accelerator pedal, if it is safe to do so.

Automatic Braking can be disabled through vehicle settings. To view available settings from the infotainment screen, touch Settings > Vehicle > Collision/Detection Systems > Front Pedestrian Detection.

Warning

Using the FPB system while towing a trailer could cause you to lose control of the vehicle and crash. Turn the system to Alert or Off when towing a trailer. If the vehicle is equipped with Super Cruise or Adaptive Cruise Control, FPB may be used while towing a trailer.

Cleaning the System

If FPB does not seem to operate properly, cleaning the outside of the windshield in front of the rearview mirror may correct the issue.

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 blind 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 Lane Change Alert (LCA) system is a lane-changing aid that can assist drivers with avoiding lane change crashes with moving vehicles in the side blind zone, or blind spot areas or with vehicles rapidly approaching these areas from behind. When a vehicle is detected in the blind zone, the LCA warning display will light up in the corresponding 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.

Warning

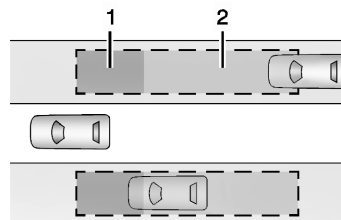
LCA does not alert the driver to vehicles outside of the system detection zones, pedestrians, bicyclists, or animals. It may not provide alerts when changing lanes under all driving conditions. Failure to use proper care when changing lanes may result in injury, death, or vehicle damage.

(Continued)

Warning (Continued)

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

When towing a trailer, LCA feature is disabled. When not towing a trailer, 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. Drivers are also warned of vehicles rapidly approaching this area up to approximately 70 m (230 ft) behind the vehicle.

Extended Side Blind Zone Area (ESBZA)

If equipped, the ESBZA system is a lane-changing aid that assists drivers with avoiding crashes that occur with moving vehicles in the side blind zone, or blind spot areas. The extended side blind zone area adds the blind zone area along the side of a trailer that the host vehicle is pulling.

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 extended 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 system, read the entire Lane Change Alert section before using this feature.

Warning

ESBZA 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. Failure to use proper care when changing lanes may result in injury, death, or vehicle

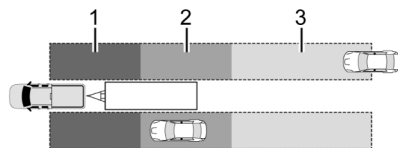
(Continued)

258 Driving and Operating

Warning (Continued)

damage. Before making a lane change, always check mirrors, glance over your shoulder, and use the turn signals.

ESBZA Detection Zones



1. SBZA Detection Zone
2. ESBZA Detection Zone
3. LCA Detection Zone

The Side Blind Zone Alert (SBZA) warning area starts at approximately the middle of the vehicle and goes back 5 m (16 ft). The Extended Side Blind Zone Alert (ESBZA) warning area starts at approximately 3 m (10 ft) to the trailing edge of the vehicle and goes back up to 21 m (69 ft) behind the vehicle. The maximum trailer length is 12 m (39 ft).

How the System Works

The LCA/ESBZA symbol lights up in the side mirrors when the system detects a moving vehicle in the next lane over that is in the extended side blind zone. This indicates it may be unsafe to change lanes. Before making a lane change, check the SBZA 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/ESBZA 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 that blind 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/ESBZA displays may not come on when passing a vehicle quickly, or when passing a stopped vehicle. LCA/ESBZA may alert to objects attached to the vehicle, such as a bicycle, or object extending out to either side of the vehicle or trailer. This is normal system operation; the vehicle does not need service.

LCA/ESBZA can be disabled through vehicle settings. To view available settings from the infotainment screen, touch Settings > Vehicle > Collision/Detection Systems. If SBZA is disabled by the driver, the ESBZA mirror displays will not light up.

When the System Does Not Seem to Work Properly

LCA/ESBZA displays may not come on when passing a vehicle quickly, or when passing a stopped vehicle. The LCA/ESBZA detection zones that extend back from the side of the vehicle do not move further back when a trailer is towed. Use caution while changing lanes when towing a trailer. LCA/ESBZA may alert to objects attached to the vehicle, such as a trailer, bicycle, or object extending out to either side of the vehicle or trailer. This is normal system operation; the vehicle does not need service.

LCA/ESBZA may not always alert the driver to vehicles in the side blind zone, especially in wet conditions. 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/ESBZA may not operate when the LCA/ESBZA 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* ⇨ 346. If the DIC displays the system unavailable message after cleaning both sides of the vehicle toward the rear corners of the vehicle, see your dealer.

If the DIC 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/ESBZA displays do not light up when vehicles are in the blind zone and the system is clean, the system may need service. Take the vehicle to your dealer.

When ESBZA is disabled for any reason other than the driver turning it off, the Extended Side Blind Zone Alert On option will not be available on the personalization menu.

Driving with a Trailer

Although this system is intended to help drivers avoid lane change crashes, it does not replace driver vision and therefore should be considered a lane change aid. Even with the ESBZA system, the driver must check carefully for objects outside of the reporting zone (e.g., a fast approaching vehicle) or vehicle along the side of the trailer before changing lanes.

Use caution while changing lanes when towing a trailer.

Lane Keep Assist (LKA)

If equipped, LKA may help avoid crashes due to unintentional lane departures. This system uses a camera to detect lane markings. The LKA may be ready to assist at speeds between 50 km/h (31 mph) and 180 km/h (112 mph). LKA may assist by gently turning the steering wheel if the vehicle approaches a detected lane marking. It may also provide a Lane Departure

Warning (LDW) alert if the vehicle crosses a detected lane marking. This system is not intended to keep the vehicle centered in the lane. LKA will not assist and alert if the turn signal is active in the direction of lane departure, or if it detects that you are accelerating, braking or actively steering. LKA can be overridden by turning the steering wheel. If the system detects you are steering intentionally across a lane marker, the LDW will not be given. Do not expect the LDW to occur when you are intentionally crossing a lane marker.

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

(Continued)

260 Driving and Operating

Warning (Continued)

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.
- 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 or on roads with unclear lane markings, such as construction zones.

Warning

Using LKA on slippery roads could cause loss of control of the vehicle and a crash. Turn the system off.

Warning

LKA will not alert the driver if a towed trailer crosses into an adjacent lane of travel. Serious injury or property damage may occur if the trailer moves into another lane. Always monitor the trailer position while towing to make sure it is within the same lane as the tow vehicle.

How the System Works

LKA uses a camera sensor installed on the windshield ahead of the rearview mirror to detect lane markings. It may provide brief steering assist if it detects an unintended lane departure. It may further provide an audible alert or the driver seat may pulse indicating that a lane marking has been crossed. The system does not provide a LDW when intentionally steering across a lane marker.

To turn LKA on and off, press  to the left of the steering wheel. If equipped, the indicator light on the button comes on when LKA is on and turns off when LKA is disabled. In some vehicles, a long press of over three seconds is required to turn LKA off.

When on,  is white, if equipped, indicating that the system is not ready to assist.  is green if LKA is ready to assist. LKA may assist by gently turning the steering wheel if the vehicle approaches a detected lane marking.  is amber when assisting. It may also provide a Lane Departure Warning (LDW) alert by flashing  amber if the vehicle crosses a detected lane marking. Additionally, there may be three beeps, or the driver seat may pulse three times, on the right or left, depending on the lane departure direction.

Take Steering

The LKA system does not continuously steer the vehicle. If LKA does not detect active driver steering, an alert and chime may be provided. Steer the vehicle to dismiss. LKA may become temporarily unavailable after repeated take steering alerts.

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.

A camera blocked message may display if the camera is blocked. Some driver assistance systems may have reduced performance or not work at all. An LKA or LDW unavailable message may display if the systems are temporarily unavailable. This message could be due to a blocked camera. The LKA system does not need service. Clean the outside of the windshield behind the rearview mirror.

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

Top Tier Fuel

GM recommends the use of TOP TIER Detergent Gasoline to keep the engine clean, reduce engine deposits, and maintain optimal vehicle performance. Look for the TOP TIER Logo or see www.toptiergas.com for a list of TOP TIER Detergent Gasoline marketers and applicable countries.



Recommended Fuel (5.3L Engine)



Use the recommended fuel for proper vehicle maintenance.

Use unleaded petrol with a posted octane rating of 91 RON or higher and with ethanol up to 10% by volume. Otherwise an audible knocking noise may be heard. If heavy knocking is heard when using gasoline rated at 91 RON or higher, the engine needs service.

Recommended Fuel (6.2L Engine)



Unleaded petrol with a posted octane rating of 95 RON or greater and with ethanol up to 10% by volume is recommended. If unavailable, unleaded petrol rated at

262 Driving and Operating

91 RON can be used, but will result in reduced performance and driveability, and an audible knocking noise may be heard. Once available, 95 RON petrol or greater should continue to be used. If heavy knocking is heard when using unleaded petrol rated at 95 RON or greater, the engine needs service.

Prohibited Fuels

Caution

Do not use fuels with any of the following conditions; doing so may damage the vehicle and void its warranty:

- Fuel with any amount of methanol, methylal, ferrocene, and aniline. These fuels can corrode metal fuel system parts or damage plastic and rubber parts.
- Fuel containing metals such as methylcyclopentadienyl manganese tricarbonyl (MMT), which can damage the emissions control system and spark plugs.

(Continued)

Caution (Continued)

- Fuel with a posted octane rating of less than the recommended fuel. Using this fuel will lower fuel economy and performance, and may decrease the life of the emissions catalyst.

Fuel Additives

TOP TIER Detergent Gasoline is highly recommended for use with your vehicle. If your country does not have TOP TIER Detergent Gasoline, add ACDelco Fuel System Treatment Plus-Gasoline to the vehicle's gasoline fuel tank at every oil change or 15 000 km (9,000 mi), whichever occurs first. TOP TIER Detergent Gasoline and ACDelco Fuel System Treatment Plus-Gasoline will help keep your vehicle's engine fuel deposit free and performing optimally. If you are unable to obtain ACDelco Fuel System Treatment Plus - Gasoline, consult your dealer for the GM approved additive available in your country.

Filling the Tank

An arrow on the fuel gauge indicates which side of the vehicle the fuel door is on. See *Fuel Gauge* ⇨ 111.

Warning

Fuel vapors and fuel fires burn violently and can cause injury or death.

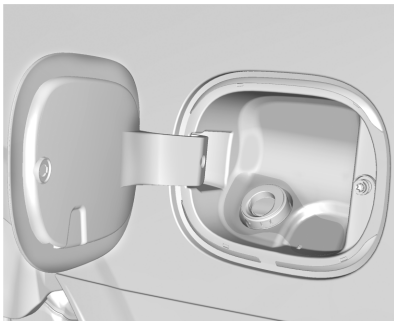
Follow these guidelines to help avoid injuries to you and others:

- 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.
- Avoid using electronic devices while refueling.
- Do not re-enter the vehicle while pumping fuel.
- Keep children away from the fuel pump and never let children pump fuel.
- Before touching the fill nozzle, touch a metallic object to discharge static electricity from your body.

(Continued)

Warning (Continued)

- Fuel can spray out if the fill nozzle is inserted too quickly. This spray can happen if the tank is nearly full, and is more likely in hot weather. Insert the fill nozzle slowly and wait for any hiss noise to stop before beginning to flow fuel.



To open the fuel door, push and release the rearward center edge of the door. The fuel door unlocks when the vehicle doors are unlocked. See *Remote Key Operation* ⇨ 7.

The capless refueling system does not have a fuel cap. Slowly and fully insert and latch the fill nozzle.

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.

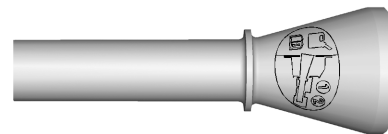
Be careful not to spill fuel. Wait five seconds after you have finished pumping before removing the nozzle. Clean fuel from painted surfaces as soon as possible. See *Exterior Care* ⇨ 346.

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.

Filling the Tank with a Portable Gas Can

If the vehicle runs out of fuel and must be filled from a portable gas can:



1. Locate the capless funnel adapter.
2. Insert and latch the funnel into the capless fuel system.

Warning

Attempting to refuel without using the funnel adapter may cause fuel spillage and damage the capless fuel system. This could cause a fire and you or others could be badly burned and the vehicle could be damaged.

3. Remove and clean the funnel adapter and return it to the storage location.

264 Driving and Operating

Filling a Portable Fuel Container

Warning

Never fill a portable fuel container while it is in the vehicle. Static electricity discharge from the container can ignite the fuel vapor. You or others could be badly burned and the vehicle could be damaged. To help avoid injury to you and others:

- Dispense fuel only into approved containers.
- Do not fill a container while it is inside a vehicle, in a vehicle's trunk, in a pickup bed, or on any surface other than the ground.
- Bring the fill nozzle in contact with the inside of the fill opening before operating the nozzle. Maintain contact until filling is complete.
- Keep sparks, flames, and smoking materials away from fuel.
- Avoid using electronic devices while pumping fuel.

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 to tow a trailer. Read the entire section before towing a trailer.

To tow a disabled vehicle, see *Transporting a Disabled Vehicle* ⇨ 345.

Driving Characteristics and Towing Tips

Warning

You can lose control when towing a trailer if the correct equipment is not used or the vehicle is not driven properly. For example, if the trailer is too heavy or the trailer brakes are inadequate for the load, the vehicle may not stop as expected. You and others could be seriously injured. The vehicle may also be damaged, and the repairs would not be covered by the vehicle warranty. Pull a trailer only if all the steps in this section

(Continued)

Warning (Continued)

have been followed. Ask your dealer for advice and information about towing a trailer with the vehicle.

Driving with a Trailer

Trailering is different than just driving the vehicle by itself. Trailering means changes in handling, acceleration, braking, durability, and fuel economy. Successful, safe trailering requires the proper use of correct equipment.

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. Read this section carefully before towing a trailer.

When towing a trailer:

- Become familiar with, and follow all state and local laws that apply to trailer towing. These requirements vary from state to state.

- State laws may require the use of extended side view mirrors. If your visibility is limited or restricted while towing, install extended side view mirrors on your vehicle, even if not required.
- Do not tow a trailer during the first 800 km (500 mi) of vehicle use to prevent damage to the engine, axle, or other parts.
- Perform the first oil change before heavy towing.
- Do not drive over 800 km/h (50 mph) and do not make starts at full throttle during the first 800 km (500 mi) of trailer towing.
- Tow in D (Drive). Tow/Haul Mode is recommended for heavier trailers. See *Driver Mode Control* ⇨ 225. If the transmission downshifts too often, a lower gear may be selected using Manual Mode. See *Manual Mode* ⇨ 216.

If equipped, the following driver assistance features should be turned off when towing a trailer:

- Park Assist
- Automatic Parking Assist (APA)
- Reverse Automatic Braking (RAB)

If equipped, the following driver assistance features should be turned to alert or off when towing a trailer, unless equipped with Super Cruise:

- Automatic Emergency Braking (AEB)
- Front Pedestrian Braking (FPB)

If equipped with Lane Change Alert (LCA), the LCA detection zones that extend back from the side of the vehicle do not move further back when a trailer is towed. Use caution while changing lanes when towing a trailer.

If equipped with Rear Cross Traffic Alert RIM (RCTA, RTCB, and RAB), these features will be disabled when towing a trailer.

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.

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.

(Continued)

Warning (Continued)

- Also adjust the climate control system to a setting that brings in only outside air. See “Climate Control Systems” in the Index.

For more information about carbon monoxide, see *Engine Exhaust* ⇨ 212.

Towing a trailer requires experience. The combination of the vehicle and trailer is longer and not as responsive as the vehicle itself. Get used to the handling and braking of the combination by driving on a level road surface before driving on public roads.

The trailer structure, the tires, and the brakes must all be rated to carry the intended cargo. Inadequate trailer equipment can cause the combination to operate in an unexpected or unsafe manner. Before driving, inspect all trailer hitch parts and attachments, safety chains, electrical connectors, lamps, tires, and mirrors. See *Towing Equipment* ⇨ 272. If the trailer has electric brakes, start the combination moving and then manually apply the trailer brake controller to check the trailer brakes work. During the trip, occasionally check

266 Driving and Operating

that the cargo and trailer are secure and that the lamps and any trailer brakes are working.

Towing with a Stability Control System

When towing, the stability control system might be heard. The system reacts to 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 without a trailer. This can help to avoid heavy braking and sudden turns.

Passing

More passing distance is needed when towing a trailer. The combination of the vehicle and trailer will not accelerate as quickly and is much longer than the vehicle alone. It is necessary to go much farther beyond the passed vehicle before returning to the lane. Pass on level roadways. Avoid passing on hills if possible.

Backing Up

Hold the bottom of the steering wheel with one hand. To move the trailer to the left, move that hand to the left. To move the trailer to the right, move that hand to the right. Always back up slowly and, if possible, have someone guide you.

Making Turns

Caution

Turn more slowly and make wider arcs when towing a trailer to prevent damage to your vehicle. Making very sharp turns could cause the trailer to contact the vehicle.

Make wider turns than normal when towing, so trailer will not go over soft shoulders, over curbs, or strike road signs, trees, or other objects. Always signal turns well in advance. Do not steer or brake suddenly.

Driving on Grades

Reduce speed and shift to a lower gear before starting down a long or steep downhill grade. If the transmission is not shifted down, the brakes may overheat and result in reduced braking efficiency.

The vehicle can tow in D (Drive). Shift the transmission to a lower gear if the transmission shifts too often under heavy loads and/or hilly conditions.

When towing at higher altitudes, engine coolant will boil at a lower temperature than at lower 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, 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* ⇨ 297.

Parking on Hills

Warning

To prevent serious injury or death, always park your vehicle and trailer on a level surface when possible.

When parking your vehicle and your trailer on a hill:

1. Press and hold the brake pedal, but do not shift into P (Park). Turn the wheels toward 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, gradually release the brake pedal to allow the chocks to absorb the load of the trailer.
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.
 - Start the engine.
 - Shift into the desired gear.
 - Release the parking brake.
2. Let up on the brake pedal.
3. Drive slowly until the trailer is clear of the chocks.
4. Stop and have someone pick up and store the chocks.

Launching and Retrieving a Boat

Backing the Trailer into the Water

Warning

- Have all passengers get out of the vehicle before backing onto the sloped part of the ramp. Lower the driver and passenger side windows before backing onto the ramp. This will provide a means of escape in the unlikely event the vehicle slides into the water.
- If the boat launch surface is slippery, have the driver remain in the vehicle with the brake pedal applied while the boat is being launched. The boat launch can be especially slippery at low tide when part of the ramp was previously submerged at high tide. Do not back onto the ramp to launch the boat if you are not sure the vehicle can maintain traction.
- Do not move the vehicle if someone is in the path of the trailer. Some parts of the trailer might be underwater and not visible to people who are assisting in launching the boat.

Disconnect the wiring to the trailer before backing the trailer into the water to prevent damage to the electrical circuits on the trailer. Reconnect the wiring to the trailer after removing the trailer from the water. If the trailer has electric brakes that can function when the trailer is submerged, it might help to leave the electrical trailer connector attached to maintain trailer brake functionality while on the boat ramp.

To back the trailer into the water:

1. If equipped, place the vehicle in Four-Wheel Drive High or Automatic Four-Wheel Drive.
2. Slowly back down the boat ramp until the boat is floating, but no further than necessary.
3. Press and hold the brake pedal, but do not shift into P (Park) yet.
4. Have someone place chocks under the front wheels of the vehicle.
5. Gradually release the brake pedal to allow the chocks to absorb the load of the trailer.
6. Reapply the brake pedal. Then apply the parking brake and shift into P (Park).
7. Release the brake pedal.

268 Driving and Operating

Pulling the Trailer from the Water

1. Press and hold the brake pedal.
2. Start the engine and shift into a gear.
3. Release the parking brake.
4. Let up on the brake pedal.
5. Drive slowly until the tires are clear of the chocks.
6. Stop and have someone pick up and store the chocks.
7. Slowly pull the trailer from the water.
8. Once the vehicle and trailer have been driven from the sloped part of the boat ramp, the vehicle can be shifted from four-wheel-drive high. Shift into the drive mode that is appropriate for the road conditions.

Caution

If the vehicle tires begin to spin and the vehicle begins to slide toward the water, remove your foot from the accelerator pedal and apply the brake pedal. Seek help to have the vehicle towed up the ramp.

Maintenance when Trailer Towing

The vehicle needs service more often when used to tow trailers. See *Maintenance Schedule* ⇨ 356. It is especially important to check the engine oil, axle lubricant, belts, cooling system, and brake system before and during each trip.

Check periodically that all nuts and bolts on the trailer hitch are tight.

Engine Cooling when Trailer Towing

The cooling system may temporarily overheat during severe operating conditions. See *Engine Overheating* ⇨ 297.

Trailer Towing

Caution

Towing a trailer improperly can damage the vehicle and result in costly repairs not covered by the vehicle warranty. To tow a trailer correctly, follow the directions in this section and see your dealer for important information about towing a trailer with the vehicle.

Trailerage is different than just driving the vehicle by itself. Trailerage means changes in handling, acceleration, braking, durability, and fuel economy. Successful, safe trailerage takes correct equipment, and it has to be used properly.

The following information has many time-tested, important trailerage tips and safety rules. Many of these are important for your safety and that of your passengers. Read this section carefully before pulling a trailer.

Trailer Weight

Warning

Never exceed the towing capacity for your vehicle.

Safe trailerage requires monitoring the weight, speed, altitude, road grades, outside temperature, dimensions of the front of the trailer, and how frequently the vehicle is used to tow a trailer.

Trailer Weight Ratings

When towing a trailer, the combined weight of the vehicle, vehicle contents, trailer, and trailer contents must be below all of the maximum weight ratings for the vehicle, including:

- Gross Combined Weight Rating (GCWR)
- Gross Vehicle Weight Rating (GVWR)
- Maximum Trailer Weight Rating
- Gross Axle Weight Rating-Rear (GAWR-RR)
- Maximum Trailer Tongue Weight Rating

See “Weight-Distributing Hitch Adjustment” under *Towing Equipment* ⇨ 272 to determine if equalizer bars are required to obtain the maximum trailer weight rating.

See “Trailer Brakes” under *Towing Equipment* ⇨ 272 to determine if brakes are required based on the trailer weight.

The only way to be sure the weight is not exceeding any of these ratings is to weigh the tow vehicle and trailer combination, fully loaded for the trip, getting individual weights for each of these items.

Warning

You and others could be seriously injured or killed if the trailer is too heavy or the trailer brakes are inadequate for the load. The vehicle may be damaged, and the repairs would not be covered by the vehicle warranty.

Only tow a trailer if all the steps in this section have been followed. Ask your dealer for advice and information about towing a trailer.

Gross Combined Weight Rating (GCWR)

GCWR is the total allowable weight of the completely loaded vehicle and trailer including any fuel, passengers, cargo, equipment, and accessories. Do not exceed the GCWR for your vehicle. The GCWR for the vehicle is on the Trailing Information Label.

To check that the weight of the vehicle and trailer are within the GCWR for the vehicle, follow these steps:

1. Start with the “curb weight” from the Trailing Information Label.
2. Add the weight of the trailer loaded with cargo and ready for the trip.

3. Add the weight of all passengers.

4. Add the weight of all cargo in the vehicle.

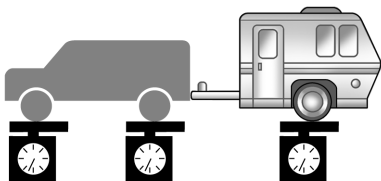
5. Add the weight of hitch hardware such as a draw bar, ball, load equalizer bars, or sway bars.

6. Add the weight of any accessories or aftermarket equipment added to the vehicle.

The resulting weight cannot exceed the GCWR value for the vehicle.

The gross combined weight can also be confirmed by weighing the vehicle and trailer on a public scale. The vehicle and trailer should be loaded for the trip with passengers and cargo.

270 Driving and Operating



Gross Vehicle Weight Rating (GVWR)

For information about the vehicle maximum load capacity, see *Vehicle Load Limits* ⇨ 203. When calculating the GVWR with a trailer attached, the trailer tongue weight must be included as part of the weight the vehicle is carrying.

Maximum Trailer Weight

The maximum trailer weight rating is calculated assuming the tow vehicle has a driver, a front seat passenger, and all required trailering equipment. This value represents the heaviest trailer the vehicle can tow, but it may be necessary to reduce

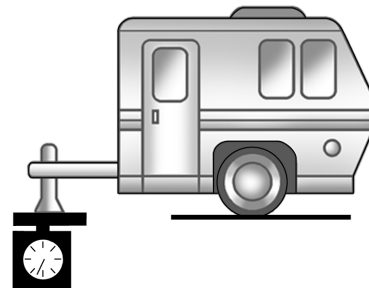
the trailer weight to stay within the GCWR, GVWR, maximum trailer tongue load, or GAWR-RR for the vehicle.

Use the tow rating chart to determine how much the trailer can weigh, based on the vehicle model, powertrain, and trailering options.

A step bumper trailer hitch can only support a total trailer weight up to 2 271 kg (5,000 lb). If a trailer hitch ball is added to the step bumper, check the hitch ball rating to be sure it is higher than the total trailer weight.

