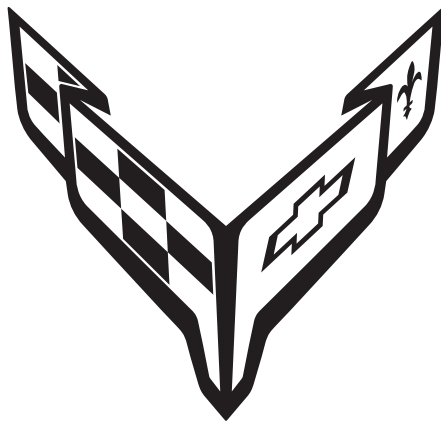




2020



CORVETTE

Owner's Manual



chevrolet.com (U.S.)
chevrolet.ca (Canada)

Contents

Introduction	2
Keys, Doors, and Windows	7
Seats and Restraints	47
Storage	83
Instruments and Controls	86
Lighting	125
Infotainment System	132
Climate Controls	139
Driving and Operating	145
Vehicle Care	209
Service and Maintenance	284
Technical Data	298
Customer Information	302
Reporting Safety Defects	312
OnStar	316
Connected Services	322
Index	325

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, the CHEVROLET Emblem, Corvette, and the Corvette Emblem are trademarks and/or service marks of General Motors LLC, its subsidiaries, affiliates, or licensors.

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

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

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

Keep this manual in the vehicle for quick reference.

Canadian Vehicle Owners

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

Propriétaires Canadiens

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

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

Using this Manual

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

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.



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.”

4 Introduction

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

 : Carbon Monoxide

 : Dispose of Used Components Properly

 : Do Not Apply High Pressure Water

 : Engine Coolant Temperature

 : Flame/Fire Prohibited

 : Flammable

 : Fuse Block Cover Lock Location

 : Fuses

 : ISOFIX/LATCH System Child Restraints

 : Keep Fuse Block Covers Properly Installed

 : Lane Keep Assist

 : Malfunction Indicator Lamp

 : Oil Pressure

 : Park Assist

 : Power

 : Rear Cross Traffic Alert

 : Registered Technician

 : Remote Vehicle Start

 : Seat Belt Reminders

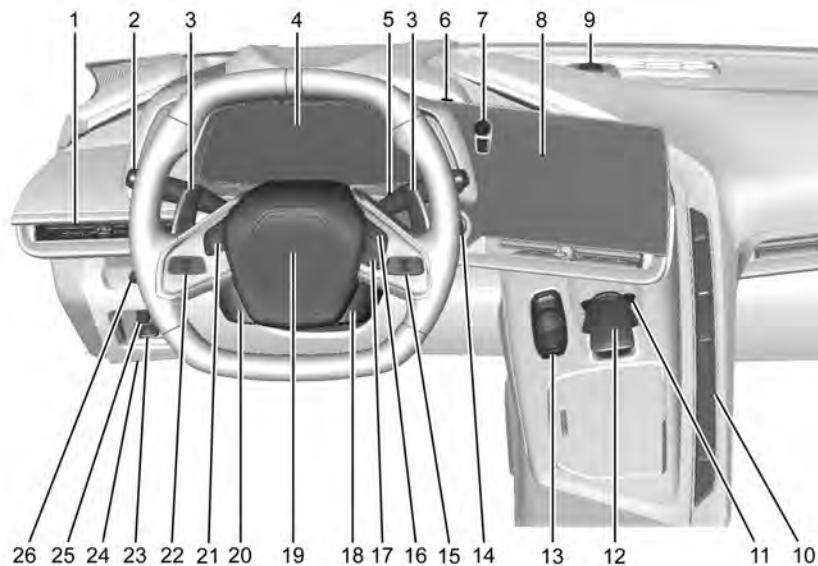
 : Side Blind Zone Alert

 : Tire Pressure Monitor

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

 : Under Pressure

Instrument Panel Overview



6 Introduction

1. <i>Air Vents</i> ⇨ 143. 2. Turn Signal Lever. See <i>Turn and Lane-Change Signals</i> ⇨ 128. <i>Exterior Lamp Controls</i> ⇨ 125. 3. Manual Shift Paddles. See <i>Manual Mode</i> ⇨ 174. 4. <i>Instrument Cluster</i> ⇨ 94. 5. <i>Windshield Wiper/Washer</i> ⇨ 87. 6. Near Field Communication Antenna (NFC). See “Pairing a Phone” in the infotainment manual. 7. Volume Control Knob. See the infotainment manual. Infotainment Home Button. See the infotainment manual. 8. <i>Infotainment</i> ⇨ 132. 9. Alarm System Indicator Light. See <i>Vehicle Alarm System</i> ⇨ 26. Light Sensor. See <i>Automatic Headlamp System</i> ⇨ 127. 10. <i>Dual Automatic Climate Control System</i> ⇨ 139.	- Driver and Passenger Heated and Ventilated Seat Controls (If Equipped). See <i>Heated and Ventilated Front Seats</i> ⇨ 53. 11. <i>Traction Control/Electronic Stability Control</i> ⇨ 182. Curb View Camera (If Equipped). See <i>Assistance Systems for Parking or Backing</i> ⇨ 200. Front Lift System Control (If Equipped). See <i>Front Lift System</i> ⇨ 191. 12. <i>Driver Mode Control</i> ⇨ 184. 13. Shift Switches. See <i>Dual Clutch Transmission</i> ⇨ 171. 14. Keyless Ignition. See <i>Ignition Positions</i> ⇨ 165. 15. Driver Information Center (DIC) Controls. See <i>Driver Information Center (DIC)</i> ⇨ 108. 16. <i>Heated Steering Wheel</i> ⇨ 87 (If Equipped). 17. Bluetooth Controls. See “Steering Wheel Controls” in the infotainment manual.	- Voice Recognition Controls. See “Steering Wheel Controls” in the infotainment manual. 18. Volume Control Buttons. See “Steering Wheel Controls” in the infotainment manual. 19. <i>Horn</i> ⇨ 87. 20. Favorites Select Buttons. See “Steering Wheel Controls” in the infotainment manual. 21. Z-Mode Control. See <i>Driver Mode Control</i> ⇨ 184. 22. <i>Cruise Control</i> ⇨ 196. 23. <i>Electric Parking Brake</i> ⇨ 179. 24. Data Link Connector (DLC) (Out of View). See <i>Malfunction Indicator Lamp (Check Engine Light)</i> ⇨ 102. 25. <i>Instrument Panel Illumination Control</i> ⇨ 129. 26. Head-Up Display Controls (If Equipped). See <i>Head-Up Display (HUD)</i> ⇨ 110.

Keys, Doors, and Windows

Keys and Locks

Keys	7
Remote Keyless Entry (RKE) System	9
Remote Keyless Entry (RKE) System Operation	9
Remote Vehicle Start	15
Door Locks	17
Delayed Locking	20
Automatic Door Locks	20
Lockout Protection	20

Doors

Hood	21
Hatch (Trunk)	23

Vehicle Security

Vehicle Security	26
Vehicle Alarm System	26
Immobilizer	28
Immobilizer Operation	28

Exterior Mirrors

Convex Mirrors	29
Power Mirrors	30
Folding Mirrors	30

Heated Mirrors	31
Automatic Dimming Mirror	31
Reverse Tilt Mirrors	31

Interior Mirrors

Interior Rearview Mirrors	32
Manual Rearview Mirror	32
Automatic Dimming Rearview Mirror	32
Rear Camera Mirror	32

Windows

Windows	35
Power Windows	35
Rear Windows	37
Sun Visors	37

Roof

Roof Panel	37
Convertible Top	41

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 can be used to open the vehicle and hatch/trunk if power to the vehicle is lost. See *Hatch (Trunk)* ⇨ 23.



Convertible Shown, Coupe Similar



Convertible Shown, Coupe Similar

Press the button on the side to remove the mechanical key. Never pull the mechanical key out without pressing the button.

This vehicle has a Keyless Access system with pushbutton start. See *Ignition Positions* ⇨ 165 for information on starting the vehicle.

If it becomes difficult to turn the mechanical key, inspect the mechanical key blade for debris.

Remote Keyless Entry (RKE) System

See *Radio Frequency Statement* ⇨ 312.

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 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 Keyless Entry (RKE) System 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 Keyless Entry (RKE) System* ⇨ 9.



 : Press to lock both doors and the fuel door. The turn signal indicators may flash and/or the horn may sound on the second press to indicate locking. See “Remote Lock, Unlock, Start” under *Vehicle Personalization* ⇨ 116.

Pressing  may also arm the theft-deterrent system. See *Vehicle Alarm System* ⇨ 26.

See *Folding Mirrors* ⇨ 30.

 : Press to unlock the driver door and the fuel door. Press again within five seconds to unlock both doors. When remotely unlocking the vehicle at night, the headlamps and taillamps may come on for about 30 seconds to light your approach to the vehicle depending on the settings. See *Vehicle Personalization* ⇨ 116. The turn signal indicators may flash to indicate unlocking.

Pressing  will disarm the theft-deterrent system. See *Vehicle Alarm System* ⇨ 26.

10 Keys, Doors, and Windows

If equipped with remote window operation, press  and hold for three seconds to remotely open the windows, if enabled. See *Vehicle Personalization* ⇨ 116.

See *Folding Mirrors* ⇨ 30.

 : Press twice to start the engine from outside the vehicle using the remote key. See *Remote Vehicle Start* ⇨ 15. The vehicle can not be driven during a remote start. To drive the vehicle, press the brake pedal, then press ENGINE START/STOP, with the remote key in the vehicle.

 : Press and release to initiate vehicle locator. The exterior lamps flash and the horn chirps three times. Press  and hold for approximately three seconds to sound the panic alarm. The horn sounds and the turn signal lamps flash for 30 seconds, or until  is pressed again or the vehicle is started.

 : Press twice to release the hatch/trunk. The vehicle must be in P (Park).

 : Press twice to release the hood. The vehicle must be in P (Park).

 : If equipped, press and release , then immediately press and hold  continuously to open the convertible top all the way. The vehicle must be off to operate the convertible top. Release the button to stop movement. This button will only open the convertible top.

If equipped, press and release , then immediately press and hold  to open the engine compartment.

Convertible Top

- Do not try to start the vehicle while using the remote key to open the convertible top. Release both the remote key button and ENGINE START/STOP and wait a few seconds before starting the vehicle normally.

Keyless Access Operation

This Keyless Access system allows you to unlock and unlatch the doors and hatch/trunk without removing the remote key from your pocket, purse, briefcase, etc. The remote key must be within 1 m (3 ft) of the trunk or door being opened.

A touchpad is located on the door handle.

The Keyless Access system can be programmed to unlock both doors on the first door handle touchpad press from the driver door. Keyless Access can also be turned Off. See *Vehicle Personalization* ⇨ 116.

If equipped with memory seats, remote keys 1 and 2 are linked to seating positions of memory 1 or 2. See *Memory Seats* ⇨ 50.

Keyless Unlocking

Press the door handle touchpad to unlock and open the doors if the remote key is within 1 m (3 ft). See *Door Locks* ⇨ 17 and “Passive Door Unlock” under *Vehicle Personalization* ⇨ 116.

Disable/Enable Keyless Unlocking of Exterior Door Handles and Trunk

If equipped, keyless unlocking of the exterior door handles and trunk 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 hood or hatch/trunk 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. Disabling Keyless Unlocking may also be configured under Vehicle Personalization.

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. Enabling Keyless Unlocking may also be configured under Vehicle Personalization.

Passive Locking

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

The fuel door will also 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.

If the vehicle is locked with a remote key inside the vehicle, that remote key will be disabled for starting the vehicle and other keyless access operations. To re-enable that remote key, press any button on that remote key. The remote key will also be re-enabled when the vehicle

is started with another known remote key, or when the vehicle is unlocked.

To customize whether the doors automatically lock when exiting the vehicle, see “Passive Door Lock” under *Vehicle Personalization* ⇨ 116.

If equipped with remote folding mirrors, passive locking may fold and unfold the mirrors. See *Folding Mirrors* ⇨ 30.

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 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 both doors are closed. To turn on or off,

12 Keys, Doors, and Windows

see "Remote Left in Vehicle Alert" under *Vehicle Personalization* ⇨ 116.

Remote No Longer in 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 turn on or off, see *Vehicle Personalization* ⇨ 116.

Keyless Trunk Opening



Press the hatch/trunk release touchpad to open the trunk if the remote key is within 1 m (3 ft).

Programming Remote Keys to the Vehicle

Only remote keys programmed to this 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.

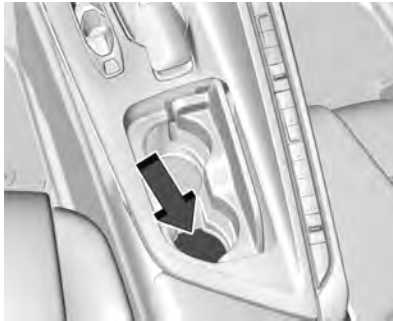
Programming with Recognized Remote Keys

A new key can be programmed to the vehicle when there are two recognized keys.

To program, the vehicle must be in run and all remote keys, both currently recognized and new, must be with you.

1. Place the two recognized remote keys on the passenger seat.
2. Scroll to the DIC menu to "Remote Key Learn" menu and select.

The DIC displays READY FOR REMOTE #3, 4, 5, ETC.



3. Place the new remote key into the backup pocket location.
4. Press ENGINE START/STOP. When the remote key is learned, the DIC display will show that it is ready to program the next remote key.
5. Remove the remote key from the backup location and press  or  on the remote key.

To program additional remote keys, repeat Steps 3–5.

When all additional remote keys are programmed, press and hold ENGINE START/

STOP for approximately 12 seconds to exit programming mode.

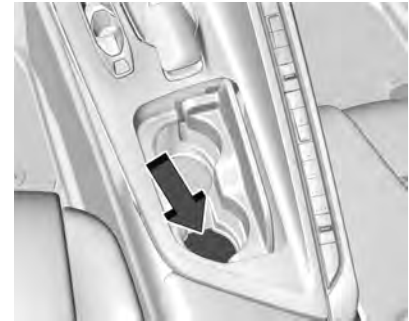
Programming without Recognized Remote Keys

If two currently recognized remote keys are not available, see your dealer to program new remote keys.

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 a while, 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 REMOTE DETECTED or NO REMOTE KEY WAS DETECTED. PLACE KEY IN KEY POCKET, THEN START YOUR VEHICLE.

If this occurs, follow these steps:



1. Place the remote key in the cupholder with the mechanical key end facing up.
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.

14 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.

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



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, negative side facing down. Replace with a CR2450 or equivalent battery.
6. Replace the seal, pushing it into the groove around the battery compartment.
7. Replace the battery cover by snapping it back into the remote key.

Remote Vehicle Start

This feature allows the engine to be started from outside the vehicle.

 : This button on the remote key is for remote start.

The climate control system will use the previous settings during a remote start. The rear window defogger may come on during remote start based on cold ambient

conditions. The rear window defogger indicator light does not come on during remote start.

If equipped, the heated and ventilated front seats may also come on when the vehicle personalization setting is enabled. See *Heated and Ventilated Front Seats* ⇨ 53.

If equipped with a remote start heated steering wheel, it may come on during a remote start. See *Heated Steering Wheel* ⇨ 87.

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

If your vehicle is low on fuel, do not use the remote start feature. The vehicle may run out of fuel.

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

16 Keys, Doors, and Windows

Other conditions can affect the performance of the remote key. See *Remote Keyless Entry (RKE) System* ⇨ 9.

You have a total of 30 minutes of engine running time. The maximum run time of a single start is 15 minutes, and it will shut off automatically. You could do three 10 minute starts if you manually shut off after 10 minutes. The last 10 minute start would shut off automatically as your total 30 minutes will have been used.

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 doors will be locked and 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 ignition 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's ignition must be turned on and then off before the remote start can be used again.

Canceling a Remote Start

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

- Press . The parking lamps will turn off.

- Turn on the hazard warning flashers.
- Turn the vehicle on and then back off.

Conditions in Which Remote Start Will Not Work

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

- The ignition is in any mode other than off.
- A remote key is in the vehicle.
- The hatch/trunk is not closed.
- The convertible top is not fully open or closed.
- The tonneau cover is not closed.
- The hazard warning flashers are on.
- There is an emission control system malfunction.
- The engine coolant temperature is too high.
- The oil pressure is low.
- The 30 minutes of engine run time have been used.

- The vehicle is not in P (Park).

Door Locks

Warning

Unlocked doors can be dangerous.

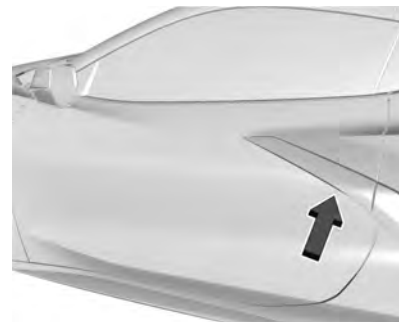
- Passengers, especially children, can easily open the doors and fall out of a moving vehicle. The doors can be unlocked and opened while the vehicle is moving. The chance of being thrown out of the vehicle in a crash is increased if the doors are not locked. So, all passengers should wear seat belts 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

(Continued)

Warning (Continued)

- can be overcome by extreme heat and can suffer permanent injuries or even death from heat stroke. Always lock the vehicle whenever leaving it.
- Outsiders can easily enter through an unlocked door when you slow down or stop the vehicle. Locking the doors can help prevent this from happening.

To lock or unlock a door from the outside, press  or  on the remote key.



For Keyless Access, hold the remote key within 1 m (3 ft) of the door handle. Grip and press the door handle touchpad. See *Remote Keyless Entry (RKE) System Operation* ⇨ 9. This feature can be programmed. See *Vehicle Personalization* ⇨ 116.

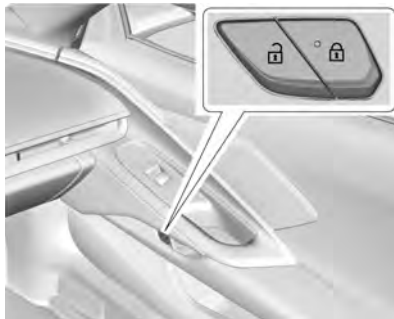


Convertible Shown, Coupe Similar

To lock or unlock the doors from the inside, use the driver power door lock switch.

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

 : Press to unlock the doors.



The passenger power door lock switch can also be used to lock or unlock the doors.

The fuel door, hood, and hatch/trunk are also locked and unlocked using either power door lock switch.



Convertible Shown, Coupe Similar

To open a door from the inside, press the door unlatch button.

Loss of Vehicle Electrical Power

If the vehicle has lost battery power, open the doors manually.

From Inside the Vehicle



Pull the driver door release handle.



Pull the passenger door release handle.

From Outside the Vehicle

There are two back up key cylinders outside, one to open the left hand door and one to open the trunk:



In the air inlet located on the body, rearward of the left door handle.



Remove the license plate to access the second backup key lock cylinder for the trunk.

Free-Turning Locks

The door key lock cylinder turns freely when either the wrong mechanical key is used or the correct mechanical key is not fully inserted. The free-turning door lock feature prevents the lock from being forced open. To reset the lock, turn it to the vertical position with the correct mechanical key fully inserted. Remove the mechanical key and insert it again. If this does not reset the lock, turn the

mechanical key halfway around in the cylinder and repeat the reset procedure.

Delayed Locking

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

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

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

Press  on the door lock switch again, or press  on the remote key, to override this feature and lock the doors immediately.

Delayed locking can be programmed. See *Vehicle Personalization* ⇨ 116.

Automatic Door Locks

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

To unlock the doors:

- Press  on a power door lock switch.
- Shift the transmission into 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).

Automatic door locking cannot be disabled. Automatic door unlocking can be programmed. See *Vehicle Personalization* ⇨ 116.

Lockout Protection

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

If the vehicle is off and locking is requested while a door is open, when all doors are closed the vehicle will check for 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 chirp three times.

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

Doors

Hood

Hood Release

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.

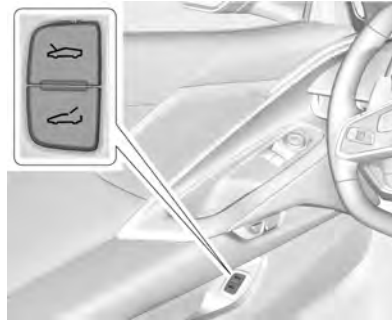
The hood compartment can be accessed in several ways.

Ensure the hood is clear of any objects before opening.

Warning

Turn the vehicle off before opening the hood. If the engine is running with the hood open, you or others could be injured.

Driver Door Hood Latch Release Button



1. With the transmission in P (Park), press  on the bottom of the driver door to release the hood.
2. From the front of the vehicle, lift the hood slightly until the gas strut system automatically raises and holds it in the fully open position.
3. The hood light and Open Hood message will display in the Driver Information Center (DIC) when the hood is open.

Using the Remote Key

1. Press  twice on the remote key to release the hood.
2. From the front of the vehicle, lift the hood slightly until the gas strut system automatically raises and holds it in the fully open position.
3. The hood light and Open Hood message will display in the Driver Information Center (DIC) when the hood is open.

Front Fascia TouchPad



22 Keys, Doors, and Windows

1. Locate the touchpad in the grill opening near the driver side headlamp.
2. Press the touchpad once to release the hood. The remote key must be within 1 m (3 ft) of the hood.
3. From the front of the vehicle, lift the hood slightly until the gas strut system automatically raises and holds it in the fully open position.
4. The hood light and Open Hood message will display in the Driver Information Center (DIC) when the hood is open.

Opening The Hood When There Is No Electrical Power

The manual release cable should only be used for service and/or emergency use, such as a loss of vehicle electrical power.

To enter the vehicle in the event electrical power has been lost, see "Loss of Vehicle Electrical Power" under *Door Locks* ⇨ 17.



1. Locate the manual release cable loop to the left of the brake pedal.
2. Pull the manual release cable twice to release the hood.
3. From the front of the vehicle, lift the hood slightly until the gas strut system automatically raises and holds it in the fully open position.

Emergency Hood Release Button



The underhood compartment is equipped with a glow-in-the-dark emergency hood release button. This button will glow following exposure to light. Press the button to open the hood from inside the underhood compartment.

Closing the Hood

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 hood is not heavy enough to latch under its own weight. The hood will remain open until the striker is pushed into the latch. Ensure the hood is fully latched before taking the vehicle out of P (Park).

1. Before closing the hood, be sure all filler caps are on properly, and all tools are removed.
2. Ensure that all cargo is placed away from the emergency hood release button.
3. Pull the hood down and set the striker gently into the latch.

4. Firmly press down on the front edge of the hood until the latch clicks twice.
5. Check that the hood is flush to the fascia to ensure the hood is fully closed.

Storing Your Vehicle

Warning

The emergency hood release button inside the underhood compartment will not function when the battery is disconnected or depleted. To avoid personal injury or death, always keep the hood fully closed and latched when storing the vehicle. If the hood is not latched, a person could climb into the underhood compartment and inadvertently close the hood. People should never climb inside the underhood compartment. Never shut the hood when a person is inside.

See “Opening The Hood When There Is No Electrical Power,” earlier in this section.

Hatch (Trunk)

Warning

Components under the hatch, hatch vents, and glass 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.

Hatch/Trunk Release

The vehicle must be in P (Park).

Warning

When opening or closing the hatch/trunk, keep hands away from the closure area. You or others could be injured.

24 Keys, Doors, and Windows

To release the hatch/trunk:

Warning

Vehicles equipped with a rear spoiler have a small amount of space between the hatch/trunk lid and the rear spoiler. To help avoid potential injury from pinching, lift or close the hatch/trunk lid by using only the middle section. If the hatch/trunk lid near the area of the raised portion of the spoiler is used, use one hand to raise/lower the hatch/trunk lid enough to clear the spoiler, and use the other hand to fully open/close the hatch/trunk lid.



Convertible Shown, Coupe Similar

- Press  on the driver door.



- Press  on the remote key two times quickly. See *Remote Keyless Entry (RKE) System* ⇨ 9.



- Press the hatch/trunk release touchpad while unlocked, or if locked, with the remote key within 1 m (3 ft). See *Keys* ⇨ 7.
- From the rear of the vehicle, lift the hatch/trunk until the gas strut system automatically raises and holds it in the fully open position.

Manual Hatch/Trunk Open



Use the mechanical key in the backup key cylinder behind the license plate to manually open the hatch/trunk. The license plate must be removed.



To provide more access to the engine or trunk areas, the hatch/trunk can be manually pushed up for additional travel. Do not apply excessive force.

Hatch/Trunk Closing

Caution

Do not store heavy or sharp objects in the rear storage compartments located in the hatch/trunk area. The objects could damage the underside of the hatch/trunk.

Use the pull cup to close the hatch/trunk with light force until the power latch feature activates. The hatch/trunk will close the rest of the way and latch automatically.

Emergency Hatch/Trunk Release Handle

Caution

Do not use the emergency hatch/trunk release handle as a tie-down or anchor point when securing items in the hatch/trunk as it could damage the handle.



There is a glow-in-the-dark emergency hatch/trunk release handle on the inside back wall of the storage compartment. This handle will glow following exposure to light. Pull the release handle to open the hatch/trunk from the inside.



Vehicle Security

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

Vehicle Alarm System

This vehicle has a theft-deterrent alarm system.



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

Off : Alarm system is disarmed.

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

Fast Flash : Vehicle is unsecured. A door, the hood, or the hatch/trunk is open.

Slow Flash : Alarm system is armed.

Arming the Alarm System

1. Turn off the vehicle.
2. Lock the vehicle in one of three ways:
 - Use the 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 indicating the alarm system is operating. 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 the passenger door, the hatch/trunk, 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, do one of the following:

- 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 left the vehicle and both doors are closed.
- Always unlock a door with the remote key or use the Keyless Access system.

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

How to Detect a Tamper Condition

If  is pressed on the remote key and the horn chirps and the lights flash three times, a previous alarm occurred while the system was armed.

If the alarm has been activated, a message will appear on the DIC.

Inclination Sensor and Intrusion Sensor

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

The inclination sensor can activate 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 both doors and windows are completely closed.
- Secure any loose items such as sunshades.
- Make sure there are no obstructions blocking the sensors.

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 if the vehicle is being transported.

When the roof panel is off, or the convertible top is down, the intrusion system is turned off.

With the vehicle turned off, press  OFF on the overhead console, next to OnStar. The indicator light will display momentarily, indicating that these sensors have been disabled until the next time the alarm system is armed.

Immobilizer

See *Radio Frequency Statement* ⇨ 312.

Immobilizer Operation

The vehicle has a passive theft-deterrent system.



The security light comes on in the instrument cluster if there is a problem with arming or disarming the theft-deterrent system. This light also comes on briefly when the engine is started.

The system is automatically armed when the ignition is turned off.

The immobilization system is disarmed when the ignition is turned on or placed in ACC/ACCESSORY and a valid remote key is found in the vehicle.

You do not have to manually arm or disarm the system.

The system has one or more remote keys that are matched to an immobilizer control unit in the vehicle. Only a correctly matched remote key starts the vehicle. The vehicle may not start if the remote key is damaged.

If the engine does not start and the security light comes on, there may be a problem with the immobilizer system. Try starting the vehicle again.

If the vehicle does not start and the remote key appears to be undamaged, try another remote key. Or, place the remote key in the cupholder backup location. See *Remote Keyless Entry (RKE) System Operation* ⇨ 9. If the engine still does not start with the other remote key, or with the remote key in the cupholder backup location, the vehicle needs service. If the engine does start, the first remote key may be faulty. See your dealer or have a new remote key programmed to the vehicle.

The immobilizer system can learn new or replacement remote keys. Up to eight remote keys can be programmed for the vehicle. To program additional remote keys, see “Programming Remote Keys to the Vehicle” under *Remote Keyless Entry (RKE) System Operation* ⇨ 9.

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.

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

Power Mirrors



To adjust each mirror:

1. Press  or  to select the driver or passenger side mirror. The indicator light will illuminate.
2. Press the arrows on the control pad to move the mirror in the desired position.
3. Adjust each outside mirror so that a little of the vehicle and the area behind it can be seen.
4. Press  or  again to deselect the mirror.

Memory Mirrors

The vehicle may have memory mirrors. See *Memory Seats* ⇨ 50.

Side Blind Zone Alert (SBZA)

The vehicle may have SBZA. See *Side Blind Zone Alert (SBZA)* ⇨ 202.

Folding Mirrors

Manual Folding Mirrors

If equipped, manually fold the mirrors inward toward the vehicle to prevent damage with tight parking. Push the mirror outward to return it to the original position.

Power Folding Mirrors

The outside mirrors fold or unfold when the folding mirror switch is pressed.



If equipped, press  to power fold the mirrors. Press  again to unfold.

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, remote mirror folding is on, and the mirrors have been folded with the power folding mirror switch, they may not be automatically

unfolded. See “Remote Mirror Folding” under *Vehicle Personalization* ⇨ 116 to turn on.

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 pressing  on the remote key, the mirrors may fold. If doors are unlocked by pressing  on the remote key, the mirrors may unfold. See *Remote Keyless Entry (RKE) System Operation* ⇨ 9.
2. If doors are unlocked by pressing the driver door handle touchpad, the mirrors may unfold. See “Keyless Unlocking/Locking from the Driver Door” in *Remote Keyless Entry (RKE) System Operation* ⇨ 9.
3. If passive locking is enabled and doors are locked by that feature, the mirrors may fold.

See “Passive Locking” in *Remote Keyless Entry (RKE) System Operation* ⇨ 9.

Heated Mirrors

 : Press to heat the mirrors.

See “Rear Window Defogger” under *Dual Automatic Climate Control System* ⇨ 139.

Automatic Dimming Mirror

If equipped, the driver side mirror automatically adjusts for the glare of headlamps from behind.

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 turn this feature on or off, see *Vehicle Personalization* ⇨ 116.

Interior Mirrors

Interior Rearview Mirrors

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

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

Manual Rearview Mirror

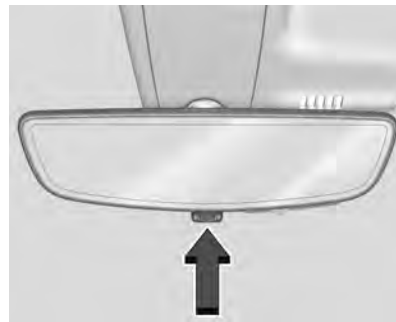
If equipped, push the tab forward for daytime use and pull it rearward for nighttime use to avoid glare of the headlamps from behind.

Automatic Dimming Rearview Mirror

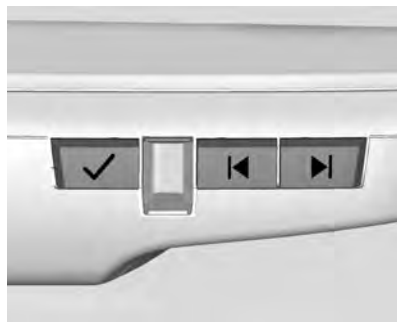
The vehicle has an automatic dimming outside mirror on the driver side. The mirror will adjust for the glare of headlamps behind you.

Rear Camera Mirror

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



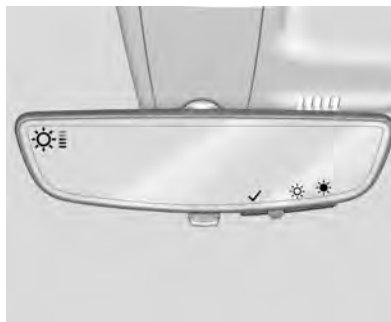
Pull the tab to turn on the display. Push the tab to turn it off. When the display is off, the automatic dimming function is active. Adjust the mirror for a clear view of the area behind the vehicle while the display is off.



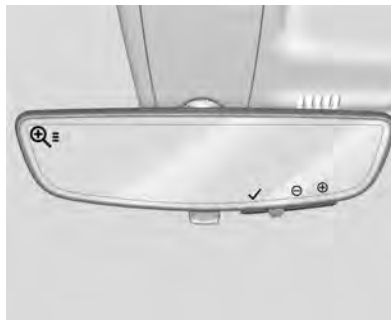
Press ✓ to scroll through the adjustment options.

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.

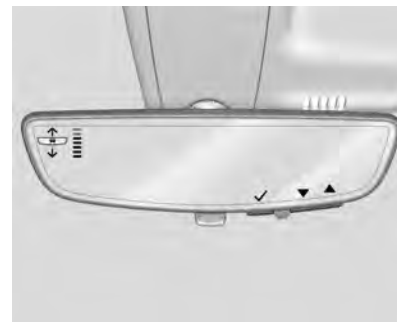
The adjustment options are:



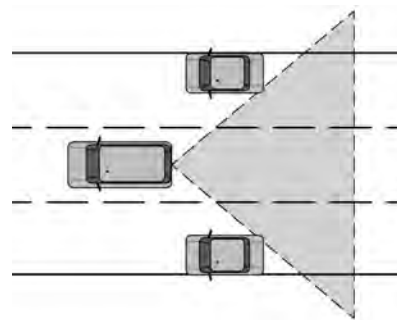
- Brightness



- Zoom



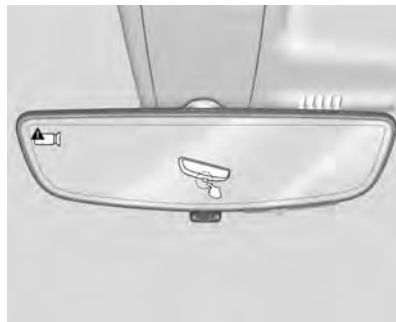
- Tilt



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.



Coupe Shown, Convertible Similar

- The camera's mounting on the vehicle has been damaged, and/or the position or the mounting angle of the camera has changed.

The Rear Camera Mirror will not work on the convertible with the top down. Use the tab to switch to standard mirror display.

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.



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 children in the rear seat, use the window lockout switch to prevent operation of the windows. See *Keys* ⇨ 7.

Power windows work when the vehicle is on or in ACC/ACCESSORY, or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP)* ⇨ 168.



Convertible Shown, Coupe Similar

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 Express Movement

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

Override the automatic reversal system by releasing, then pulling and holding the window switch after an automatic reversal.

Programming the Power Windows

Programming may be necessary if the vehicle battery has been disconnected or discharged. If the window will not express-close, program each express-close window:

1. Close all doors.
2. Turn the ignition on or to ACC/ACCESSORY.
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.

Window Operation with Convertible Top

Windows lower when the convertible top is lowered or raised. See *Convertible Top* ⇨ 41.

Remote Window Operation

If equipped, this feature allows the side windows to be opened remotely. If enabled in vehicle personalization, press and hold  on the remote key. See *Vehicle Personalization* ⇨ 116.

Window Indexing

When fully closed, indexing automatically lowers the window a small amount when the door is opened. When the door is closed, the window will raise to its previous position. If either window does not index properly, it could be due to loss of power. Before seeing your dealer for service, program the power windows.

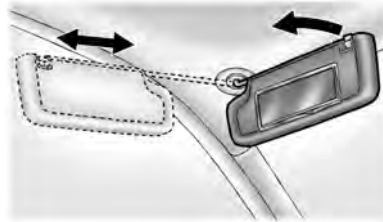
Rear Windows

Midglass (Convertible Only)



Press  to lower the midglass. To provide wind block, the midglass will not lower completely. The midglass will also lower automatically when lowering the convertible top.

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

Roof Panel

If equipped with a removable roof panel, use the following procedures to remove or install it.

Caution

If a roof panel is dropped or rested on its edges, the roof panel, paint, and/or weatherstripping may be damaged. Always place the roof panel in the stowage receivers after removing it from the vehicle.

Caution

Use care when storing and removing the roof panel. The roof panel pins and vehicle finish could be damaged if the roof contacts the rear of the vehicle.

Removing the Roof Panel

Warning

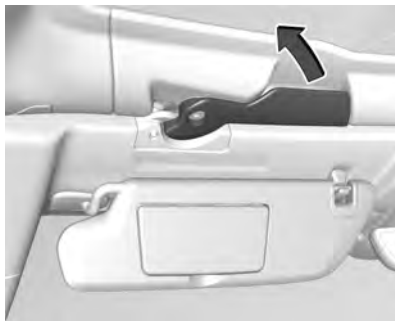
Do not remove a roof panel while the vehicle is moving. The panel could fall into the vehicle and strike an occupant and cause you to lose control. It could also fly off and strike another vehicle. Remove the roof panel only when the vehicle is parked.

It may be necessary to have help removing the roof panel.

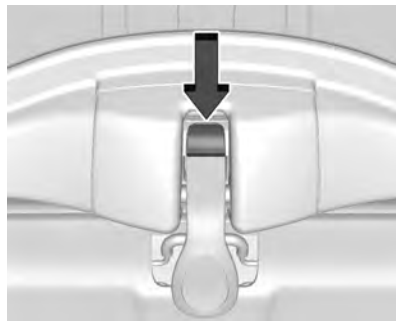
To remove:

1. Shift transmission into P (Park).
2. Turn the ignition off and set the parking brake.
3. Lower both sun visors.
4. Open the rear hatch/trunk and remove any items that may interfere with proper storage of the roof panel.
5. Lower the windows.

There are two release handles on the front and one release handle on the rear of the roof panel.



6. To unlock the front release handles, pull them outward, turning fully.



7. Press the button on the front of the rear release handle to unlock it. The latch lever will open.
8. Stand on one side of the vehicle, and if necessary, have someone stand on the other side. Together, carefully lift the front edge of the roof panel up and forward. Avoid dropping the rear edge downward.
9. When the roof panel is loose, grasp it as close to the center as possible and lift it away from the vehicle.

Storing the Roof Panel

Warning

If a roof panel is not stored properly, it could be thrown about the vehicle in a crash or sudden maneuver. People in the vehicle could be injured. Always use the stowage receivers.

1. Position the roof so that the interior is facing away from you and the front of the panel is facing up.



Lower Receivers

2. Insert the roof into the trunk with the rear end first and position the rear pins into the lower receivers. Be careful not to hit the roof on the carpet of the trunk.



Upper Receivers

3. When in place, the roof panel will rest on the upper receivers.



Warning

Do not push from the sides of the roof panel when seating the panel into the upper receivers for storage. Pushing from the sides may result in injury from pinched fingers. Only push along the top edge of the roof panel.

4. Place palms along the top edge of the roof panel and push with a quick forward motion until the roof panel locks into the upper receivers.

Gently pull rearward on the roof to ensure the roof is secure.

Installing the Roof Panel

Warning

An improperly attached roof panel may fall into or fly off the vehicle. You or others could be injured. After installing the roof panel, always check that it is firmly attached by pushing up on the underside of the panel. Check now and then to be sure the roof panel is firmly in place.

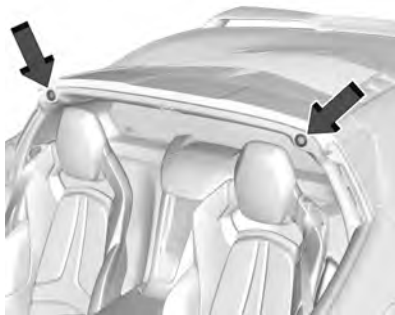
Caution

Installing the roof with the release handles in the closed position could cause damage to the interior trim. Always move handles to the open position when installing the roof.

It is easier if two people install the roof panel.

To install:

1. Shift transmission into P (Park).
2. Turn the ignition off and set the parking brake.
3. Grasp the roof panel and pull toward the rear of the vehicle until it separates from the upper receivers, being careful not to hit the sides of the trunk. Carefully lift the roof panel out of the trunk.
4. Carefully place the roof panel over the top of the vehicle.



5. Position the rear edge of the roof panel next to the weatherstrip on the back of the roof opening. Then align and fit the pins at the rear of the roof panel inside the openings in the rear overhead weatherstrip. Gently lower the front edge of the roof panel to the front of the roof opening.
6. Check that the weatherstripping on each side of the roof panel is under the panel.
7. Make sure the front release handles are in the fully open position.

8. Push the roof firmly downward to engage the pins.
9. Turn the front release handles inward so that they fully latch in the closed position. It is critical that the handles fully latch.



10. Push back and up on the rear release handle to insert the hook in the loop.
11. Push and pull the roof panel up and down and side to side to ensure the roof panel is securely installed.

Maintaining the Roof Panel

Caution

Using glass cleaner on a painted roof panel could damage the panel. The repairs would not be covered by the vehicle warranty. Do not use glass cleaner on the painted roof panel.

When cleaning, removing, and/or storing the roof panel:

- Flush with water to remove dust and dirt, then dry the panel.
- Do not use abrasive cleaning materials on the panel.

Convertible Top

If equipped with a convertible top, review the following before operating:



Warning

Components under the tonneau, close to the engine, 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.



Warning

While opening or closing the convertible top, people can be injured by the moving parts of the tonneau cover or convertible top. Maintain visual contact with the top while it is being operated.

Caution

Follow these guidelines when operating the convertible top or damage can occur:

- Remove all items from the roof, trunk lid, or tonneau cover before operating.
- Remove all objects that may contact the convertible top when it is operated.
- Do not leave the vehicle with the convertible top open.
- Do not exceed 50 km/h (31 mph) until the top has completely closed or opened.
- Do not open or close the top while driving in high wind conditions.
- Do not operate the convertible top multiple times in a short period of

(Continued)

Caution (Continued)

time without starting the engine to avoid draining the vehicle battery.

- Only store the vehicle with the top fully closed.

Opening the Convertible Top — Driver Door Switch

1. Ensure the roof and tonneau cover are clear of any objects.
2. The trunk must be closed.
3. Start the vehicle or place it in ACC/ACCESSORY.
4. When possible, operate the convertible top when the vehicle is stopped. The top can be operated while driving below 50 km/h (31 mph) and will stop if that speed is exceeded. The top operation will take approximately 17 seconds. Make sure the top operation can be completed before that speed is reached.



5. Press and hold . The windows will automatically lower.
6. After the convertible top is completely open, a chime sounds and a Driver Information Center (DIC) message displays. Release the switch.

If the radio is on, the sound may be muted for a brief time to automatically adjust the audio after the top is opened.

Opening the Convertible Top — Remote Key

1. Make sure the vehicle is in P (Park).
2. The trunk must be closed.
3. Keep visual contact with the vehicle. Press and release  on the remote key and then quickly press and hold .
4. Hold  until the top is completely opened and the exterior lamps flash. A chime will sound.

If the top stops before it has completely opened, press  and then press  again.

If the top still stops before it is completely open:

- Move closer to the vehicle.
- Hold  until the operation is complete.
- Press  and then  again. Interference from other remote keys or devices may interrupt the operation.

If the top still does not open, use the convertible top switch in the vehicle. The convertible top cannot be closed using the remote key.

See *Remote Keyless Entry (RKE) System Operation* ⇨ 9.

Closing the Convertible Top

1. Make sure the sun visor mirror covers are closed and the sun visors are stored in the center mount position.
2. Ensure the roof and tonneau cover are clear of any objects.
3. The trunk must be closed.
4. Start the vehicle or place it in ACC/ACCESSORY.
5. When possible, operate the convertible top when the vehicle is stopped. The top can be operated while driving below 50 km/h (31 mph) and will stop if that speed is exceeded. The top operation will take approximately 17 seconds. Make sure the top operation can be completed before that speed is reached.



6. Pull and hold  on the driver door switch. The windows will automatically lower.
7. After the convertible top is completely closed, a chime sounds and a DIC message displays. Release the switch. Raise the windows if needed. If the switch is held after the chime sounds, the windows will start to raise.

If the radio is on, the sound may be muted for a brief time to automatically adjust the audio after the top is closed.