Maximum Trailer Tongue Weight Rating

The Maximum Trailer Tongue Weight Rating is the allowable trailer tongue weight that the vehicle can support using a conventional trailer hitch. It may be necessary to reduce the overall trailer weight to stay within the maximum trailer tongue weight rating while still maintaining the correct trailer load balance.

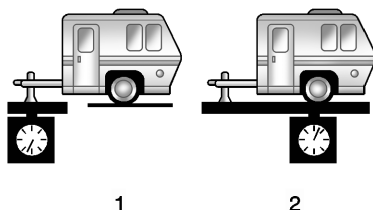


Do not exceed a maximum trailer tongue weight of 567 kg (1,250 lb) for a conventional trailer hitch.

The trailer tongue weight contributes to the Gross Vehicle Weight (GVW). GVW includes the curb weight of your vehicle, any passengers, cargo, equipment and the trailer tongue weight. Vehicle options, passengers, cargo, and equipment reduce the maximum allowable tongue weight the vehicle can carry, which also reduces the maximum allowable trailer weight.

Trailer Load Balance

The correct trailer load balance must be maintained to ensure trailer stability. Incorrect load balance is a leading cause of trailer sway.



The trailer tongue weight (1) should be 10–15% of the total loaded trailer weight (2). Some specific trailer types, such as boat trailers, fall outside of this range. Always refer to the trailer owner's manual for the recommended trailer tongue weight for each trailer. Never exceed the maximum loads for your vehicle, hitch and trailer.

The trailer load balance percentage is calculated as: weight (1) divided by weight (2) times 100.

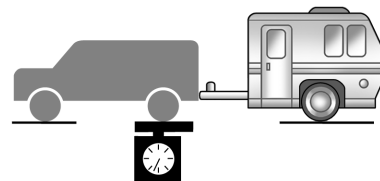
After loading the trailer, separately weigh the trailer and then the trailer tongue and calculate the trailer load balance percentage to see if the weights and distribution are appropriate for your vehicle. If the trailer weight is too high, it may be possible to transfer some of the cargo into your vehicle. If the trailer tongue weight is too high or too low, it may be possible to rearrange some of the cargo inside of the trailer.

Do not exceed the maximum allowable tongue weight for your vehicle. Use the shortest hitch extension available to position the hitch ball closer to your vehicle. This will help reduce the effect of the trailer tongue weight on the trailer hitch and the rear axle.

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 227 kg (500 lb), whichever is less.

Rear Gross Axle Weight Rating (GAWR-RR)

The GAWR-RR is the total weight that can be supported by the rear axle of the vehicle. Do not exceed the GAWR-RR for the vehicle, with the tow vehicle and trailer fully loaded for the trip including the weight of the trailer tongue. If using a weight-distributing hitch, do not exceed the GAWR-RR after applying the weight distribution spring bars.



Ask your dealer for trailering information or assistance.

272 Driving and Operating

Towing Equipment

Hitches

Warning

In order to avoid serious injury or property damage, always follow the hitch manufacturer's instructions when securing your draw bar/coupling device to the vehicle's hitch receiver.

Ensure that the draw bar/coupling device is secured with a locking retainer pin or other means such that rotation of the pin or locking mechanism will not cause the pin to back out or loosen during use. Failure to correctly secure the draw bar/coupling device to the receiver can result in separation of the hitch/receiver while towing.

Conventional Hitch

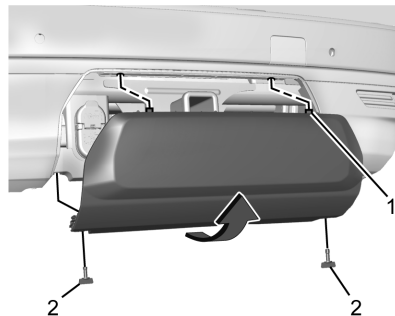
A conventional hitch is bolted to the frame or cross member of the tow vehicle, and is generally rated Class 2, 3, or 4.

Always use the correct hitch equipment for your vehicle. Crosswinds, large trucks going by, and rough roads can affect the trailer and the hitch.

Proper hitch equipment for your vehicle helps maintain control of the vehicle-trailer combination. Many trailers can be towed using a weight-carrying hitch which has a coupler latched to the hitch ball, or a tow eye latched to a pintle hook. Other trailers may require a weight-distributing hitch that uses spring bars to distribute the trailer tongue weight between your vehicle and trailer axles. See "Maximum Trailer Tongue Weight Rating" under *Trailer Towing* ⇨ 268 for weight limits with various hitch types.

Avoid sharp turns when using a step-bumper hitch to prevent damage. Make wider turns to prevent contact between your trailer and your bumper.

Hitch Cover



To remove hitch cover, if equipped:

1. Remove the two fasteners on the lower tabs (2).
2. Pull the lower edge of the cover to about a 45 degree angle.
3. Pull the cover upward to disengage the upper attachments (1).

To reinstall hitch cover:

1. Hold cover at a 45 degree angle to the vehicle and push the upper tabs into the slots in the bumper.
2. Push the bottom of the cover forward until the lower tabs line up with the lower slots.
3. Snap the hitch cover into place by pushing the upper corners forward (1).
4. Reinstall the two fasteners on the lower tabs (2).

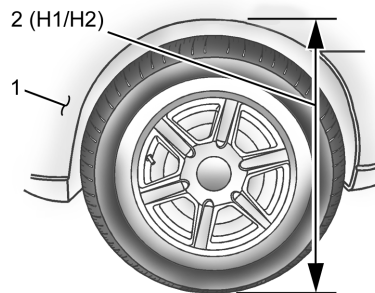
Consider using mechanical sway controls with any trailer. Ask a trailering professional about sway controls or refer to the trailer manufacturer's recommendations and instructions.

Weight-Distributing Hitch and Adjustment

A weight-distributing hitch may be useful with some trailers. Use the following guidelines to determine if a weight-distributing hitch should be used.

274 Driving and Operating

Trailer Weight	Weight-Distributing Hitch Usage	Hitch Distribution
Up to 2 720 kg (6,000 lb)	Not Required	50%
Over 2 720 kg (6,000 lb)	Required	50%



1. Front of Vehicle
2. H1/H2 Body to Ground Distance

Towing

1. Position the truck so that the trailer is ready to connect (Keep trailer detached).
2. Measure the height of the top of the front wheel opening at the fender to the ground (H1).
3. Attach the vehicle to the trailer, do not attach weight distribution bars at this time.
4. Measure the height of the top of the front wheel opening on the fender to the ground (H2).
5. Install and adjust the tension in the weight distributing bars per the manufacturers' recommendations so that the height of the front fender is approximately $H2 - [(H2-H1)/2]$ (half way between the two measured ride heights).
6. Visually inspect the trailer and weight distributing hitch to ensure that the manufacturers' recommendations have been met.

Measurement	Height Example 1500 (mm)
H1	1000
H2	1050
H2-H1	50
$(H2-H1)/2$	25
$H2 - [(H2-H1)/2]$	1025

Towing with the Four Corner Air Suspension System

1. Adjust the vehicle air suspension to "Normal Ground Clearance Height."
2. Position the truck so that the trailer is ready to connect (Keep trailer detached).
3. Enable air suspension 'Service Mode' in the center infotainment screen under Settings/Vehicle/Suspension.
4. Measure the height of the top of the front wheel opening at the fender to the ground (H1).

5. Attach the vehicle to the trailer, do not attach weight distribution bars at this time.
6. Measure the height of the top of the front wheel opening on the fender to the ground (H2).
7. Install and adjust the tension in the weight distributing bars per the manufacturers' recommendations so that the height of the front fender is approximately $H2 - [(H2-H1)/3]$ (1/3 between the two measured ride heights, below the secondary ride height {H2}).

8. Disable air suspension air suspension "Service Mode."
9. Air suspension will automatically adjust ride height following step 8.
10. Visually inspect the trailer and weight-distributing hitch to ensure that the manufacturers' recommendations have been met.

276 Driving and Operating

Measurement	Height Example 1500 (mm)
H1	1 000
H2	1 060
H2-H1	60
$(H2-H1)/3$	20
$H2-[(H2-H1)/3]$	1 040

Tires

- Do not tow a trailer while using a compact spare tire on the vehicle.
- Tires must be properly inflated to support loads while towing a trailer. See *Tires* ⇨ 318 for instructions on proper tire inflation.

Safety Chains

Always attach chains between the vehicle and the trailer, and attach the chains to the holes on the trailer hitch platform. Instructions about safety chains may be provided by the hitch manufacturer or by the trailer manufacturer.

If the trailer being towed weighs up to 2 271 kg (5,000 lb) with a factory-installed step bumper, safety chains may be attached

to the attaching points on the bumper; otherwise, safety chains should be attached to holes on the trailer hitch.

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 combination can turn. Never allow safety chains to drag on the ground.

Trailer Brakes

Loaded trailers over 900 kg (2,000 lb) must be equipped with brake systems and with brakes for each axle. Trailer braking equipment conforming to Canadian Standards Association (CSA) requirement CAN3-D313, or its equivalent, is recommended.

State or local regulations may require trailers to have their own braking system if the loaded weight of the trailer exceeds certain minimums that can vary from state to state. Read and follow the instructions for the trailer brakes so they are installed, adjusted, and maintained properly. Never attempt to tap into your vehicle's hydraulic brake system. If you do, both the vehicle anti-lock brakes and the trailer brakes may not function, which could result in a crash.

Trailer Wiring Harness

The seven-pin trailer connector is mounted in the bumper. This connector can be plugged into a seven-pin universal heavy-duty trailer connector available through your dealer.

Use only a round, seven-wire connector with flat blade terminals meeting SAE J2863 specifications for proper electrical connectivity.

The seven-wire harness contains the following trailer circuits:

- Yellow/Grey: Left Stop/Turn Signal
- Green/Violet: Right Stop/Turn Signal
- Grey/Brown: Taillamps
- White: Ground
- White/Green: Back-up Lamps
- Red/Green: Battery Feed
- Dark Blue: Trailer Brake

To help charge a remote (non-vehicle) battery change drive mode to Tow Haul. If the trailer is too light for Tow/Haul Mode, turn on the headlamps to help charge the battery.

Electric Brake Control Wiring Provisions

These wiring provisions are included with the vehicle as part of the trailer wiring package. These provisions are for an electric brake controller.

The harness should be installed by your dealer or a qualified service center.

Refer to the aftermarket electric trailer brake controller owner's manual to determine wire color coding of the electric trailer brake controller. The wire colors on the brake controller may be different from the vehicle.

Trailer Lamps

Always check all trailer lamps are working at the beginning of each trip, and periodically on longer trips.

Trailer Connection and Lamp Messages

When a trailer is properly connected and working, no trailer connection or lamp messages appear on the Driver Information Center (DIC). However; if the vehicle detects an issue with a trailer connection or lamp, you may see the following DIC message:

- CHECK TRAILER XXX LAMP appears when there is a detected lamp or wiring fault on the trailer. Check the trailer wiring and lamps.

Turn Signals When Towing a Trailer

When properly connected, the trailer turn signals illuminate to indicate the vehicle is turning, changing lanes, or stopping. When towing a trailer, the arrows on the

instrument cluster illuminate even if the trailer is not properly connected or the bulbs are burned out.

Tow/Haul Mode

For instructions on how to enter Tow/Haul mode, see *Driver Mode Control* ⇨ 225.

Tow/Haul assists when pulling a heavy trailer or a large or heavy load.

Tow/Haul Mode is designed to be most effective when the vehicle and trailer combined weight is at least 75% of the vehicle's Gross Combined Weight Rating (GCWR). See "Maximum Trailer Weight" under *Trailer Towing* ⇨ 268.

Tow/Haul Mode is most useful when towing a heavy trailer or carrying a large or heavy load:

- through rolling terrain
- in stop-and-go traffic
- in busy parking lots

Operating the vehicle in Tow/Haul Mode when lightly loaded or not towing will not cause damage; however, it is not recommended and may result in unpleasant engine and transmission driving characteristics and reduced fuel economy.

278 Driving and Operating

Integrated Trailer Brake Control System

The vehicle may have an Integrated Trailer Brake Control (ITBC) system for use with electric trailer brakes or most electric over hydraulic trailer brake systems. These instructions apply to both types of electric trailer brakes.



This symbol is on the Trailer Brake Control Panel on vehicles with an ITBC system. The power output to the trailer brakes is proportional to the amount of vehicle braking. This available power output to the trailer brakes can be adjusted to a wide range of trailering situations.

The ITBC system is integrated with the vehicle's brake, anti-lock brake, and StabiliTrak/Electronic Stability Control (ESC) systems. In trailering conditions that cause the vehicle's anti-lock brake or StabiliTrak/ESC systems to activate, power sent to the trailer's brakes will be automatically

adjusted to minimize trailer wheel lock-up. This does not imply that the trailer has StabiliTrak/ESC.

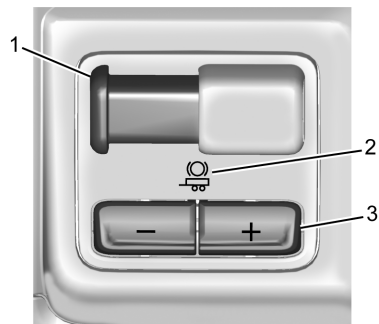
If the vehicle's brake, anti-lock brake, or StabiliTrak/ESC systems are not functioning properly, the ITBC system may not function fully or at all. Make sure all of these systems are fully operational to allow the ITBC system to function properly.

The ITBC system is powered through the vehicle's electrical system. Turning the ignition off will also turn off the ITBC system. The ITBC system is fully functional only when the ignition is in ON/RUN.

Warning

Connecting a trailer that has an air brake system may result in reduced or complete loss of trailer braking, including increased stopping distance or trailer instability which could result in serious injury, death, or property damage. Only use the ITBC system with electric or electric over hydraulic trailer brake systems.

Trailer Brake Control Panel



1. Manual Trailer Brake Apply Lever
2. Trailer Symbol
3. Trailer Gain Adjustment Buttons

The ITBC control panel is on the instrument panel to the left of the steering column. The control panel allows adjustment to the amount of output, referred to as Trailer Gain, available to the trailer brakes and allows manual application of the trailer brakes. Use the ITBC control panel and the DIC trailer brake display page to adjust and display power output to the trailer brakes.

Trailer Brake DIC Display Page

The ITBC display page indicates:

- Trailer Gain setting
- Output to the trailer brakes
- Trailer connection
- System operational status.

To display:

- Scroll through the DIC menu pages
- Press a Trailer Gain (+) or (-) button
- Activate the Manual Trailer Brake Apply Lever

TRAILER GAIN:

Press a Trailer Gain button to recall the current Trailer Gain setting. Each press and release of the gain buttons will then change the Trailer Gain setting. Press the Trailer Gain (+) or (-) to adjust. Press and hold to continuously adjust the Trailer Gain. To turn the output to the trailer off, adjust the Trailer Gain setting to 0.0. This setting can be adjusted from 0.0 to 10.0 with a trailer connected or disconnected.

TRAILER OUTPUT: This displays anytime a trailer with electric brakes is connected. Output to the trailer brakes is based on the amount of vehicle braking present and

relative to the Trailer Gain setting. Output is displayed from 0 to 100% for each gain setting.

The Trailer Output will indicate “- - - - -” on the Trailer Brake Display Page whenever the following occur:

- No trailer is connected.
- A trailer without electric brakes is connected, no DIC message will display
- A trailer with electric brakes has become disconnected, a CHECK TRAILER WIRING message displays on the DIC
- There is a fault present in the wiring to the trailer brakes, a CHECK TRAILER WIRING message displays on the DIC
- The ITBC system is not working due to a fault, a SERVICE TRAILER BRAKE SYSTEM message displays in the DIC

Manual Trailer Brake Apply Lever

Slide this lever right to apply the trailer's electric brakes independent of the vehicle's brakes. Use this lever to adjust Trailer Gain to achieve the proper power output to the trailer brakes. This lever may also be used to request additional trailer braking at any time. The trailer's and the vehicle's brake

lamps will come on when either vehicle brakes or manual trailer brakes are applied and properly connected.

Trailer Gain Adjustment Procedure

Trailer Gain should be set for a specific trailering condition and it must be readjusted anytime vehicle loading, trailer loading, or road surface conditions change.

Warning

Trailer brakes that are over-gained or under-gained may not stop the vehicle and the trailer as intended and can result in a crash. Always follow the instructions to set the Trailer Gain for the proper trailer stopping performance.

To adjust Trailer Gain for each towing condition:

1. Drive the vehicle with the trailer attached on a level road surface representative of the towing condition and free of traffic at about 32 to 40 km/h (20 to 25 mph) and fully apply the Manual Trailer Brake apply lever.

280 Driving and Operating

Note

Adjusting Trailer Gain at speeds lower than 32 to 40 km/h (20 to 25 mph) may result in an incorrect gain setting.

2. Adjust the Trailer Gain, using the Trailer Gain adjustment buttons, to just below the point of trailer wheel lock-up, indicated by trailer wheel squeal or tire smoke when a trailer wheel locks.

Note

Trailer wheel lock-up may not occur if towing a heavily loaded trailer. In this case, adjust the Trailer Gain to the highest allowable setting for the towing condition.

3. Readjust Trailer Gain any time vehicle loading, trailer loading, or road surface conditions change or if trailer wheel lock-up is noticed at any time while towing.

Other ITBC-Related DIC Messages

TRAILER BRAKES CONNECTED: This message will briefly display when a trailer with electric brakes is first connected to the vehicle. This message will automatically turn off in about 10 seconds. This message can be acknowledged before it automatically turns off.

CHECK TRAILER WIRING: This message will display if:

- The ITBC system first determines connection to a trailer with electric brakes and then the trailer harness becomes disconnected from the vehicle.

If the disconnect occurs while the vehicle is stationary, this message will automatically turn off in about 30 seconds. This message will also turn off if it is acknowledged or if the trailer harness is reconnected.

If the disconnect occurs while the vehicle is moving, this message will continue until the vehicle is turned off. This message will also turn off if it is acknowledged or if the trailer harness is reconnected.

- There is an electrical fault in the wiring to the trailer brakes. This message will continue as long as there is an electrical fault in the trailer wiring. This message will also turn off if it is acknowledged.

To determine whether the electrical fault is on the vehicle side or trailer side of the trailer wiring harness connection:

1. Disconnect the trailer wiring harness from the vehicle.

2. Turn the vehicle off.

3. Wait 10 seconds, then turn the vehicle back to RUN.

4. If the CHECK TRAILER WIRING message reappears, the electrical fault is on the vehicle side.

If the CHECK TRAILER WIRING message only reappears when connecting the trailer wiring harness to the vehicle, the electrical fault is on the trailer side.

TRAILER BRAKES DISABLED SERVICE

REQUIRED: This message will display when there is a problem with the ITBC system. If this message continues over multiple restarts, have the vehicle serviced.

If either the CHECK TRAILER WIRING, TRAILER BRAKES DISABLED SERVICE REQUIRED, SERVICE TRAILER BRAKES, HOLD LAST KNOWN GAIN, or REDUCED TRAILER BRAKING message displays while driving, the ITBC system may not be fully functional or may not function at all. When traffic conditions allow, carefully pull the vehicle over to the side of the road and turn the vehicle off. Check the wiring connection to the trailer and turn the vehicle back on. If either of these messages continues, either the vehicle or trailer needs service.

A GM dealer may be able to diagnose and repair problems with the trailer. However, any diagnosis and repair of the trailer is not covered under the vehicle warranty. Contact your trailer dealer for assistance with trailer repairs and trailer warranty information.

Trailer Sway Control (TSC)

Vehicles with StabiliTrak/Electronic Stability Control (ESC) have a Trailer Sway Control (TSC) feature. Trailer sway is unintended side-to-side motion of a trailer while towing. If the vehicle is towing a trailer and the TSC detects that sway is increasing, the vehicle brakes are selectively applied at each wheel, to help reduce excessive trailer sway. If equipped with the Integrated Trailer Brake Control (ITBC) system, and the trailer has an electric brake system, StabiliTrak may also apply the trailer brakes.



If TSC is enabled, the Traction Control System (TCS)/StabiliTrak warning light will flash on the instrument cluster. Reduce vehicle speed by gradually removing your foot from the accelerator. If trailer sway continues, StabiliTrak can reduce engine torque to help slow the vehicle. TSC will not function if StabiliTrak is turned off. See *Traction Control/Electronic Stability Control* ⇨ 223.

Warning

Trailer sway can result in a crash and in serious injury or death, even if the vehicle is equipped with TSC.

If the trailer begins to sway, reduce vehicle speed by gradually removing your foot from the accelerator. Then pull over to check the trailer and vehicle to help correct possible causes, including an improperly or overloaded trailer,

(Continued)

Warning (Continued)

unrestrained cargo, improper trailer hitch configuration, or improperly inflated or incorrect vehicle or trailer tires. See *Towing Equipment* ⇨ 272 for trailer ratings and hitch setup recommendations.

Aftermarket Electronic Trailer Sway Control Devices

Some trailers may come equipped with an electronic device designed to reduce or control trailer sway. Aftermarket equipment manufacturers also offer similar devices that connect to the wiring between the trailer and the vehicle. These devices may interfere with the vehicle's trailer brake systems or other systems, including integrated anti-sway systems, if equipped. Messages related to trailer connections or trailer brakes could appear on the DIC. The effects of these aftermarket devices on vehicle handling or trailer brake performance is not known.

282 Driving and Operating

Warning

Use of aftermarket electronic trailer sway control devices could result in reduced trailer brake performance, loss of trailer brakes, or other malfunctions, and result in a crash. You or others could be seriously injured or killed. Before using one of these devices:

- Ask the device or trailer manufacturer if the device has been thoroughly tested for compatibility with the make, model, and year of your vehicle and any optional equipment installed on your vehicle.
- Before driving, check the trailer brakes are working properly, if equipped. Drive the vehicle with the trailer attached on a level road surface that is free of traffic at about 32-40 km/h (20-25 mph) and fully apply the manual trailer brake apply lever. Also, check the trailer brake lamps and other lamps are functioning correctly.
- If the trailer brakes are not operating properly at any time, or if a DIC message indicates problems with the trailer connections or trailer brakes,

(Continued)

Warning (Continued)

carefully pull the vehicle over to the side of the road when traffic conditions allow.

Trailer Tires

Special Trailer (ST) tires differ from vehicle tires. Trailer tires are designed with stiff sidewalls to help prevent sway and to support heavy loads. These features can make it difficult to determine if the trailer tire pressures are low only based on a visual inspection.

Always check all trailer tire pressures before each trip when the tires are cool. Low trailer tire pressure is a leading cause of trailer tire blow-outs.

Trailer tires deteriorate over time. The trailer tire sidewall will show the week and year the tire was manufactured. Many trailer tire manufacturers recommend replacing tires more than six years old.

Overloading is another leading cause of trailer tire blow-outs. Never load your trailer with more weight than the tires are designed to support. The load rating is located on the trailer tire sidewall.

Always know the maximum speed rating for the trailer tires before driving. This may be significantly lower than the vehicle tire speed rating. The speed rating may be on the trailer tire sidewall. If the speed rating is not shown, the default trailer tire speed rating is 105 km/h (65 mph).

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)* ⇨ 117. 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.

 Warning

Certain mobile radio equipment, like amplifiers and antennas used for two-way communication, can interfere with some vehicle systems. Always ensure this equipment is supplied with proper local grounding. Follow all of the instructions that came with the equipment and see your GM dealer for additional mobile radio installation instructions.

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* ⇨ 69 and *Adding Equipment to the Airbag-Equipped Vehicle* ⇨ 69.

284 Vehicle Care

Vehicle Care

General Information

General Information	285
Accessories and Modifications	285

Vehicle Checks

Doing Your Own Service Work	285
Hood	285
Engine Compartment Overview	287
Engine Oil	290
Engine Oil Life System	292
Automatic Transmission Fluid	293
Engine Air Filter Life System	293
Engine Air Cleaner/Filter	294
Cooling System	295
Engine Overheating	297
Engine Fan	299
Washer Fluid	299
Brakes	299
Brake Pad Life System	300
Brake Fluid	301
Battery	302
Four-Wheel Drive	303
Front Axle	303
Rear Axle	303
Park Brake and P (Park) Mechanism Check	304
Wiper Blade Replacement	304
Glass Replacement	305

Windshield Replacement	305
Gas Strut(s)	305

Headlamp Aiming

Front Headlamp Aiming	306
-----------------------------	-----

Bulb Replacement

Bulb Replacement	306
LED Lighting	306
Taillamps, Turn Signal, Stoplamps, and Back-Up Lamps (Chevrolet Only)	307

Electrical System

Electrical System Overload	308
Fuses and Circuit Breakers	309
Engine Compartment Fuse Block	310
Instrument Panel Fuse Block	314
Rear Compartment Fuse Block	316

Wheels and Tires

Tires	318
All-Season Tires	319
Winter Tires	319
Low-Profile Tires	319
All-Terrain Tires	319
Tire Pressure	320
Tire Pressure for High-Speed Operation	321
Tire Pressure Monitor System	322
Tire Pressure Monitor Operation	323
Tire Inspection	325
Tire Rotation	326

When It Is Time for New Tires	327
Buying New Tires	327
Different Size Tires and Wheels	328
Wheel Alignment and Tire Balance	329
Wheel Replacement	329
Tire Chains	330
If a Tire Goes Flat	330
Tire Changing	331
Full-Size Spare Tire	342

Jump Starting

Jump Starting	342
---------------------	-----

Towing the Vehicle

Transporting a Disabled Vehicle	345
---------------------------------------	-----

Appearance Care

Exterior Care	346
Interior Care	351
Floor Mats	353

General Information

For service and parts needs, visit your dealer. You will receive genuine parts and trained and supported service people.