Troubleshooting the Convertible Top

Check the following if the convertible top switch  is not operating:

- The ignition should be on or in ACC/ACCESSORY, or Retained Accessory Power (RAP) should be active.
- The trunk lid must be closed. If it is not, a DIC message will display.
- At cooler outside temperatures, the convertible top may not operate. It is possible to open the top down to temperatures of about 0 °C (32 °F) and close the top down to temperatures of about -10 °C (14 °F). A DIC message will display if the top will not operate due to low temperature. If necessary, move the vehicle to a heated indoor area to operate the top.
- If the top has recently been opened and closed repeatedly, it will be temporarily disabled. A DIC message displays.

Normal operation will be restored within 10 minutes after the system has cooled.

- If the vehicle battery is low, the top operation may be disabled. Try to start the vehicle. A DIC message displays.
- If the battery has recently been reconnected or if the vehicle has been jump started, the top may not operate until the power windows have been programmed. Complete the power window programming procedure. See *Power Windows* ➞ 35.

Other features may be affected while operating the convertible top:

- If you start the vehicle while using the remote key to open the convertible top, the convertible top will halt the motion. After starting the vehicle, use the convertible top switch inside the vehicle to continue the top motion.
- The windows cannot close while the top is moving.

- When driving with the top not fully secured, chimes can be heard above 50 km/h (31 mph).

If the vehicle battery has been disconnected and reconnected, if the fuses were pulled or replaced, or if a jump start was performed, a message indicating the top is not secure may display. Press and release  and then quickly press and hold  on the remote key, or press and hold  on the driver door switch to open the top, or pull and hold  on the driver door switch to close the top until this message clears.

Partial Top Cycling

If the convertible top operation is stopped before completion, the top will temporarily hold its position. Over time, the tonneau may drift to a near closed position.

Opening the Tonneau Cover — Engine Access

Warning

When opening or closing the tonneau cover, people can be injured by the moving parts of the tonneau cover. Maintain visual contact with the tonneau cover when it is in motion and keep hands and objects away from the moving parts.

To open the tonneau cover and access the engine:

1. Make sure the vehicle is in P (Park).
2. Ensure the tonneau cover is clear of any objects.
3. The trunk and convertible top must be closed.
4. Keep visual contact with the vehicle. Press and release  on the remote key and then quickly press and hold .

A chime will sound, a DIC message will display, and the turn signals will flash once.



5. Hold  until the tonneau cover is completely opened. The turn signals will flash once.

In the event the tonneau cover is partially open, the motion of the tonneau cover will be in the opposite direction upon reactivation.

Closing the Tonneau Cover — Engine Access Function

1. Make sure the vehicle is off.
2. Remove all objects from the engine compartment.

46 Keys, Doors, and Windows

3. The trunk and convertible top must be closed.
4. Keep visual contact with the vehicle. Press and release  on the remote key and then quickly press and hold .



5. Hold  until the tonneau cover is completely closed. A chime will sound, a DIC message will display, and the turn signals will flash once.

Troubleshooting the Tonneau Cover — Engine Access

Check the following if the tonneau cover is not operating properly:

- The remote key must be used.
- The ignition must be off.
- The convertible top must be fully closed.
- The remote key may need to be closer to the vehicle.
- Press and release  and then quickly press and hold  again.

Seats and Restraints

Head Restraints

Head Restraints	47

Front Seats

Power Seat Adjustment	48
Lumbar Adjustment	49
Reclining Seatbacks	49
Memory Seats	50
Heated and Ventilated Front Seats	53

Seat Belts

Seat Belts	55
How to Wear Seat Belts Properly	56
Lap-Shoulder Belt	58
Seat Belt Use During Pregnancy	61
Seat Belt Extender	61
Safety System Check	61
Seat Belt Care	61
Replacing Seat Belt System Parts after a Crash	62

Airbag System

Airbag System	63
Where Are the Airbags?	64
When Should an Airbag Inflate?	65
What Makes an Airbag Inflate?	66
How Does an Airbag Restrain?	66
What Will You See after an Airbag Inflates?	66
Passenger Sensing System ...	68
Servicing the Airbag-Equipped Vehicle	72
Adding Equipment to the Airbag-Equipped Vehicle	72
Airbag System Check	73
Replacing Airbag System Parts after a Crash	73

Child Restraints

Older Children	74
Infants and Young Children ...	75
Child Restraint Systems	77
Lower Anchors and Tethers for Children (LATCH System)	79
Securing Child Restraints	80

Head Restraints

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

The front seat outboard head restraints are not removable.

Front Seats

Power Seat Adjustment

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.

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.



To adjust the seat:

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

To adjust the seatback, see *Reclining Seatbacks* ⇨ 49.

To adjust the lumbar support, see *Lumbar Adjustment* ⇨ 49.

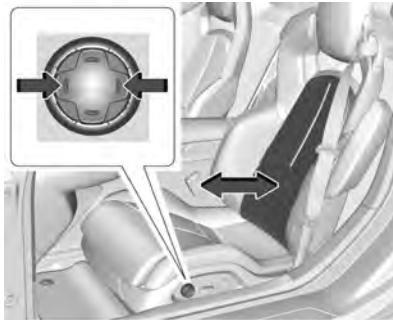
Obstructions

If something has blocked the seat during movement, the movement may stop. Remove the obstruction and try the adjustment again. If movement is still not available, see your dealer.

Seat Travel Limit

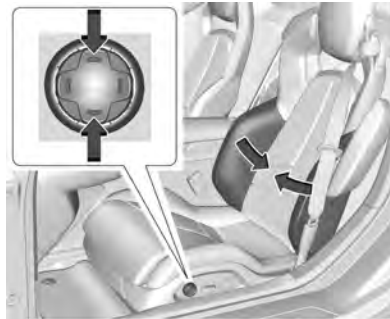
If the seat or seatback is moved rearward or reclined and makes contact with the carpet behind the seat, the seat will automatically move forward a small distance. The seat movement will stop until all switches are released and reactivated.

Lumbar Adjustment



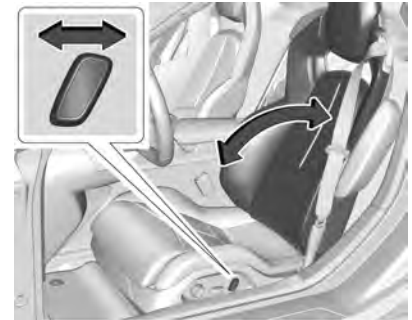
If equipped, press and hold the control forward to increase or rearward to decrease lumbar support.

Bolster Adjustment



If equipped, press and hold the control upward to increase or downward to decrease the side bolster support.

Reclining Seatbacks



To adjust 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.

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.

Memory Seats



If equipped, memory seats allow two drivers to save and recall their unique seat positions for driving the vehicle, and a shared exit position for getting out of the vehicle. Other feature positions may also be saved, such as power mirrors and power steering wheel, if equipped. Memory positions are linked to remote key 1 or 2 for automatic memory recalls.

Before saving, adjust all available memory feature positions. Turn the vehicle on and then press and release SET; a beep will sound. Then immediately press and hold 1, 2, or  (Exit) until two beeps sound. To manually recall these positions, press and hold 1, 2, or  until the saved position is reached. Follow the instructions under "Saving Memory Positions."

The vehicle identifies the current driver's remote key number (1–8). See *Remote Keyless Entry (RKE) System Operation* ⇨ 9. Only remote keys 1 and 2 can be used for automatic memory recalls. A Driver Information Center (DIC) welcome

message indicating the remote key number may display for the first few ignition cycles following a remote key change. For Seat Entry Memory to work properly, save the positions to the memory button (1 or 2) matching the remote key number displayed in the DIC welcome message. Carry the linked remote key when entering the vehicle.

Vehicle Personalization Settings

- To have the Seat Entry Memory movement begin when the vehicle is started, select the Settings menu, then Vehicle, then Seating Position, and then Seat Entry Memory. Select On or Off. See "Seat Entry Memory" later in this section.
- To begin Seat Exit Memory movement when the vehicle is turned off and the driver door is opened, or when the vehicle is turned off with the driver door already opened, select the Settings menu, then Vehicle, then Seating Position, and then

Seat Exit Memory. Select On or Off. See “Seat Exit Memory” later in this section.

- See *Vehicle Personalization* ⇨ 116 for additional setting information.

Identifying Driver Number

To identify the driver number:

1. Move your remote key away from the vehicle.
2. Start the vehicle with another remote key. The DIC should display the driver number for the other remote key. Turn the vehicle off and remove the remote key from the vehicle.
3. Start the vehicle with the initial remote key. The DIC should display the driver number of your remote key.

Saving Memory Positions

Read these instructions completely before saving memory positions.

To save preferred driving positions 1 and 2:

1. Turn the vehicle on or to ACC/ACCESSORY with remote key 1 or 2.

A DIC welcome message may indicate driver number 1 or 2.

2. Adjust all available memory features to the desired driving position.
3. Press and release SET; a beep will sound.
4. Immediately press and hold the 1 or 2 memory button matching the above DIC welcome message until two beeps sound.

If too much time passes between releasing SET and pressing 1, the memory position will not be saved and two beeps will not sound. Repeat Steps 3 and 4.

1 or 2 corresponds to the driver number. See “Identifying Driver Number” previously in this section.

5. Repeat Steps 1–4 for a second driver using 1 or 2.

To save the position for  and Seat Exit Memory features, repeat Steps 1–4 using . This saves the position for getting out of the vehicle.

Save preferred memory feature positions to both 1 and 2 if you are the only driver.

Manually Recalling Memory Positions, Both Seats

Press and hold 1, 2, or  to recall the previously saved memory positions if you are driver 1 or 2 identified in the DIC welcome message.

To stop Manual Memory recall movement, release 1, 2, or  or press any of the following controls:

- Power seat
- Memory SET
- Power mirror, with the driver or passenger side mirror selected
- Power steering wheel, if equipped

52 Seats and Restraints

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

Seat Entry Memory, Driver Seat Only

The vehicle identifies the number of the current driver's remote key (1–8). See *Remote Keyless Entry (RKE) System Operation* ⇨ 9. If the remote key is 1 or 2, and Seat Entry Memory is enabled in vehicle personalization, the positions saved to the same memory button number 1 or 2 are automatically recalled when the vehicle is turned on. Remote keys 3–8 will not provide automatic memory recalls.

To turn Seat Entry Memory on or off, see “Vehicle Personalization Settings” previously in this section and *Vehicle Personalization* ⇨ 116.

The vehicle must be in P (Park) to start Seat Entry Memory. Seat Entry Memory recall will complete if the

vehicle is shifted out of P (Park) prior to reaching the saved memory position.

To stop Seat Entry Memory recall movement, turn the vehicle off or press any of the following controls:

- Power seat
- Memory SET, 1, 2, or 
- Power mirror, with the driver or passenger side mirror selected
- Power steering wheel, if equipped

If the saved memory seat position does not automatically recall or recalls to the wrong positions, the driver's remote key number (1 or 2) may not match the memory button number that positions were saved to. Try storing the position to the other memory button or try the other remote key.

If the seat or seatback movement rearward or recline makes contact with the carpet behind the seat, the seat will automatically adjust forward a small distance. If it remains in contact, memory recalls

may not complete. Move the seat and/or seatback forward a small distance away from the carpet behind the seat and try the memory recall again.

Seat Exit Memory, Driver Seat Only

Seat Exit Memory is not linked to a remote key. The position saved to  is used for all drivers. To turn Seat Exit Memory on or off, see “Vehicle Personalization Settings” previously in this section and *Vehicle Personalization* ⇨ 116.

If turned on, the position saved to  is automatically recalled when one of the following occurs:

- The vehicle is turned off and the driver door is opened within a short time.
- The vehicle is turned off with the driver door open.

To stop Seat Exit Memory movement, press any of the following memory controls:

- Power seat

- Memory SET, 1, 2, or 
- Power mirror, with the driver or passenger side mirror selected
- Power steering wheel, if equipped

Seat Travel Limit

If the rearward or reclining seat or seatback movement makes contact with the carpet behind the seat, the seat will automatically move forward a small distance. If it remains in contact, memory recall may not complete. Move the seat and/or seatback forward a small distance away from the carpet behind the seat and attempt the memory recall again.

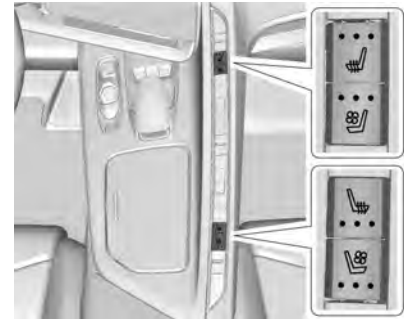
Obstructions

If something has blocked the driver 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.



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

Press  or  to heat the driver or passenger seat.

Press  or , if equipped, 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.

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

54 Seats and Restraints

show 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

If the vehicle is equipped with auto heated or ventilated seats, and the engine is running, this feature 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 and ventilated seat buttons on the console.

Use the manual heated and ventilated seat buttons on the console to turn auto heated or ventilated seats off. If the passenger seat is unoccupied, the auto heated or ventilated seats feature will not activate that seat. The auto heated

and ventilated seats feature can be programmed to always be enabled when the vehicle is on.

If equipped with a heated steering wheel, the auto heated steering wheel activation will follow the heated seat auto activation and the heated wheel indicator will follow the state of the steering wheel heat.

Remote Start Heated and Ventilated Seats

During a remote start (if equipped), the heated or ventilated seats 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. The heated and ventilated seat indicators and heated steering wheel indicator may come on during this operation. The heated or ventilated seats are canceled when the ignition is turned on. Press the heated or ventilated seat button to use the heated or ventilated seats after the vehicle is started.

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

The heated or ventilated seats may turn on during a remote start unless they are disabled in the vehicle personalization menu. See *Remote Vehicle Start* ⇨ 15 and *Vehicle Personalization* ⇨ 116.

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 injured or killed. Do not allow

(Continued)

Warning (Continued)

passengers to ride in any area of the vehicle that is not equipped with seats and 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* ⇨ 99.

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 states and in all Canadian provinces, the law requires wearing seat belts.

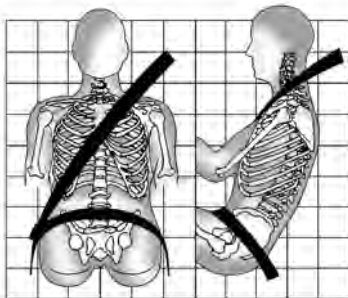
How to Wear Seat Belts Properly

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* ⇨ 74 or *Infants and Young Children* ⇨ 75. 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.



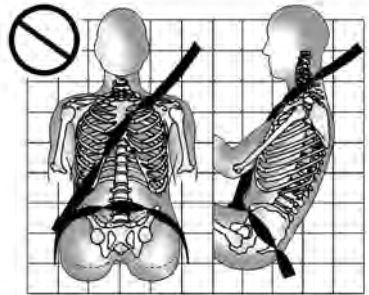
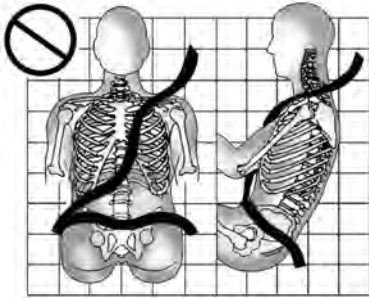
- Sit up straight and always keep your feet on the floor in front of you (if possible).
- Always use the correct buckle for your seating position.
- Wear the lap part of the belt low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong

pelvic bones and you would be less likely to slide under the lap belt. If you slid under it, the belt would apply force on your abdomen. This could cause serious or even fatal injuries.

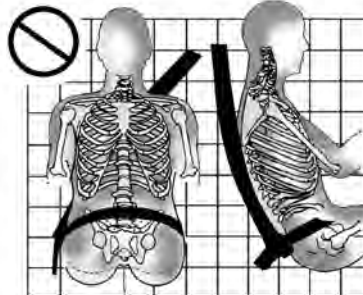
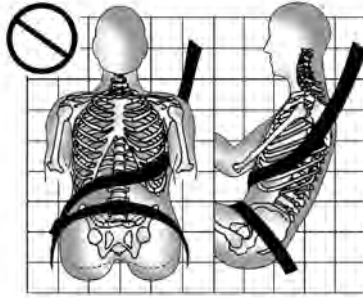
- Wear the shoulder belt over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces. The shoulder belt locks if there is a sudden stop or crash.

Warning

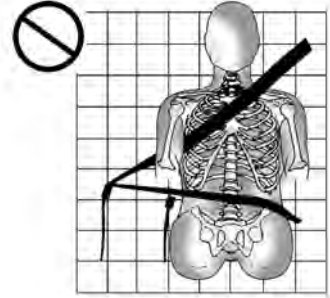
You can be seriously injured, or even killed, by not wearing your seat belt properly.



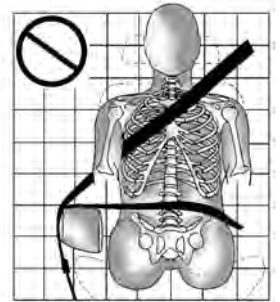
Never allow the lap or shoulder belt to become loose or twisted.



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 be able to provide adequate protection. Never allow seat belts to be routed under plastic trim pieces.

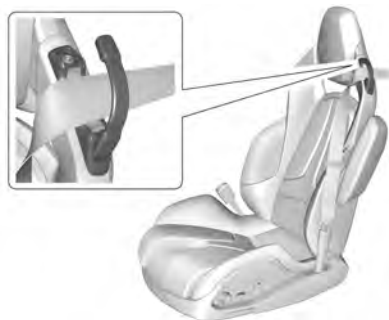
Lap-Shoulder Belt

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

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



GT1 Seat



GT2/Competition Seat

1. The seat belt has a seat belt guide. The seat belt must be routed through the guide to properly position the shoulder belt on occupants whose shoulder falls below the guide when seated. To use the seat belt guide:

GT1 Seat: Slide the edge of the belt webbing through the opening on the guide. Be sure the belt is not twisted. If a child will be riding in the vehicle, see *Older Children* ⇨ 74 or *Infants and Young Children* ⇨ 75.

GT2/Competition Seat: Unsnap the guide to open it. Route the seat belt webbing onto the open guide and snap the guide closed. Be sure the belt is not twisted. If a child will be riding in the vehicle, see *Older Children* ⇨ 74 or *Infants and Young Children* ⇨ 75.

2. Adjust the seat, if the seat is adjustable, so you can sit up straight. To see how, see “Seats” in the Index.



3. 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* ⇨ 77. 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* ⇨ 68.

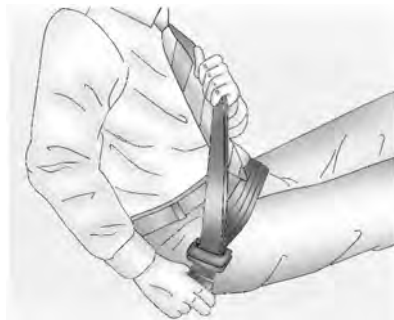
If the shoulder portion of the driver belt is pulled out all the way, the shoulder belt retractor lock feature may be engaged. If this happens, let the belt go back all the way and start again. If the locking feature stays engaged after letting the belt go back to stowed position on the seat, move the seat rearward or recline the seat until the shoulder belt retractor lock releases.



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

Pull up on the latch plate to make sure it is secure. If the belt is not long enough, see *Seat Belt Extender* ⇨ 61.

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



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.

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, near frontal, or rear 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 a 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* ⇨ 62.

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.

Seat Belt Extender

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

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

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* ⇨ 99.

Keep seat belts clean and dry. See *Seat Belt Care* ⇨ 61.

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 and seat belt guides 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* ⇨ 100.

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

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

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?* ⇨ 65.

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 the 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 most effective when you are sitting well back and upright in the seat with both feet on the floor.

Occupants should not lean on or sleep against the door or side windows in seating positions with seat-mounted 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* ⇨ 74 or *Infants and Young Children* ⇨ 75.



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* ⇨ 100.

Where Are the Airbags?



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



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



Driver Side Shown, Passenger Side Similar

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

⚠ 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

(Continued)

Warning (Continued)

inflating airbag must be kept clear. Do not put anything between an occupant and an airbag, and do not attach or put anything on the steering wheel hub or on or near any other airbag covering.

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

When Should an Airbag Inflate?

This vehicle is equipped with airbags. See *Airbag System* ⇨ 63. Airbags are designed to inflate if the impact exceeds the specific airbag system's deployment threshold. Deployment thresholds are used to predict how severe a crash is likely to be in time for the airbags to inflate and help restrain the occupants. The vehicle has electronic sensors that help the airbag system determine the

severity of the impact. Deployment thresholds can vary with specific vehicle design.

Frontal airbags are designed to inflate in moderate to severe frontal or near frontal crashes to help reduce the potential for severe injuries, mainly to the driver's or front outboard passenger's head and chest.

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

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

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

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

Seat-mounted side impact airbags are designed to inflate in moderate to severe side crashes depending on the location of the impact.

Seat-mounted side impact airbags are not designed to inflate in frontal impacts, near frontal impacts, rollovers, or rear impacts.

A seat-mounted side impact airbag is designed to inflate on the side of the vehicle that is struck.

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

What Makes an Airbag Inflate?

In a deployment event, the sensing system sends an electrical signal triggering a release of gas from the inflator. Gas from the inflator fills the

airbag causing the bag to break out of the cover. The inflator, the airbag, and related hardware are all part of the airbag module.

For airbag locations, see *Where Are the Airbags?* ⇨ 64.

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.

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?* ⇨ 65.

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

What Will You See after an Airbag Inflates?

After the frontal and seat-mounted side impact airbags inflate, they quickly deflate, so quickly that some people may not even realize the airbags inflated. Some components of the airbag module may be hot for several minutes. For location of the airbags, see *Where Are the Airbags?* ⇨ 64.

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 after the 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.

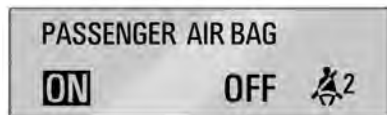
In many crashes severe enough to inflate the airbag, windshields are broken by vehicle deformation. Additional windshield breakage may also occur from the front outboard passenger airbag.

- 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* ⇨ 314 and *Event Data Recorders* ⇨ 314.
- Let only qualified technicians work on the airbag system. Improper service can mean that

the airbag system will not work properly. See your dealer for service.

Passenger Sensing System

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



United States



Canada and Mexico

The words ON and OFF, or the symbols for on and off, will be visible during the system check.

When the system check is complete, either the word ON or OFF, or the symbol for on or off, will be visible. See *Passenger Airbag Status Indicator* ⇨ 100.

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.

Rear-facing child restraints should not be transported in the vehicle, even if the airbag is off.

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

(Continued)

Warning (Continued)

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 inflate under some unusual circumstance, even though the airbag is off.

Never put a rear-facing child restraint in the front seat, even if the airbag is off. If securing a forward-facing child restraint in the front outboard passenger seat, always move the seat as far back as it will go. It is better to secure child restraints in the rear seat. Consider using another vehicle to transport the child when a rear seat is not available.

The passenger sensing system is designed to turn off the front outboard passenger frontal airbag 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* ⇨ 100.

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

(Continued)

Warning (Continued)

away. See *Airbag Readiness Light* ⇨ 100 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* ⇨ 80.

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.
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 or that the child restraint locking feature is engaged. Use the following steps to allow the system to detect that person and enable the front outboard passenger frontal airbag:

1. Turn the vehicle off.
2. Remove any additional material from the seat, such as blankets, cushions, seat covers, seat heaters, or seat massagers.
3. Place the seatback in the fully upright position.
4. Have the person sit upright in the seat, centered on the seat cushion, with legs comfortably extended.
5. If the shoulder portion of the belt is pulled out all the way, the child restraint locking feature will be engaged. This may unintentionally cause the passenger sensing system to turn the airbag off for some adult-sized occupants. If this happens, unbuckle the belt, let

the belt go back all the way, and then buckle the belt again without pulling the belt out all the way.

6. Restart the vehicle and have the person remain in this position for two to three minutes after the ON indicator is lit.

Warning

If the front outboard passenger airbag is turned off for an adult-sized occupant, the airbag will not be able to inflate and help protect that person in a crash, resulting in an increased risk of serious injury or even death. An adult-sized occupant should not ride in the front outboard passenger seat, if the passenger airbag OFF indicator is lit.

Additional Factors Affecting System Operation

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* ⇨ 72 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. To purchase a service manual, see *Publication Ordering Information* ⇨ 311.

**Warning**

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

Adding Equipment to the Airbag-Equipped Vehicle

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

The operation of the airbag system can also be affected by changing, including improperly repairing or replacing, any parts of the following:

- Airbag system, including airbag modules, front or side impact sensors, sensing and diagnostic module, or airbag wiring
- Front seats, including stitching, seams or zippers
- Seat belts
- Steering wheel, instrument panel, 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 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* ⇨ 68.

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, call Customer Assistance. See *Customer Assistance Offices* ⇨ 304.

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* ⇨ 100.

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?* ⇨ 64. 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* ⇨ 100.

Child Restraints

Older Children



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

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

- Sit all the way back on the seat. Do the knees bend at the seat edge? If yes, continue. If no, return to the booster seat.
- Buckle the lap-shoulder belt. Does the shoulder belt rest on the shoulder? If yes, continue. If no, 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 with the shoulder belt behind their back. A child can be seriously injured by not wearing the lap-shoulder belt properly. In a crash, the child would not be restrained by the shoulder belt. The child could move too far forward increasing the chance of head and neck injury. The child might also slide under the lap belt. The belt force would then be applied right on the abdomen.

(Continued)

Warning (Continued)

That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.



Infants and Young Children

Everyone in a vehicle needs protection! This includes infants and all other children. Neither the distance traveled nor the age and size of the traveler changes the

need, for everyone, to use safety restraints. In fact, the law in every state in the United States and in every Canadian province says children up to some age must be restrained while in a vehicle.

Warning

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

(Continued)

Warning (Continued)

Never leave children unattended in a vehicle and never allow children to 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)

(Continued)

Warning (Continued)

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

(Continued)

Warning (Continued)

or killed. Never put a rear-facing child restraint in the front outboard seat. Secure a rear-facing child restraint in a rear seat. It is also better to secure a forward-facing child restraint in a rear seat. If you must secure a forward-facing child restraint in the front outboard seat, always move the front passenger seat as far back as it will go.



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. If it is, the child restraint will have a label saying that it meets federal motor vehicle safety standards.

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 unprotected by any bony structure. This alone could cause serious or fatal injuries. To reduce

(Continued)

Warning (Continued)

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.

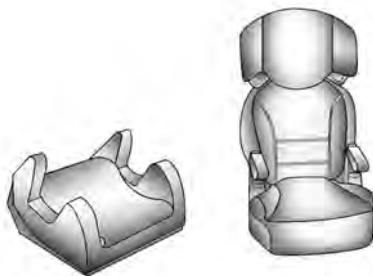
78 Seats and Restraints

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* ⇨ 74.

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, 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. A child 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.

In some areas of the United States and Canada, Certified Child Passenger Safety Technicians (CPSTs) are available to inspect and demonstrate how to correctly use and install child restraints. In the U.S., refer to the National Highway Traffic Safety Administration (NHTSA) website to locate the nearest child safety seat inspection station. For CPST availability in Canada, check with Transport Canada or the Provincial Ministry of Transportation office

Securing the Child Within the Child Restraint

Warning

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

Lower Anchors and Tethers for Children (LATCH System)

Some child restraints have a LATCH system. As part of the LATCH system, your child restraint may have lower attachments and/or a top tether. The LATCH system can help hold the child restraint in place during driving or in a crash. Some vehicles have lower and/or top tether anchors designed to secure a child restraint with lower attachments and/or a top tether.

Some child restraints with a top tether are designed to be used whether the top tether is anchored or not. Other child restraints require that the top tether be anchored. A national or local law may require that the top tether be anchored.

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

Your vehicle does not have lower anchors or top tether anchors to secure a child restraint with the LATCH system. If a national or local law requires that your top tether be anchored, do not use a child restraint in this vehicle because a top tether cannot be properly anchored. You must use the seat belts to secure your child restraint in this vehicle, unless a national or local law requires that the top tether be anchored. Refer to the child restraint instructions and instructions in this manual for securing a child restraint using the vehicle's seat belts. See *Securing Child Restraints* ⇨ 80.

Securing Child Restraints

This vehicle has airbags. 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* ⇨ 68 and *Passenger Airbag Status Indicator* ⇨ 100 for more information, including important safety information.

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

Warning

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

(Continued)

Warning (Continued)

airbag. A child in a forward-facing child restraint can be seriously injured or killed if the front outboard passenger frontal airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the front outboard passenger 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.

(Continued)

Warning (Continued)

See *Passenger Sensing System* ⇨ 68 for additional information.

Rear-facing child restraints should not be installed in the vehicle, even if the airbag is off.

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.

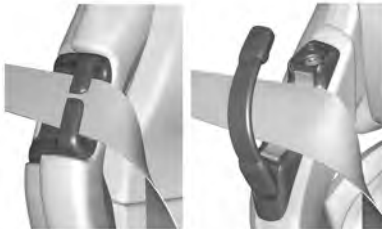
In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

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

1. Move the seat 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.

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* ⇨ 100.



2. Be sure that the shoulder belt is routed through the seat belt guide. See *Lap-Shoulder Belt* ⇨ 58 for proper belt routing.
3. Put the child restraint on the seat.
4. Pick up the latch plate, and run the lap and shoulder portions of the vehicle seat belt through or around the restraint. The child restraint instructions will show you how.

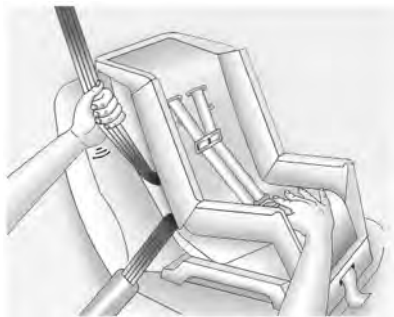


5. Push the latch plate into the buckle until it clicks.

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



6. 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.



7. 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 6 and 7.

8. 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* ⇨ 68.

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

Storage

Storage Compartments

Storage Compartments	83
Glove Box	83
Cupholders	83
Front Storage	83
Rear Storage	84
Center Console Storage	85

Additional Storage Features

Cargo Tie-Downs	85
Convenience Net	85

Storage Compartments

Warning

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

Glove Box



The glove box locks when Valet Mode is enabled. See *Vehicle Personalization* ⇨ 116.

Cupholders



Press the top of the cover to access the cupholders.

Front Storage

There is storage in the front, under the hood. To access the front storage, open the hood. See *Hood* ⇨ 21.



If equipped, the vehicle has a convenience net to be used for small loads. Attach the net to the hooks of the storage area. The net should not be used to store heavy loads.

Rear Storage

Caution

Do not store sharp objects in the corners of the rear storage compartments in the trunk/hatch

(Continued)

Caution (Continued)

area. Trunk carpet and components behind the carpet could be damaged.



If equipped, the vehicle has a convenience net to be used for small loads. Attach the net to the hooks of the storage area. The net should not be used to store heavy loads.

Rear Center Storage



There is storage in the center behind the two front seats.

If equipped, there is a wireless smartphone charger in the pocket.

Center Console Storage



To open, press the button on the driver side.

Depending on the options, there may be two USB ports and an auxiliary port inside.

The center console locks when the car alarm is armed. See *Vehicle Alarm System* ⇨ 26.

The center console locks when Valet Mode is enabled. See *Vehicle Personalization* ⇨ 116.

Additional Storage Features

Cargo Tie-Downs

The cargo tie-downs can be used to secure small loads under the convenience net inside the trunk.

Convenience Net

If equipped, the vehicle has two convenience nets to be used for small loads. One in the rear trunk area and one in the front storage area. See *Front Storage* ⇨ 83.

Attach the net to the hooks in the storage area. The net should not be used to store heavy loads.

Instruments and Controls

Controls

Steering Wheel Adjustment	87
Steering Wheel Controls	87
Heated Steering Wheel	87
Horn	87
Windshield Wiper/Washer	87
Compass	88
Clock	89
Power Outlets	89
Wireless Charging	90

Warning Lights, Gauges, and Indicators

Warning Lights, Gauges, and Indicators	93
Instrument Cluster	94
Speedometer	98
Odometer	98
Trip Odometer	98
Tachometer	98
Fuel Gauge	98
Engine Coolant Temperature Gauge	99
Transmission Temperature Gauge	99

Seat Belt Reminders	99
Airbag Readiness Light	100
Passenger Airbag Status Indicator	100
Charging System Light	101
Malfunction Indicator Lamp (Check Engine Light)	102
Front Lift System Light	103
Brake System Warning Light	104
Electric Parking Brake Light	104
Service Electric Parking Brake Light	105
Antilock Brake System (ABS) Warning Light	105
Traction Off Light	105
Traction Control System (TCS)/Electronic Stability Control Light	106
Electronic Stability Control (ESC) Off Light	106
Tire Pressure Light	106
Engine Oil Pressure Light	107
Security Light	107
High-Beam On Light	107
Lamps On Reminder	108
Cruise Control Light	108
Door Ajar Light	108

Information Displays

Driver Information Center (DIC)	108
Head-Up Display (HUD)	110

Vehicle Messages

Vehicle Messages	114
Engine Power Messages	115
Vehicle Speed Messages	115

Vehicle Personalization

Vehicle Personalization	116

Universal Remote System

Universal Remote System	121
Universal Remote System Programming	121
Universal Remote System Operation	123

Controls

Steering Wheel Adjustment



Press the control to move the tilt and telescoping steering wheel up and down or forward and rearward.

Both the tilt and telescoping steering wheel column positions can be stored with your memory settings, if equipped. See *Memory Seats* ⇨ 50.

Do not adjust the steering wheel while driving.

Steering Wheel Controls

The infotainment system can be operated by using the steering wheel controls. See “Steering Wheel Controls” in the infotainment manual.

Heated Steering Wheel



 : If equipped, press to turn the heated steering wheel on or off. A light next to the button displays when the feature is turned on.

The steering wheel takes about three minutes to be fully heated.

If equipped with remote start heated seat, the heated steering wheel will follow heated seats in remote start.

Horn

Press  on the steering wheel pad to sound the horn.

Windshield Wiper/Washer



The windshield wiper/washer lever is on the right side of the steering column.

With the ignition on or in ACC/ACCESSORY, move the windshield wiper lever to select the wiper speed.

HI : Use for fast wipes.

LO : Use for slow wipes.



INT : Move the lever up to INT for intermittent wipes, then turn the  band up for more frequent wipes or down for less frequent wipes.

OFF : Use to turn the wipers off.

1X : For a single wipe, briefly move the wiper lever down. For several wipes, hold the wiper lever down.

 : Pull the windshield wiper lever toward you to spray washer fluid and activate the wipers. The wipers will continue until the lever is released or the maximum wash time is reached. When the lever is released, additional wipes may occur depending on how long the windshield washer had been activated. See *Washer Fluid* ⇨ 231 for information on filling the windshield washer fluid reservoir.

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* ⇨ 236.

Heavy snow or ice can overload the wiper motor.

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, 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 INT, they will immediately stop.

If the windshield wiper lever is then moved to OFF before the driver door is opened or within 10 minutes, the wipers will restart and move to the base of the windshield.

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

Compass

The vehicle may have a compass display on the center stack. The compass receives its heading and other information from the Global Positioning System (GPS) antenna, Electronic Stability Control, 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

The time and date for the clock can be set using the infotainment system. See "Time/Date" in "System" under "Settings" in the infotainment manual.

Power Outlets

There are two accessory power outlets:



Interior Power Outlet



Underhood Power Outlet

The outlet under the glove box can be used to plug in electrical equipment, such as a cell phone.

Lift the cover to access and replace when not in use.

The power outlet under the glove box is powered when the ignition is on or in ACC/ACCESSORY, or until the driver door is opened within 10 minutes of turning off the vehicle. See *Retained Accessory Power (RAP)* ⇨ 168.

The underhood outlet is powered at all times. The vehicle battery may run down if the power outlet is used

while the ignition is off. Use this power outlet for plugging in the battery maintainer, if equipped.

**Warning**

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

Caution

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

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

When adding electrical equipment, be sure to follow the proper installation instructions included with the equipment. See *Add-On Electrical Equipment* ⇨ 208.

It is recommended that a qualified technician or dealer be seen for the proper installation of your 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.

Wireless Charging

If equipped, the vehicle has a wireless charging pocket between the driver and passenger seatbacks. 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 amps (15W), as requested by the compatible smartphone. See *Radio Frequency Statement* ⇨ 312.

**Warning**

Wireless charging can affect the operation of an implanted pacemaker or other medical devices. If you have one, it is recommended to consult with your doctor before using the wireless charging system.

The vehicle must be on, in ACC/ACCESSORY, or Retained Accessory Power (RAP) must be active. The wireless charging feature may not correctly indicate

charging when the vehicle is in RAP. See *Retained Accessory Power (RAP)* ⇨ 168.

The operating temperature is -20°C (-4°F) to 60°C (140°F) for the charging system and 0°C (32°F) to 35°C (95°F) for the smartphone.

Warning

Remove all objects from the charging pocket before charging your compatible smartphone. Objects, such as coins, keys, rings, paper clips, or cards, between the smartphone and the charger will 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 the charger, remove the smartphone and allow the object to cool before removing it from the charging pocket, to prevent burns.



To charge a compatible smartphone:

1. Remove all objects from the charging pocket. The system may not charge if there are any objects between the smartphone and charging pocket.
2. Place the smartphone with screen facing out of the charging pocket.

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 wireless charger

from working, or may reduce the charging performance. See your dealer for additional information.

3. A green  next to  will appear on the infotainment display. This indicates that the smartphone is properly positioned and charging. If  turns yellow, ensure that the charging pad is clear of any objects and that the smartphone is capable of wireless charging before repositioning it. If a smartphone is placed in the charging pocket and  does not appear, remove the smartphone from the pocket, turn it 180 degrees, and wait three seconds before inserting the smartphone in the pocket again.

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

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.

OSS Notice Information

To obtain the source code that is contained in this product, please visit <http://opensource.lge.com>. In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download. LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon e-mail request to opensource@lge.com. This offer is valid for three (3) years from the date on which you purchased the product.

Freescall-WCT library

Copyright (c) 2012-2014 Freescale Semiconductor, Inc.. All rights reserved.

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holder nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT

NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

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



Tour Mode Shown, Other Modes Similar

Cluster Menu

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

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



Press < or > to access the cluster applications. Use the thumbwheel to scroll ^ or v through the list of available features. Press the thumbwheel to select. Not all applications will be available on all vehicles.

- Info Pages: The selected Driver Information Center (DIC) displays can be viewed. See *Driver Information Center (DIC)* ⇨ 108.
- Performance
- Audio
- Options
- Simplify

Performance

Press the thumbwheel to enter the Performance menu. Scroll through the available items.

G-force : Gives the driver an indication of the vehicle performance in cornering. The G-force gauge will show as an info tile on the left side of the cluster, if selected.

Friction Bubble : A four quadrant visual display, indicative of the four corners of the car, with a “bubble” showing where the most inertia is being exerted on the vehicle.

Performance Timer : Press the thumbwheel to enter the setup menu, then select Set Start Speed. Scroll to desired Start Speed, then press the thumbwheel to save it. While on this menu, to change the End Speed, scroll to End Speed and use the thumbwheel to scroll to desired End Speed. Press the thumbwheel to save it. On the next acceleration, the performance timer will record the time. Pressing the thumbwheel while the timer is running will cancel the timer if done before reaching the End Speed.

Lap Timer (without PDR) : Press > when Lap Timer is displayed to start, stop, or reset the lap timer. Press the thumbwheel while the Lap Timer page is active to start the timer. If the lap timer is active, pressing the thumbwheel will stop the current lap timer and start a new lap. Pressing the thumbwheel within 10 seconds after completing the last lap (Stop Lap Timer option is displayed), the Lap Timer will stop.

Lap Timer (with PDR) : The lap times recorded with the PDR system will automatically be displayed in this window. This only happens if a track has been selected in the PDR system and a video recording is started. See *Performance Data Recorder (PDR)* ⇨ 132.

Oil Temperature : Shows the current oil temperature in either degrees Celsius (°C) or degrees Fahrenheit (°F).

Oil Pressure : Shows the current oil pressure in either kilopascal (kPa) or in pounds per square inch (psi).

Battery Voltage : Shows the current battery voltage.

Transmission Fluid

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

Tire Status : Shows individual tire pressures and overall temperature as either Cold, Cool, Normal, Warm, or Hot. Normal is typical for normal driving while Warm is typical for

aggressive driving. Unknown may be displayed if tire temperature information is unavailable.

eLSD (Z51 Only) : Displays the amount of rear differential coupling when the Electronic Limited-Slip Differential (eLSD) is active and functioning during vehicle operation. A reading of 1% is an open differential and 100% is locked. It is normal for the value to make small or large changes due to driving conditions and driver inputs. See *Limited-Slip Differential (with Z51)* ⇨ 195 or *Limited-Slip Differential (without Z51)* ⇨ 195.

Front Lift : During a driver requested Front Lift (if equipped), the driver may "remember" using the <, or dismiss the display by pressing the thumbwheel. When the Front Lift is Raised due to location, the driver may delete that stored location using the <, or dismiss the display by pressing the thumbwheel.

See *Front Lift System* ⇨ 191.

Audio

In the Audio menu, use the thumbwheel to scroll through audio presets.

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.

Display Themes

Press the thumbwheel to enter the Display menu. There are six instrument cluster display configurations to choose from. Sport, Tour, Track, Weather, My Mode, and Z-Mode. The style of the cluster will change depending on the theme selected.

Default is linked to Driver mode. Other display themes can be set

If in Z-Mode or My Mode then those displays plus HUD (if equipped) can be set.

- **Sport/Z-Mode:** Displays Coolant Temperature, Fuel Gauge, Compass, Drive Mode Indicator, Odometer, Speed, Tachometer, Electronic Transmission Range, Current Gear, Active Fuel Management (AFM), Peak Performance, Performance Shift Lights, Speed Limit, Info Area, and Interaction Area.
- **Tour/Weather/My Mode:** Displays Coolant Temperature, Fuel Gauge, Compass, Drive Mode Indicator, Odometer, Speed, Tachometer, Electronic Transmission Range, Current Gear, Active Fuel Management (AFM), Peak Performance, Speed Limit, Info Area, and Interaction Area.
- **Track:** Displays Coolant Temperature, Fuel Gauge, Performance Traction Management, Drive Mode Indicator, Speed, Tachometer,

Electronic Transmission Range, Current Gear, Info Area, and Interactive Area.

Preset info tiles shown on each layout:

Sport : G-Force, Oil Temperature

Track : Oil Pressure, Transmissions Fluid Temperature, Tire Pressure & Tire Temperature, Oil Temperature

Tour : Economy Trend, Oil Pressure

Weather : Battery Voltage, Tire Status

Z-Mode : Oil Temperature, G-Force

My Mode : Economy Trend, Oil Pressure

Head-Up Display (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 Warning

The Speed Warning display allows the driver to set a speed that they do not want to exceed. To set the Speed Warning, press 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 Info

Press $\triangleright$ while Software Info is highlighted to display open source software information.

Simplify

Press the thumbwheel to enter the Simplify menu. Simplify mode allows certain features of the instrument cluster to be hidden. These features include info tiles and interactive areas.

Scroll to the desired features with the thumbwheel, and press to toggle them on or off.

Using the thumbwheel, except to acknowledge an alert, will exit Simplify mode.

The selected features will stay hidden even after starting and restarting the vehicle, unless Simplify mode is manually canceled.

Speedometer

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

Odometer

The odometer shows how far the vehicle has been driven, in either kilometers or miles.

Trip Odometer

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

The trip odometer is accessed and reset through the Driver Information Center (DIC). See *Driver Information Center (DIC)* ⇨ 108.