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, Driver Assistance Systems, 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* ⇨ 69.

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's 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.

This vehicle has an airbag system. Before attempting to do your own service work, see *Servicing the Airbag-Equipped Vehicle* ⇨ 69.

Keep a record with all parts receipts and list the mileage and the date of any service work performed.

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

Warning

For vehicles with auto engine stop/start, turn the vehicle off before opening the hood. If the vehicle is on, the engine will start when the hood is opened. You or others could be injured.

286 Vehicle Care

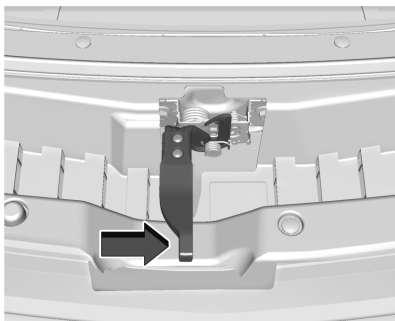
Warning

Components under the hood can get hot from running the engine. To help avoid the risk of burning unprotected skin, never touch these components until they have cooled, and always use a glove or towel to avoid direct skin contact.

Clear any snow from the hood before opening.

To open the hood:

1. Pull the hood release lever with the  symbol. It is on the lower left side of the instrument panel.



2. Go to the front of the vehicle and locate the secondary release lever under the front center of the hood. Push the secondary hood release lever to the right to release.
3. After you have partially lifted the hood, the gas strut system will automatically lift the hood and hold it in the fully open position.

To close the hood:

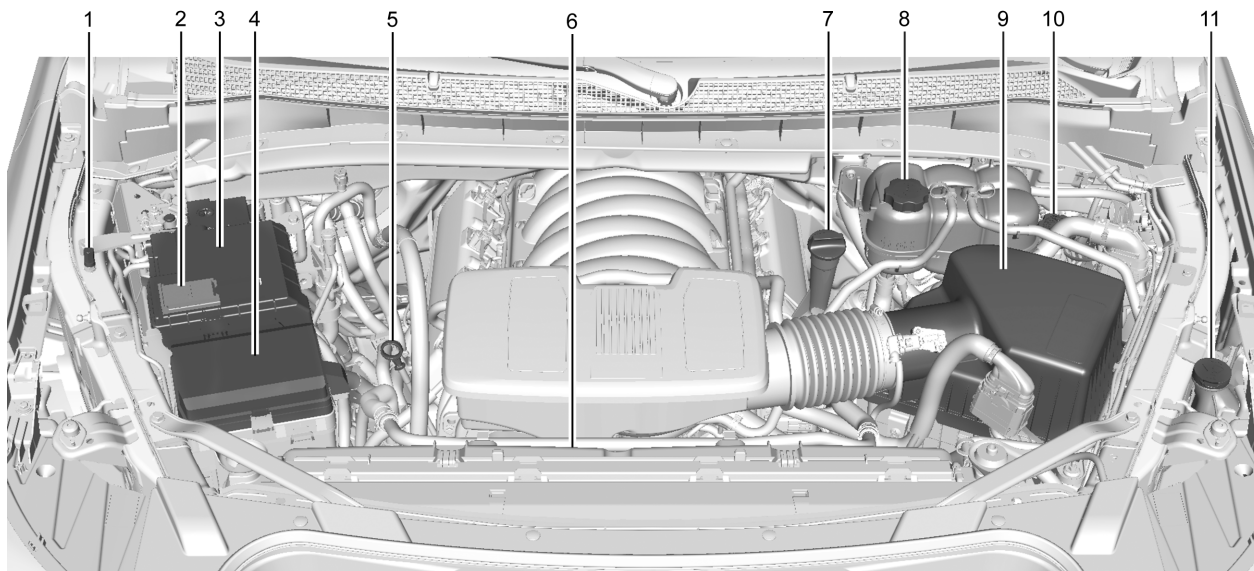
1. Before closing the hood, be sure all filler caps are on properly, and all tools are removed.
2. Pull the hood down until the gas strut system is no longer holding up the hood.
3. Allow the hood to fall. Check to make sure the hood is latched completely. Repeat this process with additional force if necessary.

Warning

Do not drive the vehicle if the hood is not latched completely. The hood could open fully, block your vision, and cause a crash. You or others could be injured. Always close the hood completely before driving.

The Driver Information Center (DIC) will display a message if the hood is not fully closed, and the vehicle is moving. 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.

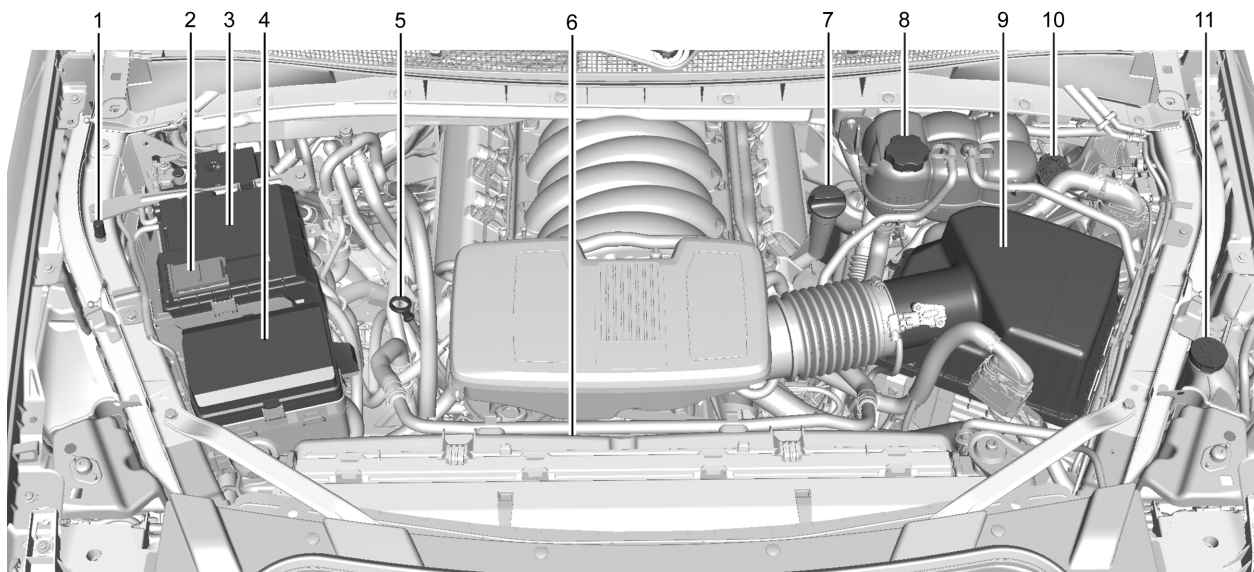
Engine Compartment Overview



5.3L V8 Engine

288 Vehicle Care

1. Remote Negative (–) Location. See *Jump Starting* ⇨ 342.
2. Positive (+) Terminal (Under Cover). See *Jump Starting* ⇨ 342.
3. *Battery* ⇨ 302.
4. *Engine Compartment Fuse Block* ⇨ 310.
5. Engine Oil Dipstick. See “Checking Engine Oil” under *Engine Oil* ⇨ 290.
6. Engine Cooling Fans (Out of View). See *Cooling System* ⇨ 295.
7. Engine Oil Fill Cap. See “When to Add Engine Oil” under *Engine Oil* ⇨ 290.
8. Coolant Surge Tank and Pressure Cap. See *Cooling System* ⇨ 295.
9. *Engine Air Cleaner/Filter* ⇨ 294.
10. Brake Fluid Reservoir. See *Brake Fluid* ⇨ 301.
11. Windshield Washer Fluid Reservoir. See “Adding Washer Fluid” under *Washer Fluid* ⇨ 299.



6.2L V8 Engine

290 Vehicle Care

1. Remote Negative (–) Location. See *Jump Starting* ⇨ 342.
2. Positive (+) Terminal (Under Cover). See *Jump Starting* ⇨ 342.
3. *Battery* ⇨ 302.
4. *Engine Compartment Fuse Block* ⇨ 310.
5. Engine Oil Dipstick. See “Checking Engine Oil” under *Engine Oil* ⇨ 290.
6. Engine Cooling Fans (Out of View). See *Cooling System* ⇨ 295.
7. Engine Oil Fill Cap. See “When to Add Engine Oil” under *Engine Oil* ⇨ 290.
8. Coolant Surge Tank and Pressure Cap. See *Cooling System* ⇨ 295.
9. *Engine Air Cleaner/Filter* ⇨ 294.
10. Brake Fluid Reservoir. See *Brake Fluid* ⇨ 301.
11. Windshield Washer Fluid Reservoir. See “Adding Washer Fluid” under *Washer Fluid* ⇨ 299.

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* ⇨ 292.
- Always dispose of engine oil properly. See “What to Do with Used Oil” in this section.

Checking Engine Oil

Check the engine oil level regularly, every 650 km (400 mi), especially prior to a long trip. The engine oil dipstick handle is a loop. See *Engine Compartment Overview* ⇨ 287 for the location.

Warning

The engine oil dipstick handle may be hot; it could burn you. Use a towel or glove to touch the dipstick handle.

If a low oil Driver Information Center (DIC) message displays, check the oil level.

Follow these guidelines:

- To get an accurate reading, park the vehicle on level ground. Check the engine oil level after the engine has been off for at least two hours. Checking the engine oil level on steep grades or too soon after engine shutoff can result in incorrect readings. Accuracy improves when checking a cold engine prior to starting. Remove the dipstick and check the level.
- If unable to wait two hours, the engine must be off for at least 15 minutes if the engine is warm, or at least 30 minutes if the engine is not warm. Pull out the dipstick, 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 and the engine has been off for at least 15 minutes, add 1 L (1 qt) of the recommended oil and then recheck the level. See “Selecting the Right Engine Oil” later in this section for an explanation of what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications* ⇨ 367.

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 the oil level is 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

(Continued)

Caution (Continued)

damaged. Drain the excess oil or limit driving of the vehicle, and seek a service professional to remove the excess oil.

See *Engine Compartment Overview* ⇨ 287 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* ⇨ 362.

Specification

Use full synthetic 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.



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 0W-20 viscosity grade engine oil.

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.

292 Vehicle Care

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.

On some vehicles, when the system has calculated that oil life has been diminished, a CHANGE ENGINE OIL SOON message comes on to indicate that an oil change is necessary. Change the oil as soon as possible within the next 1 000 km (600 mi). It is possible that, if driving under the best conditions, the oil life system might indicate that an oil change is not necessary for up to a year. The engine oil and filter must be changed at least once a year and, at this time, the system must be reset. For vehicles without the CHANGE ENGINE OIL SOON message, an oil change is needed when the REMAINING OIL LIFE percentage is near 0%. 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. Always reset the engine oil life to 100% after every oil change. It will not reset itself. To reset the engine oil life system:

1. Display the oil life percentage on the DIC. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.
2. Press the thumbwheel on the steering wheel, or the trip odometer reset stem if the vehicle does not have DIC controls, for several seconds. When the confirmation message displays, select YES. The oil life will change to 100%.

The oil life system can also be reset as follows:

1. Display the oil life percentage on the DIC. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.
2. Fully press the accelerator pedal slowly three times within five seconds.
3. If the display changes to 100%, the system is reset.

If the vehicle has a CHANGE ENGINE OIL SOON message and it comes back on when the vehicle is started and/or the oil life percentage is near 0%, the engine oil life system has not been reset. Repeat the procedure.

Automatic Transmission Fluid

When to Check and Change Automatic Transmission Fluid

It is usually not necessary to check the transmission fluid level. The only reason for fluid loss is a transmission leak or overheated transmission. This vehicle is not equipped with a transmission fluid level dipstick. There is a special procedure for checking and changing the transmission fluid

in these vehicles. Because this procedure is difficult, this should be done at the dealer. Contact the dealer for additional information.

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* ⇨ 362.

Change the fluid and filter at the scheduled maintenance intervals listed in *Maintenance Schedule* ⇨ 356. Be sure to use the transmission fluid listed in *Recommended Fluids and Lubricants* ⇨ 362.

Engine Air Filter Life System

If equipped, this feature provides the engine air filter's remaining life and best timing for a change. The timing to change an engine air filter depends on driving and environmental conditions.

When to Change the Engine Air Filter

When the Driver Information Center (DIC) displays a message to replace the engine air filter at the next oil change, follow this timing.

When the DIC displays a message to replace the engine air filter soon, replace the engine air filter at the earliest convenience.

The system must be reset after the engine air filter is changed.

If the DIC displays a message to check the engine air filter system, see your dealer.

How to Reset the Engine Air Filter Life System

To reset:

1. Place the vehicle in P (Park).
2. Display the Air Filter Life on the DIC. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.
3. Press the thumbwheel on the steering wheel to move to the Reset/Disable display area. Select Reset then press the thumbwheel for several seconds.

294 Vehicle Care

4. Press the thumbwheel to confirm the reset.

Engine Air Cleaner/Filter

The engine air cleaner/filter is on the driver side of the engine compartment. See *Engine Compartment Overview* ⇨ 287.

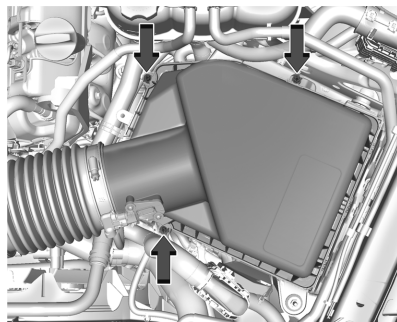
When to Inspect the Engine Air Cleaner/Filter

If the vehicle is not equipped with the engine air filter life system see *Maintenance Schedule* ⇨ 356 for intervals on inspecting and replacing the engine air cleaner filter.

How to Inspect/Replace 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. Do not clean the engine air cleaner/filter or components with water or compressed air.

To inspect or replace the engine air cleaner/filter:



5.3L V8 Engine Shown, 6.2L V8 Engine Similar

1. Remove the three screws, tilt the cover, and slide it out of the assembly.

Warning

If part replacement is necessary, the part must be replaced with one of the same part number or with an equivalent part. Use of a replacement part without the same fit, form, and function may result in personal injury or damage to the vehicle.

2. Inspect or replace the engine air cleaner/filter.
3. Lower the cover, slide it into the assembly, then secure with the three screws.
4. If equipped, reset the engine air filter life system after replacing the engine air filter. See *Engine Air Filter Life System* ⇨ 293.

Warning

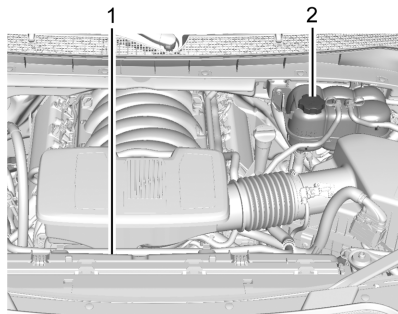
Operating the engine with the air cleaner/filter off can cause you or others to be burned. Use caution when working on the engine. Do not start the engine or drive the vehicle with the air cleaner/filter off, as flames may be present if the engine backfires.

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 driving.

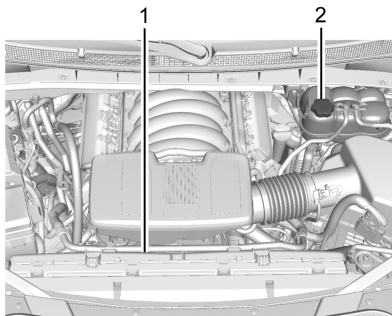
Cooling System

The cooling system allows the engine to maintain the correct working temperature.



5.3L V8 Engine

1. Engine Electric Cooling Fans (Out of View)
2. Coolant Surge Tank and Pressure Cap



6.2L V8 Engine

1. Engine Electric Cooling Fans (Out of View)
2. Coolant Surge Tank and Pressure Cap

Warning

An underhood electric fan 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

Do not touch heater, radiator, a/c pipes or hoses, or other engine parts. They can be very hot and can burn you. Do not run the engine if there is a leak; all coolant could leak out. That could cause an engine fire and can burn you. Fix any leak before driving 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* ⇨ 297.

What to Use

Warning

Plain water, or other liquids such as alcohol, can boil before the proper coolant mixture will. With plain water or
(Continued)

296 Vehicle Care

Warning (Continued)

the wrong mixture, the engine could get too hot but there would not be an 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. 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

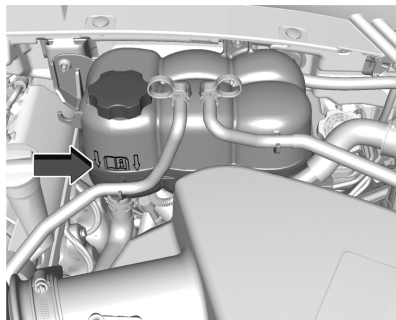
Do not use anything other than a mix of DEX-COOL coolant that meets GM Standard GMW3420 and clean, drinkable water. Anything else can cause damage to the engine cooling system and the vehicle, which would not be covered by the vehicle warranty.

Never dispose of engine coolant by putting it in the trash, or by pouring it on the ground, or into sewers, streams, or bodies of water. Have the coolant changed by an authorized service center, familiar with legal requirements regarding used coolant disposal. This will help protect the environment and your health.

Checking Coolant

The coolant surge tank is in the engine compartment on the driver side of the vehicle. See *Engine Compartment Overview* ⇨ 287.

The vehicle must be on a level surface when checking the coolant level.



5.3L V8 Engine Shown, 6.2L V8 Engine Similar

Check to see if coolant is visible in the coolant surge tank. If the coolant inside the coolant surge tank is boiling, wait until it cools down. The coolant level should be at or above the indicated mark. If it is not, there may be a leak in the cooling system.

If coolant is visible but the coolant level is not at or above the indicated mark, see the following sections on how to add coolant to the coolant surge tank following.

How to Add Coolant to the Coolant Surge Tank

Warning

Spilling coolant on hot engine parts can burn you. Coolant contains ethylene glycol and it will burn if the engine parts are hot enough.

Warning

Plain water, or other liquids such as alcohol, can boil before the proper coolant mixture will. With plain water or the wrong mixture, the engine could get
(Continued)

Warning (Continued)

too hot but there would not be an overheat warning. The engine could catch fire and you or others could be burned.

Warning

Steam and scalding liquids from a hot cooling system are under pressure. Turning the pressure cap, even a little, can cause them to come out at high speed and you could be burned. Never turn the cap when the cooling system, including the pressure cap, is hot. Wait for the cooling system and pressure cap to cool.

Caution

Failure to follow the specific coolant fill procedure could cause the engine to overheat and could cause system damage. If coolant is not visible in the surge tank, contact your dealer.

If no coolant is visible in the surge tank, add coolant.



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 full turn. If a hiss is heard, wait for that to stop. A hiss means there is still some pressure left.
2. Keep turning the pressure cap slowly, and remove it.
3. Fill the coolant surge tank with the proper mixture to the full cold mark.
4. With the coolant surge tank pressure cap off, start the engine and let it run until the engine coolant temperature gauge indicates approximately 90 °C (195 °F). By this time, the coolant level inside the coolant surge tank may be lower. If the level is lower, add more of the proper mixture to the coolant surge tank until the level reaches the indicated mark.

5. Replace the pressure cap tightly.
6. Verify coolant level after the engine is shut off and the coolant is cold. If necessary, repeat coolant fill procedure Steps 1–6.

Caution

If the pressure cap is not tightly installed, coolant loss and engine damage may occur. Be sure the cap is properly and tightly secured.

Engine Overheating

Caution

Do not run the engine if there is a leak in the engine cooling system. This can cause a loss of all coolant and can damage the system and vehicle. Have any leaks fixed right away.

The vehicle has several indicators to warn of engine overheating.

298 Vehicle Care

There is a coolant temperature gauge and a engine coolant temperature warning light in the vehicle's instrument cluster. See *Engine Coolant Temperature Gauge* ⇨ 113 and *Engine Coolant Temperature Warning Light* ⇨ 123.

In addition, there are ENGINE OVERHEATED STOP ENGINE, ENGINE OVERHEATED IDLE ENGINE, and ENGINE POWER IS REDUCED messages in the Driver Information Center (DIC).

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.

Check to see if the engine cooling fan(s) are running. If the engine is overheating, the fans should be running. If they are not, do not continue to run the engine. Have the vehicle serviced.

If Steam is Coming from the Engine Compartment

Warning

Steam and scalding liquids from a hot cooling system are under pressure. Turning the pressure cap, even a little, can cause them to come out at high speed and you could be burned. Never turn the cap when the cooling system, including the pressure cap, is hot. Wait for the cooling system and pressure cap to cool.

If No Steam is Coming from the Engine Compartment

The ENGINE OVERHEATED STOP ENGINE or the ENGINE OVERHEATED IDLE ENGINE message, along with a low coolant condition, can indicate a serious problem.

If there is an engine overheat warning, but no steam is seen or heard, the problem may not be too serious. Sometimes the engine can get a little too hot when the vehicle:

- Climbs a long hill on a hot day.
- Stops after high-speed driving.
- Idles for long periods in traffic.

- Tows a trailer; see *Trailer Towing* ⇨ 268.

If the ENGINE OVERHEATED STOP ENGINE or the ENGINE OVERHEATED IDLE ENGINE message appears with no sign of steam, try this for a minute or so:

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 or an overheat warning no longer displays, the vehicle can be driven. Continue to drive the vehicle slowly for about 10 minutes. Keep a safe vehicle distance from the vehicle in front. If the warning does not come back on, continue to drive normally 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 still no sign of steam and the vehicle is equipped with an engine driven cooling fan, push down the accelerator until the engine speed is about twice as fast as

normal idle speed for at least five minutes while the vehicle is parked. If the warning is still there, turn off the engine and get everyone out of the vehicle until it cools down.

If there is no sign of steam, idle the engine for five minutes while parked. If the warning is still displayed, turn off the engine until it cools down.

Engine Fan

If the vehicle has electric cooling fans, the fans may be heard spinning at low speed during most everyday driving. The fans may turn off if no cooling is required. Under heavy vehicle loading, trailer towing, high outside temperatures, or operation of the air conditioning system, the fans may change to high speed and an increase in fan noise may be heard. This is normal and indicates that the cooling system is functioning properly. The fans will change to low speed when additional cooling is no longer required.

The electric engine cooling fans may run after the engine has been turned off. This is normal and no service is required.

Washer Fluid

What to Use

When windshield washer fluid needs to be added, be sure to read the manufacturer's instructions before use. Use a fluid that has sufficient protection against freezing in an area where the temperature may fall below freezing.

Adding Washer Fluid

The vehicle has a low washer fluid message on the DIC that comes on when the washer fluid is low. The message is displayed for 15 seconds at the start of each ignition cycle. When the WASHER FLUID LOW ADD FLUID message displays, washer fluid will need to be added to the windshield washer fluid reservoir.



Open the cap with the washer symbol on it. Add washer fluid until the tank is full. See *Engine Compartment Overview* ⇨ 287 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.
- 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 linings have built-in wear indicators that make a high-pitched warning sound when the brake linings are worn and

300 Vehicle Care

new linings 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 linings could result in costly brake repairs.

Some driving conditions or climates can cause a brake squeal when the brakes are first applied, clearing up following several applications. 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 linings for wear and evenly tighten wheel nuts in the proper sequence to torque specifications. See *Capacities and Specifications* ⇨ 367.

Brake pads should be replaced as complete axle sets.

Brake Pedal Travel

See your dealer if the brake pedal does not return to normal height, or if there is a rapid increase in pedal travel. This could be a sign that brake service 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 can change in many ways if the wrong brake parts are installed or if parts are improperly installed.

Brake Pad Life System

When to Change Brake Pads

This vehicle has a system that estimates the remaining life of the front and rear brake pads. Brake pad life is displayed in the Driver Information Center (DIC), along with a percentage for each axle. The system must be reset every time the brake pads are changed.

When the system has determined that the brake pads need to be replaced, a message will display, which may include mileage remaining.

Brake pads should always be replaced as complete axle sets.

How to Reset the Brake Pad Life System

The system will automatically detect when significantly worn brake pads are replaced. When the ignition is turned on after new pads and wear sensors are installed, a message will display. Follow the prompts to reset the system.

The brake pad life system can also be manually reset:

1. Display Brake Pad Life on the DIC. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.
2. Select the Brake Pad Life menu.
3. Select front or rear pads as appropriate.
4. Select YES on the confirmation message. Repeat for pads on the other axle if they were also replaced.

How to Disable the Brake Pad Life System

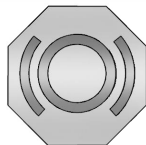
The brake pad life system can be turned off. This may be necessary if aftermarket brake pads without wear sensors are installed. When the system is turned off, the front and rear brake pad life percentages will not display. However, the built-in wear indicators that make a high-pitched warning sound when the brake pads are worn can still determine when the pads should be replaced. See *Brakes* ⇨ 299.

To turn off the brake pad life system:

1. Display Brake Pad Life on the DIC. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.
2. Select the Brake Pad Life menu.
3. Select DISABLE.

To turn the brake pad life system back on, follow the above steps but select ENABLE in Step 2.

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* ⇨ 287 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. 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* ⇨ 119.

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* ⇨ 356.

302 Vehicle Care

What to Add

Use only GM approved DOT 4 brake fluid from a clean, sealed container. See *Recommended Fluids and Lubricants* ⇨ 362.

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

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* ⇨ 287 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.

Stop/Start System

This vehicle has a Stop/Start system to shut off the engine to help conserve fuel. See *Stop/Start System* ⇨ 209.



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

Batteries have acid that can burn you and gas that can explode. You can be hurt badly if you are not careful.

Follow instructions carefully when working around a battery.

Battery posts, terminals and related accessories contain lead and lead compounds which can cause cancer and reproductive harm. Wash hands after handling.

Vehicle Storage

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.

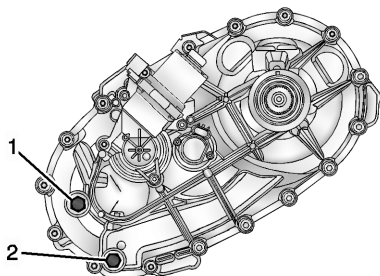
Four-Wheel Drive

Transfer Case

When to Check Lubricant

Refer to *Maintenance Schedule* ⇨ 356 to determine when to check the lubricant.

How to Check Lubricant



1. Fill Plug
2. Drain Plug

To get an accurate reading, the vehicle should be on a level surface.

If the level is below the bottom of the fill plug (1) hole, located on the transfer case, some lubricant will need to be added. Add enough lubricant to raise the level to the bottom of the fill plug (1) hole. Use care not to overtighten the plug.

When to Change Lubricant

Refer to *Maintenance Schedule* ⇨ 356 to determine how often to change the lubricant.

What to Use

Refer to *Recommended Fluids and Lubricants* ⇨ 362 to determine what kind of lubricant to use.

Front Axle

When to Check Lubricant

It is not necessary to regularly check the front axle fluid unless a leak is suspected or an unusual noise is heard. A fluid loss could indicate a problem. Have it inspected and repaired. This service can be complex. See your dealer.

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 drive axles and should be replaced.

Rear Axle

When to Check Lubricant

It is not necessary to regularly check the rear axle fluid unless a leak is suspected or an unusual noise is heard. A fluid loss could indicate a problem. Have it inspected and repaired. This service can be complex. See your dealer.

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 drive axles and should be replaced.

304 Vehicle Care

Park Brake and P (Park) Mechanism Check

Warning

When you are doing this check, the vehicle could begin to move. You or others could be injured and property could be damaged. Make sure there is room in front of the vehicle in case it begins to roll. Be ready to apply the regular brake at once should the vehicle begin to move.

Park on a fairly steep hill, with the vehicle facing downhill. Keeping your foot on the regular brake, set the parking brake.

- To check the parking brake's holding ability: With the engine running and the transmission in N (Neutral), slowly remove foot pressure from the regular brake pedal. Do this until the vehicle is held by the parking brake only.
- To check the P (Park) mechanism's holding ability: With the engine running, shift to P (Park). Then release the parking brake followed by the regular brake.

Contact your dealer if service is required.

Wiper Blade Replacement

Windshield wiper blades should be inspected for wear or cracking.

For the proper type and size, see *Maintenance Replacement Parts* ⇨ 363.

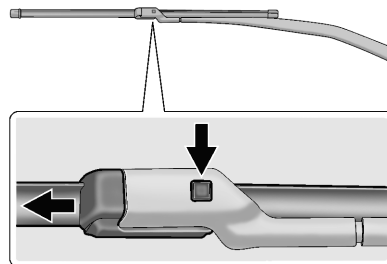
Caution

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 wiper blade assembly:

1. Pull the windshield wiper assembly away from the windshield.



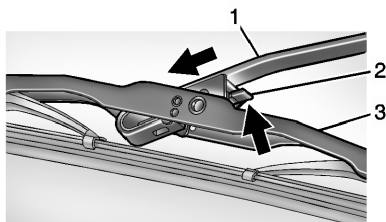
2. Press the button in the middle of the wiper arm connector, and pull the wiper blade away from the arm connector.
3. Remove the wiper blade.
4. Reverse Steps 1–3 for wiper blade replacement.

Rear Wiper Blade Replacement

To replace the rear wiper blade:

1. With the rear wiper in the off position, open the liftglass to access the rear wiper arm/blade.

The rear wiper blade will not lock in a vertical position so use care when pulling it away from the vehicle.



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 in the wiper arm hook until the release lever clicks into place.
4. Return the wiper arm and blade assembly to the rest position on the glass.

Glass Replacement

If the windshield or front side glass must be replaced, see your dealer to determine the correct replacement glass.

Windshield Replacement

HUD System

The windshield is part of the HUD system. If the windshield must be replaced, get one that is designed for HUD or the HUD image may look out of focus.

Driver Assistance Systems

If the windshield needs to be replaced and the vehicle is equipped with a front camera sensor for the Driver Assistance Systems, a GM replacement windshield is recommended. The replacement windshield must be installed according to GM specifications for proper alignment. If it is not, these systems may not work properly, they may display messages, or they may not work at all. See your dealer for proper windshield replacement.

Gas Strut(s)

Your vehicle may be equipped with gas strut(s) to provide assistance in lifting and holding open the hood/trunk/liftgate system in full open position.

Warning

If the gas struts that hold open the hood, trunk, and/or liftgate fail, you or others could be seriously injured. Take the vehicle to your dealer for service immediately. Visually inspect the gas struts for signs of wear, cracks, or other damage periodically. Check to make sure the hood/trunk/liftgate is held open with enough force. If struts are failing to hold the hood/trunk/liftgate, do not operate. Have the vehicle serviced.

Caution

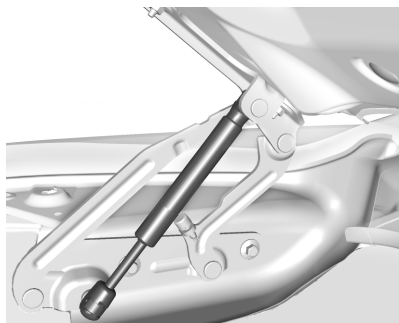
Do not apply tape or hang any objects from gas struts. Also do not push down or pull on gas struts. This may cause damage to the vehicle.

See *Maintenance Schedule* ⇨ 356.

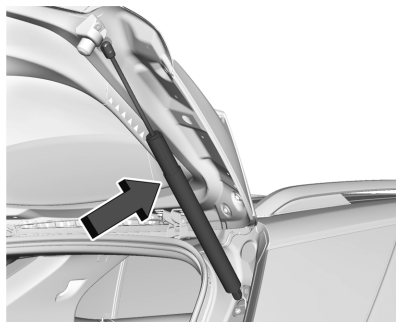
306 Vehicle Care



Hood



Trunk



Liftgate

Headlamp Aiming

Front 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, or any bulb changing procedure not listed in this section, contact your dealer.

Caution

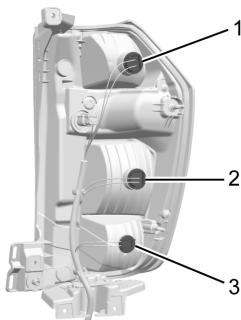
Do not replace incandescent bulbs with aftermarket LED replacement bulbs. This can cause damage to the vehicle electrical system.

LED Lighting

This vehicle has several LED lamps. For replacement of any LED lighting assembly, contact your dealer.

Taillamps, Turn Signal, Stoplamps, and Back-Up Lamps (Chevrolet Only)

Base Level Taillamp Assembly



1. Stop Lamp
2. Turn Signal Lamp
3. Back-Up Lamp

It is recommended to replace the grommets when replacing a bulb. See your dealer.

To replace one of these bulbs:

1. Open the liftgate.



2. Remove the middle trim piece by pulling towards the center of the vehicle to disengage the clips.

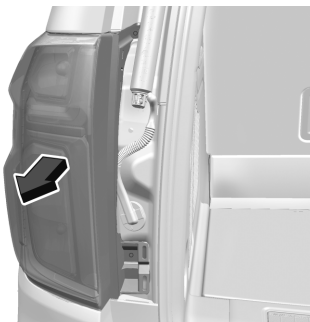


3. Remove the lower taillamp closeout cover from the taillamp assembly by pulling rearward from the top and bottom to disengage the clips.



4. Remove the two rear lamp assembly screws.

308 Vehicle Care



5. Pull the rear lamp assembly rearward to remove it from the vehicle.
6. Turn the bulb socket counterclockwise.
7. Pull the bulb straight out from the socket.
8. Replace the bulb and reverse Steps 1–6 to reinstall.

Electrical System

Electrical System Overload

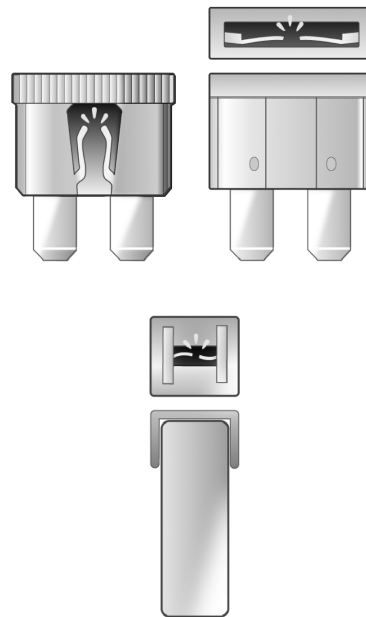
The vehicle has fuses and circuit breakers to protect against an electrical system overload.

When the current electrical load is too heavy, the circuit breaker opens and closes, protecting the circuit until the current load returns to normal or the problem is fixed. This greatly reduces the chance of circuit overload and fire caused by electrical problems.

Fuses and circuit breakers protect the wires that provide the power to the devices in your vehicle.

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.

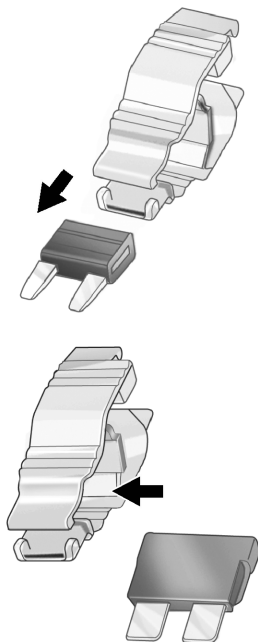
To check a fuse, look at the band inside the fuse. If the band is broken or melted, replace the fuse. Be sure to replace a bad fuse with a fuse of the identical size and rating.



Replacing a Blown Fuse

1. Turn off the vehicle.

2. Locate the fuse puller on the instrument panel end cap. See the *Instrument Panel Fuse Block* ⇨ 314.



3. Use the fuse puller to remove the fuse from the top or side, as shown above.
4. If the fuse must be replaced immediately, spare fuses are also provided on the instrument panel end cap or borrow a replacement fuse with the same amperage from the fuse block. Choose a vehicle feature that is not needed to safely operate the vehicle. Repeat Steps 2-3.
5. Insert the replacement fuse into the empty slot of the blown fuse.

At the next opportunity, see your dealer to replace the blown fuse.

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.

Danger

Fuses and circuit breakers are marked with their ampere rating. Do not exceed the specified amperage rating when replacing fuses and circuit breakers. Use of an oversized fuse or circuit breaker can result in a vehicle fire. You and others could be seriously injured or killed.

310 Vehicle Care



Warning

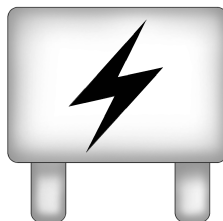
Installation or use of fuses that do not meet GM's original fuse specifications is dangerous. The fuses could fail, and result in a fire. You or others could be injured or killed, and the vehicle could be damaged.

See *Accessories and Modifications* ⇨ 285 and *General Information* ⇨ 285.

To check or replace a blown fuse, see *Electrical System Overload* ⇨ 308.

Engine Compartment Fuse Block

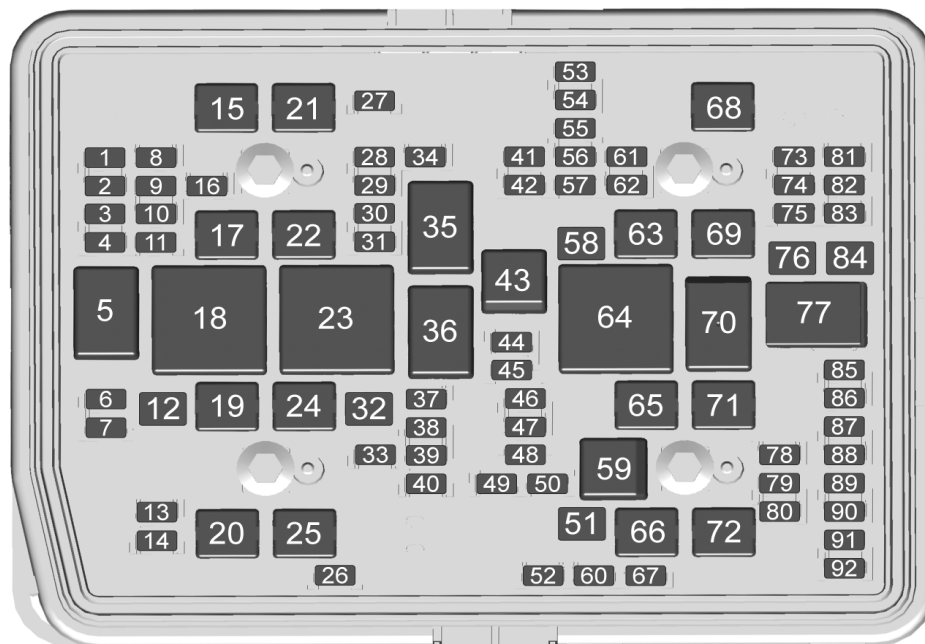
The engine compartment fuse block is in the engine compartment, on the driver side of the vehicle.



Lift the cover to access the fuse block.

Caution

Spilling liquid on any electrical component on the vehicle may damage it. Always keep the covers on any electrical component.



Fuses	Usage	Fuses	Usage	Fuses	Usage
1	—	4	—	7	ELM 4 – Exterior Lighting Module 4
2	—	6	ELM 7 – Exterior Lighting Module 7	8	—
3	—				

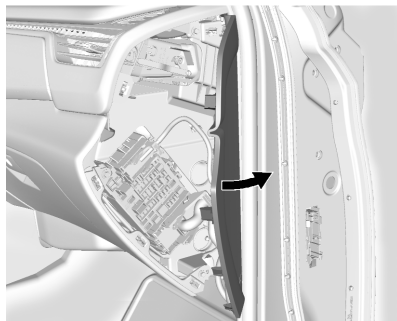
312 Vehicle Care

Fuses	Usage	Fuses	Usage	Fuses	Usage
9	ELM 5 – Exterior Lighting Module 5	27	Horn	46	Engine Control Module (ECM) Ignition
10	ELM 6 – Exterior Lighting Module 6	28	Headlamp RT – Right	47	OBD Engine
11	Spare	29	Headlamp LT – Left	48	–
12	–	30	ELM 3 – Exterior Lighting Module 3	49	TCM – Telematics Control Module
13	Washer Front	31	ELM 1 – Exterior Lighting Module 1	50	A/C Clutch
14	Washer Rear	32	–	51	TCCM – Transfer Case Control Module
15	REC 2 – Rear Electrical Center 2	33	Not R/C	52	Front Wiper
16	Power Sounder	34	–	53	–
17	Spare	37	On Board Diagnostics (OBD) Body	54	Left Taillamps
19	DC/AC Inverter	38	MISC Body	55	Trailer Back-up Lamp
20	IECR 2	39	Upfitter	56	SADS – Semi Active Damping System
21	–	40	MISC Instrument Panel (IP)	57	Spare
22	IECL 2	41	Trailer Parking Lamps	58	Starter Motor
24	EBCM – Electronic Brake Control Module	42	Right Taillamp	60	AFM 1 – Active Fuel Management 1
25	REC 1 – Rear Electrical Center 1	44	Trailer Tow	61	Automatic Lamp Control (ALC) Main
26	Camera Wash	45	Secondary Axle Motor		

Fuses	Usage	Fuses	Usage	Fuses	Usage
62	ICCM/CVS/DEF – Integrated Chassis Control Module/Canister Vent Solenoid/Diesel Exhaust Fluid	76	ELEC RNG BDS	92	Cool Fan Clutch AERO Shutter
63	Trailer Brake	78	ECM – Engine Control Module		
65	AUX UEC – Auxiliary Underhood Electrical Center	79	–	Relays	Usage
66	Left Cool Fan Motor	80	Cabin Cool Pump 17W	5	–
67	AFM 2 – Active Fuel Management 2	81	Right Trailer Stop Turn Lamp	18	DC/AC Inverter
68	Automatic Lamp Control (ALC) Motor	82	TIM 1 – Trailer Interface Module 1	23	–
69	Starter Pinion	83	FTZM – Fuel Tank Zone Module	35	Park Lamp
71	Cool Fan Motor Lower	84	Trailer Battery	36	Run/Crank
72	Right Cool Fan Motor/Lower	85	Engine	43	Secondary Axle Motor
73	Left Trailer Stop Turn Lamp	86	ECM – Engine Control Module	59	A/C Clutch
74	TIM 2 – Trailer Interface Module 2	87	Injector B Even	64	Starter Motor
75	DEFC – Diesel Exhaust Fluid Controller	88	O2 B Sensor	70	Starter Pinion
		89	O2 A Sensor	77	Powertrain
		90	Injector A Odd		
		91	Engine Control Module (ECM) Throttle Control		

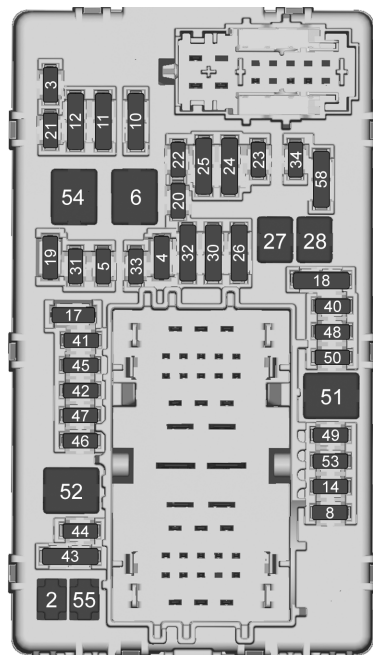
314 Vehicle Care

Instrument Panel Fuse Block

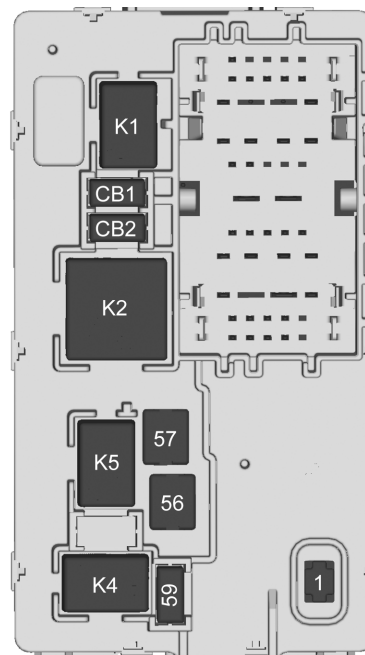


The right instrument panel fuse block access door is on the passenger side edge of the instrument panel.

Pull off the cover to access the fuse block. A fuse puller is available on the right instrument panel end cap.



There are relays on the back of the fuse block. To access, press the tabs and remove the fuse block.



The vehicle may not be equipped with all of the fuses, relays, and features shown.

Fuses	Usage	Fuses	Usage	Fuses	Usage
F1	Right Door	F21	–	F34	Out of Park
F2	Left Door	F22	Heated Wheel	F40	–
F3	Universal Garage Door Opener (UGDO)/OnStar Hands-free Calling (OHC)/Camera	F23	–	F41	–
F4	BCM 2 – Body Control Module 2	F24	–	F42	Electric Park Brake Switch
F5	Displays	F25	Search Engine Optimization (SEO)/UPFITTER	F43	RSE – Road Side Equipment
F6	Front Blower	F26	USB/Search Engine Optimization (SEO) Retained Accessory Power (RAP)	F44	AVM 2 – Active Vibration Module 2
F8	Left Door Panel	F27	Auxiliary Power Outlet (APO)/Retained Accessory Power	F45	Radio Module
F10	Tilt/Column Lock	F28	Spare	F46	BCM 1A – Body Control Module 1A
F11	USB/Data Link Connector (DLC)	F30	SDM/AOS – Sensing and Diagnostic Module/ Automatic Occupant Sensing	F47	–
F12	Central Gateway Module (CGM)/Onstar	F31	BCM 3 – Body Control Module 3	F48	TCM – Telematics Control Module
F14	Right Door Panel	F32	Center Stack Module (CSM)/USB	F49	BCM 1 – Body Control Module 1
F17	Steering Wheel Control	F33	BCM 4 – Body Control Module 4	F50	DMS – Driver Monitoring System
F18	AVM 1 – Active Vibration Module 1			F51	–
F19	–			F52	–
F20	–			F53	–
				F54	Sunroof

316 Vehicle Care

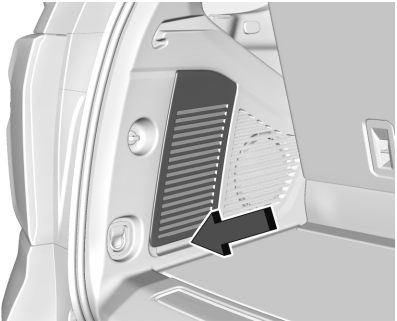
Fuses	Usage
F55	APO 3 – Auxiliary Power Outlet 3
F56	DC/DC CNV BATT 1 – Direct Current/Direct Current Converter Battery 1
F57	DC/DC CNV BATT 2 – Direct Current/Direct Current Converter Battery 2
F58	Spare
F59	–

Circuit Breakers	Usage
CBO1	APO 1 – Auxiliary Power Outlet 1
CBO2	APO 2 – Auxiliary Power Outlet 2

Relays	Usage
K1	–
K2	RAP/ACCY 1 – Retain Accessory Power/Accessory 1

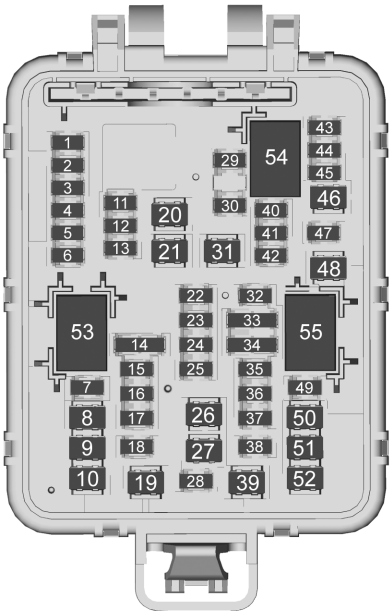
Relays	Usage
K4	RAP/ACCY 2 – Retain Accessory Power/Accessory 2
K5	–

Rear Compartment Fuse Block



The rear compartment fuse block is behind the access panel on the left side of the compartment.

Pull the panel out by grabbing the finger access slot at the rear edge.



The vehicle may not be equipped with all of the fuses, relays, and features shown.

Fuses	Usage	Fuses	Usage	Fuses	Usage
F01	RFA – Remote Function Actuator	F15	Heated Seat Module Row 1 (Battery 2)	F29	–
F02	WCM – Wireless Charging Module	F16	RH CINCH Latch – Right Hand Cinch Latch	F30	–
F03	Heated Seat Module Row 1 (Battery 1)	F17	Memory Seat Module Passenger	F31	Amp – Amplifier
F04	Memory Seat Module (MSM) Driver	F18	Rear Wiper	F32	–
F05	–	F19	Motor Seatbelt Driver	F33	ICCM – Integrated Chassis Control Module
F06	–	F20	Rear Defogger	F34	Heated Seat Module Row 2
F07	Amp Aux 2 – Amplifier Auxiliary 2	F21	–	F35	HFCR
F08	–	F22	Rear HVAC Display Control	F36	ELM – Exterior Lighting Module
F09	SEO UPFTR 2 – Search Engine Optimization Upfitter 2	F23	EOCM – External Object Calculation Module	F37	–
F10	Motor Seatbelt Passenger	F24	Amp Aux 3 – Amplifier Auxiliary 3	F38	Power Slide Console
F11	Power Folding Seat Row 2	F25	OBS DET	F39	–
F12	GBS	F26	RDCM – Rear Drive Control Module	F40	–
F13	–	F27	Amp Aux 1 – Amplifier Auxiliary 1	F41	–
F14	–	F28	VPM – Video Processing Module	F42	–
				F43	UPA – Universal Park Assist
				F44	–

318 Vehicle Care

Fuses	Usage
F45	AFL AHL – Adaptive Forward Lighting/ Automatic Headlamp Leveling
F46	Rear HVAC Blower Motor
F47	LH CINCH Latch – Left Hand Cinch Latch
F48	Power Seat Recline Module
F49	Lift Glass
F50	Driver Power Seat
F51	Power Liftgate Module
F52	Passenger Power Seat

Relays	Usage
K53	–
K54	–
K55	L/GLASS

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* ⇨ 203.
- Underinflated tires pose the same danger as overloaded tires. The resulting crash could cause serious injury. Check all tires frequently to

(Continued)

Warning (Continued)

maintain the recommended pressure. Tire pressure should be checked when the tires are cold.