Tachometer

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

Shift lights will not appear until the engine is warm.

Caution

If the engine is operated with the rpm's in the warning area at the high end of the tachometer, the vehicle could be damaged, and the damage would not be covered by the vehicle warranty. Do not operate the engine with the rpm's in the warning area.

Fuel Gauge



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

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

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

- At the service station, the fuel pump shuts off before the gauge reads full.
- It takes a little more or less fuel to fill up than the gauge indicated. For example, the gauge indicated the tank was half full, but it actually took a little more or less than half the tank's capacity to fill the tank.

- The gauge moves a little while turning a corner or speeding up.
- The gauge takes a few seconds to stabilize after the ignition is turned on, and goes back to empty when the ignition is turned off.

Engine Coolant Temperature Gauge



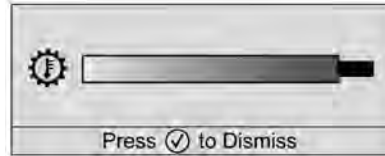
This gauge shows the engine coolant temperature.

If the gauge pointer moves into the red zone, the engine is too hot.

This reading indicates the same thing as the warning light. It means that the engine coolant has overheated. If the vehicle has been operating under normal driving conditions, pull off the road, stop the vehicle, and turn off the engine as

soon as possible. See *Engine Overheating* ⇨ 230 for more information.

Transmission Temperature Gauge



This gauge will display when the transmission is experiencing abnormal temperatures.

As the transmission begins to overheat, the gauge fills to the right.

The Transmission Temperature Gauge monitors all aspects of the transmission. Elevated transmission temperatures may not be reflected in the Transmission Fluid Temperature cluster display gauge.

Messages will display to indicate the severity of the overheating. As the gauge fills up there will be a reduction in vehicle performance.

Once full, the transmission is overheated and a message to stop safely will display. Do not drive the vehicle until the message clears. See *Dual Clutch Transmission* ⇨ 171 for more information.

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.

Passenger Seat Belt Reminder Light

There is a passenger seat belt reminder light near the passenger airbag status indicator. See *Passenger Sensing System* ⇨ 68.



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 passenger remains or becomes unbuckled while the vehicle is moving.

If the passenger seat belt is buckled, neither the chime nor the light comes on.

The front passenger seat belt reminder light and chime may turn on if an object is put on the seat such as a briefcase, handbag, grocery bag, laptop, or other electronic device. To turn off the reminder light and/or chime, remove the object from the seat or buckle the seat belt.

Airbag Readiness Light

This light shows if there is an electrical problem with the airbag system. The system check includes the airbag sensor(s), the passenger sensing system, the pretensioners, the airbag modules, the wiring, and the crash sensing and diagnostic module. For more information on the airbag system, see *Airbag System* ⇨ 63.



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.

Passenger Airbag Status Indicator

The vehicle has a passenger sensing system. See *Passenger Sensing System* ⇨ 68 for important

safety information. The overhead console has a passenger airbag status indicator.



United States



Canada and Mexico

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

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

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

If, after several seconds, both status indicator lights remain on, 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

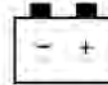
If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right

(Continued)

Warning (Continued)

away. See *Airbag Readiness Light* ⇨ 100 for more information, including important safety information.

Charging System Light



The charging system light comes on briefly when the ignition is turned on, but the engine is not running, as a check to show the light is working. The light turns off when the engine is started. If it does not, have the vehicle serviced by your dealer.

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

102 Instruments and Controls

When this light comes on, 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.

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* ⇨ 165.



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

Caution

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

Caution

Modifications to the engine, transmission, exhaust, intake, or fuel system, or the use of replacement tires that do not meet the original tire specifications, can cause this light to come on. This could lead to

(Continued)

Caution (Continued)

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* ⇨ 211.

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 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 funnel adapter, make sure that it has been removed. See "Filling the Tank with a Portable Gas Can" under *Filling the Tank* ⇨ 205. 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* ⇨ 204.

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* ⇨ 208. 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 may 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.

Front Lift System Light



If equipped, this light will flash to indicate when the front of the vehicle is being raised or lowered. An up or down arrow in the light will display, depending on the direction of movement. The light will stay lit while the front is fully raised.

Brake System Warning Light



Metric

BRAKE

English

This light should come on briefly when the vehicle is turned on. 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 at start up, there is a brake problem. Have the brake system inspected right away.

If the light comes on while driving, pull off the road and stop carefully. The brake pedal might be harder to push, or the brake pedal may go closer to the floor. It could take longer to stop. If the light is still on, have the vehicle towed for service. See *Towing the Vehicle* ⇨ 271.

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



Metric

PARK

English

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).

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

Service Electric Parking Brake Light



This light should 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* ⇨ 179.

Antilock Brake System (ABS) Warning Light



This light comes on briefly when the engine is started.

If the light does not come on, have it fixed so it will be ready to warn if there is a problem.

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

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

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

See *Brake System Warning Light* ⇨ 104.

Traction Off Light



This light comes on briefly while starting the engine. If it does not, have the vehicle serviced by your dealer. If the system is working normally, the indicator light then turns off.

The traction off light comes on when the Traction Control System (TCS) has been turned off by pressing and releasing the TCS/Stability Control button.

This light and the Electronic Stability Control (ESC) OFF light come on when ESC is turned off.

If the TCS is off, wheel spin is not limited. Adjust driving accordingly.

See *Traction Control/Electronic Stability Control* ⇨ 182.

Traction Control System (TCS)/Electronic Stability Control Light



If equipped, the Electronic Stability Control (ESC) or TCS indicator/warning light comes on briefly when the engine is started.

If the light does not come on, have the vehicle serviced by your dealer. If the system is working normally, the indicator light turns off.

If the light is on and not flashing, the TCS, and potentially the ESC system have been disabled.

If the indicator/warning light is on and flashing, the TCS and/or the ESC system is actively working.

See *Traction Control/Electronic Stability Control* ⇨ 182.

Electronic Stability Control (ESC) Off Light



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

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

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

See *Traction Control/Electronic Stability Control* ⇨ 182.

Tire Pressure Light



For vehicles with the Tire Pressure Monitor System (TPMS), this light comes on briefly when the engine is started. It provides information about tire pressures and the TPMS.

When the Light Is On Steady

This indicates that one or more of the tires are significantly underinflated.

A Driver Information Center (DIC) tire pressure message may also display. Stop as soon as possible,

and inflate the tires to the pressure value shown on the Tire and Loading Information label. See *Tire Pressure* ⇨ 253.

When the Light Flashes First and Then Is On Steady

If the light flashes for about a minute and then stays on, there may be a problem with the TPMS. If the problem is not corrected, the light will come on at every ignition cycle. See *Tire Pressure Monitor Operation* ⇨ 256.

Engine Oil Pressure Light

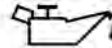
Caution

Lack of proper engine oil maintenance can damage the engine. Driving with the engine oil low can also damage the engine. The repairs would not be covered by the vehicle warranty. Check the oil level as soon as possible. Add oil if required, but if the oil level is within the operating range

(Continued)

Caution (Continued)

and the oil pressure is still low, have the vehicle serviced. Always follow the maintenance schedule for changing engine oil.



This light should come on briefly as the engine is started. If it does not come on, have the vehicle serviced by your dealer.

If the light comes on and stays on, it means that oil is not flowing through the engine properly. The vehicle could be low on oil and may have some other system problem. See your dealer.

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* ⇨ 28.

High-Beam On Light



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

See *Headlamp High/Low-Beam Changer* ⇨ 126.

Lamps On Reminder



This light comes on when the exterior lamps are in use. See *Exterior Lamp Controls* ⇨ 125.

Cruise Control Light



For vehicles with cruise control, 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.

The light turns off when the cruise control is turned off. See *Cruise Control* ⇨ 196.

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)

The Info application is only available when the ignition is on. The displays show the status of many vehicle systems.



< or > : Press to move left or right between the interactive display zones in the cluster. Press the thumbwheel to select.

^ or v : Use the thumbwheel to scroll up or down in a list. Press the thumbwheel to select.

DIC Info Pages

The following is the list of all possible DIC info displays. Depending on the vehicle, some may not be available.

Trip 1 or 2/Average Speed/ Average Fuel Economy : Trip displays the current distance traveled, in either kilometers (km) or miles (mi), since the trip odometer was last reset. The trip odometer can be reset by pressing and holding the thumbwheel while this display is active.

Average Speed displays the average speed of the vehicle in kilometers per hour (km/h) or miles per hour (mph). This average is calculated based on the various vehicle speeds recorded since the last reset of this value. The average speed can be reset by pressing and holding the thumbwheel while this display is active.

Average Fuel Economy displays the approximate average liters per 100 kilometers (L/100 km) or miles per gallon (mpg). This number is calculated based on the number of L/100 km (mpg) recorded since the last time this menu item was reset. This number reflects only the approximate average fuel economy that the vehicle has right now, and will change as driving conditions change. The Average Fuel Economy can be reset by pressing and holding the thumbwheel while this display is active.

Oil Life : Displays an estimate of the oil's remaining useful life. If REMAINING OIL LIFE 99% is displayed, that means 99% of the current oil life remains.

When the remaining oil life is low, the CHANGE ENGINE OIL SOON message will appear on the display. The oil should be changed as soon as possible. See *Engine Oil* ⇨ 218. In addition to the engine oil life system monitoring the oil life, additional maintenance is

recommended in the Maintenance Schedule. See *Maintenance Schedule* ⇨ 286.

The Oil Life display must be reset after each oil change. It will not reset itself. Do not reset the Oil Life display accidentally at any time other than when the oil has just been changed. It cannot be reset accurately until the next oil change. To reset the engine oil life system, press and hold the thumbwheel for several seconds while the Oil Life display is active. See *Engine Oil Life System* ⇨ 221.

Tire Pressure : Displays 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* ⇨ 255 and *Tire Pressure Monitor Operation* ⇨ 256.

Transmission Fluid Life : Displays an estimate of the fluid's remaining useful life. If REMAINING FLUID LIFE 99% is displayed, that means 99% of the current fluid life remains.

When the remaining fluid life is low, the CHANGE TRANSMISSION FLUID SOON message will appear on the display. The fluid should be changed as soon as possible. See *Dual Clutch Transmission Fluid Life System* ⇨ 223. In addition to the Transmission Fluid Life system monitoring the fluid life, additional maintenance is recommended in the Maintenance Schedule. See *Maintenance Schedule* ⇨ 286.

The Fluid Life display must be reset after each fluid change. It will not reset itself. Do not reset the Fluid Life display accidentally at any time other than when the fluid has just been changed. It cannot be reset accurately until the next fluid change. To reset the Transmission Fluid Life system, press and hold SEL for several seconds while the Fluid Life display is active.

Fuel Economy : Displays the average fuel economy, the best fuel economy over the selected distance, and a bar graph showing instantaneous fuel economy. Pressing the thumbwheel will open a menu to change the selected distance or reset the current values.

Timer/Fuel Used : This display can be used as a timer. To start/stop the timer, press the thumbwheel while this display is active and then select the start/stop the timer. The display will show the amount of time that has passed since the timer was last reset. To reset the timer to zero, press the thumbwheel to access the menu while this display is active.

Fuel Used displays the approximate liters (L) or gallons (gal) of fuel that have been used since last reset. The fuel used can be reset by pressing the thumbwheel and selecting Reset Fuel Used in the menu.

Economy Trend : Shows the instantaneous fuel economy and current gas mileage.

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

Engine Hours/Lifetime Revs : Displays the total number of hours the engine has run. It also shows total engine revolutions divided by 10,000.

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 concerning the operation of the vehicle is projected onto the windshield.

The HUD 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 is changed through the instrument cluster. See *Vehicle Personalization* ⇨ 116 and “Settings” under *Instrument Cluster* ⇨ 94.

The HUD may display different alerts and information for vehicles equipped with these features:

- Speedometer
- Tachometer

- Manual Paddle Shift Gear Indicator

These displays on the HUD are for use when using the manual paddle shift controls to shift the transmission. See “Manual Paddle Shift” in *Dual Clutch Transmission* ⇨ 171.

- G-Force Gauge
- Upcoming Maneuver from On-Board Navigation
- Upcoming Maneuver from OnStar
- Incoming Call



The HUD control is to the left of the steering wheel on the instrument panel.

To adjust the HUD image so that items are properly displayed:

1. Adjust the driver seat.

2. Start the engine.
3. Adjust the following HUD settings as needed.

HUD : Press or lift to adjust the vertical position of the HUD image in the windshield.

INFO : Press to select the display view. Each press will cause the display view to change to the next view. If vehicle messages are displayed, pressing the DIC select button may clear the message. See *Driver Information Center (DIC)* ⇨ 108.

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

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

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

112 Instruments and Controls

Polarized sunglasses could make the HUD image harder to see.

Head-Up Display (HUD) Rotation Option

This feature allows for adjusting the angle of the HUD image.

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

The vehicle must be in P (Park).

While in the options menu, press $\triangle$ or ∇ to scroll to the HUD rotation page. Press the thumbwheel while Head-Up Display Rotation is highlighted to enter Adjust Mode.

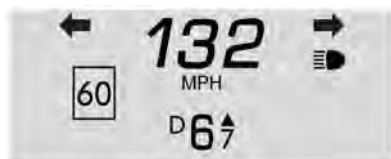
Press $\triangle$ or ∇ to adjust the angle of the HUD display. Press SEL to save the setting. To cancel the setting, press $\triangleleft$. See *Instrument Cluster* $\Rightarrow$ 94.

Display Views

There are several HUD views that can be displayed:



Metric



English

Tour : Displays the vehicle speed, gear position, shift indicator, and speed sign.

Tour view is only available in My Mode or Z-Mode. See *Driver Mode Control* $\Rightarrow$ 184.



Metric



English

Sport : Displays the vehicle speed, a circular tachometer, gear position, shift indicator, and G-Force meter.

Sport view is only available in My Mode or Z-Mode. See *Driver Mode Control* $\Rightarrow$ 184.



Track : Displays the vehicle speed, gear position, shift lights, and current/best lap times. This includes Gain/Loss of Current Lap compared to Best Lap.

Track view is only available in My Mode or Z-Mode. See *Driver Mode Control* ⇨ 184.

Interrupts

The interrupt information temporarily displays in any HUD view. Once displayed, HUD returns to the previous HUD view. Interrupts may include:

- Navigation Turn-by-Turn Information
- Incoming Call Information
- Vehicle Alerts
- Audio Selections



Metric



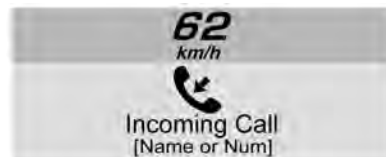
English

Audio : May display when a new source, radio station, or media type is selected.

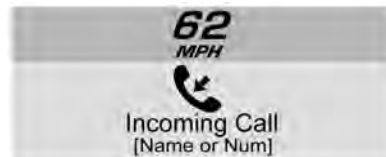


Navigation : Turn-by-turn navigation information may be displayed when Navigation is active

and an upcoming maneuver is pending. It appears until the maneuver is complete and then the HUD display returns to the previous view.



Metric



English

Phone : May display when an incoming call is received from either OnStar or a Bluetooth connected phone. It appears momentarily until the call is answered or ignored.

105 km/h
Alert Text Line 1

Metric

65 MPH
Alert Text Line 1

English

Vehicle Alerts : Alerts can be dismissed in the instrument cluster. All alerts are not displayed in the HUD.

Care of the HUD

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

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

HUD Troubleshooting

Check that:

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

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

The windshield is part of the HUD system. See *Windshield Replacement* ⇨ 236.

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
- Ride Control Systems
- Driver Assistance Systems
- Cruise Control
- Front Lift System
- Lighting and Bulb Replacement
- Wiper/Washer Systems
- Doors and Windows
- Seat Belts
- Airbag Systems
- Engine and Transmission
- Tire Pressure
- Battery

Engine Power Messages

REDUCED ACCELERATION DRIVE WITH CARE

This message displays when the vehicle 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.

Vehicle Personalization

The following are all possible vehicle personalization features. Depending on the vehicle, some may not be available.

For System, Apps, and Personal features and functions, see “Settings” in the infotainment manual.

To access the vehicle personalization menu:

1. Touch the Settings icon on the Home Page of the infotainment display.
2. Touch Vehicle to display a list of available options.
3. Touch to select the desired feature setting.
4. Touch  or  to turn a feature off or on.
5. Touch  to go to the top level of the Settings menu.

The menu may contain the following:

Z-Mode

Z-Mode cluster and HUD themes can be set in the cluster.

Touch and the following may display:

- Engine Sound
- Steering
- Suspension
- Powertrain
- Brake Response

Engine Sound

Touch Stealth, Tour, Sport, or Track.

See *Driver Mode Control* ⇨ 184.

Steering

Touch Tour, Sport, or Track.

See *Driver Mode Control* ⇨ 184.

Suspension

Touch Tour, Sport, or Track.

See *Driver Mode Control* ⇨ 184.

Powertrain

Touch Normal, Sport, Track, or Weather.

See *Driver Mode Control* ⇨ 184.

Brake Response

Touch Tour, Sport, or Track.

See *Driver Mode Control* ⇨ 184.

My Mode

My Mode cluster and HUD themes can be set in the cluster.

Touch and the following may display:

- Engine Sound
- Steering
- Suspension
- Brake Response

Engine Sound

Touch Stealth, Tour, Sport, or Track.

See *Driver Mode Control* ⇨ 184.

Steering

Touch Tour, Sport, or Track.

See *Driver Mode Control* ⇨ 184.

Suspension

Touch Tour, Sport, or Track.

See *Driver Mode Control* ⇨ 184.

Brake Response

Touch Tour, Sport, or Track.

See *Driver Mode Control* ⇨ 184.

Climate and Air Quality

Touch and the following may display:

- Auto Fan Speed
- Auto Cooled Seats
- Auto Heated Seats
- Auto Defog
- Auto Rear Defog

Auto Fan Speed

This setting specifies the amount of airflow when the climate control fan setting is Auto Fan.

Touch Low, Medium, or High.

Auto Cooled Seats

When enabled, this feature will automatically activate the ventilated seats at the level required by the interior temperature. See *Heated and Ventilated Front Seats* ⇨ 53.

Touch Off or On.

Auto Heated Seats

This setting automatically turns on and regulates the heated seats when the cabin temperature is cool. The auto heated seats can be turned off by using the heated seat buttons on the center stack. See *Heated and Ventilated Front Seats* ⇨ 53.

If equipped with Auto Heated Steering Wheel, this feature will turn on when the Auto Heated Seats turn on.

Touch Off or On.

Auto Defog

This setting, when set to On, will automatically react to temperature and humidity conditions that may cause fogging.

Touch Off or On.

Auto Rear Defog

This setting automatically turns the rear window defogger on when it is cold outside.

Touch Off or On.

Collision / Detection Systems

Touch and the following may display:

- Park Assist
- Side Blind Zone Alert
- Rear Cross Traffic Alert

Park Assist

This allows the feature to be turned on or off. See *Assistance Systems for Parking or Backing* ⇨ 200.

Touch Off or On.

Side Blind Zone Alert

This allows this feature to be turned on or off. See *Side Blind Zone Alert (SBZA)* ⇨ 202.

Touch Off or On.

Rear Cross Traffic Alert

This setting specifies if an alert will display when the vehicle detects approaching rear cross traffic when in R (Reverse). See *Assistance Systems for Parking or Backing* ⇨ 200.

Touch Off or On.

Comfort and Convenience

Touch and the following may display:

- Chime Volume
- Reverse Tilt Mirror
- Remote Mirror Folding

Chime Volume

This setting determines the chime volume level.

Touch the controls on the infotainment system to adjust the volume.

Reverse Tilt Mirror

When on, both the driver and passenger, driver, or passenger outside mirrors will tilt downward when the vehicle is shifted to R (Reverse) to improve visibility of the ground near the rear wheels. They will return to their previous driving position when the vehicle is shifted out of R (Reverse) or the engine is turned off. See *Reverse Tilt Mirrors* ⇨ 31.

Touch Off, On - Driver and Passenger, On - Driver, or On - Passenger.

Remote Mirror Folding

When on, the outside mirrors will automatically fold or unfold when the  or  on the remote key is pressed. See *Folding Mirrors* ⇨ 30.

Touch Off or On.

Lighting

Touch and the following may display:

- Vehicle Locator Lights
- Exit Lighting

Vehicle Locator Lights

This setting flashes the vehicle's headlamps and taillamps when  is pressed on the remote key.

Touch Off or On.

Exit Lighting

This setting specifies how long the headlamps stay on after the vehicle is turned off and exited.

Touch Off, 30 Seconds, 60 Seconds, or 120 Seconds.

Power Door Locks

Touch and the following may display:

- Auto Door Unlock
- Delayed Door Lock

Auto Door Unlock

This setting allows selection of which doors will automatically unlock when the vehicle is shifted into P (Park).

Touch Off, All Doors, or Driver Door.

Delayed Door Lock

This setting delays the locking of the vehicle doors.

Touch Off or On.

Remote Lock, Unlock, Start

Touch and the following may display:

- Remote Unlock Light Feedback
- Remote Lock Feedback
- Remote Door Unlock

- Remote Start Auto Cool Seats
- Remote Start Auto Heat Seats
- Remote Window Operation
- Passive Door Unlock
- Passive Door Lock
- Remote Left in Vehicle Alert
- Remote Removed from Vehicle Alert

Remote Unlock Light Feedback

This setting flashes the exterior lamps when the vehicle is unlocked with the remote key.

Touch Off or Flash Lights.

Remote Lock Feedback

This setting specifies how the vehicle responds when the vehicle is locked with the remote key.

Touch Off, Lights and Horn, Lights Only, or Horn Only.

Remote Door Unlock

This setting specifies whether all doors, or just the driver door, unlock when pressing  on the remote key.

Touch All Doors or Driver Door.