- Overinflated tires are more likely to be cut, punctured, or broken by a sudden impact — such as when hitting a pothole. Keep tires at the recommended pressure.
- Worn or old tires can cause a crash. If the tread is badly worn, replace them.
- Replace any tires that have been damaged by impacts with potholes, curbs, etc.
- Improperly repaired tires can cause a crash. Only your dealer or an authorized tire service center should repair, replace, dismount, and mount the tires.

(Continued)

Warning (Continued)

- Do not spin the tires in excess of 56 km/h (35 mph) on slippery surfaces such as snow, mud, ice, etc. Excessive spinning may cause the tires to explode.

See *Tire Pressure for High-Speed Operation* ⇨ 321 for inflation pressure adjustment for high-speed driving.

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* ⇨ 319.

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* ⇨ 327.

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.

Low-Profile Tires

If the vehicle has 275/55R20 or 275/50R22 size tires, they are classified as low-profile tires.

Caution

Low-profile tires are more susceptible to damage from road hazards or curb impact than standard profile tires. Tire and/or wheel assembly damage can occur when coming into contact with road hazards like potholes, or sharp edged objects, or when sliding into a curb. The warranty does not cover this type of damage. Keep tires set to the correct inflation pressure and when possible, avoid contact with curbs, potholes, and other road hazards.

All-Terrain Tires

This vehicle may have all-terrain or mud-terrain tires. These tires provide good performance on most road surfaces, weather conditions, and for off-road driving. See *Off-Road Driving* ⇨ 196.

320 Vehicle Care

The tread pattern on these tires may wear more unevenly than other tires. Consider rotating the tires more frequently than at 12 000 km (7,500 mi) intervals if irregular wear is noted when the tires are inspected. See *Tire Inspection* ⇨ 325.

Tire Pressure

Tires need the correct amount of air pressure to operate effectively.

Warning

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 for internal combustion engine vehicles
- Reduced range for electric vehicles

(Continued)

Warning (Continued)

Overinflated tires, or tires that have too much air, can result in:

- Unusual wear
- Poor handling
- Rough ride
- Needless damage from road hazards

The Tire and Loading Information label on the vehicle indicates the original equipment tires and the correct cold tire inflation pressures. The recommended pressure is the minimum air pressure needed to support the vehicle's maximum load carrying capacity.

For additional information regarding how much weight the vehicle can carry, and an example of the Tire and Loading Information label, see *Vehicle Load Limits* ⇨ 203. 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 pressure of the tires once a month or more.

Do not forget the spare, if the vehicle has one. See *Full-Size Spare Tire* ⇨ 342 for additional information.

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.

Re-check the tire pressure with the tire gauge.

Put the valve caps back on the valve stems to keep out dirt and moisture. 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 for High-Speed Operation

Warning

Driving at high speeds, 160 km/h (100 mph) or higher, puts additional strain on tires. Sustained high-speed driving causes excessive heat buildup and can cause sudden tire failure. This could cause a crash, and you or others could be killed. Some high-speed rated tires require inflation pressure adjustment for high-speed operation. When speed limits and road conditions allow the vehicle to be driven at high speeds, make sure the tires are rated for high-speed operation, are in excellent condition, and are set to the correct cold tire inflation pressure for the vehicle load.

Vehicles with tire sizes listed in the High Speed Operation Inflation Pressures table require inflation pressure adjustment when driving the vehicle at speeds of 160 km/h (100 mph) or higher. Set the cold tire inflation pressure to the corresponding value in the table for the tire size on the vehicle.

322 Vehicle Care

High Speed Operation Inflation Pressures	
Tire Size	Cold Inflation Pressure kPa (psi)
265/65R18 114T	240 kPa (35 psi)
275/55R20 113V (2WD)	270 kPa (39 psi)
275/55R20 113V (4WD)	260 kPa (38 psi)
275/60R20 115T	240 kPa (35 psi)
275/50R22 111H	270 kPa (39 psi)

Return the tires to the recommended cold tire inflation pressure when high-speed driving has ended. See *Vehicle Load Limits* ⇨ 203 and *Tire Pressure* ⇨ 320.

Tire Pressure Monitor System

Caution
Modifications made to the Tire Pressure Monitor System (TPMS) by anyone other than an authorized service facility may void authorization to use the 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 vehicle's 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 energy 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* ⇨ 323 for additional information.

Tire Pressure Monitor Operation

This vehicle may have a Tire Pressure Monitor System (TPMS). The TPMS is designed to warn the driver when a low tire pressure condition exists. TPMS sensors are mounted onto each tire and wheel assembly, excluding the spare tire and wheel assembly. The TPMS sensors monitor the air pressure in the tires and transmit the tire pressure readings to a receiver located in the vehicle.



When a low tire pressure condition is detected, the TPMS illuminates the low tire pressure warning light 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* ⇨ 203.

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)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130.

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* ⇨ 203 for an example of the Tire and Loading Information label and its location. Also see *Tire Pressure* ⇨ 320.

324 Vehicle Care

The TPMS can warn about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection* ⇨ 325, *Tire Rotation* ⇨ 326, and *Tires* ⇨ 318.

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 pressure warning light flashes for about one minute and then stays on for the remainder of the ignition cycle. A DIC warning message also displays.

The malfunction light and DIC warning message come on at each ignition cycle until the problem is corrected. Some of the conditions that can cause these to come on are:

- One of the road tires has been replaced with the spare tire. The spare tire does not have a TPMS sensor. The malfunction light and DIC message should go off after the road tire is replaced and the sensor matching process is performed successfully. See "TPMS Sensor Matching Process" following.
- 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" following.
- 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* ⇨ 327.
- 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 pressure condition. See your dealer for service if the TPMS malfunction light and DIC message come on and stay on.

Tire Fill Alert (If Equipped)

This feature provides visual and audible alerts outside the vehicle to help when inflating an underinflated tire to the recommended cold tire pressure.

When the low tire pressure warning light comes on:

1. Park the vehicle in a safe, level place.
2. Set the parking brake firmly.
3. Place the vehicle in P (Park).
4. Add air to the tire that is underinflated. The turn signal lamp will flash.

When the recommended pressure is reached, the horn sounds once and the turn signal lamp will stop flashing and briefly turn solid.

Repeat these steps for all underinflated tires that have illuminated the low tire pressure warning light.

 Warning

Overinflating a tire could cause the tire to rupture and you or others could be injured. Do not exceed the maximum pressure listed on the tire sidewall.

If the tire is overinflated by more than 35 kPa (5 psi), the horn will sound multiple times and the turn signal lamp will continue to flash for several seconds after filling stops. To release and correct the pressure, while the turn signal lamp is still flashing, briefly press the center of the valve stem. When the recommended pressure is reached, the horn sounds once.

If the turn signal lamp does not flash within 15 seconds after starting to inflate the tire, the tire fill alert has not been activated or is not working.

If the hazard warning flashers are on, the tire fill alert visual feedback will not work properly.

The TPMS will not activate the tire fill alert properly under the following conditions:

- There is interference from an external device or transmitter.
- The air pressure from the inflation device is not sufficient to inflate the tire.
- There is a malfunction in the TPMS.
- There is a malfunction in the horn or turn signal lamps.
- The identification code of the TPMS sensor is not registered to the system.
- The battery of the TPMS sensor is low.

If the tire fill alert does not operate due to TPMS interference, move the vehicle about 1 m (3 ft) back or forward and try again.

If the tire fill alert feature is not working, use a tire pressure gauge.

TPMS Sensor Matching Process — Auto Learn Function

Each TPMS sensor has a unique identification code. The identification code needs to be matched to a new tire/wheel position after rotating the tires or replacing one or more of the TPMS sensors. When a

tire is installed, the vehicle must be stationary for about 20 minutes before the system recalculates. The following relearn process takes up to 10 minutes, driving at a minimum speed of 20 km/h (12 mph). A dash (-) or pressure value will display in the DIC. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130. A warning message displays in the DIC if a problem occurs during the relearn process.

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.

326 Vehicle Care

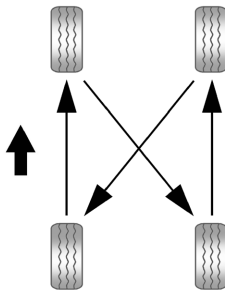
- The tire has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

Tire Rotation

Tires should be rotated according to the interval listed in the maintenance schedule. See *Maintenance Schedule* ⇨ 356.

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* ⇨ 327 and *Wheel Replacement* ⇨ 329.



Use this rotation pattern when rotating the tires.

Do not include the 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* ⇨ 320 and *Vehicle Load Limits* ⇨ 203.

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation* ⇨ 323.

Check that all wheel nuts are properly tightened. See “Wheel Nut Torque” under *Capacities and Specifications* ⇨ 367 and “Removing the Flat Tire and Installing the Spare Tire” under *Tire Changing* ⇨ 331.

Warning

Rust or dirt on a wheel, or on the parts to which it is fastened, can cause wheel nuts to become loose over time. The wheel could come off and cause a crash. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.

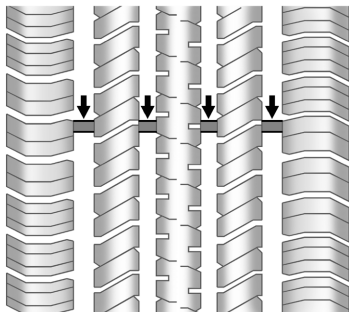
Lightly coat the inner diameter of the wheel hub opening with wheel bearing grease after a wheel change or tire rotation to prevent corrosion or rust build-up.

Warning

Do not apply grease to the wheel mounting surface, wheel conical seats, or the wheel nuts or bolts. Grease applied to these areas could cause a wheel to become loose or come off, resulting in a crash.

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* ⇨ 325 and *Tire Rotation* ⇨ 326.

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. To identify the age of a tire, use the tire manufacture date, which is the last four digits of the DOT Tire Identification Number (TIN) molded into one side of the tire sidewall. The last four digits of the TIN indicate the tire manufactured date. The first two digits represent the week and the last two digits, the year. For example, the third week of the year 2020 would have a 4-digit DOT date of 0320. Week 01 is the first full week (Sunday through Saturday) of each year.

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

328 Vehicle Care

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.

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. However, if it is necessary to replace only one axle set of worn tires, place the new tires on the rear axle. See *Tire Rotation* ⇨ 326.

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 (other than those originally installed on the vehicle), brands, tread patterns, or types may cause loss of vehicle control, resulting in a crash or other vehicle damage. Use the correct size, brand, and type of tire 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.

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.

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.

The Tire and Loading Information label indicates the original equipment tires on the vehicle. See *Vehicle Load Limits* ⇨ 203.

Different Size Tires and Wheels

If wheels or tires are installed that are a different size than the original equipment wheels and tires, vehicle performance, including its braking, ride and handling characteristics, stability, and resistance to rollover may be affected. If the vehicle has electronic systems such as antilock brakes, rollover airbags, traction control, 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* ⇨ 327 and *Accessories and Modifications* ⇨ 285.

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 affect the braking and handling of the vehicle. Tires can lose air and cause loss of control, resulting in a crash. Always use the correct wheel, wheel bolts, and wheel nuts for replacement.

 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.

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.

330 Vehicle Care

Tire Chains

Warning

If the vehicle has 275/60R20 or 275/50R22 size tires, do not use tire chains. There is not enough clearance. Tire chains used on a vehicle without the proper amount of clearance can cause damage to the brakes, suspension, or other vehicle parts. The area damaged by the tire chains could cause loss of control and a crash.

Use another type of traction device only if its manufacturer recommends it for the vehicle's tire size combination and road conditions. Follow that manufacturer's instructions. To avoid vehicle damage, drive slow and readjust or remove the traction device if it is contacting the vehicle. Do not spin the wheels.

If traction devices are used, install them on the rear tires.

Caution

If the vehicle is equipped with a tire size other than 275/60R20 or 275/50R22, use tire chains only where legal and only when necessary. Use chains that are the proper size for the tires. Install them on the tires of the rear axle. Do not use chains on the tires of the front axle. Tighten them as tightly as possible with the ends securely fastened. Drive slowly and follow the chain manufacturer's instructions. If the chains contact the vehicle, stop and retighten them. If the contact continues, slow down until it stops. Driving too fast or spinning the wheels with chains on will damage the vehicle.

If a Tire Goes Flat

It is unusual for a tire to blow out while driving, especially if the tires are maintained properly. 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* ⇨ 140.

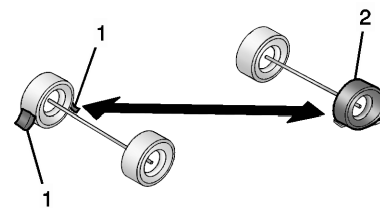
If your vehicle is loaded at or near maximum cargo capacity, it may be difficult to fit the jack under the vehicle due to the environment (shoulder slope, road debris, etc.). Removal of some weight may improve the ability to fit the jack under the vehicle at the correct jacking location.

Warning

Changing a tire can be dangerous. The vehicle can slip off the jack and roll over or fall causing injury or death. Find a level place to change the tire. To help prevent the vehicle from moving:

1. Set the parking brake firmly.
2. Shift the vehicle to P (Park).
3. For vehicles with four-wheel drive with an N (Neutral) transfer case position, be sure the transfer case is in a drive gear — not in N (Neutral).
4. Turn off the engine and do not restart while the vehicle is raised.
5. Do not allow passengers to remain in the vehicle.
6. 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 use the jack and change a tire.

Tire Changing

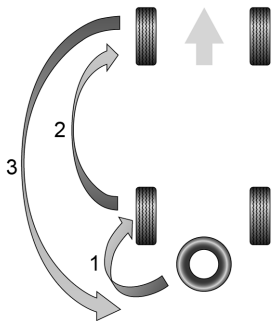
Before changing a flat tire, see “Hands-Free Operation” under *Liftgate* ⇨ 17.

Tahoe Rally Sport Performance Brake Package RPO J49

The original spare tire/wheel will not fit onto the front axle if equipped with the performance brake package RPO J49. If there is a flat tire on the front axle, a tire/wheel from the rear axle must be used to make the repair. The spare tire will then replace the tire/wheel that is removed from the rear axle.

332 Vehicle Care

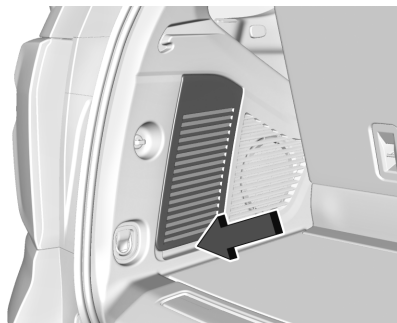
If equipped with the performance brake package RPO J49, and the flat tire is on the front axle, stop after performing all steps in Removing the Spare Tire and Tools and do the following. Otherwise, continue with the procedure:



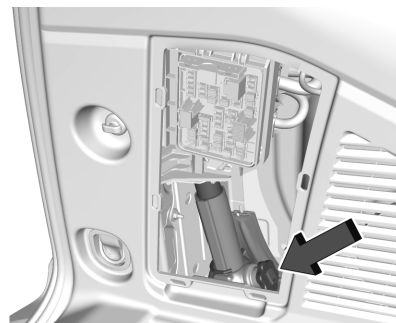
1. Remove the rear tire and replace it with the spare tire by performing all steps in Removing the Flat Tire and Installing the Spare Tire.
2. Perform all steps in Removing the Flat Tire and Installing the Spare Tire again this time replacing the flat front tire with the rear tire.
3. Proceed to Storing a Flat or Spare Tire and Tools.

Removing the Spare Tire and Tools

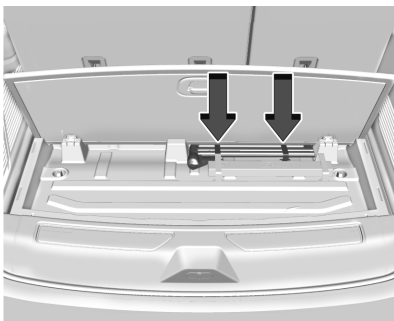
The equipment needed to change a flat tire is stored in the rear of the vehicle. The jacking tools are under the load floor, secured with velcro straps. The jack is behind a door in the trim panel on the driver side.



1. Pull to open the trim panel door.
The third row driver side seat may need to be folded to access the trim panel door.



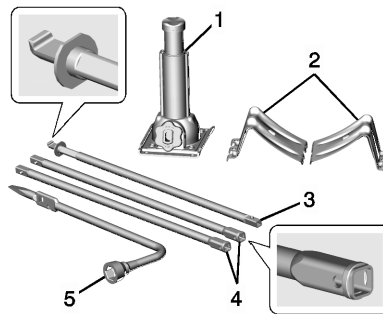
2. Turn the jack knob counterclockwise to release the jack and wheel blocks from the bracket. If equipped, remove the wheel blocks from the jack and place the wheel blocks on both sides of the tire at the opposite corner of the tire being changed. See *If a Tire Goes Flat* ⇨ 330 for more information on the placement of the wheel blocks. Place the jack and wheel blocks near the tire being changed.



Short Wheel Base Shown, Extended Wheel Base Similar

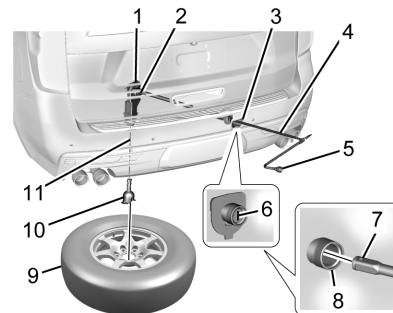
3. Lift the load floor. Remove the jacking tools and place them near the tire being changed.

Use the following tools:



1. Jack
2. Wheel Blocks
3. Jack Handle
4. Jack Handle Extensions
5. Wheel Wrench

To access the spare tire, refer to the following graphics and instructions:

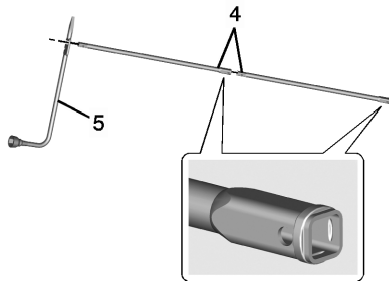


1. Hoist Assembly
2. Hoist Shaft
3. Hoist Shaft Access Cover/Hole
4. Jack Handle Extension
5. Wheel Wrench
6. Spare Tire Lock
7. Hoist End of Extension Tool
8. Hoist Shaft Access Hole
9. Spare Tire (Valve Stem Pointed Up)
10. Tire/Wheel Retainer
11. Hoist Cable

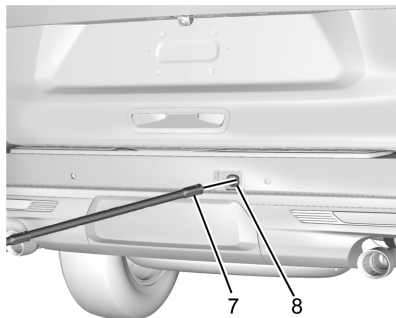
334 Vehicle Care



1. Open the hoist shaft access cover (3) on the bumper to access the spare tire lock (6).
2. To remove the spare tire lock (6), insert the mechanical key, turn it clockwise and then pull it straight out.



3. Assemble the jack handle extensions (4) and wheel wrench (5), as shown.



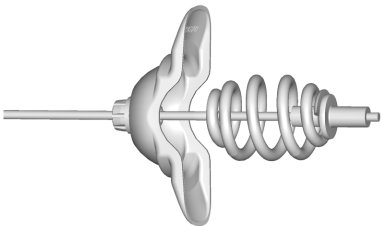
4. Insert the open end of the extension (7) through the hole in the rear bumper (8) (hoist shaft access hole).

Be sure the hoist end of the extension (7) connects to the hoist shaft. The ribbed square end of the extension is used to lower the spare tire.

5. Turn the wheel wrench counterclockwise to lower the spare tire to the ground. Continue to turn the wheel wrench until the spare tire can be pulled out from under the vehicle.
6. Pull the spare tire out from under the vehicle.



7. Tilt the tire toward the vehicle with some slack in the cable to access the tire/wheel retainer.

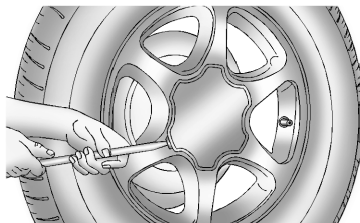


Tilt the retainer and pull it and the cable and spring through the center of the wheel.

8. Put the spare tire near the flat tire.

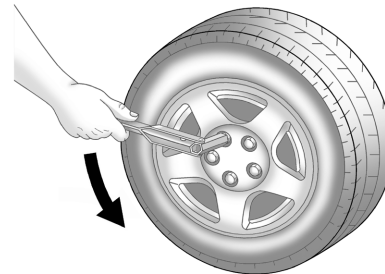
Removing the Flat Tire and Installing the Spare Tire

1. Do a safety check before proceeding. See *If a Tire Goes Flat* ⇨ 330 for more information.



2. If the vehicle has a center cap that covers the wheel fasteners, place the chisel end of the wheel wrench in the slot on the wheel and gently pry the cap out.

If the wheel has a bolt-on hub cap, loosen the plastic nut caps by turning the wheel wrench counterclockwise. The plastic nut caps will be retained in the hub cap after it is removed from the wheel.



3. Use the wheel wrench to loosen all the wheel nuts. Turn the wheel wrench counterclockwise to loosen the wheel nuts. Do not remove the wheel nuts yet.

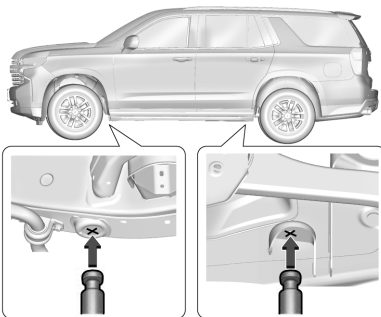
Warning

To avoid personal injury and vehicle damage, disable the power assist steps before using a jack or placing an object under the vehicle. See *Power Assist Steps* ⇨ 24.

336 Vehicle Care

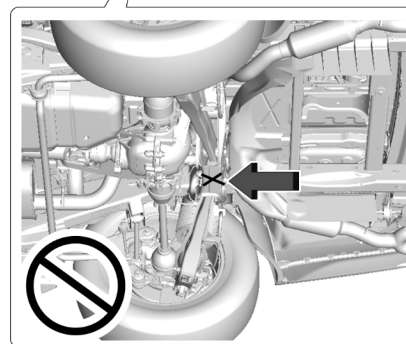
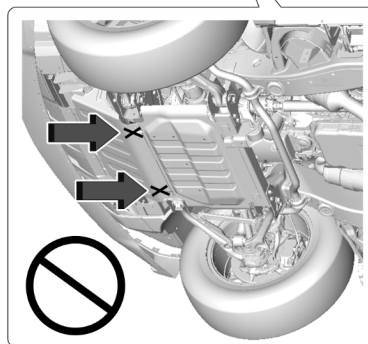
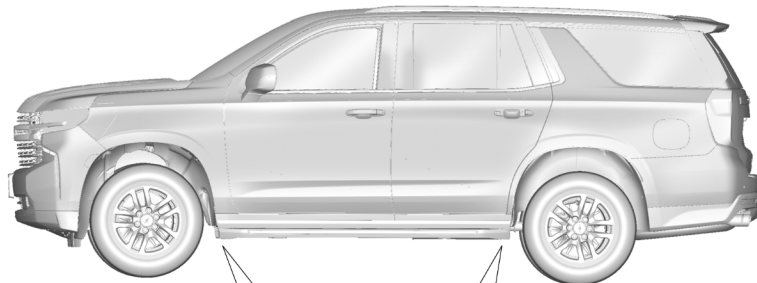
Caution

Only raise the vehicle from the jacking locations shown. Raising the vehicle from the rear could damage the frame or other components. The damage may not be covered by the vehicle warranty.



Vehicle Jacking Locations

4. Position the jack lift head as shown, at the jacking location nearest the flat tire. The jack must not be used in any other position.



Some Examples of Where Not to Jack

⚠ Warning

Getting under a vehicle when it is lifted on a jack is dangerous. If the vehicle slips off the jack, you could be badly injured or killed. Never get under a vehicle when it is supported only by a jack.

⚠ Warning

Raising the vehicle with the jack improperly positioned can damage the vehicle and even make the vehicle fall. To help avoid personal injury and vehicle damage, be sure to fit the jack lift head into the proper location before raising the vehicle.

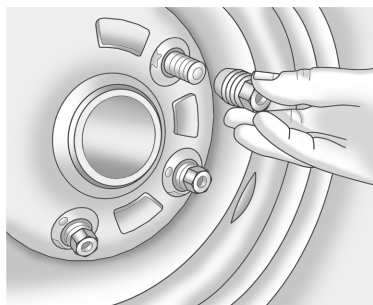
⚠ Warning

The jack has a feature to limit its travel to prevent overextension. When the height limit is reached, an increase in resistance is felt when attempting to raise the jack farther. Raising the jack past the height limit can damage the jack pin and cause the jack to lock into an
(Continued)

Warning (Continued)

overextended position or not lower fully. Do not attempt to force the jack higher once the height limit is reached.

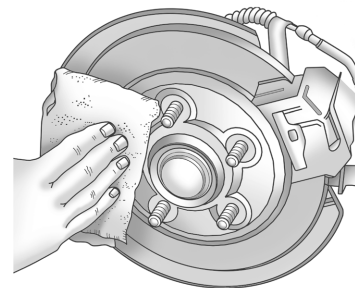
5. Raise the vehicle by turning the wheel wrench clockwise in the jack. Raise the vehicle far enough off the ground so there is enough room for the spare tire to fit under the wheel well.



6. Remove all of the wheel nuts.
7. Remove the flat tire.

⚠ Warning

Rust or dirt on a wheel, or on the parts to which it is fastened, can cause wheel nuts to become loose over time. The wheel could come off and cause a crash. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.



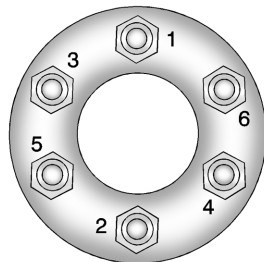
338 Vehicle Care

8. Remove any rust or dirt from the wheel bolts, mounting surfaces, and spare wheel.
9. Place the 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.

10. Reinstall the wheel nuts. Tighten each nut by hand. Then use the wheel wrench to tighten the nuts until the wheel is held against the hub.
11. Turn the wheel wrench counterclockwise to lower the vehicle. Lower the jack completely.



12. Tighten the nuts firmly in a crisscross sequence as shown by turning the wheel wrench clockwise.

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

(Continued)

Warning (Continued)

accessory locking wheel nuts. See *Capacities and Specifications* ⇨ 367 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* ⇨ 367 for the wheel nut torque specification.

When reinstalling the regular wheel and tire, also reinstall either the center cap or the bolt-on hub cap, depending on which one the vehicle has.

- For center caps, line up the tab on the center cap with the slot in the wheel. The cap only goes in one way. Place the cap on the wheel and press until it snaps into place.

- For bolt-on hub caps, line up the plastic nut caps with the wheel nuts and tighten clockwise by hand to get them started. Then tighten with the wheel wrench until snug.

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.

Warning

Failure to follow these tire storage instructions carefully could result in personal injury or property damage if the hoist cable fails or if the tire comes loose. Make sure the tire is stored securely before driving.

Caution

Always store the spare tire or flat tire with the valve stem pointed up. Stowing a tire with the valve stem pointed down could result in damage to the wheel.

Caution

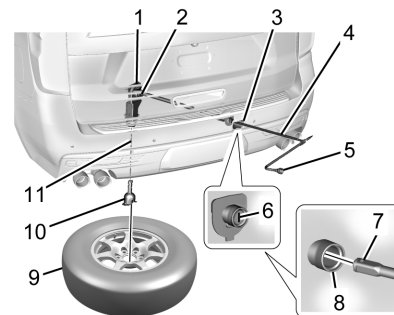
The tire hoist is designed to be raised and lowered with tension on the cable. If the hoist must be raised or lowered without a tire attached, do so only by hand, and at a slow pace, to avoid damaging the mechanism. Do not use power tools.

Warning

An improperly stored spare tire could come loose and cause a crash. To avoid personal injury or property damage, always store the spare tire when the vehicle is parked on a level surface.

If the vehicle has 275/60R20 or 275/50R22 size tires, the flat tire must be stored inside of the vehicle using the flat tire secure strap inside the glove box. See “Storing a Flat Tire Inside of the Vehicle” later in this section.

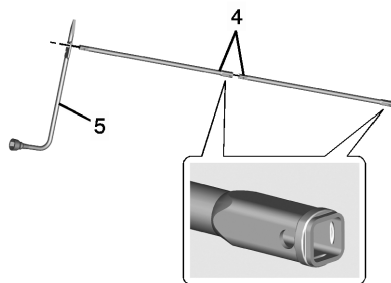
If the vehicle has 265/65R18 or 275/55R20 size tires, store the flat tire under the rear of the vehicle in the spare tire carrier. Refer to the following graphics and instructions:



1. Hoist Assembly
2. Hoist Shaft
3. Hoist Shaft Access Cover/Hole
4. Jack Handle Extension
5. Wheel Wrench
6. Spare Tire Lock
7. Hoist End of Extension Tool

340 Vehicle Care

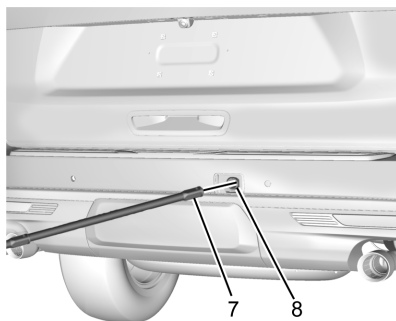
8. Hoist Shaft Access Hole
9. Spare Tire (Valve Stem Pointed Up)
10. Tire/Wheel Retainer
11. Hoist Cable
1. Put the tire (9) on the ground at the rear of the vehicle with the valve stem pointed up, and to the rear.
2. Tilt the tire toward the vehicle. Separate the tire/wheel retainer from the guide pin. Pull the pin through the center of the wheel. Tilt the retainer down through the center wheel opening. Make sure the retainer is fully seated across the underside of the wheel.



3. Assemble the jack handle extensions (4) and wheel wrench (5).

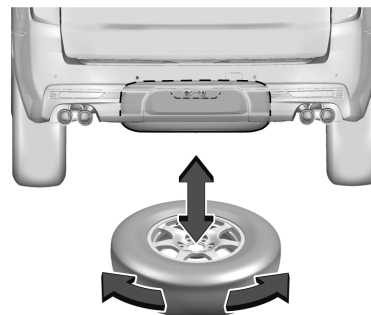
Caution

Use of an air wrench or other power tools with the hoist mechanism is not recommended and could damage the system. Use only the tools supplied with the hoist mechanism.



4. Insert the open end of the extension (7) through the hole in the rear bumper (8) (hoist shaft access hole).
5. Raise the tire part way upward. Make sure the retainer is seated in the wheel opening.

6. Raise the tire fully against the underside of the vehicle by turning the wheel wrench clockwise until you hear two clicks or feel it skip twice. The cable cannot be overtightened.



7. Make sure the tire is stored securely. Push, pull, and then try to turn the tire. If the tire moves, use the wheel wrench to tighten the cable. Repeat this tightness check procedure when checking the spare tire pressure according to the scheduled maintenance information or any time the spare tire is handled due to service of other components.



Correctly Stored



Incorrectly Stored

8. Reinstall the spare tire lock.
9. Reinstall the hoist shaft access cover.

Storing the Tools

To store the tools:

1. Return the tools (wheel wrench, jack handle, and jack handle extensions) to the tool bag. Use the velcro straps to secure the tool bag under the load floor in the cargo area.
2. Position the jack and wheel blocks in the driver side trim panel over the wheelhouse.
3. Turn the jack knob clockwise until the jack is secured tight in the mounting bracket. Be sure to position the holes in the base of the jack onto the pin in the mounting bracket.
4. Close the trim panel door.

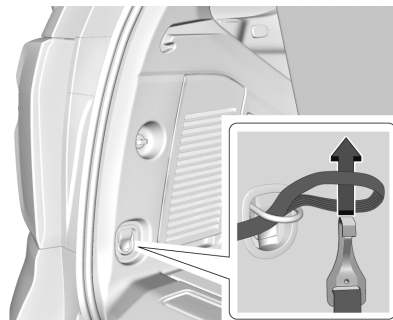
Storing a Flat Tire Inside of the Vehicle

If the vehicle has 275/60R20 or 275/50R22 size tires, the flat tire must be stored inside of the vehicle in the cargo area using the flat tire secure strap inside the glove box.

1. Store the tools. See “Storing the Tools” earlier in this section.
2. If the vehicle has a short wheel base, the third row seat must be folded down to provide sufficient space to store the flat tire. If the third row seat cannot be

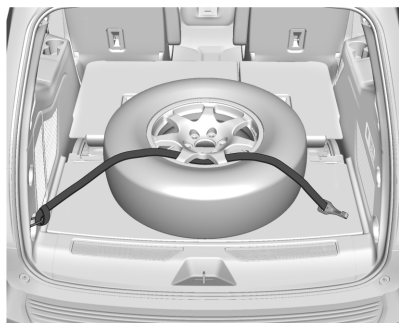
folded down, the flat tire cannot be stored and must be left in a safe location, to be picked up at a later time.

3. Once there is sufficient space in the rear of the vehicle, lift the flat tire and place it on top of the load floor, with the valve stem pointed up.



4. Remove the flat tire secure strap from the glove box and place the loop end of the strap through the cargo tie-down. Place the hook end of the strap through the loop and pull it until the strap is fastened securely to the tie-down.

342 Vehicle Care



5. Route the hook end of the strap through the wheel, as shown.
6. Attach the hook to the other cargo tie-down in the rear of the vehicle.
7. Tighten the strap.

Full-Size Spare Tire

If this vehicle came with a full-size spare tire, it was fully inflated when new, however, it can lose air over time. Check the inflation pressure regularly. See *Tire Pressure* ⇨ 320 and *Vehicle Load Limits* ⇨ 203 for information regarding proper tire inflation and loading the vehicle. For instructions on how to remove, install, or store a spare tire, see *Tire Changing* ⇨ 331.

After installing the spare tire on the vehicle, stop as soon as possible and check that the spare is correctly inflated. The spare tire is made to perform well at speeds up to 112 km/h (70 MPH) at the recommended inflation pressure, so you can finish your trip.

Have the damaged or flat road tire repaired or replaced and installed back onto the vehicle as soon as possible so the spare tire will be available in case it is needed again. Do not mix tires and wheels of different sizes, because they will not fit. Keep the spare tire and its wheel together.

Caution

If the vehicle has four-wheel drive and a different size spare tire is installed, do not drive in four-wheel drive until the flat tire is repaired and/or replaced. The vehicle could be damaged and the repairs would not be covered by the warranty. Never use four-wheel drive when a different size spare tire is installed on the vehicle.

The vehicle may have a different size spare tire than the road tires originally installed on the vehicle. This spare tire was developed

for use on this vehicle, so it is all right to drive on it. If the vehicle has four-wheel drive and a different size spare tire is installed, drive only in two-wheel drive.

If the vehicle has a spare tire that does not match the original road tires and wheels in size and type, do not include the spare in the tire rotation.

If equipped with a temporary use full-size spare tire, it is indicated on the tire sidewall. This spare tire should not be driven on over 112 km/h (70 mph), or 88 km/h (55 mph) when pulling a trailer, at the proper inflation pressure. Repair and replace the road tire as soon as it is convenient, and stow the spare tire for future use.

Jump Starting

For more information about the vehicle battery, see *Battery* ⇨ 302.

If the vehicle's battery (or batteries) has run down, you may want to use another vehicle and some jumper cables to start your vehicle. Be sure to use the following steps to do it safely.

Warning

Batteries can hurt you. They can be dangerous because:

- They contain acid that can burn you.
- They contain gas that can explode or ignite.
- They contain enough electricity to burn you.

If you do not follow these steps exactly, some or all of these things can hurt you.

Caution

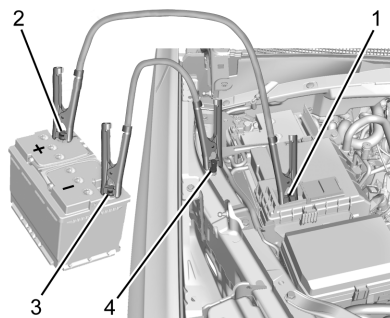
Ignoring these steps could result in costly damage to the vehicle that would not be covered by the vehicle warranty. Trying to start the vehicle by pushing or pulling it will not work, and it could damage the vehicle.

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
(Continued)

Caution (Continued)

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.



5.3L V8 Shown, 6.2L V8 Similar

Connection Points and Sequence

1. Discharged Battery Positive (+) Terminal
2. Good Battery Positive (+) Terminal
3. Good Battery Negative (-) Terminal
4. Discharged Battery Negative (-) Grounding Point

The good battery positive (+) terminal and the good battery negative (-) terminal are on the battery of the vehicle providing the jump start.

The discharged battery positive (+) terminal and the discharged battery negative (-) grounding point are on the passenger side of the vehicle.

The discharged battery positive (+) terminal 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. Get the vehicles close enough so the jumper cables can reach, but be sure the vehicles are not touching each other. If they are, it could cause an unwanted ground connection. You would not be

344 Vehicle Care

able to start your vehicle, and the bad grounding could damage the electrical systems.

To avoid the possibility of the vehicles rolling, set the parking brake firmly on both vehicles involved in the jump start procedure. Put an automatic transmission in P (Park) or a manual transmission in Neutral before setting the parking brake. If you have a four-wheel-drive vehicle, be sure the transfer case is in a drive gear, not in N (Neutral).

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.

3. Turn the ignition off on both vehicles. Unplug unnecessary accessories plugged into the accessory power outlets. Turn off the radio and all the lamps that are not needed. This will avoid sparks and help save both batteries. And it could save the radio!

4. Open the hood on the other vehicle and locate the positive (+) and negative (-) terminal locations on that vehicle.

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 your eyes or on your skin, flush the place with water and get medical help immediately.

Warning

Fans or other moving engine parts can injure you badly. Keep your hands away from moving parts once the engine is running.

5. Check that the jumper cables do not have loose or missing insulation. If they do, you could get a shock. The vehicles could be damaged too.

Before you connect the cables, here are some basic things you should know. Positive (+) will go to positive (+) or to a remote positive (+) terminal if the vehicle has one. Negative (-) will go to a heavy, unpainted metal engine part or to a remote negative (-) terminal if the vehicle has one.

Do not connect positive (+) to negative (-) or you will get a short that would damage the battery and maybe other parts too. And do not connect the negative (-) cable to the negative (-) terminal on the dead battery because this can cause sparks.

6. Connect one end of the red positive (+) cable to the discharged battery positive (+) terminal.

7. Do not let the other end touch metal. Connect it to the good battery positive (+) terminal. Use a remote positive (+) terminal if the vehicle has one.
8. Connect one end of the black negative (-) cable to the good battery negative (-) terminal. Use a remote negative (-) terminal if the vehicle has one.
Do not let the other end touch anything until the next step.
9. Connect the other end of the negative (-) cable to the discharged battery negative (-) grounding point.
10. Start the vehicle with the good battery and run the engine for a while.
11. Try to start the vehicle that had the dead battery. If it will not start after a few tries, it probably needs service.

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

Transporting a Disabled Vehicle

Caution

Incorrectly transporting a disabled vehicle may cause damage to the vehicle. Use proper tire straps to secure the vehicle to the flatbed tow truck. Do not strap or hook to any frame, underbody, or suspension component not specified below. Do not move vehicles with drive axle tires on the ground. Damage is not covered by the vehicle warranty.

Caution

The vehicle may be equipped with an electric parking brake and/or an electronic shifter. In the event of a loss of 12-volt battery power, the electric parking brake cannot be released, and the vehicle cannot be shifted to N (Neutral). Tire skates or dollies must be used under the non-rolling tires to prevent damage while loading/unloading the vehicle. Dragging the vehicle will cause damage not covered by the vehicle warranty.

Caution

The vehicle may be equipped with a tow eye. Improper use of the tow eye may cause damage to the vehicle and is not covered by the vehicle warranty. If equipped, use the tow eye to load the vehicle onto a flatbed tow truck from a flat road surface, or to move the vehicle a very short distance at a walking pace. The tow eye is not designed for off-road recovery. The vehicle must be in N (Neutral) with the electric parking brake released when using the tow eye.

Contact a professional towing service if the disabled vehicle must be transported. GM recommends a flatbed tow truck to transport a disabled vehicle. Use ramps to help reduce approach angles, if necessary.

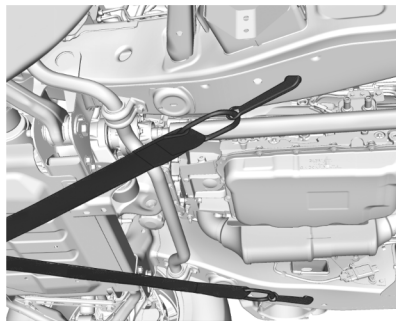
If equipped, a tow eye may be located near the spare tire or emergency jack. Do not use the tow eye to pull the vehicle from the snow, mud, sand, or ditch. Tow eye threads may have right or left-hand threads. Use caution when installing or removing the tow eye.

346 Vehicle Care

The vehicle must be in N (Neutral) and the electric parking brake must be released when loading the vehicle onto a flatbed tow truck.

- If the vehicle is equipped with car wash mode and has 12-volt battery power, refer to “Car Wash Mode” under *Automatic Transmission* ⇨ 213 to place the vehicle in N (Neutral).
- If the 12-volt battery is dead and/or the engine will not start, the vehicle will not move. Try to jump start the vehicle. Refer to *Jump Starting* ⇨ 342 and if the jump start is successful, retry the “Car Wash Mode” procedure.
- If jump starting is unsuccessful, the vehicle will not move. Tire skates or dollies must be used under the non-rolling tires to prevent vehicle damage.

Front Attachment Points



The vehicle is equipped with specific attachment points to be used to pull the vehicle onto a flatbed car carrier from a flat road surface. Do not use these attachment points to pull the vehicle from snow, mud or sand.

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* ⇨ 362.

Washing the Vehicle

To preserve the vehicle 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 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.

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. Dried on cleaning agents may stain the finish.

Dry the finish with a soft, clean chamois or an all-cotton towel to avoid surface scratches and water spotting.

Cleaning Underhood Components

Caution

Do not power wash any component under the hood that has this  symbol.

This could cause damage that would not be covered by the vehicle warranty.

Solvents or aggressive cleaners may harm underhood components. The use of these chemicals should be avoided.

Recommend water only.

If a pressure washer is used, use with care. The following criteria must be followed:

- Water pressure must be kept below 14,000 kPa (2,000 PSI).
- Water temperature must be below 80 °C (180 °F).
- Spray nozzle with a 40 degree wide angle spray pattern or wider must be used.
- Nozzle must be kept at least 30 cm (1 ft) away from all surfaces.

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.

348 Vehicle Care

Caution

Machine compounding or aggressive polishing on a basecoat/clearcoat paint finish may damage it. Use only non-abrasive waxes and polishes that are made for a basecoat/clearcoat paint finish on the vehicle.

To keep the paint finish looking new, keep the vehicle garaged or covered whenever possible.

Protecting Exterior Bright Metal 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, chrome 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 only approved cleaning solutions for aluminum, chrome 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 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 improve fuel economy. Keep the shutter system clear of debris, snow, and ice. The check engine light may activate if the shutter system is blocked.

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 weatherstrip lubricant on weatherstrips to make them last longer, seal better, and eliminate sticking or squeaking. Lubricate weatherstrips at least once a year. Hot, dry climates may require more frequent lubrication. Black marks from rubber material on painted surfaces can be removed by rubbing with a clean cloth. See *Recommended Fluids and Lubricants* ⇨ 362.

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
(Continued)

Caution (Continued)

tire dressing, always wipe off any overspray from all painted surfaces on the vehicle.

Wheels and Wheel Trim

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. Once dry, wax as desired.

Caution

Chrome wheels and chrome wheel trim may be damaged if the vehicle is not washed after driving on roads that have been sprayed with magnesium chloride or calcium chloride. These are used on roads for conditions such as dust and ice. Always wash the chrome with soap and water after exposure.

Caution

To avoid surface damage on wheels and wheel trim, do not use strong soaps, chemicals, abrasive polishes, cleaners, or brushes. Use only GM approved
(Continued)

350 Vehicle Care

Caution (Continued)

cleaners. Do not drive the vehicle through an automatic car wash that uses silicon carbide tire/wheel 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, cut/punctured tie rod boots that could allow water intrusion, cracks, chafing, etc.

Visually check constant velocity joint boots and axle seals for leaks.

Control arm ball joints and outer tie rod ends are maintenance-free.

Body Component Lubrication

Lubricate all key lock cylinders, hood hinges, liftgate hinges, steel fuel door hinge and power assist step hinges, unless the components are plastic. Applying silicone grease on weatherstrips with a clean cloth will make them last longer, seal better, and eliminate sticking or squeaking.

Underbody Maintenance

Caution

Avoid pressure washing the vehicle frame. Use of high-pressure washers can result in removal of corrosion protection and possible vehicle damage.

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. If equipped with power assist steps, extend them and then use a high pressure wash to clean all joints and gaps.

Do not directly pressure 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. 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. Newspapers or dark garments can transfer color to the vehicle's interior.

Caution

Immediately remove cleaners, hand lotions, sunscreen, and insect repellent from all interior surfaces or permanent damage may result.

Caution

Use cleaners specifically designed for the surfaces being cleaned to prevent permanent damage to the vehicle. Apply all cleaners directly to a cleaning cloth. Do not spray cleaners on any switches or controls.

When using liquid soap cleaners, follow the directions on the specific cleaner or soap solution for dilution instructions.

Caution

To prevent damage:

- 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 get any exposed electrical components wet.
- Do not use laundry detergents or dishwashing soaps with degreasers. 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.
- Do not use disinfecting wipes that are scented or contain bleach. Do not use wipes or cleaners that show a color

(Continued)

Caution (Continued)

transfer to the wipe or change the appearance of the interior surface when used.

- Do not use scented or gel-type hand sanitizers. If hand sanitizer comes in contact with interior surfaces of the vehicle, blot immediately and clean with a soft cloth dampened with a mild soap and water solution.

Interior Glass

To clean, use a microfiber 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.

352 Vehicle Care

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.

Vinyl/Rubber

If equipped with vinyl floor and rubber floor mats, use a soft cloth and/or brush dampened with water to remove dust and loose dirt. For more thorough cleaning, use a mild soap and water solution.

Warning

Do not use cleaners that contain silicone, wax-based products, or cleaners that increase gloss on vinyl/rubber floor and mats. These cleaners can permanently change the appearance and feel of the vinyl/rubber and can make the floor

(Continued)

Warning (Continued)

slippery. Your foot could slip while operating the vehicle, and you could lose control, resulting in a crash. You or others could be injured.

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 into 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 bristle brush to remove dust from knobs and crevices on the instrument cluster. 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 and water solution.

Caution

Soaking or saturating leather, especially perforated leather, as well as other interior surfaces, may cause permanent damage. Wipe excess moisture from

(Continued)

Caution (Continued)

these surfaces after cleaning and allow them to dry naturally. Never use heat, steam, or spot removers. Do not use liquids that contain alcohol or solvents on leather seats. 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

If equipped, wash with warm water and mild detergent. Do not use chlorine bleach. Rinse with cold water, and then dry completely.

Care of Seat Belts

Keep belts clean and dry.

Warning

Do not bleach or dye seat belt webbing. It may severely weaken the webbing. In a crash, they might not be able to provide adequate protection. Clean and rinse seat 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

(Continued)

354 Vehicle Care

Warning (Continued)

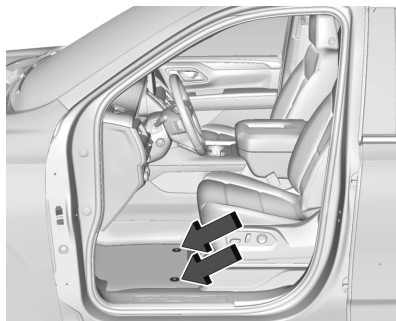
cause a crash and injury. Make sure the floor mat does not interfere with the pedals.

Use the following guidelines for proper floor mat use:

- The original equipment floor mats are designed for your vehicle. If the floor mats need to be replaced, it is recommended that GM-certified floor mats are purchased. Non-GM floor mats may not fit properly and may interfere with the pedals. 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 Mats

Pull up on the rear of the driver side floor mat to unlock each retainer and remove.



Reinstall by lining up the floor mat retainer openings over the carpet retainers and snapping into position.

Make sure the floor mat is properly secured in place.

Verify the floor mat does not interfere with the pedals.

Cleaning Rubber Floor Mats (All-Weather Mats and Floor Liners)

See “Vinyl/Rubber” under *Interior Care* ⇨ 351 for important cleaning information.

Service and Maintenance

General Information
General Information 355

Maintenance Schedule
Maintenance Schedule 356

Special Application Services
Special Application Services 359

Additional Maintenance and Care
Additional Maintenance and Care 359

Recommended Fluids, Lubricants, and Parts
Recommended Fluids and Lubricants 362
Maintenance Replacement Parts 363

Maintenance Records
Maintenance Records 365

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.

Do not have chemical flushes that are not approved by GM performed on the vehicle. The use of flushes, solvents, cleaners, or lubricants that are not approved by GM could damage the vehicle, requiring expensive repairs that are not covered by the vehicle warranty.

The Tire Rotation and Required Services are the responsibility of the vehicle owner. It is recommended to have your dealer perform these services every 10 000 km. Proper vehicle maintenance helps to keep the vehicle in good working condition, improves fuel economy, and reduces vehicle emissions.