Remote Start Auto Cool Seats

This setting automatically turns on the ventilated seats when using the remote start function on warm days. See *Heated and Ventilated Front Seats* ⇨ 53 and *Remote Vehicle Start* ⇨ 15.

Touch Off or On.

Remote Start Auto Heat Seats

This setting automatically turns on the heated seats when using the remote start function on cold days. See *Heated and Ventilated Front Seats* ⇨ 53 and *Remote Vehicle Start* ⇨ 15.

If equipped with Auto Heated Steering Wheel, this feature will turn on when the Remote Start Auto Heat Seats turn on.

Touch Off or On.

Remote Window Operation

When enabled, this feature allows the windows to be opened remotely when pressing and holding  on the remote key. See *Remote Keyless Entry (RKE) System Operation* ⇨ 9.

Touch Off or On.

Passive Door Unlock

This setting specifies which doors unlock when using the button on the driver door handle to unlock the vehicle.

Touch Off, All Doors, or Driver Door Only.

Passive Door Lock

This setting specifies if the vehicle will automatically lock, or lock and provide an alert after all the doors are closed, and you walk away from the vehicle with the remote key. See *Remote Keyless Entry (RKE) System Operation* ⇨ 9.

Touch Off, On with Horn Chirp, or On.

Remote Left in Vehicle Alert

This feature sounds an alert when the remote key is left in the vehicle.

Touch Off or On.

Remote Removed from Vehicle Alert

This feature beeps the horn 3 times when exiting a running vehicle with the remote key.

Touch Off or On.

Ride Height

Touch and the following may display:

Location Based Auto Lift

This setting enables the Front Lift to automatically raise or lower when the vehicle is near GPS stored locations. See *Front Lift System* ⇨ 191.

Touch Off or On.

Seating Position

Touch and the following may display:

- Seat Entry Memory
- Seat Exit Memory

Seat Entry Memory

This feature automatically recalls the previously stored 1 or 2 button positions when the ignition is changed from off to on. See *Memory Seats* ⇨ 50.

Touch Off or On.

Seat Exit Memory

This feature automatically recalls the previously stored exit button positions when the ignition is changed from on to off if the driver door is open or opened. See *Memory Seats* ⇨ 50.

Touch Off or On.

Teen Driver

See “Teen Driver” under “Settings” in the infotainment manual.

Valet Mode

This will lock the infotainment system and steering wheel controls. It may also limit access to vehicle storage locations, if equipped.

To enable valet mode:

1. Enter a four-digit code on the keypad.
2. Touch Enter to go to the confirmation screen.
3. Re-enter the four-digit code.

Touch Lock or Unlock to lock or unlock the system. Touch Back to go back to the previous menu.

To configure the Performance Data Recorder (PDR) to automatically record in Valet mode, see “Settings” in *Performance Data Recorder (PDR)* ⇨ 132.

Universal Remote System

See *Radio Frequency Statement*
 ⇨ 312.

The FCC Grant of Equipment Authorization Certificate number is NZLSAHL5B.

The Canadian Registration ID number is 4112A-SAHL5B.

Universal Remote System Programming



If equipped, these buttons are on the sun visor.

This system can replace up to three remote control transmitters used to activate devices such as garage door openers, security systems, and home automation devices. These instructions refer to a garage door opener, but can be used for other devices.

Do not use the Universal Remote system with any garage door opener that does not have the stop and reverse feature. This includes any garage door opener model manufactured before April 1, 1982.

Read these instructions completely before programming the Universal Remote system. It may help to have another person assist with the programming process.

Keep the original hand-held transmitter for use in other vehicles as well as for future programming. Erase the programming when vehicle ownership is terminated. See “Erasing Universal Remote System Buttons” later in this section.

To program a garage door opener, park outside directly in line with and facing the garage door opener receiver. Clear all people and objects near the garage door.

Make sure the hand-held transmitter has a new battery for quick and accurate transmission of the radio-frequency signal.

Programming the Universal Remote System

For questions or programming help, see www.homelink.com/gm or call 1-800-355-3515. For calls placed outside the U.S., Canada, or Puerto Rico, international rates will apply and may differ based on landline or mobile phone.

Programming involves time-sensitive actions, and may time out causing the procedure to be repeated.

To program up to three devices:

1. Hold the end of the hand-held transmitter about 3 to 8 cm (1 to 3 in) away from the Universal Remote system

buttons with the indicator light in view. The hand-held transmitter was supplied by the manufacturer of the garage door opener receiver.

2. At the same time, press and hold both the hand-held transmitter button and one of the three Universal Remote system buttons to be used to operate the garage door. Do not release either button until the indicator light changes from a slow to a rapid flash. Then release both buttons.

Some garage door openers may require substitution of Step 2 with the procedure under "Radio Signals for Some Gate Operators" later in this section.

3. Press and hold the newly programmed Universal Remote system button for five seconds

while watching the indicator light and garage door activation.

- If the indicator light stays on continuously or the garage door moves when the button is pressed, then programming is complete. There is no need to complete Steps 4–6.
- If the indicator light does not come on or the garage door does not move, a second button press may be required. For a second time, press and hold the newly programmed button for five seconds. If the light stays on or the garage door moves, programming is complete.
- If the indicator light blinks rapidly for two seconds, then changes to a solid light and the garage door does not move, continue with programming Steps 4–6.



Learn or Smart Button

4. After completing Steps 1–3, locate the Learn or Smart button inside the garage on the garage door opener receiver. The name and color of the button may vary by manufacturer.
5. Press and release the Learn or Smart button. Step 6 must be completed within 30 seconds of pressing this button.
6. Inside the vehicle, press and hold the newly programmed Universal Remote system button for two seconds and then release it. If the garage door does not move or the lamp on the garage door

opener receiver does not flash, press and hold the same button a second time for two seconds, then release it. Again, if the door does not move or the garage door lamp does not flash, press and hold the same button a third time for two seconds, then release it.

The Universal Remote system should now activate the garage door.

Repeat the process to program the two remaining buttons.

Radio Signals for Some Gate Operators

For questions or programming help, see www.homelink.com/gm or call 1-800-355-3515. For calls placed outside the U.S., Canada, or Puerto Rico, international rates will apply and may differ based on landline or mobile phone.

Some gate operators and radio-frequency laws require transmitter signals to time out or quit after several seconds of transmission. This may not be long

enough for the Universal Remote system to pick up the signal during programming.

If the programming did not work, replace Step 2 under "Programming the Universal Remote System" with the following:

Press and hold the Universal Remote system button while pressing and releasing the hand-held transmitter button every two seconds until the signal has been successfully accepted by the Universal Remote system. The Universal Remote system indicator light will flash slowly at first and then rapidly. Proceed with Step 3 under "Programming the Universal Remote System" to complete.

Universal Remote System Operation

Using the Universal Remote System

Press and hold the appropriate Universal Remote system button for at least one-half second. The indicator light will come on while the signal is being transmitted.

Erasing Universal Remote System Buttons

Erase all programmed buttons when vehicle ownership is terminated.

To erase:

1. Press and hold the two outside buttons until the indicator light begins to flash. This should take about 10 seconds.
2. Release both buttons.

Reprogramming a Single Universal Remote System Button

To reprogram any of the system buttons:

1. Press and hold any one of the buttons. Do not release the button.
2. The indicator light will begin to flash after 20 seconds. Without releasing the button, proceed with Step 1 under "Programming the Universal Remote System."

Lighting

Exterior Lighting

Exterior Lamp Controls	125
Exterior Lamps Off	
Reminder	126
Headlamp High/Low-Beam	
Changer	126
Flash-to-Pass	126
Daytime Running	
Lamps (DRL)	126
Automatic Headlamp	
System	127
Hazard Warning Flashers	128
Turn and Lane-Change	
Signals	128

Interior Lighting

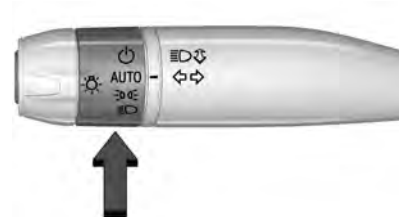
Instrument Panel Illumination	
Control	129
Courtesy Lamps	129
Reading Lamps	129
Engine	
Compartment Lamp	129

Lighting Features

Entry Lighting	130
Exit Lighting	130
Battery Power Protection	131
Exterior Lighting Battery	
Saver	131

Exterior Lighting

Exterior Lamp Controls



There are four positions:

OFF : Turns the exterior lamps off and deactivates the AUTO mode. Turn to **OFF** again to reactivate the AUTO mode.

In Canada, the headlamps will automatically reactivate when the vehicle is shifted out of P (Park).

AUTO : Sets the exterior lamps to automatic mode. AUTO mode turns the exterior lamps on and off depending on how much light is available outside the vehicle.

To override AUTO mode, turn the control to .

To reset to AUTO mode, turn the control to  and then release back to AUTO. Automatic mode also resets when the vehicle is turned off and then back on again if the control is left in the AUTO position.

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

The parking lamp indicator light comes on and stays on when the parking lamps are on with the engine off and the ignition in ACC/ACCESSORY.

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

Exterior Lamps Off Reminder

A warning chime will sound if the exterior lamp control is left on in either the headlamp or parking lamp position and the driver door is opened with the ignition 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.



This indicator light turns on in the instrument cluster when the high-beam headlamps are on.

Flash-to-Pass

To use the flash-to-pass feature, briefly pull the turn signal lever toward you. The high-beam indicator flashes to indicate to the other driver that you intend to pass.

Daytime Running Lamps (DRL)

DRL can make it easier for others to see the front of your vehicle during the day. DRL are required on all vehicles first sold in Canada.

The DRL system makes the dedicated lamps come on when the following conditions are met:

- The ignition is on.
- The exterior lamp control is in the AUTO.
- The light sensor determines it is daytime.

When DRL are on, only the front lamps will be on. The parking lamps, taillamps, instrument panel lights, or other exterior lamps will not be on when the DRL are being used.

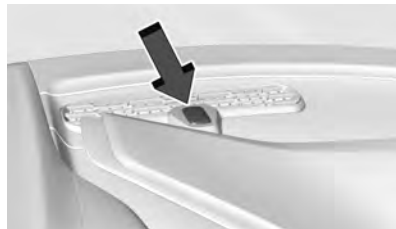
When it is dark enough outside, the front lamps dim to parking lamps and the normal low-beam headlamps turn on.

The regular headlamp system should be turned on when needed.

To turn off the DRL, turn the exterior lamp control to $\cup$. The DRL will stay off until the control is toggled again.

Automatic Headlamp System

When the exterior lamp control is set to AUTO and it is dark enough outside, the headlamps and parking lamps 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 and parking lamps 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 panel brightness control is in the full bright position. See *Instrument Panel Illumination Control* ⇨ 129.

When it is bright enough outside, the headlamps and parking lamps 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 $\cup$ or the ignition is off.

To turn automatic headlamp system back on, turn the band to $\cup$ again, then release it.

If the automatic headlamp system has the headlamps turned on and you turn the ignition off, the headlamps will turn off. When the driver door is opened the headlamps and parking lamps will illuminate for a period of time.

The length of the delayed illumination period can be changed. See "Exit Lighting" under *Vehicle Personalization* ⇨ 116.

The regular headlamp system should be turned on when needed.

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 will come on. The time it takes for the lamps to turn on depends on the wiper speed. When the wipers are turned off, the lamps turn off. To disable, move the exterior lamp control to $\cup$ or $\rightarrow$.

Hazard Warning Flashers



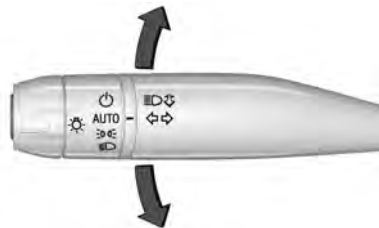
The hazard warning flashers warn others that you have a problem. The button is on the overhead console.

 : Press to make the front and rear turn signal lamps flash on and off. Press again to turn the flashers off.

The hazard warning flashers work no matter what mode the ignition is in, even if the ignition is turned off.

When the hazard warning flashers are on, the 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 lever all the way up or down to signal a turn.

Raise or lower the lever until the arrow starts to flash to signal a lane change. Hold it there until the lane change is complete. If the lever is briefly pressed and released, the turn signal flashes three times. If more flashes are desired, continue to hold the lever.

The lever returns to its starting position when it is released.

If after signaling a turn or lane change the arrows flash rapidly or do not come on, a turn signal indicator light failure may have occurred.

If a turn signal has failed, the lamp may need to be replaced. See your dealer.

Turn Signal on Chime

A chime sounds if the turn signal has been on for more than 1.2 km (0.75 mi) of driving.

If you need to leave the turn signal on for more than 1.2 km (0.75 mi), turn off the signal and then turn it back on.

Interior Lighting

Instrument Panel Illumination Control



The knob for this feature is on the left side of the instrument panel.

Turn the knob clockwise or counterclockwise to brighten or dim all illuminated controls as well as the feature status indicators. The knob is functional at night.

Night Mode

At night, when the knob is turned all the way to the off position, the instrument cluster will show minimum feature content (digital speed, gear indication, coolant

temperature, and the fuel gauge) with muted colors to reduce light emission for better visibility. The Infotainment System display and the interior lighting are off.

Courtesy Lamps

The interior lamps will come on when any door is opened,  on the remote key is pressed, or when the vehicle is turned to OFF.

The hatch/trunk lamps only come on when the rear compartment is opened.

Reading Lamps



The reading lamps are in the overhead console. The lamps go on when any door is opened, the remote unlock key is pressed, or when the ignition is switched off. When the doors are closed, press the lamp buttons to turn on each lamp.

Engine Compartment Lamp

If equipped, the engine compartment lamp will turn on briefly when:

-  is pressed on the key.
- Keyless Access is used to unlock the door.
- Any door is opened.
- The engine compartment hatch is opened.

The engine compartment lamp will turn off when:

- All doors and the engine compartment hatch are closed.
-  is pressed on the key.

- The vehicle begins to move after shifting out of P (Park).
- The ignition is turned on, or turned from off to ACC/ACCESSORY.

If any door or the engine compartment hatch/trunk remains open, while the vehicle is off, a timer will turn the lamp off.

Lighting Features

Entry Lighting

Some exterior lamps turn on briefly at night, or in areas with limited lighting, when  is pressed on the remote key. After about 30 seconds the exterior lamps turn off.

When any door is opened or remote unlock pressed, all interior lights turn on and then interior lamps dim to off after approximately 20 seconds.

When the driver door is opened, all interior lights, Driver Information Center (DIC) lights, and door pocket lights turn on and then the dome and remaining interior lamps dim to off. Entry lighting can be disabled manually by turning the ignition to on or ACC/ACCESSORY, or by pressing  on the remote key.

The entry lighting feature for exterior lighting can be changed. See "Vehicle Locator Lights" under *Vehicle Personalization* ⇨ 116.

Exit Lighting

Some exterior lamps come on at night, or in areas with limited lighting, when the driver door is opened after the ignition is turned off. The dome lamp comes on after the ignition is turned off. The exterior lamps and dome lamp remain on after the door is closed for a set amount of time, then automatically turn off.

The exterior lamps turn off immediately by turning the exterior lamp control off.

The exit lighting feature for exterior lighting can be changed. See *Vehicle Personalization* ⇨ 116.

Battery Power Protection

This vehicle has a feature to help prevent the battery from being drained in case any of the following lamps are left on: vanity mirror lamps, cargo lamps, reading lamps, or glove box lamps. If any of these lamps are left on, they will automatically time-out after about 10 minutes. To reset it, the ignition must be turned on.

Exterior Lighting Battery Saver

The exterior lamps turn off about 10 minutes after the ignition is turned off, if the parking lamps or headlamps have been manually left on. This protects against draining the battery. To restart the 10-minute timer, turn the exterior lamp control to the off position and then back to the parking lamp or headlamp position.

To keep the lamps on for more than 10 minutes, the ignition must be on or in ACC/ACCESSORY.

Infotainment System

Introduction

Infotainment 132

Performance Data Recorder (PDR)

Performance Data Recorder (PDR) 132

Introduction

Infotainment

See the infotainment manual for information on the radio, audio players, phone, navigation system, and voice or speech recognition. It also includes information on settings.

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.

Performance Data Recorder (PDR)

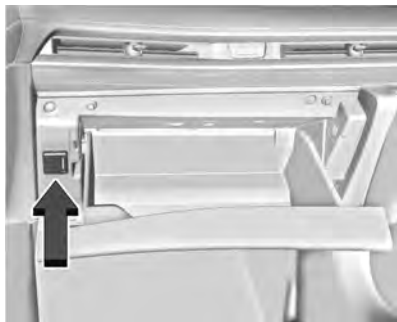
If equipped, the PDR icon displays on the Home Page.

Important Information

Use of the PDR may be prohibited or legally restricted in certain countries and situations. Ensure compliance with applicable laws and regulations, including, but not limited to: privacy laws, laws related to camera surveillance and recordings, road traffic and security laws, and laws on the protection of publicity and personality rights.

- Do not use the PDR if it causes distraction.
- Do not rely on camera footage to steer the vehicle.
- Comply with any notice and consent requirements before capturing and/or recording the voices or images of other persons or before collecting other personal data.

- Notify other drivers of your vehicle about the above rules and require them to comply.
- General Motors does not accept any responsibility or liability in connection with use that is not permitted.
- Law enforcement authorities may have the right to seize video recordings and use them as evidence of criminal/driving offenses against you or third parties.



The PDR records video, audio, and vehicle data. This data is stored on a removable SD card in the glove box.

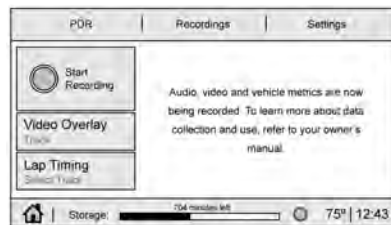
The recorded data is not stored anywhere else and is only accessible from the SD card.

To optimize PDR performance, it is recommended that the SD card is formatted on a regular basis. Back up all recordings on the SD card prior to formatting. Formatting the SD card will delete all saved recordings.

To begin, insert an exFAT formatted SD card, Class 10 required, 16 GB or larger recommended, into the glove box SD card reader.

Touch the PDR icon to access the PDR menu. Touch the PDR tab. The options displayed are:

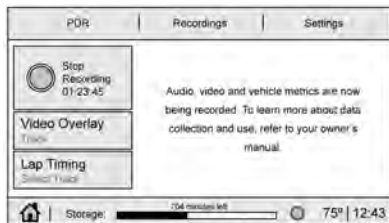
Start Recording



If the system is unable to begin recording, the Start Recording button is grayed out.

Touch Start Recording to begin recording. After recording begins, this button changes to Stop Recording. Touch to stop the recording session.

The recording must be stopped and the file closed before removing the SD card, or the recording cannot be reviewed.

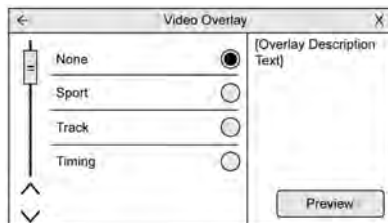


The elapsed time will show when recording.

The following errors or warnings may be displayed while recording:

- Storage Full
- No Storage Available
- System Error
- SD Card Error
- SD Card Speed Insufficient
- GPS Accuracy Warning
- SD Card Write Protected

Video Overlay



Touch Video Overlay to display the menu screen.

Touching preview provides a live preview of the overlay selected.

Select one:

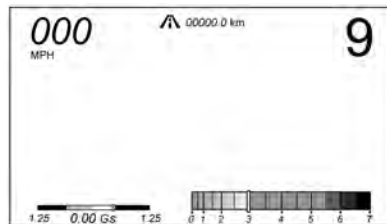
- None
- Sport
- Track
- Timing

None:

No vehicle data displays on top of the recorded video. Vehicle data is still available with the video when accessed in the toolbox software.

See www.chevrolet.com/performance-data-recorder to download Toolbox Software.

Sport:

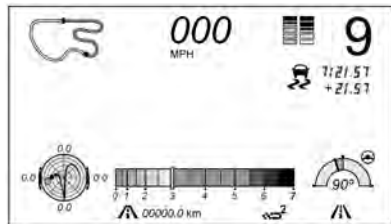


Displays these vehicle metrics:

- Vehicle Speed: Up to three digits are displayed in km/h or MPH depending on vehicle settings.
- Engine Revolutions Per Minute (rpm): The vertical line and triangle show current rpm's. As the rpm's increase, the backfill follows.
- Transmission State (Current Gear): Transmissions display 1, 2, etc.

- **Lateral G-Force Graphic:** Left and Right G-Forces are displayed. The graphic fills to the left or the right depending on the measure value. The measured G-Force displays as a number at the top of the graphic.
- **Event Odometer:** This displays the distance driven since the recording began.

Track:



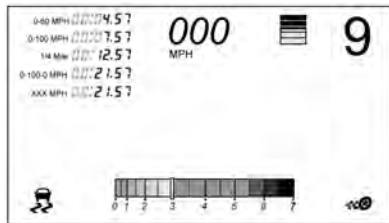
Displays these vehicle metrics:

- **Vehicle Speed:** Same as Sport.
- **GPS Tracking Map:** Shows the vehicle's current position relative to a known route.

- **Engine Revolutions Per Minute (rpm):** The vertical line and triangle show current rpm's. As the rpm's increase, the backfill follows.
- **Transmission State (Current Gear):** Same as Sport.
- **Friction Bubble Graphic:** Lateral and longitudinal G-Forces are displayed as a dot within a bubble. A red dot displays when the vehicle starts braking and turns green when the vehicle accelerates. The dot is white when the vehicle is not moving. A white dot is the default.
- **Brake and Throttle Graphic:** Displays the percentage value of brake and throttle pedal position from 0–100%.
- **Steering Angle:** The graphic fills from the center to the left or right depending on the direction of steering. The numerical steering angle displays below the graphic.