356 Service and Maintenance

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 Service are for vehicles that:

- Carry passengers and cargo within recommended limits on the Tire and Loading Information label. See *Vehicle Load Limits* ⇨ 203.
- Are driven on reasonable road surfaces within legal driving limits.
- Use the recommended fuel. See *Recommended Fuel (5.3L Engine)* ⇨ 261 or *Recommended Fuel (6.2L Engine)* ⇨ 261.

Refer to the information in Additional Required Services - Normal Service.

The Additional Required Services - Severe Service 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 Additional Required Services - Severe Service.

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* ⇨ 285.

Maintenance Schedule

Owner Checks and Services

Check the engine oil level. See *Engine Oil* ⇨ 290.

Once a Month

- Check the tire inflation pressures, including the spare. See *Tire Pressure* ⇨ 320.
- Inspect the tires for wear. See *Tire Inspection* ⇨ 325.
- Check the windshield washer fluid level. See *Washer Fluid* ⇨ 299.

Every Five Years

- Replace brake fluid.

Engine Oil Change

When the CHANGE ENGINE OIL SOON message displays, have the engine oil and filter changed within the next 1 000 km. 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 since the last service. Reset the oil life system when the oil is changed. See *Engine Oil Life System* ⇨ 292.

Engine Air Filter Change

When the REPLACE AT NEXT OIL CHANGE message displays, the engine air filter should be replaced at the next engine oil change. When the REPLACE ENGINE AIR FILTER SOON message displays, the engine air filter should be replaced at the earliest convenience. Reset the engine air filter life system after the engine air filter is replaced. See *Engine Air Filter Life System* ⇨ 293.

Extended Idle Use

When the vehicle is used in a way that requires extended idle time, one hour of use shall be deemed the same as 33 miles. See *Driver Information Center (DIC) (Base Level)* ⇨ 127 or *Driver Information Center (DIC) (Uplevel)* ⇨ 130 for hourmeter.

Air Conditioning Desiccant (Replace Every Seven Years)

The air conditioning system requires maintenance every seven years. This service requires replacement of the desiccant to help the longevity and efficient operation of the air conditioning system. This service can be complex. See your dealer.

Tire Rotation and Required Services Every 10 000 km

Rotate the tires, if recommended for the vehicle, and perform the following services. See *Tire Rotation* ⇨ 326.

- Check engine oil level and oil life percentage. If needed, change engine oil and filter, and reset oil life system. See *Engine Oil* ⇨ 290 and *Engine Oil Life System* ⇨ 292.

- Check the air filter life percentage. If necessary, replace the engine air filter and reset the engine air filter life system. See *Engine Air Filter Life System* ⇨ 293.
- Check engine coolant level. See *Cooling System* ⇨ 295.
- Check windshield washer fluid level. See *Washer Fluid* ⇨ 299.
- Inspect front and rear windshield wiper blades.
- Check tire inflation pressures, including the spare. See *Tire Pressure* ⇨ 320.
- Inspect tire wear. See *Tire Inspection* ⇨ 325.
- Visually check for fluid leaks.
- Inspect engine air cleaner filter. Or every 6 months, whichever comes first. See *Engine Air Cleaner/Filter* ⇨ 294.
- Inspect brake system. See *Exterior Care* ⇨ 346.
- Visually inspect steering, suspension, and chassis components for damage, including cracks or tears in the rubber boots, loose or missing parts, or signs of wear at least once a year. See *Exterior Care* ⇨ 346. Lubricate the suspension and steering components at least every other oil change. (If equipped with grease fittings)

- Inspect power steering for proper attachment, connections, binding, leaks, cracks, chafing, etc.
- Visually inspect halfshafts and drive shafts for excessive wear, lubricant leaks, and/or damage including: tube dents or cracks, constant velocity joint or universal joint looseness, cracked or missing boots, loose or missing boot clamps, center bearing excessive looseness, loose or missing fasteners, and axle seal leaks.
- Check restraint system components. See *Safety System Check* ⇨ 58.
- Visually inspect the fuel system including the evaporative (EVAP) system for damage or leaks. Visually check all fuel pipes, vapor lines, and hoses for proper attachment, connection, routing, and condition.
- Visually inspect exhaust system and nearby heat shields for loose or damaged parts.
- Lubricate body components. See *Exterior Care* ⇨ 346.
- Check parking brake and automatic transmission park mechanism. See *Park Brake and P (Park) Mechanism Check* ⇨ 304.

358 Service and Maintenance

- 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. If the hold open ability is low, service the gas strut. See *Gas Strut(s)* ⇨ 305.
- Inspect sunroof track and seal, if equipped. See *Sunroof* ⇨ 34.
- Verify spare tire key lock operation and lubricate as needed. See *Tire Changing* ⇨ 331.
- Visually inspect the spare tire to ensure that it is tightly stowed under the vehicle. Push, pull, and try to turn the tire. If the spare tire moves, tighten as necessary. See *Tire Changing* ⇨ 331.

Additional Required Services — Normal Service

Every 10 000 km

- Replace passenger compartment air filter. Or every 12 months, 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.

Every 20 000 km

- Replace front and rear wiper blades. Or every 12 months, whichever comes first. See *Wiper Blade Replacement* ⇨ 304.

Every 150 000 km

- Replace spark plugs. Inspect spark plug wires and/or boots.

Every 160 000 km

- Replace hood and/or body lift support gas struts. See *Gas Strut(s)* ⇨ 305.
- Change transfer case fluid, if equipped with 4WD. 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 drive axles and should be replaced.

Every 240 000 km

- Drain and fill engine cooling system. Or every six years, whichever comes first. See *Cooling System* ⇨ 295.
- Visually inspect accessory drive belts. Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

Severe Conditions Requiring More Frequent Maintenance*

- Public service, military, or commercial use vehicles to include the following:
 - Ambulances, police cars, and emergency rescue vehicles.
 - Civilian vehicles such as light duty pick-up trucks, SUVs, and passenger cars that are used in military applications.
 - Recovery vehicles such as tow trucks and flatbed single vehicle carriers or any vehicle that is consistently used in towing trailers or other loads.
 - High use commercial vehicles such as courier delivery vehicles, private security patrol vehicles, or any vehicles that operate on a 24-hour basis.

- Any vehicle consistently operated in a high sand or dust environment such as those used on oil pipelines and similar applications.
- Vehicles that are regularly used for short trips of 6 km or less.

The Oil Life Indicator will show you when to change the oil and filter. Under severe conditions the indicator may come on before 10 000 km. The indicator won't detect dust in the oil, so if you drive in a dusty area you may have to change the oil and filter sooner than every 10 000 km.

* Footnote: Under extreme driving conditions listed above, it may be necessary to replace your spark plugs at more frequent intervals. For further assistance in determining the most suitable service maintenance intervals for your vehicle, please contact your authorized GM Dealer.

Additional Required Services — Severe Service

Every 70 000 km

- Change automatic transmission fluid and filter.

Every 80 000 km

- Change transfer case fluid, if equipped with 4WD. 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 drive axles and should be replaced.

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* ⇨ 346.

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.

360 Service and Maintenance

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* ⇨ 362 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* ⇨ 351 and *Exterior Care* ⇨ 346.

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.

362 Service and Maintenance

Recommended Fluids, Lubricants, and Parts

Recommended Fluids and Lubricants

Fluids and lubricants identified below by name or specification, including fluids or lubricants not listed here, can be obtained from your dealer.

Usage	Fluid/Lubricant
Automatic Transmission	DEXRON ULV Automatic Transmission Fluid.
Chassis Lubrication	Lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Engine Coolant	50/50 mixture of clean, drinkable water and use only DEX-COOL Coolant. See <i>Cooling System</i> ⇨ 295.
Engine Oil	Engine oil meeting the dexos1 specification of the proper SAE viscosity grade. ACDelco dexos1 full synthetic is recommended. See <i>Engine Oil</i> ⇨ 290.
Front Axle (4WD Only) and Rear Axle.	See your dealer.
Hydraulic Brake System	DOT 4 Hydraulic Brake Fluid.
Key Lock Cylinders, Hood Hinges, Body Door Hinge Pins, Power Assist Steps, Liftgate Hinge, and Fuel Door Hinge	Multi-Purpose Lubricant, Superlube. See your dealer.
Transfer Case (4WD Only)	See your dealer.
Weatherstrip Conditioning	Weatherstrip lubricant. See your dealer.
Windshield Washer	Automotive windshield washer fluid that meets regional freeze protection requirements.

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		
With high capacity air cleaner	84121219	A3244C
Without high capacity air cleaner	84121217	A3246C
Oil Filter		
5.3L V8	12707246	PF63
6.2L V8	12707246	PF63
Passenger Compartment Air Filter	13540923	CF206C
Spark Plugs		
5.3L V8	12622441	41-114
6.2L V8	12622441	41-114

364 Service and Maintenance

Part	GM Part Number	ACDelco Part Number
Wiper Blades		
Driver Side – 55 cm (22 in)	84278338	—
Passenger Side – 55 cm (22 in)	84278338	—
Rear– 30 cm (12 in)	84215609	—

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.

[illegible]

366 Technical Data

Technical Data

Vehicle Identification

Vehicle Identification Number (VIN) ... 366
Service Parts Identification 366

Vehicle Data

Capacities and Specifications 367
Engine Drive Belt Routing 370

Vehicle Identification

**Vehicle Identification
Number (VIN)**



This legal identifier is in the front corner of the instrument panel, on the driver side of the vehicle. It can be seen through the windshield from outside. The Vehicle Identification Number (VIN) also appears on the Vehicle Certification label 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* ⇨ 367 for the vehicle's engine code.

Service Parts Identification

There may be a large barcode on the certification label on the center pillar that you can scan for the following information:

- Vehicle Identification Number (VIN)
- Model designation
- Paint information
- Production options

If there is not a large barcode on this label, then you will find this same information on a label inside of the glove box.

Vehicle Data

Capacities and Specifications

The following approximate capacities are given in metric and English conversions. See *Recommended Fluids and Lubricants* ⇨ 362 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.	
Engine Cooling System*		
5.3L V8 Engine	14.8 L	15.6 qt
6.2L V8 Engine	14.3 L	15.1 qt
Engine Oil with Filter	7.6 L	8.0 qt
Fuel Tank		
Short Wheelbase	90.8 L	24.0 gal
Long Wheelbase	106.0 L	28.0 gal

368 Technical Data

Application	Capacities	
	Metric	English
Transfer Case Fluid	1.5 L	1.6 qt
Rear Axle Fluid		
Mechanical Limited Slip	1.5 L	1.6 qt
Electronic Limited Slip	1.5 L	1.6 qt
Wheel Nut Torque	190 N•m	140 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 cooling system capacity values are based on the entire cooling system and its components.		

Engine Specifications

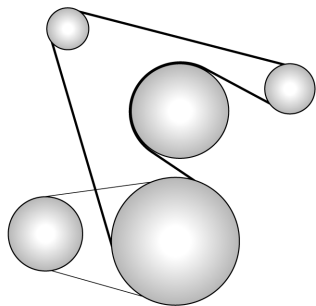
Engine	VIN Code	Horsepower	Torque	Spark Plug Gap
5.3L V8 (L84)	D	264 kW@5600 rpm (355 hp@5600 rpm)	519 N•m @4100 rpm (383 lb ft@4100 rpm)	0.95–1.10 mm (0.037–0.043 in)
6.2L V8 (L87)	L	313 kW@5600 rpm (420 hp@5600 rpm)	624 N•m @4100 rpm (460 lb ft@4100 rpm)	0.95–1.10 mm (0.037–0.043 in)
Spark plug gaps are preset by the manufacturer. Re-gapping the spark plug is not recommended and can damage the spark plug.				

Vehicle Top Speed

Vehicle	Metric	English
Suburban and Yukon XL Two-Wheel Drive	180 km/h	112 mph
All Tahoe/Suburban/Yukon/Yukon XL with 20" All-Terrain Tires	180 km/h	112 mph
All Utility Models (except Suburban and Yukon XL Two-Wheel Drive	190 km/h	118 mph
All Utility Models (except Tahoe/Suburban/Yukon/Yukon XL with 20" All-Terrain Tires)	190 km/h	118 mph

370 Technical Data

Engine Drive Belt Routing



5.3L and 6.2L Engines

Customer Information

Customer Information
Declaration of Conformity 371

Vehicle Data Recording and Privacy
Vehicle Data Recording and Privacy ... 376
Cybersecurity 376
Event Data Recorders 376
OnStar 377
Infotainment System 377

Customer Information

Declaration of Conformity

Radio Frequency Devices

Nigeria
Connection and use of this communications equipment is permitted by the Nigerian Communications Commission.

Russia



BCM VIP Denso, Gen 1.0, 1.5, 2.0

Jordan

Model B1NA5: Ref No. T/4/11/11/2029

Oman (Models B1NA0, B1NA5)

OMAN - TRA
R/6040/18
D080134

OMAN - TRA
R/11113/21
D100428

United Arab Emirates (UAE) Models B1NA0, B1NA5

TRA
REGISTERED No:
ER64922/18
DEALER No:
DA00290/21

TRA
REGISTERED No:
ER96377/21
DEALER No:
DA00290/21

372 Customer Information

Forward Collision Alert and Adaptive Cruise Control

Jordan

Ref No. T/4/11/11/4192

Oman

OMAN TRA
R/6132/18
D172249

United Arab Emirates (UAE)

TRA
REGISTERED No:
ER68006/18
DEALER No:
DA40068/15

Side Blind Zone Alert and Rear Cross Traffic Alert

Jordan

TRC No. TRC/31/7918/2020

Oman

TRA/TA
R/3957/17
D080134

United Arab Emirates (UAE)

TRA
Registered No:
ER53878/17
Dealer No:
DA44932/15

Korea

Manufacturer : Hella GmbH & Co. KGaA

Model : RS4

Date of Manufacture/ Country of Manufacture : See product

Identification Code : R-CMM-HLA-RS4

Rear Collision Mitigation

Jordan

TRC No. T/4/11/11/4195

Oman

OMAN TRA
R/6364/18
D172249

United Arab Emirates (UAE)

TRA
REGISTERED No:
ER68005/18
DEALER No:
DA40068/15

Remote Key Huf B2 MY21-MY24

Jordan

TRC No. TRC/34/7116/2020

Oman

OMAN TRA
R/7981/19
D172249

United Arab Emirates (UAE)

TRA
REGISTERED No:
ER73891/19
DEALER No:
DA36976/14

Rear Seat Infotainment Displays

Korea

Manufacturer : LG Electronics Inc.

Product : GM Monitor RS1

Model : IR12PT-TS and IR12DT-TS

Manufacturing Country : Vietnam

Ukraine

LG Electronics Vietnam Hai Phong

Lot CN2, Trang Due Industrial Park, Le Loi
Commune, An Doung District, Hai Pong City,
Vietnam

Europe

Function: Bluetooth

Frequency range: 2400-2483.5 MHz

Maximum transmit power: 10 dBm

**TPM Sensor Global B Slimline 433 Mhz -
Sensata**

Jordan

TRC No. T/4/11/11/1215

Oman

OMAN TRA
TA-R/8931/20
D172338

United Arab Emirates (UAE)

TRA
REGISTERED No:
ER78362/20
DEALER No:
DA0047074/10

Korea

Manufacturer : Schrader Electronics Ltd.

Model : AHMPD4

Date of Manufacture/ Country of

Manufacture : See product/ Mexico, China,
Ireland

Identification Code : R-C-SRD-AHMPD4

TTPM - Global B

Oman

OMAN TRA
R/12836/21
D172338

Bluetooth Headphones

Jordan

TRC No. T/4/11/11/8815

Oman

OMAN TRA
TA-R/10314/20
D090024

Russia

Д-ИВРД-7429

374 Customer Information

Korea

Manufacturer : Foster Electric Co., Ltd.

Model : KT001 WH 01

Date of Manufacture/ Country of Manufacture : January 21, 2021/ Tokyo, Japan

Low Radio

Oman

OMAN TRA
TA-R/6324/18
D100428

Korea

Manufacturer : LG Electronics

Model : IL7FB and IL7FF

Date of Manufacture/ Country of Manufacture : See product

Identification Code : R-C-LGE-IL7FB

2014/53/EU Radio Equipment Directive (RED) Declaration of Conformity

This vehicle has systems that transmit and/or receive radio waves subject to 2014/53/EU. The manufacturers of the systems listed below declare conformity with Directive 2014/53/EU. The full text of the EU declaration of conformity for each system is available at the following Internet address: www.chevrolet-europe.com.

Importer

GM Mobility Europe GmbH

Bethmannstraße 50-54 Ort

60311 Frankfurt am Main

Hessen

Germany

RFR Huf

Huf Hülsbeck and Fürst and Co. KG.

Steeger Str. 17

42251 Velbert Germany

Operation frequency: 433.92MHz Receiver

TTPM – Global B

Schrader Electronics Ltd.

11 Technology Park

Belfast Road

Antrim Bt41 1QS

Northern Ireland

United Kingdom

Operating frequency: N/A

Maximum transmit power: N/A

Universal Garage Door Opener

Gentex Corporation

600 North Centennial Street

Zeeland, MI 49464

USA

Operating frequency: 433.05 MHz - 434.79 MHz

Maximum transmit power: 0.138 mW E.R.P.

Rear Seat Infotainment MY22 Passenger Display

LG Electronics European

Shared Service Center B.V.

Krijgsman 1, 1186 DM

Amstelveen, The Netherlands

Operation frequency: 2400 - 2483.5 MHz

Maximum output power: 10 dBm

BCM GB Denso

DENSO Manufacturing Tennessee 203
1420 Middlesettlements Road
Maryville, TN 37801

Operation frequency: 125kHz
Maximum output power (ERP): 1.58 mW

Bluetooth Headphones

Foster Electric Co. Ltd.
1-1-109, Tsutsujigaoka, Akishima City, Tokyo,
196-8550, Japan

Frequency Band: 2400 - 2483.5 MHz
Frequency of Operation: 2402 - 2480 MHz
Maximum output power: 6.19 dBm

Remote Key

Huf Hülsbeck & Fürst GmbH & Co. KG
Steeger Str. 17, 42551 Velbert, Germany
Operating Frequency: 433 MHz
Maximum Transmit Power: 0.3 mW EIRP

TPM Sensor Global B Slimline 433 Mhz - Sensata

Schrader Electronics Ltd.
11 Technology Park

Belfast Road

Antrim Bt41 1QS

Northern Ireland

United Kingdom

Operating frequency: 433.92 MHz

Maximum transmit power: 10 dBm

Infotainment 3.5 Center Stack Module

Harman International Industries,
Incorporated

30001 Cabot Drive

Novi, MI 48377 USA

Operating frequency ranges: 2402 - 2480
MHz, 5150 - 5775 MHz

Maximum transmit power: 17 mW, 12 mW

Long Range Radar ARS5 - B

ADC Automotive Distance Control
Systems GmbH

Peter-Dornier-Strasse 10, 88131 Lindau,
Germany

Operating frequency: 76-77 GHz

Maximum transmit power: 30 dBm

Short Range Radar SRR5 - C

ADC Automotive Distance Control
Systems GmbH

Peter-Dornier-Strasse 10, 88131 Lindau,
Germany

Operating frequency: 76-77 GHz

Maximum transmit power: 23 dBm

Side Blind Zone Alert/ Rear Cross Traffic Alert

Hella KGaA Hueck & Co.

Rixbecker Straße 75

59552 Lippstadt

Frequency: 24.050 - 24.250 GHz

Power Output: 20 dBm (100mW)

Low Radio

LG Electronics Inc.

222, LG-ro, Jinwi-myeon, Pyeongtaek-si,
Gyeonggi-do, 451-713, Korea

Frequency range: 2402 – 5825 MHz

Maximum output power: 2.4 GHz, 5.5 GHz,
5.8 GHz

376 Customer Information

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 or used. 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 or to help GM improve safety or features. 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.

Cybersecurity

GM collects information about the use of your vehicle including operational and safety related information. We collect this information to provide, evaluate, improve, and troubleshoot our products and services and to develop new products and services.

The protection of vehicle electronics systems and customer data from unauthorized outside electronic access or control is important to GM. GM maintains appropriate security standards, practices, guidelines and controls aimed at defending the vehicle and the vehicle service ecosystem against unauthorized electronic access, detecting possible malicious activity in related networks, and responding to suspected cybersecurity incidents in a timely, coordinated and effective manner. Security incidents could impact your safety or compromise your private data. To minimize security risks, please do not connect your vehicle electronic systems to unauthorized devices or connect your vehicle to any unknown or untrusted networks (such as Bluetooth, WIFI or similar technology). In the event you suspect any security incident impacting your data or the safe operation of your vehicle, please stop operating your vehicle and contact your dealer.

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 airbag deployment or hitting a road obstacle, data

that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in 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 of police or similar government office; as part of GM's defense of litigation; 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 service plan, additional data may be collected and transmitted through the OnStar system. This includes information about the vehicle's operation; collisions involving the vehicle; the use of the vehicle and its features, including infotainment; and 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* ⇨ 380.

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 the infotainment section for information on stored data and for deletion instructions.

OnStar

OnStar Overview
OnStar Overview 378

OnStar Services
Emergency 379
Security 380

OnStar Additional Information
OnStar Additional Information 380

OnStar Overview



-  Privacy 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 and connected services may require a paid service plan 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 User Terms, Privacy Statement, and Software Terms for more details including system limitations at my.chevroletarabia.com, my.gmcarabia.com, or onstararabia.com.

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  to speak to an Advisor. See "Contacting OnStar" later in this section.

Functionality of the Voice Command button may vary by vehicle and region.

Press  to:

- Open the myChevrolet or myGMC app on the infotainment display.

Or

- Obtain and customize the Wi-Fi hotspot name or SSID and password, if equipped.

Press  to connect to an Advisor to:

- Verify account information or update contact information.
- Receive a Diagnostic check of the vehicle's key operating systems.
- Receive Roadside Assistance.
- Manage Wi-Fi Settings, if equipped.

Press  to get a priority connection to an OnStar Advisor available 24/7 to:

- Get help for an emergency.
- Be a Good Citizen.

Contacting OnStar

To contact an OnStar Advisor, press  or call one of the following phone numbers.

Country	Phone Number
Bahrain	800 06956
Kuwait	22285334
UAE	800 04444433
Saudi Arabia STC	800 8449102
Saudi Arabia not STC	800 8500674

OnStar Services

Emergency

Emergency Services require an active safety and security 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  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 Roadside Assistance, Advisors can locate a nearby service provider to help with a flat tire, a battery jump, or an empty gas tank.

380 OnStar

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.

Theft Alarm Notification

If equipped, if the doors are locked and the vehicle alarm sounds, a notification by text, e-mail, or both will be sent. If the vehicle is stolen, an OnStar Advisor can work with authorities to recover the vehicle.

OnStar Additional Information

Transferring Service

Press  to request account transfer eligibility information. The Advisor can cancel or change account information.

Selling/Transferring the Vehicle

Call immediately to terminate your OnStar or connected services if the vehicle is disposed of, sold, transferred, or if the lease ends. See “Contacting OnStar” later in this section.

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 or connected service options.

How OnStar Service Works

Automatic Crash Response, Emergency Services, Stolen Vehicle Assistance, Remote Services, and Roadside Assistance 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 User Terms, Privacy Statement, and Software Terms. See “Contacting OnStar” later in this section:

- See my.chevroletarabia.com (Chevrolet).
- See my.gmcarabia.com (GMC).
- Press  to speak with an Advisor.

OnStar or connected 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 or connected services. Service involving location information about the vehicle cannot work unless GPS signals are available, unobstructed, and compatible with the OnStar hardware. OnStar or connected 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 or connected 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.

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. See “Contacting Onstar” later in this section.

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 and Arabic. Available languages may vary by vehicle.

Potential Issues

OnStar cannot perform Remote Door Unlock or Stolen Vehicle Assistance after the vehicle has been off continuously for 10 days without an ignition cycle. If the vehicle has not been started for 10 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.

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.

382 OnStar

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* ⇨ 282. 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 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 my.chevroletarabia.com (Chevrolet), or my.gmcarabia.com (GMC). We recommend that you review it. If you have any questions, call or press ☎ 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. See “Contacting Onstar” later in this section.

OnStar - Software Acknowledgements

To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit <https://opensource.lge.com>. In addition to the source code, all referred license terms, warranty disclaimers, and copyright notices are available for download. This offer is valid for a period of three years after our last shipment of this product. This offer is valid to anyone in receipt of this information.

*Provided through LG Electronics Inc., who is solely responsible for provisions of related OSS compliance.

Contacting Onstar

To contact an OnStar Advisor, press ☎ or call one of the following phone numbers.

Country	Phone Number
Bahrain	80006956
Kuwait	22285334
UAE	800 04444433
Saudi Arabia STC	800 8449102
Saudi Arabia not STC	800 8500674

384 eCall

eCall

eCall Overview

eCall Overview (UAE) 384

eCall Overview

eCall Overview (UAE)

This vehicle is equipped with a 999 based eCall system that is free of charge. In the event of a crash, an eCall-equipped vehicle may automatically call the nearest 999 emergency center. If built-in sensors detect a crash, an emergency call is placed automatically. An advisor will determine whether help is needed. The exact location of the crash site is sent to the emergency center even if the occupants of the vehicle are unable to communicate with emergency personnel.