- **Active Handling Active Indicator:** The graphic only displays if the active handling systems are activated.
- **Performance Traction Management (PTM) Mode:** Displays the current PTM mode. The options are Wet, Dry, Sport 1, Sport 2, or Race.
- **Current Lap Time:** Displays the elapsed lap time if the finish line is defined and the vehicle has crossed the defined finish line at least once.
- **Event Odometer:** This displays the distance driven since the recording began.
- **Drive Mode:** Displays the vehicle's current drive mode.

Timing:

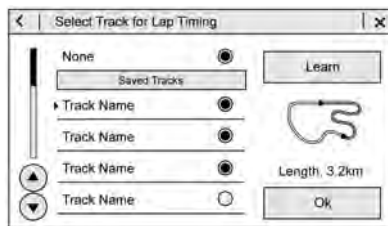


Displays these vehicle metrics:

- Vehicle Speed: Same as Sport.
- Engine Revolutions Per Minute (rpm): Same as Sport.
- Transmission State (Current Gear): Same as Sport.
- 0–100 km/h (0–60 mph), 0–200 km/h (0–100 mph), 400 m (1/4 th mi), and 0–200–0 km/h (0–100–0 mph): The timer starts recording as soon as the vehicle accelerates. As the vehicle passes each speed and distance milestone, it is displayed on the overlay.
- Throttle Position: Displays the percentage of throttle applied from 0–100%.

- Active Handling Active Indicator: The graphic only displays if the active handling systems are activated.

Lap Timing

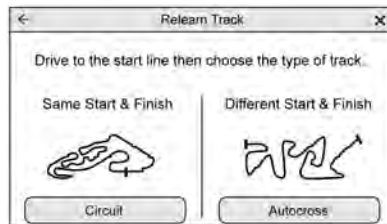


Touch Lap Timing on the PDR tab to display the track selection screen.

- Select Custom Track, then Learn to create a new custom track for lap timing.
- Select Custom Track, then Relearn if a custom track has already been defined and is available on the storage device.

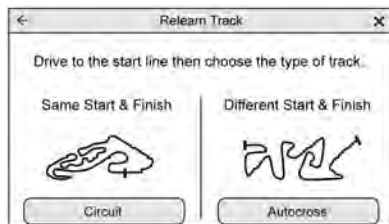
- Only one track can be learned during each recording session. To learn a new track, end the current recording and start a new one.

Custom Track Learning - Circuit



- Select Circuit, when at the starting line, as the track type. The starting line is located at the current vehicle position.
- Circuit track learning will complete automatically when the vehicle crosses the start/finish line.
- Touching X in the upper right corner will exit the track learning process.

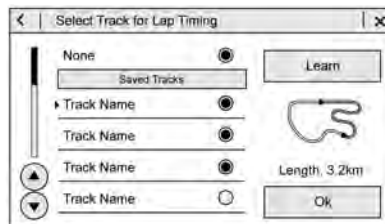
Custom Track Learning - Autocross



- Select Autocross, when at the starting line, as the track type. The starting line is located at the current vehicle position.
- Drive along the course and press Finish when the vehicle has reached the Finish Line.
- Touching X in the upper right corner will exit the track learning process.

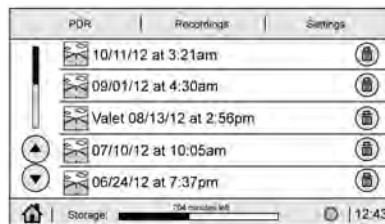
Lap Timing - Saved Tracks

- Saved tracks will be named by the PDR as custom.gpx.
- Saved tracks can be renamed by placing the SD card in a computer and overwriting the time/date name to a user-friendly name. Do not change or delete the file extension (.gpx).



To begin timing an existing track, scroll to the desired track and select OK. The PDR tab will be displayed.

Recordings

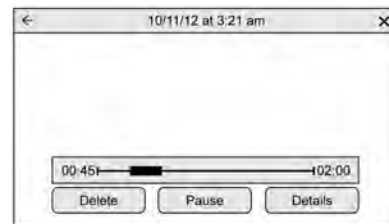


Touch the Recordings tab. The recordings will be displayed with the most recent on top. Select the recording to start playback.

Recordings may be deleted by selecting the trash can. Select yes to delete or no to cancel.

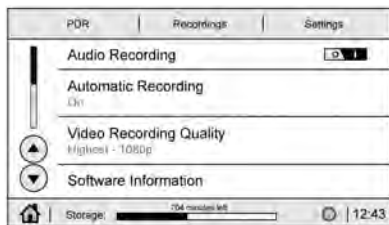
Video Playback is not allowed while the vehicle is moving.

Tap on the screen while the video is playing to display the video playback controls.



Video Scrubber : Changes the position and playback. The length of the bar corresponds to the time of the video. Advance or rewind the video by dragging along the bar.

Settings



Touch the Settings tab to view the Settings menu.

- Audio Recording - Select on or off to record audio with the recorded video.
- Automatic Recording - When on, the PDR will automatically begin recording whenever the vehicle is in the Run Power Mode. Configurations include:
 - Automatic Recording Video Quality
 - While in Valet Mode only
 - Whether to allow recording overwrite when the storage is full

- Video Quality - Low (480p), or High (1080p). Higher quality will result in larger recording files.
- Software Information - Displays PDR Software Information and Version numbers.
- SD Card Information - Size, Remaining Memory, Format, and Speed.

Toolbox

See www.chevrolet.com/performance-data-recorder to download Toolbox Software.

Climate Controls

Climate Control Systems

Dual Automatic Climate Control System	139

Air Vents

Air Vents	143

Maintenance

Passenger Compartment Air Filter	143
Service	144

Climate Control Systems

Dual Automatic Climate Control System

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

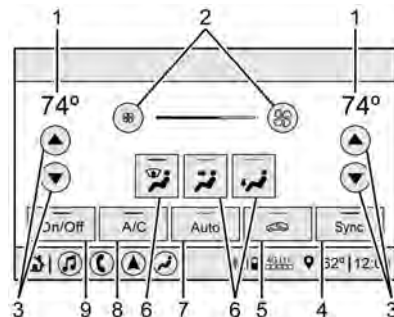


1. Driver Temperature Control
2. Driver and Passenger Heated and Ventilated Seats (If Equipped)

140 Climate Controls

3. SYNC (Synchronized Temperature)
4. AUTO (Automatic Operation)
5. Air Delivery Mode Controls
6. Fan Control
7. ⏻ (Power)
8. A/C (Air Conditioning)
9. Recirculation
10. Defrost
11. Rear Window Defogger
12. Passenger Temperature Control

Climate Control Display



1. Driver and Passenger Temperature Settings
2. Fan Control
3. Driver and Passenger Temperature Controls
4. Sync (Synchronized Temperature)
5. Recirculation
6. Air Delivery Mode Controls
7. Auto (Automatic Operation)
8. A/C (Air Conditioning)
9. On/Off (Power)

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 or the climate control button in the climate control display application tray. A selection can then be made on the front climate control page displayed. See the infotainment manual.

Climate Control Status Display



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 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.

Manual Operation

 : Press to turn the fan off or on.

 or  : Press to increase or decrease the fan speed.

Driver and Passenger

Temperature Controls : The temperature can be adjusted separately for the driver and passenger.

SYNC : Press to link the passenger 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 a/c outlets.

 : Air is directed to the floor outlets, with some air directed to the windshield, and side window outlets.

 : Air is directed to the windshield 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. If the A/C is turned off, the air temperature coming through the climate control system may be warmer than the ambient temperature. It is recommended to use auto climate control to maintain comfort.

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 ignition is turned off or to ACC/ACCESSORY.

If equipped with heated outside mirrors, press  **REAR** to turn them on or off. See *Heated Mirrors* ⇨ 31.

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 with remote start, the climate control system may run when the vehicle is started remotely. If equipped with heated or ventilated seats or a heated steering wheel, these features may come on during a remote start. See *Remote Vehicle Start* ⇨ 15, *Heated and Ventilated Front Seats* ⇨ 53, and *Heated Steering Wheel* ⇨ 87.

Air Vents

Use the tab on the air outlets to change the direction of the airflow or shut the outlet.

Operation Tips

- Clear away any ice, snow, or leaves from the air inlets at the base of the windshield that may block the flow of air into the vehicle.
- Clear snow off the hood to improve visibility and help decrease moisture drawn into the vehicle.
- Use of non-GM approved hood deflectors may adversely affect the performance of the system.
- Keep the area around the base of the instrument panel console and air path under the seats clear of objects to help circulate the air inside of the vehicle more effectively.

Maintenance

Passenger Compartment Air Filter

The passenger compartment air filter reduces dust, pollen, and other airborne irritants from outside air that are pulled into the vehicle. Reductions in airflow, which may occur more often in dusty areas, indicate that the filter may need to be replaced. See *Maintenance Schedule* ⇨ 286.

Caution

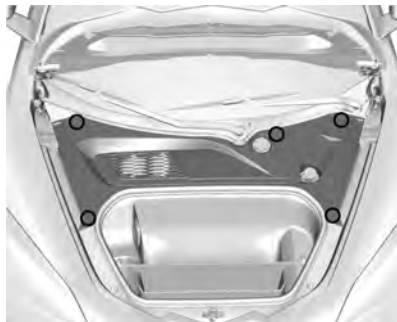
Driving without a passenger compartment air filter in place can cause water and small particles, like paper and leaves, to be pulled into your climate control system which may cause damage to it. Make sure you always replace the old filter with a new one.

The passenger compartment air filter is located under the hood between the battery and windshield. See *Underhood Compartment Overview* ⇨ 214.

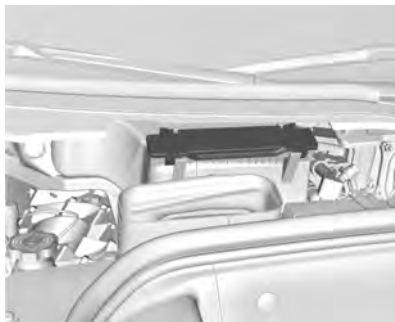
To check or replace the air filter:



1. Release the four clips for the left and right outer covers.



2. Release the five clips and remove the outer cover.



3. Press two push tabs on the top and on the bottom of the cabin air filter cover and remove the cover.
4. Remove the air filter.
5. Install the new air filter and cover.
6. Install the outer cover.
7. Install the right and left outer covers.

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* ⇨ 286.

Driving and Operating

Driving Information

Driving for Better Fuel	
Economy	146
Distracted Driving	146
Defensive Driving	147
Drunk Driving	147
Control of a Vehicle	148
Braking	148
Steering	148
Off-Road Recovery	149
Loss of Control	150
Track Events and Competitive	
Driving (Z51 Only)	150
Driving on Wet Roads	156
Hill and Mountain Roads	157
Winter Driving	158
If the Vehicle Is Stuck	159
Vehicle Load Limits	160

Starting and Operating

New Vehicle Break-In	163
Front Air Dam (and	
Splitter)	164
Composite Materials	164
Ignition Positions	165

Starting the Engine	166
Retained Accessory	
Power (RAP)	168
Shifting Into Park	168
Shifting out of Park	169
Parking over Things	
That Burn	169
Active Fuel Management	169
Extended Parking	169

Engine Exhaust

Engine Exhaust	170
Running the Vehicle While	
Parked	171

Dual Clutch Transmission

Dual Clutch Transmission	171
Manual Mode	174

Brakes

Electric Brake Boost	179
Antilock Brake	
System (ABS)	179
Electric Parking Brake	179
Brake Assist	181
Hill Start Assist (HSA)	181

Ride Control Systems

Traction Control/Electronic	
Stability Control	182
Hill Rollback Control	184
Driver Mode Control	184

Front Lift System	191
Competitive Driving Mode	192
Limited-Slip Differential	
(without Z51)	195
Limited-Slip Differential	
(with Z51)	195

Cruise Control

Cruise Control	196

Driver Assistance Systems

Driver Assistance Systems ...	199
Assistance Systems for	
Parking or Backing	200
Side Blind Zone	
Alert (SBZA)	202

Fuel

Top Tier Fuel	204
Recommended Fuel	204
Prohibited Fuels	205
Fuels in Foreign Countries ...	205
Fuel Additives	205
Filling the Tank	205
Filling a Portable Fuel	
Container	207

Trailer Towing

General Towing	
Information	208

Conversions and Add-Ons

Add-On Electrical

Equipment 208

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.
- Using Tour mode rather than Sport or Track modes, will result in better Active Fuel Management operation. See *Active Fuel Management* ⇨ 169.
- For recommended shift speeds, see *Dual Clutch Transmission* ⇨ 171.

Premium Fuel

Use the recommended fuel. See *Recommended Fuel* ⇨ 204.

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.

- 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 manual 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* ⇨ 55.

- 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.

Drunk Driving

Death and injury associated with drinking and driving is a global tragedy.

Warning

Drinking and then driving is very dangerous. Your reflexes, perceptions, attentiveness, and

(Continued)

Warning (Continued)

judgment can be affected by even a small amount of alcohol. You can have a serious — or even fatal — collision if you drive after drinking.

Do not drink and drive or ride with a driver who has been drinking. Ride home in a cab; or if you are with a group, designate a driver who will not drink.

Control of a Vehicle

Braking, steering, and accelerating are important factors in helping to control a vehicle while driving.

Braking

Braking action involves perception time and reaction time. Deciding to push the brake pedal is perception time. Actually doing it is reaction time.

Average driver reaction time is about three-quarters of a second. In that time, a vehicle moving at 100 km/h (60 mph) travels 20 m (66 ft), which could be a lot of distance in an emergency.

Helpful braking tips to keep in mind include:

- Keep enough distance between you and the vehicle in front of you.
- Avoid needless heavy braking.
- Keep pace with traffic.

If the engine ever stops or a brake fault occurs, the brakes may lose power assist. More effort will be required to stop the vehicle. It may take longer to stop.

Steering

Caution

To avoid damage to the steering system, do not drive over curbs, parking barriers, or similar objects
(Continued)

Caution (Continued)

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 has electric power steering. It does not have power steering fluid. Regular maintenance is not required.

If power steering assist is lost due to a system malfunction, the vehicle can be steered, but may require increased effort.

If the steering assist is used for an extended period of time while the vehicle is not moving, power assist may be reduced.

If the steering wheel is turned until it reaches the maximum rotation and is held at that position for an extended period of time, power steering assist may be reduced.

Normal use of the power steering assist should return when the system cools down.

See your dealer if there is a problem.

Dynamic Rack Travel

If equipped with Magnetic Ride Control, Dynamic Rack Travel (DRT) is a steering system feature which enhances driving by providing additional maximum steering wheel rotation to allow a tighter turning radius during low speed driving conditions. If the vehicle speed

increases or if the suspension encounters significant wheel travel, such as a driveway, while at maximum steering rotation, DRT may gently push the steering back a small amount to prevent the front tires from contacting the vehicle. This is normal operation. There is no customer interface or display for this feature. DRT is not available when in Track Mode.

Curve Tips

- Take curves at a reasonable speed.
- Reduce speed before entering a curve.
- Maintain a reasonable and steady speed through the curve.
- Wait until the vehicle is out of the curve before accelerating gently into the straightaway.

Steering in Emergencies

- There are some situations when steering around a problem may be more effective than braking.

- Holding both sides of the steering wheel allows you to turn 180 degrees without removing a hand.
- The Antilock Brake System (ABS) allows steering while braking.

Off-Road Recovery



The vehicle's right wheels can drop off the edge of a road onto the shoulder while driving. Follow these tips:

1. Ease off the accelerator and then, if there is nothing in the way, steer the vehicle so that it straddles the edge of the pavement.
2. Turn the steering wheel about one-eighth of a turn, until the right front tire contacts the pavement edge.
3. Turn the steering wheel to go straight down the roadway.

Loss of Control

Skidding

There are three types of skids that correspond to the vehicle's three control systems:

- **Braking Skid** — wheels are not rolling.
- **Steering or Cornering Skid** — too much speed or steering in a curve causes tires to slip and lose cornering force.
- **Acceleration Skid** — too much throttle causes the driving wheels to spin.

Defensive drivers avoid most skids by taking reasonable care suited to existing conditions, and by not overdriving those conditions. But skids are always possible.

If the vehicle starts to slide, follow these suggestions:

- Ease your foot off the accelerator pedal and steer the way you want the vehicle to go. The vehicle may straighten out. Be ready for a second skid if it occurs.
- Slow down and adjust your driving according to weather conditions. Stopping distance can be longer and vehicle control can be affected when traction is reduced by water, snow, ice, gravel, or other material on the road. Learn to recognize warning clues — such as enough water, ice, or packed snow on the road to make a mirrored surface — and slow down when you have any doubt.
- Try to avoid sudden steering, acceleration, or braking, including reducing vehicle speed

by shifting to a lower gear. Any sudden changes could cause the tires to slide.

Remember: Antilock brakes help avoid only the braking skid.

Track Events and Competitive Driving (Z51 Only)

Vehicles without Z51 package should not be used for track events and competitive driving.



Danger

High-performance features are intended for use only on closed tracks by experienced and qualified drivers and should not be used on public roads. High-speed driving, aggressive cornering, hard braking, and other high-performance driving can be dangerous. Improper driver inputs for the conditions may result in

(Continued)

Danger (Continued)

loss of control of the vehicle, which could injure or kill you or others. Always drive safely.

Participating in track events or other competitive driving without following the instructions provided may affect the vehicle warranty. See the warranty manual before using the vehicle for racing or other competitive driving. See *Competitive Driving Mode* ⇨ 192.

Be sure to follow all service procedures before driving the vehicle at track events or competitively.

⚠ Warning

Prior to each track event and again before returning to public roads, tighten the wheel nuts with a torque wrench to the proper torque specification. Wheel nuts

(Continued)

Warning (Continued)

that are improperly or incorrectly tightened can cause the wheels to become loose or come off, resulting in a crash. See *Capacities and Specifications* ⇨ 299 for wheel nut torque specifications.

If equipped, the front license plate bracket should be removed and replaced with the aero cover for track use.

Engine Sound Management Setting**Caution**

Do not place the vehicle in Engine Sound Management – Stealth mode. Damage could result to exhaust valve actuators.

Engine Oil**Caution**

If the vehicle is used for track events and competitive driving, the engine may use more oil than it would with normal use. Low oil levels can damage the engine. Check the oil level often and maintain the proper level. See *Engine Oil* ⇨ 218.

Check the oil level often during track events and competitive driving. See "Checking the Engine Oil" in *Engine Oil* ⇨ 218.

Fuel

Unleaded gasoline, rated at 93 octane or higher, is required.

Caution

Some high octane fuels contain additives and compounds that may damage the vehicle and void the vehicle warranty. See *Prohibited Fuels* ⇨ 205.

Dual Clutch Transmission Fluid

The transmission fluid and external filter should be changed after every 24 hours of track usage. If prompted by the transmission fluid life monitor that remaining fluid life is low, the fluid and external filter should be changed as soon as possible.

Add an additional 2 L (2 qt) of DCT transmission fluid prior to track usage. It is not required to remove the additional 2 L (2 qt) of DCT fluid.

Any transmission level set or change should be performed at your dealer.

Brakes**Brake Fluid**

Replace existing brake fluid with a qualified high performance brake fluid from a sealed container. Brake fluid with a dry boiling point >310 °C (590 °F) is qualified. If high performance brake fluid is used, replace it with GM approved brake fluid before driving on public roads. If high performance brake fluid is in the vehicle and the age of the brake fluid is over a month old or unknown, replace the brake fluid before track events and competitive driving. Do not use silicone or DOT-5 brake fluids.

Check the fluid level before each competitive driving event.

Brake Fade Warning Assist

The Brake Fade Warning Assist system monitors the performance of the brake system. If the system detects brake fade, or if the brake fluid is near the boiling point, the driver will be alerted.

The Brake Fade Warning Assist system is designed for use with the factory-installed brake pads or GM-approved replacement pads. If the brake pads on the vehicle need to be replaced, use GM-approved brake pads. If this is not done, the brake fade warning system may not function properly.

Stage 1 : The Driver Information Center (DIC) displays a “Reduce Braking to Avoid Overheating” message and brake pedal effort and travel is increased. When the message displays, the driver should decrease brake pedal pressure.

Stage 2 : The Driver Information Center (DIC) displays a “Brakes Overheated Service Now” message that the brake fluid temperature is excessive and is about to boil. The system increases brake pedal effort and travel, and will also limit vehicle speed. The driver should immediately start a cool down lap if on the track. If this message displays, take the vehicle to be serviced at your dealer.

Brake Burnishing

New brake pads must be burnished before racing or other competitive driving.

Caution

Performing the brake burnish procedure on a base brake system can result in brake damage.

Caution

The new vehicle break-in period should be completed before performing the brake burnish procedure, otherwise damage may occur to the powertrain/engine. See *New Vehicle Break-In* ⇨ 163.

Caution

Brake pedal fade will occur during any track burnish procedure and can cause brake pedal travel and force to increase. This could extend stopping distance until the brakes are fully burnished.

When this procedure is performed as instructed, it will not damage the brakes. The brake pads will smoke and produce an odor. The braking force and pedal travel may increase. After the procedure, the brake pads may appear white at the rotor contact.

Perform this procedure only on dry pavement, in a safe manner, and in compliance with all local and state ordinances/laws regarding motor vehicle operation.

Brake Burnishing Procedure

This brake burnish procedure should only be run on vehicles with the J55 Z51 factory equipped brake system.

1. Apply the brakes 25 times starting at 100 km/h (60 mph) to 50 km/h (30 mph) while decelerating at 0.4 g. This is a medium brake application. Drive for at least 1 km (0.6 mi) between applying the brakes. This first step may be skipped if there are more than 320 km (200 mi) on the brake pads.
2. Apply the brakes 25 times starting at 100 km/h (60 mph) to 25 km/h (15 mph) while decelerating at 0.8 g. This is a hard brake application without activating the Antilock Brake System (ABS). Drive for at least 1 km (0.6 mi) between applications. Depending on conditions, some increase in brake pedal travel and brake pedal force may be experienced.
3. Cool down: Drive at 100 km/h (60 mph) for approximately 15 km (10 mi) without using the brakes.