The eCall system can also be activated manually. Press  on the overhead console to contact the nearest 999 emergency center. Press  within two seconds to cancel the manually activated eCall.



A problem with the system may be indicated by the following:

- Red light near the  button displays.
- Light near the  button does not display with vehicle on.
- Driver Information Center message may appear.

See your dealer for service.

When the system is active, the green light near the  button is lit.

Usage of personal data is strictly limited to the purpose of handling the emergency call to the emergency number 999.

The eCall system may collect and process the following data:

- Vehicle Identification Number
- Vehicle type, such as passenger vehicle or light commercial vehicle
- Vehicle propulsion storage type, such as gasoline, diesel, CNG, LPG, electric, or hydrogen
- Last three vehicle locations and direction of travel
- Automatic activation log file for the system and its timestamp

Data collected by the eCall system is shared only with the 999 emergency center when a connection is made.

Data collected by the system is:

- Temporarily stored in the system memory, but it is not available outside of the system before an eCall is triggered.
- Not traceable and not subject to constant tracking during normal system operation.
- Stored in the system's memory but is automatically and continuously deleted.

Vehicle location data is continuously overwritten and limited to the last three locations for normal operation of the system.

The system activity log is kept for the duration of the emergency call, or a maximum of 13 hours after the call was initiated.

The data subject, or vehicle owner, has the right to access the data and as appropriate, to request the rectification, erasure or blocking of personal data when processing of the data does not comply with local regulations. Any third parties who received the data must be notified of any rectification, erasure, or blocking done to

comply with local regulations unless it proves impossible or involves a disproportionate effort.

The data subject, or vehicle owner, has a right to complain to the competent data protection authority if he or she feels that his or her rights have been infringed as a result of the processing of his or her personal data.

This vehicle is equipped with GM's third party service system called OnStar. See *OnStar Overview* ⇨ 378.

When OnStar Automatic Crash Response is enabled, emergency calls will be handled by OnStar and the nearest 999 emergency center as a backup. When OnStar Automatic Crash Response is disabled, emergency calls will be answered by the nearest 999 emergency center.

OnStar processes personal data only after the vehicle owner's explicit consent. See OnStar Privacy Policy at <https://www.onstar.com/ae/en/privacy.html> for information regarding traceability, tracking, and processing of personal data.

The owner of a vehicle equipped with OnStar service in addition to the 999-based eCall in-vehicle system has the right to choose to use the 999-based eCall in-vehicle system rather than OnStar. You may cancel your OnStar service at any time by pushing your blue OnStar button or by calling 800 04444433.

386 Connected Services

Connected Services

Connected Services

Navigation	386
Connections	386
Diagnostics	388

Connected Services

Navigation

Navigation requires a specific OnStar or connected service plan.

Send Destination to Vehicle

Directions can be 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 my.chevroletarabia.com (Chevrolet) or my.gmcarabia.com (GMC).

Connections

The following services help with staying connected.

For more information, see my.chevroletarabia.com (Chevrolet) or my.gmcarabia.com (GMC).

Ensuring Security

- Change the default passwords for the Wi-Fi hotspot and myGMC or myChevrolet mobile application. Make these passwords different from each other and use a combination of letters and numbers 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.

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  to open the OnStar app on the infotainment display, then select Wi-Fi Hotspot. On some vehicles, touch Wi-Fi or 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). The LTE icon shows connection to Wi-Fi. It is possible that the icon may not illuminate even though the vehicle has an active connection.
3. To change the SSID or password, press  or call to connect with an Advisor. On some vehicles, the SSID and password can be changed in the Wi-Fi Hotspot menu.

Country	Phone Number
Bahrain	80006956
Kuwait	22285334
UAE	800 04444433
Saudi Arabia STC	800 8449102
Saudi Arabia not STC	800 8500674

After initial set-up, your vehicle's Wi-Fi hotspot will connect automatically to your mobile devices. Manage data usage by turning Wi-Fi on or off on your mobile device, using the myGMC or myChevrolet mobile app, or by contacting an OnStar Advisor. On some vehicles, Wi-Fi can also be managed from the Wi-Fi Hotspot menu.

MyGMC/ MyChevrolet Mobile App (If Available)

Download the myGMC or myChevrolet mobile app to compatible Apple and Android smartphones. GMC and Chevrolet users can access the following services from a smartphone:

- 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.
- Turn the vehicle's Wi-Fi hotspot on/off, manage settings, and monitor data consumption, if equipped.
- Locate a dealer and schedule service.
- Request roadside assistance.
- Connect with GMC or Chevrolet on social media.

Features are subject to change. For myGMC or myChevrolet mobile app information and compatibility, see my.chevroletarabia.com or my.gmc.com.

388 Connected Services

An active OnStar or connected service plan may be required. A compatible device, factory-installed remote start, and power locks are required. Data rates apply. See my.chevroletarabia.com or my.gmc.com for details and system limitations.

Remote Services

Contact an OnStar Advisor to unlock the doors or sound the horn and flash the lamps.

Diagnostics

By monitoring and reporting on the vehicle's key systems, OnStar Advanced Diagnostics, if equipped, provides a way to keep up on maintenance. Capabilities vary by model. See www.onstararabia.com for details and system limitations. Features are subject to change. For updates on feature capabilities, see my.chevroletarabia.com or my.gmcarabia.com. Message and data rates may apply.

Index

A		Airbag System (cont'd)	
Accessories and Modifications	285	When Should an Airbag Inflate?	62
Accessory Power	210	Where Are the Airbags?	60
Adaptive		Airbags	
Cruise Control	234	Adding Equipment to the Vehicle	69
Add-On Electrical Equipment	282	Passenger Status Indicator	116
Additional		Readiness Light	115
Maintenance and Care	359	Replacing System Parts after a	
OnStar Information	380	Crash	70
Adjustments		Servicing Airbag-Equipped Vehicles	69
Lumbar, Front Seats	40	Alarm	
Agreements		Vehicle Security	24
Trademarks and License	182	Alert	
Air		Lane Change	257
Cleaner/Filter, Engine	294	Rear Cross Traffic	251
Conditioning	184, 187	Rear Pedestrian	250
Filter Life System	293	Side Blind Zone (SBZA)	256
Filter, Passenger Compartment	189	All-Season Tires	319
Four Corner Suspension	229	All-Terrain Tires	319
Vents	188	AM-FM Radio	151, 152
Air Suspension Light	124	Antenna	
Airbag System	59	Multi-band	154
Check	70	Antilock Brake System (ABS)	221
How Does an Airbag Restrain?	63	Warning Light	120
Passenger Sensing System	65	Appearance Care	
What Makes an Airbag Inflate?	63	Exterior	346
What Will You See after an Airbag		Interior	351
Inflates?	63	Apple CarPlay and Android Auto	175, 177

390 Index

Armrest		Battery (cont'd)		C	
Storage	90	Load Management	143	Calibration	
Ashtrays	104	Power Protection	144	Compass	100
Assistance Systems		Blade Replacement, Wiper	304	Camera	
Driving	251	Bluetooth		Rear Vision (RVC)	245
Parking and Backing	245	Audio	155, 156	Capacities and Specifications	367
Audio		Overview	167, 168, 172	Carbon Monoxide	
Bluetooth	155, 156	Brake		Engine Exhaust	212
Automatic		Fluid	301	Liftgate	17
Dimming Mirrors	29	Pad Life System	300	Winter Driving	201
Door Locks	16	System Warning Light	119	Cargo	
Emergency Braking (AEB)	253	Brake Pad Life System	300	Tie-Downs	93
Emergency Braking (AEB) Disabled		Brakes	299	Caution, Danger, and Warning	1
Light	121	Antilock	221	Center Console	
Headlamp System	139	Brake Assist	222	Storage	91
Transmission	213	Electric Brake Boost	220	Chains, Tire	330
Transmission Fluid	293	Electric Parking Brake	221	Charging	
Automatic Transmission		Braking	194	System Light	117
Manual Mode	216	Automatic Emergency (AEB)	253	Wireless	102
Avoiding Untrusted Media Devices	155	Reverse Automatic	249	Check Engine Light (Malfunction Indicator)	117
Axle		Braking System		Child Restraints	
Front	303	Front Pedestrian (FPB)	255	Infants and Young Children	72
Rear	303	Break-In, New Vehicle	206	Lower Anchors and Tethers for Children	77
B		Bulb Replacement	306	Older Children	70
Battery	302	Headlamp Aiming	306	Securing	84, 86
Exterior Lighting Battery Saver	144	Taillamps, Turn Signal, Stoplamps, and Back-up Lamps	307	Systems	74
Jump Starting	342	Buying New Tires	327		

Child Safety Locks	16	Controls		Diagnostics	
Cigarette Lighter	104	Steering Wheel	148	Connected Services	388
Circuit Breakers	309	Convenience Net	93	Disable Button	
Cleaning		Convex Mirrors	27	Rollover Detection	64
Exterior Care	346	Coolant		Disabled Vehicle	
Interior Care	351	Engine Temperature Gauge	113	Transporting	345
Climate Control Systems		Engine Temperature Warning Light	123	Distracted Driving	193
Dual Automatic	184	Cooling	184, 187	Dome Lamps	141
Rear	187	Cooling System	295	Door	
Clock	100	Cruise Control	232	Ajar Light	127
Cluster, Instrument	105, 108	Adaptive	234	Delayed Locking	16
Compartments		Light	127	Locks	14
Storage	89	Cupholders	89	Power Locks	15
Compass	100	Cybersecurity	376	Drive Belt Routing, Engine	370
Conformity		D		Drive Systems	
Declaration of	371	Danger, Warning, and Caution	1	Four-Wheel Drive	303
Connected Services		Dashboard	4	Driver	
Connections	386	Data Collection		Assistance Systems	243
Diagnostics	388	Infotainment System	377	Information Center (DIC)	127, 130
Navigation	386	OnStar	377	Mode Control	225
Connections		Data Recorders, Event	376	Mode Control Light	123
Connected Services	386	Daytime Running Lamps (DRL)	139	Driving	
Control		Declaration of Conformity		Assistance Systems	251
Hill Descent	225	Certification Information	371	Better Fuel Economy	193
Traction and Electronic Stability	223	Defensive Driving	194	Characteristics and Towing Tips	264
Control Light		Delayed Locking	16	Defensive	194
Hill Descent	121	Destination	164	Distracted	193
Control of a Vehicle	194			Hill and Mountain Roads	200

392 Index

Driving (cont'd)			
If the Vehicle is Stuck	202		
Loss of Control	196		
Off-Road	196		
Off-Road Recovery	195		
Vehicle Load Limits	203		
Wet Roads	199		
Winter	201		
Dual			
Automatic Climate Control System	184		
Dynamic Fuel Management	212		
E			
eCall			
Overview	384		
Electric			
Brake Boost	220		
Parking Brake	221		
Parking Brake Light	119		
Electrical			
Equipment, Add-On	282		
System Overload	308		
Electrical System			
Engine Compartment Fuse Block	310		
Fuses and Circuit Breakers	309		
Instrument Panel Fuse Block	314		
Rear Compartment Fuse Block	316		
Emergency			
OnStar	379		
Engine			
Air Cleaner/Filter	294		
Air Filter Life System	293		
Check Light (Malfunction Indicator)	117		
Compartment Overview	287		
Coolant Temperature Gauge	113		
Coolant Temperature Warning Light ...	123		
Cooling System	295		
Drive Belt Routing	370		
Exhaust	212		
Fan	299		
Oil Life System	292		
Oil Pressure Gauge	112		
Oil Pressure Light	125		
Overheating	297		
Power Messages	136		
Running While Parked	213		
Starting	208		
Entry Lighting	143		
Equipment, Towing	272		
Event Data Recorders	376		
Exit Lighting	143		
Extended Parking	212		
Exterior			
Lamp Controls	137		
Lamps Off Reminder	138		
Exterior (cont'd)			
Lighting Battery Saver	144		
F			
Fan			
Engine	299		
Filter			
Engine Air Cleaner	294		
Flash-to-Pass	139		
Flashers, Hazard Warning	140		
Flat Tire	330		
Changing	331		
Floor Console			
Storage	92		
Floor Mats	353		
Fluid			
Automatic Transmission	293		
Brakes	301		
Washer	299		
Fog Lamp Light			
Front	126		
Fog Lamps	141		
Folding Mirrors	28		
Forward			
Collision Alert (FCA) System	251		
Four Corner Air Suspension Light	124		
Four Corner Air Suspension System	229		
Four-Wheel Drive	217, 303		

Four-Wheel-Drive	
Light	120
Front	
Axle	303
Heated and Ventilated Seats	43
Pedestrian Braking (FPB) System	255
Fuel	
Additives	262
Dynamic Management	212
Economy, Driving for Better	193
Filling a Portable Fuel Container	264
Filling the Tank	262
Gauge	111
Low Fuel Warning Light	126
Prohibited Fuels	262
Recommended	261
Top Tier	261
Full-Size Spare Tire	342
Fuses	
Engine Compartment Fuse Block	310
Fuses and Circuit Breakers	309
Instrument Panel Fuse Block	314
Rear Compartment Fuse Block	316
G	
Gas Strut(s)	305
Gauges	
Engine Coolant Temperature	113

Gauges (cont'd)	
Engine Oil Pressure	112
Fuel	111
Odometer	111
Speedometer	111
Tachometer	111
Transmission Temperature	113
Trip Odometer	111
Voltmeter	114
Warning Lights and Indicators	105
General Information	
Service and Maintenance	355
Towing	264
Vehicle Care	285
Glass Replacement	305
Global Positioning System (GPS)	165
Glove Box	89
Guidance	
Problems with the Route	166
H	
Hazard Warning Flashers	140
Head Restraints	36
Head-Up Display (HUD)	132
Headlamps	
Aiming	306
Automatic	139
Bulb Replacement	306

Headlamps (cont'd)	
Daytime Running Lamps (DRL)	139
Flash-to-Pass	139
High-Beam On Light	126
High/Low Beam Changer	139
Lamps On Reminder	126
Heated	
Mirrors	29
Rear Seats	48
Steering Wheel	97
Ventilated Front Seats	43
Heating	184, 187
High-Beam On Light	126
High-Speed Operation	321
Hill	
Descent Control (HDC)	225
Descent Control Light	121
Hill and Mountain Roads	200
Hill Start Assist (HSA)	222
Hood	285
Horn	98
How to Wear Seat Belts Properly	53
HVAC	184, 187
I	
Ignition Positions	207
Indicator	
Pedestrian Ahead	122

394 Index

Indicator (cont'd)		Lamps (cont'd)		Lights	
Vehicle Ahead	121	Exterior Controls	137	Airbag Readiness	115
Indicators		Exterior Lamps Off Reminder	138	Antilock Brake System (ABS)	
Warning Lights and Gauges	105	Exterior Lighting Battery Saver	144	Warning	120
Infants and Young Children, Restraints	72	Flash-to-Pass	139	Automatic Emergency Braking (AEB)	
Infotainment		Fog	141	Disabled	121
Using the System	148	High/Low Beam Changer	139	Brake System Warning	119
Infotainment System	377	Malfunction Indicator (Check		Charging System	117
Rear Seat	156	Engine)	117	Check Engine (Malfunction	
Instrument Cluster	105, 108	On Reminder	126	Indicator)	117
Instrument Panel		Reading	142	Cruise Control Light	127
Storage Area	89	Lane		Door Ajar	127
Instrument Panel Overview	4	Change Alert (LCA)	257	Driver Mode Control	123
Interior Rearview Mirrors	29	Keep Assist (LKA)	259	Electric Parking Brake	119
Introduction	1, 145	Keep Assist Light	121	Engine Coolant Temperature	
J		Lap-Shoulder Belt	55	Warning	123
Jump		LATCH System		Engine Oil Pressure	125
Starting	342	Replacing Parts after a Crash	83	Four Corner Air Suspension	124
K		LATCH, Lower Anchors and Tethers for		Four-Wheel-Drive	120
Keys	6	Children	77	Front Fog Lamp	126
Remote	7	LED Lighting	306	Gauges and Indicators	105
Remote Operation	7	Liftgate	17	High-Beam On	126
L		Lighter, Cigarette	104	Hill Descent Control	121
Lamps		Lighting		Lane Keep Assist	121
Daytime Running (DRL)	139	Entry	143	Low Fuel Warning	126
Dome	141	Exit	143	Seat Belt Reminders	114
		Illumination Control	141	Security	126
		LED	306	Service Electric Parking Brake	120

Lights (cont'd)	
StabiliTrak OFF	122
Tire Pressure	125
Traction Control System (TCS)/StabiliTrak	122
Traction Off	122
Lock	
Steering Column	26
Locking Rear Axle	229
Locks	
Automatic Door	16
Delayed Locking	16
Door	14
Lockout Protection	16
Power Door	15
Safety	16
Loss of Control	196
Low Fuel Warning Light	126
Low-Profile Tires	319
Lower Anchors and Tethers for Children (LATCH System)	77
Lumbar Adjustment	40
Front Seats	40
M	
Magnetic Ride Control	228
Maintenance	
Records	365

Maintenance and Care	
Additional	359
Maintenance Schedule	356
Recommended Fluids and Lubricants	362
Malfunction Indicator Lamp	117
Manual	
Mode	216
Maps	163
Media	
Avoiding Untrusted Devices	155
Memory Seats	40
Messages	
Engine Power	136
Vehicle	135
Vehicle Speed	136
Mirrors	
Automatic Dimming	29
Automatic Dimming Rearview	29
Convex	27
Folding	28
Heated	29
Interior Rearview	29
Manual Rearview	29
Power	27
Rear Camera	29
Tilt in Reverse	29

Mode	
Driver Control	225
Monitor System, Tire Pressure	322
Multi-band Antenna	154
N	
Navigation	
Connected Services	386
Destination	164
Symbols	164
Using the System	163
Net, Convenience	93
New Vehicle Break-In	206
O	
Odometer	111
Trip	111
Off-Road	
Driving	196
Recovery	195
Oil	
Engine	290
Engine Oil Life System	292
Engine Oil Pressure Gauge	112
Pressure Light	125
Older Children, Restraints	70
OnStar	377
Additional Information	380
Overview	378

396 Index

OnStar Emergency 379
OnStar Security 380
Outlets
 Power 101
Overheating, Engine 297
Overview 146
 Instrument Panel 4

P

Park
 Assist 245, 248
 Shifting Into 210
 Shifting Out of 211
Parking
 Brake and P (Park) Mechanism
 Check 304
 Extended 212
 Over Things That Burn 212
Parking or Backing
 Assistance Systems 245
Passenger
 Airbag Status Indicator 116
 Compartment Air Filter 189
 Sensing System 65
Pedestrian Ahead Indicator 122
Phone
 Apple CarPlay and
 Android Auto 175, 177

Phone (cont'd)
 Bluetooth 167, 168, 172
Port
 USB 155
Positioning
 Vehicle 165
Power
 Assist Steps 24
 Door Locks 15
 Mirrors 27
 Outlets 101
 Protection, Battery 144
 Retained Accessory (RAP) 210
 Seat Adjustment 39
 Windows 32
Pregnancy, Using Seat Belts 58
Privacy
 Vehicle Data Recording 376
Problems with Route Guidance 166
Prohibited Fuels 262

R

Radiator 295
Radio
 AM-FM Radio 151, 152
 Data System (RDS) 154
 Reception 154
Reading Lamps 142

Rear

Axle 303
Camera Mirror 29
Climate Control System 187
Cross Traffic Alert (RCTA) System 251
Heated Seats 48
Locking Axle 229
Pedestrian Alert 250
Seat Infotainment (RSI) System 156
Seats 44
Storage 90
Vision Camera (RVC) 245
Window Washer/Wiper 99
Rearview Mirrors 29
 Automatic Dimming 29
Reclining Seatbacks 39
Recognition
 Voice 166
Recommended
 Fuel 261
Recommended Fluids and Lubricants 362
Records
 Maintenance 365
Remote
 Key 7
 Key Operation 7
 Vehicle Start 13

Replacement	
Glass	305
Replacement Parts	
Airbags	70
Maintenance	363
Replacing	
Airbag System	70
LATCH System Parts After a Crash	83
Seat Belt System Parts after a Crash	59
Restraints	
Where to Put	75
Retained Accessory Power (RAP)	210
Reverse Automatic Braking	249
Reverse Tilt Mirrors	29
Ride Control Systems	
Magnetic	228
Roads	
Driving, Wet	199
Rollover Detection Disable Button	64
Rollover Detection System Status	
Indicator	116
Roof	
Rack System	94
Sunroof	34
Rotation, Tires	326
Routing, Engine Drive Belt	370
Running Boards	24
Running the Vehicle While Parked	213

S

Safety	
Kit	93
Locks	16
Safety System Check	58
Seat Belts	52
Care	58
How to Wear Seat Belts Properly	53
Lap-Shoulder Belt	55
Reminders	114
Replacing after a Crash	59
Use During Pregnancy	58
Seats	
Head Restraints	36
Heated and Ventilated, Front	43
Heated, Rear	48
Lumbar Adjustment, Front	40
Memory	40
Power Adjustment, Front	39
Rear	44
Reclining Seatbacks	39
Second Row	44
Third Row Seat	49
Second Row Seats	44
Securing Child Restraints	84, 86
Security	
Light	126
OnStar	380

Security (cont'd)

Vehicle	24
Vehicle Alarm	24
Service	191
Accessories and Modifications	285
Doing Your Own Work	285
Electric Parking Brake Light	120
Maintenance Records	365
Maintenance, General Information	355
Parts Identification	366
Services	
Special Application	359
Servicing the Airbag	69
Settings	178, 180
Shifting	
Into Park	210
Out of Park	211
Side Blind Zone Alert (SBZA)	256
Signals, Turn and Lane-Change	140
Software Updates	151
Special Application Services	359
Specifications and Capacities	367
Speedometer	111
StabiliTrak	
OFF Light	122
Start Assist, Hill	222
Start Vehicle, Remote	13
Starting the Engine	208

398 Index

Status Indicator		Surround Vision System	246	Tires (cont'd)	
Rollover Detection System	116	Symbols	2	Chains	330
Steering	194	Navigation	164	Changing	331
Column Lock	26	System		Different Size	328
Heated Wheel	97	Airbag	59	Full-Size Spare	342
Wheel Adjustment	97	Brake Pad Life	300	If a Tire Goes Flat	330
Wheel Controls	148	Driver Assistance	243	Inspection	325
Steps		Engine Air Filter Life	293	Low-Profile	319
Power Assist	24	Forward Collision Alert (FCA)	251	Pressure	320, 321
Stop/Start System	209	Four Corner Air Suspension	229	Pressure Light	125
Stoplamps and Back-up Lamps		Global Positioning	165	Pressure Monitor Operation	323
Bulb Replacement	307	Infotainment	377	Pressure Monitor System	322
Storage		Rear Cross Traffic Alert	251	Rotation	326
Armrest	90	Rear Seat Infotainment (RSI)	156	Wheel Alignment and Tire Balance	329
Center Console	91	Roof Rack	94	Wheel Replacement	329
Compartments	89	Surround Vision	246	When It Is Time for New Tires	327
Convenience Net	93	T		Winter	319
Cupholders	89	Tachometer	111	Top Tier Fuel	261
Floor Console	92	Taillamps		Towing	
Glove Box	89	Bulb Replacement	307	Driving Characteristics	264
Instrument Panel Areas	89	Theft-Deterrent Systems	26	Equipment	272
Rear	90	Third Row Seats	49	General Information	264
Roof Rack System	94	Time	100	Trailer	268
Struts		Tires	318	Trailer Sway Control (TSC)	281
Gas	305	All-Season	319	Traction	
Stuck Vehicle	202	All-Terrain	319	Control System (TCS)/StabiliTrak	
Sun Visors	34	Buying New Tires	327	Light	122
Sunroof	34			Control/Electronic Stability Control	223

Traction (cont'd)	
Off Light	122
Trademarks and License Agreements	182
Trailer	
Sway Control (TSC)	281
Towing	268
Transfer Case	
Four-Wheel Drive	217
Transmission	
Automatic	213
Fluid, Automatic	293
Temperature Gauge	113
Transporting	
a Disabled Vehicle	345
Trip Odometer	111
Turn and Lane-Change Signals	140
Turn Signal	
Bulb Replacement	307
U	
Updates	
Software	151
USB Port	155
Using	
Infotainment System	148
Navigation System	163

V	
Vehicle	
Ahead Indicator	121
Alarm System	24
Control	194
Data Recording and Privacy	376
Identification Number (VIN)	366
Load Limits	203
Messages	135
Positioning	165
Remote Start	13
Security	24
Speed Messages	136
Symbols	2
Vehicle Care	
Tire Pressure	320
Vehicle Security	
Steering Column Lock	26
Ventilation, Air	188
Visors	34
Voice Recognition	166
Voltmeter Gauge	114

W	
Warning	
Brake System Light	119
Caution and Danger	1
Hazard Flashers	140
Lights, Gauges, and Indicators	105
Washer Fluid	299
Wheels	
Alignment and Tire Balance	329
Different Size	328
Replacement	329
When It Is Time for New Tires	327
Where to Put the Restraint	75
Windows	32
Power	32
Windshield	
Replacement	305
Wiper/Washer	98
Winter	
Driving	201
Tires	319
Wiper	
Blade Replacement	304
Rear Washer	99
Wireless Charging	102