4. Apply the brakes 25 times from 100 km/h (60 mph) to 50 km/h (30 mph) while decelerating at 0.4 g. This is a medium brake application. Drive for at least 1 km (0.6 mi) between applications.

As with all high performance brake systems, some amount of brake squeal is normal.

Alternative Closed Course Brake Burnishing Procedure

This brake burnish procedure should only be run on vehicles with the J55 Z51 factory equipped brake system.

This procedure should only be run on a track and only on dry pavement. Brake pedal fade will occur during this track burnish procedure and can cause brake pedal travel and force to increase. This could extend stopping distance until the brakes are fully burnished.

1. Start track lapping at lower speeds and lower braking efforts for three minutes of

driving. Allow for increased braking distances due to reduced brake output.

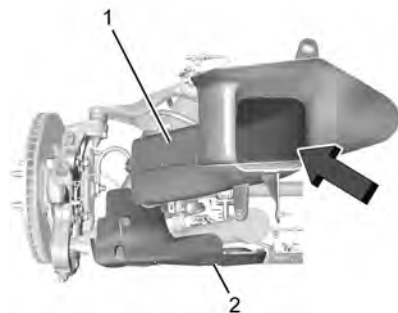
2. After Step 1, increase speed and braking effort for the next six minutes of lapping, gradually ending up at 90% effort. Continue to allow for increased braking distance due to reduced brake output.
3. Cool the brakes by lapping with minimal light braking for six minutes.

Brake Cooling Kit

Prior to any track event, high speed driving event, or competitive driving, the following should be completed:

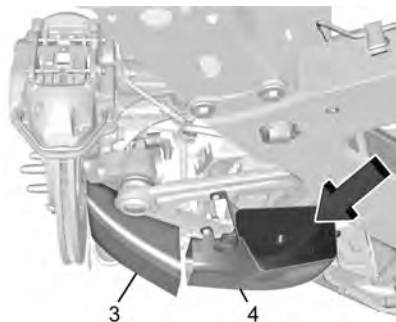
- Ensure all brake cooling parts are correctly and securely installed.
- Install the rear lower control arm cooling ducts per the instructions included with the kit. After any track event or competitive driving, remove the rear lower control arm cooling ducts. These parts are for track use only.

- Inspect for and remove any blockage in the ducts.
- Inspect and replace any duct that has damage.



**Passenger Side Front Shown,
Driver Side Front Similar**

1. Front Brake Cooling Duct
2. Front Lower Control Arm Deflector



**Passenger Side Rear Shown,
Driver Side Rear Similar**

3. Rear Knuckle Mounted Cooling Duct
4. Rear Lower Control Arm Cooling Duct

Shock Spring Seat Adjustment

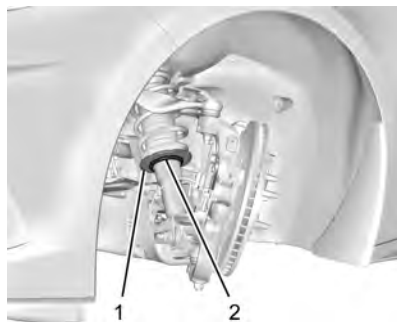
The front shocks, on vehicles without hydraulic front lift and rear shocks, have threaded spring seats that allow adjustment of the preload on the coil springs. The vehicle corner weights can be adjusted for

track use. If the vehicle trim height is modified, it should be returned to normal trim height before street use.

The spring seat can be adjusted approximately 20 mm (0.8 in) up or down from the nominal position. Each complete turn of the spring seat will change the vehicle height approximately 1.5 mm (0.06 in). When adjusting the seat to the upper limit, lift the dust boot and ensure the seat does not thread off the center support tube (stop adjustment when threads no longer visible). When adjusting the seat to the lower limit, leave approximately 10 mm (0.4 in) of thread visible for the lower lock nut to have full thread engagement.

To adjust the lower spring seat:

1. Raise the vehicle so the tires are completely off the ground.



Front Shown, Rear Similar

2. Loosen the lower spring seat lock nut (2).
3. Thread the lower spring seat lock nut (2) downward off of the threads to its resting location on the shoulder of the center support tube.
4. While holding the center support tube holes, turn the spring seat (1) upward to increase spring preload, or downward to decrease spring preload.

5. Thread the lower lock nut (2) back on to the center support tube and torque it against the spring seat (1) to 25 N•m (18.4 lb ft).

Load Limit

Limit vehicle load to the driver only, with no other cargo. Inflate the front tires to 159 kPa (23 psi) and the rear tires to 165 kPa (24 psi). Drive at a maximum speed of 296 km/h (184 mph).

Road Course target hot pressures of 220–240 kPa (32–35 psi). Value will vary based on driving style, track, temperature, and weather conditions.

Wheel Alignment

Caution

Using these wheel alignment settings may cause excessive tire wear. Only use these wheel alignment settings for racing or
(Continued)

Caution (Continued)

competitive driving. Excessive tire wear is not covered under the vehicle warranty.

The racing and competitive driving wheel alignment settings should be set as described here.

To achieve the track alignment specified settings:

1. The upper control arm to body washers on all four corners will need to be moved from between the body and the control arm and relocated between the head of the bolt and the control arm.
2. Adjust the lower control arm cam bolt position to achieve the following specifications.

Front (per corner)

- Caster: +8.0 degrees
- Camber: -3.0 degrees
- Toe (total): 0.1 degrees toe in

Rear (per corner)

- Caster: 0 degrees
- Camber: -2.5 degrees
- Toe (total): 0.1 degrees toe in
- Thrust Angle: 0 degrees

After track use, reinstall washers between the body and the control arms. Reset to factory alignment settings.

General Information

If reduced performance is experienced during track events or competitive driving, turning off the A/C will help to improve engine performance.

Maintain a mixture of 40% DEX-COOL coolant and 60% clean, drinkable water to optimize engine performance.

Driving on Wet Roads

Rain and wet roads can reduce vehicle traction and affect your ability to stop and accelerate. Always drive slower in these types

of driving conditions and avoid driving through large puddles and deep-standing or flowing water.

Warning

Wet brakes can cause crashes. They might not work as well in a quick stop and could cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car/vehicle wash, lightly apply the brake pedal until the brakes work normally.

Flowing or rushing water creates strong forces. Driving through flowing water could cause the vehicle to be carried away. If this happens, you and other vehicle occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

Caution

Driving through deep puddles or standing water can cause water to come in through the engine air intake and damage the engine. If deep puddles or standing water cannot be avoided, proceed with caution and do not exceed 8 km/h (5 mph). Do not drive through water that may come close to or cover the vehicle's underbody.

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* ⇨ 245.
- 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:

- When driving downhill in D (Drive), the vehicle may automatically downshift to assist with speed control.
- A lower gear may also be selected to provide further speed control.

 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

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* ⇨ 182.

- 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)* ⇨ 179.
- 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.
- Turn on Weather Mode. See *Driver Mode Control* ⇨ 184.

Blizzard Conditions

Stop the vehicle in a safe place and signal for help. Stay with the vehicle unless there is help nearby. If possible, use Roadside

Assistance. See *Roadside Assistance Program* ⇨ 306. 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.

(Continued)

Warning (Continued)

- 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* ⇨ 170.

To save fuel, run the engine for short periods to warm the vehicle and then shut the engine off and partially close the window. Moving about to keep warm also helps.

If it takes time for help to arrive, when running the engine, push the accelerator pedal slightly so the engine runs faster than the idle

speed. This keeps the battery charged to restart the vehicle and to signal for help with the headlamps. Do this as little as possible, to save fuel.

If the Vehicle Is Stuck

Slowly and cautiously spin the wheels to free the vehicle when stuck in sand, mud, ice, or snow.

If stuck too severely for the traction system to free the vehicle, turn the traction system off and use the rocking method. See *Traction Control/Electronic Stability Control* ⇨ 182.

Warning

If the vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 56 km/h (35 mph).

Rocking the Vehicle to Get it Out

Turn the steering wheel left and right to clear the area around the front wheels. Turn off any traction system. Shift back and forth between R (Reverse) and a low forward gear, spinning the wheels as little as possible. To prevent transmission wear, wait until the wheels stop spinning before shifting gears. Release the accelerator pedal while shifting, and press lightly on the accelerator pedal when the transmission is in gear. Slowly spinning the wheels in the forward and reverse directions causes a rocking motion that could free the vehicle. If that does not get the vehicle out after a few tries, it may need to be towed out. If the vehicle does need to be towed out, see *Towing the Vehicle* ⇨ 271.

Vehicle Load Limits

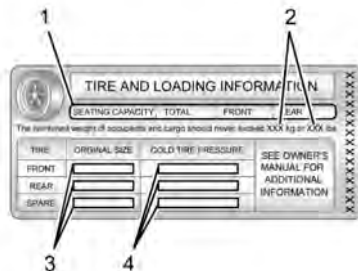
It is very important to know how much weight the vehicle can carry. This weight is called the vehicle capacity weight and

includes the weight of all occupants, cargo, and all nonfactory-installed options. Two labels on the vehicle may show how much weight it may properly carry: the Tire and Loading Information label and the Certification label.

Warning

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also reduce stopping distance, damage the tires, and shorten the life of the vehicle.

Tire and Loading Information Label



Label Example

A vehicle-specific Tire and Loading Information label is attached to the center pillar (B-pillar). This 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* ⇨ 245 and *Tire Pressure* ⇨ 253.

There is also important loading information on the vehicle Certification label. It may show the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axle. See "Certification Label" later in this section.

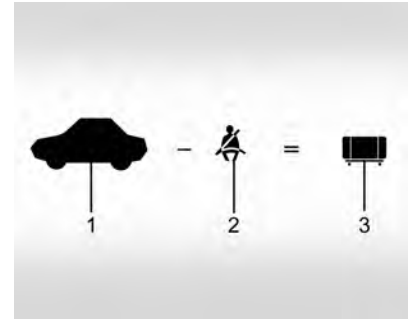
Steps for Determining Correct Load Limit–

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs." on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.

3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. $(1400 - 750 (5 \times 150) = 650 \text{ lbs.})$
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."

This vehicle is neither designed nor intended to tow a trailer.

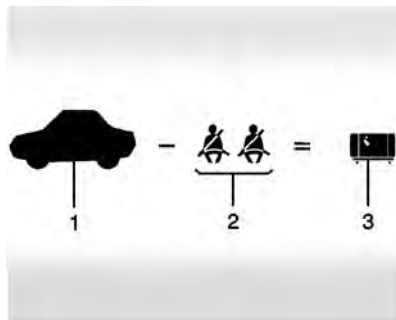


Example 1

1. Vehicle Capacity Weight for Example 1 = 181 kg (400 lbs)
2. Subtract Occupant Weight @ 68 kg (150 lbs) $\times 1 = 68 \text{ kg (150 lbs)}$

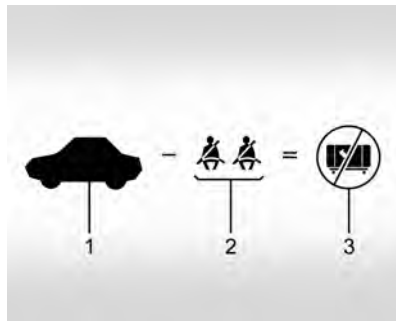
162 Driving and Operating

3. Available Occupant and Cargo Weight = 113 kg (250 lbs)



Example 2

1. Vehicle Capacity Weight for Example 2 = 181 kg (400 lbs)
2. Subtract Occupant Weight @ 68 kg (150 lbs) $\times 2 = 136$ kg (300 lbs)
3. Available Cargo Weight = 45 kg (100 lbs)



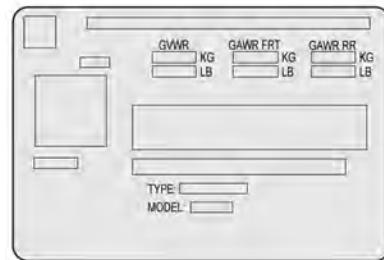
Example 3

1. Vehicle Capacity Weight for Example 3 = 181 kg (400 lbs)
2. Subtract Occupant Weight @ 91 kg (200 lbs) $\times 2 = 181$ kg (400 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 Label



A vehicle-specific Certification label is attached to the rear edge of the driver door. It may show the gross weight capacity of the vehicle, called the Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel and cargo.

Caution

Overloading the vehicle may cause damage. Repairs would not be covered by the vehicle warranty. Do not overload the vehicle.

 Warning

Things you put inside your vehicle can strike and injure people in a sudden stop or turn, or in a crash.

- Put things in the rear area of your vehicle. Try to spread the weight evenly.
- Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.

(Continued)

Warning (Continued)

- Do not leave an unsecured child restraint in your vehicle.
- When you carry something inside the vehicle, secure it whenever you can.

Starting and Operating

New Vehicle Break-In

Follow these recommended guidelines during the first 2 414 km (1,500 mi) of driving this vehicle. Parts have a break-in period and performance will be better in the long run.

During the first 800 km (500 mi), engine torque will be limited in low gears.

For the first 322 km (200 mi):

- To break in new tires, drive at moderate speeds and avoid hard cornering.
- New brake linings also need a break-in period. Avoid making hard stops. This is recommended every time brake linings are replaced.

For the first 800 km (500 mi):

- Avoid full throttle starts and abrupt stops.
- Do not exceed 4000 rpm.

- Avoid driving at any one constant speed, fast or slow, including the use of cruise control.
- Avoid downshifting to brake or slow the vehicle when the engine speed will exceed 4000 rpm.
- Do not let the engine labor. Never lug the engine. This rule applies at all times, not just during the break-in period.

For the first 2 414 km (1,500 mi):

- Do not participate in track events, sport driving schools, or similar activities.
- Check engine oil with every refueling and add if necessary. Oil and fuel consumption may be higher than normal.

Front Air Dam (and Splitter)

If equipped, the front air dam and splitter have minimal ground clearance.

Under normal operation, the components will occasionally contact some road surfaces (speed bumps, driveway ramps, etc.). This can be heard inside the vehicle as a scraping noise. This is normal and does not indicate a problem.

Use care when approaching bumps or objects on road surfaces and avoid them when possible.

If equipped, the Front Lift System may be used to increase front air dam or splitter clearance. See *Front Lift System* ⇨ 191.

Composite Materials

This vehicle may be equipped with parts containing carbon fiber, sheet-molding compound, or other composite materials. Dealer-installed accessories may also contain composite materials. These parts and accessories may include the splitter or rocker extensions.



Warning

Exposed edges of parts containing carbon fiber and other composite materials can be sharp. Contact with these parts could result in injury. Use caution to avoid contacting these parts, including when washing the vehicle. If the parts are damaged, replace the parts promptly with replacements from your dealer.



Warning

Rocker extensions may break under pressure, resulting in property damage or injury. Do not stand on the rocker extension or use it as a step.

Ignition Positions



The vehicle has an electronic keyless ignition with pushbutton start.

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 Keyless Entry (RKE) System Operation* ⇨ 9.

To shift out of P (Park), the vehicle must be turned on and the brake pedal must be applied.

Stopping the Engine/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)* ⇨ 168.

If the vehicle is in R (Reverse), D (Drive), or M (Manual Mode), the vehicle will shift to P (Park), the ignition will turn off, and RAP will remain active.

If the vehicle is in N (Neutral), the ignition will return to ACC/ACCESSORY and display the message SHIFT TO PARK in the Driver Information Center (DIC). When the vehicle is shifted into P (Park), the ignition will turn off.

Do not turn the engine off when the vehicle is moving. This will cause a loss of power assist in the brake and steering systems and disable the airbags.

If the vehicle must be turned 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 into N (Neutral). This can be done while the vehicle is moving. After shifting into N (Neutral), firmly apply the brakes and steer the vehicle to a safe location.
3. Come to a complete stop. Shift into P (Park).
4. Set the parking brake. See *Electric Parking Brake* ⇨ 179. Press ENGINE START/STOP to turn the vehicle off.

Warning

Turning off the vehicle while moving may cause loss of power assist in the brake and steering systems and disable the airbags. While driving, only shut the vehicle off in an emergency.

If the vehicle cannot be pulled over and must be turned off while driving, press and hold ENGINE START/STOP for more than two seconds, or press twice within five seconds.

ACC/ACCESSORY (Amber Indicator Light) : This mode allows the use of some electrical accessories when the engine is off.

With the ignition off, pressing the button one time without the brake pedal applied will place the ignition in ACC/ACCESSORY.

The ignition will switch from ACC/ACCESSORY to off after five minutes to prevent battery rundown.

ON/RUN/START (Green Indicator Light) : This mode is for driving and starting. With the ignition off and the brake pedal applied, pressing the button once will place the ignition in ON/RUN/START. Once engine cranking begins, release the button. Engine cranking will continue until the engine starts. See *Starting the Engine* ⇨ 166. The ignition will then remain in ON/RUN.

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 ENGINE START/STOP for more than five seconds will place the vehicle in Service Mode. The instruments and audio systems will operate as they do in ON/RUN, but the vehicle will not be able to be driven. The engine will not start in Service Mode. Press ENGINE START/STOP again to turn the vehicle 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

(Continued)

Caution (Continued)

covered by the vehicle warranty. See *Add-On Electrical Equipment* ⇨ 208.

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.

Place the transmission in P (Park) or N (Neutral). To restart the vehicle when it is already moving, use N (Neutral) only.

Starting the Vehicle

The remote key must be inside the vehicle for the ignition to work.

Cell phone chargers can interfere with the operation of the Keyless Access system. Battery chargers should not be plugged in when starting or turning off the engine.

1. Press the brake pedal, then press ENGINE START/STOP on the instrument panel.

If there is no remote key in the vehicle or if there is something causing interference with it, the Driver Information Center (DIC) will display a message.

2. When the engine begins cranking, let go of the button and the engine cranks automatically until it starts.

If the battery in the remote key is weak, the DIC will display a message. The vehicle can still be driven.

See "Starting the Vehicle with a Low Transmitter Battery" under *Remote Keyless Entry (RKE) System Operation* ⇨ 9. If the remote key battery is dead, insert it into the cupholder transmitter pocket to enable engine starting.

3. Do not race the engine immediately after starting it. Operate the engine and

transmission gently until the oil warms up and lubricates all moving parts.

4. If the engine does not start and no DIC message is displayed, wait 15 seconds before trying again to let the cranking motor cool down.

If the engine does not start after 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 while cranking for up to 15 seconds maximum. Wait at least 15 seconds between each try, to allow the cranking motor to cool down. When the engine starts, let go of the accelerator. If the vehicle starts briefly but then stops again, repeat these steps. This clears the extra gasoline from the engine.

Caution

Cranking the engine for long periods of time, by pressing ENGINE START/STOP 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.

Stopping the Engine

Shift to P (Park) and press and hold ENGINE START/STOP on the instrument panel, until the engine shuts off. If the transmission is not in P (Park), the engine shuts off and the vehicle goes into the accessory mode. The DIC displays SHIFT TO PARK. When shifted to P (Park) the vehicle turns off.

If the remote key is not detected inside the vehicle when it is turned off, the DIC displays a message.

Retained Accessory Power (RAP)

When the ignition 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 ignition is in RUN or ACC/ACCESSORY:

- 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

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 to P (Park).

To shift into P (Park):

1. Hold the brake pedal down and set the parking brake. See *Electric Parking Brake* ⇨ 179.
2. Press the P (Park) switch on the center console. See *Dual Clutch Transmission* ⇨ 171.
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 EPB may not release when the EPB switch is used. The EPB 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 firmly set. The vehicle can roll.

Do not leave the vehicle when the engine is running. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when

(Continued)

Warning (Continued)

you are on fairly level ground, always set the parking brake and shift to P (Park).

If you have to leave the vehicle with the engine running, be sure the vehicle is in P (Park) and the parking brake is set before you leave it.

Shifting out of Park

This vehicle is equipped with an electronically controlled transmission.

If the vehicle has a battery with low voltage, try charging or jump starting the battery. See *Jump Starting - North America* ⇨ 267.

To shift out of P (Park):

1. Ensure the engine is running.
2. Apply the brake pedal.

3. Press or pull the desired switch on the center console. For N (Neutral) press and hold the N (Neutral) switch until the N indicator illuminates red.

The P indicator will turn white and the gear indicator on the shift switch 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 will display. See your dealer for service.

Parking over Things That Burn**Warning**

Things that can burn could touch hot exhaust parts under the vehicle and ignite. Do not park over papers, leaves, dry grass, or other things that can burn.

Active Fuel Management

This vehicle's engine may be equipped with Active Fuel Management, which allows the engine to operate on either all or half of its cylinders, depending on the driving conditions.

When less power is required, such as cruising at a constant vehicle speed, the system will operate in the half cylinder mode, allowing the vehicle to achieve better fuel economy. When greater power demands are required, such as accelerating from a stop, passing, or merging onto a highway, the system will maintain full-cylinder operation.

If the vehicle has an Active Fuel Management indicator, see Driver Information Center (DIC) for more information on using this display.

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* ⇨ 168 and *Engine Exhaust* ⇨ 170.

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.

(Continued)

Warning (Continued)

- There are holes or openings in the vehicle body from damage or aftermarket modifications that are not completely sealed.

If unusual fumes are detected or if it is suspected that exhaust is coming into the vehicle:

- Drive it only with the windows completely down.
- Have the vehicle repaired immediately.

Never park the vehicle with the engine running in an enclosed area such as a garage or a building that has no fresh air ventilation.

Warning

To prevent exhaust gases from entering the vehicle and heat from damaging the vehicle, the engine cover and all fluid fill plugs must be secured before closing the tonneau cover (convertible only) and operating the vehicle. Make sure all bolts are torqued to GM specifications.

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* ⇨ 168 and *Engine Exhaust* ⇨ 170.

Dual Clutch Transmission



This vehicle is equipped with a dual clutch transmission that contains an integrated rear differential. The dual clutch transmission provides an extremely connected feel due to the direct connection between the engine and gear box. This arrangement provides very fast shift times for maximum performance. Automatic driving mode is selected by pulling D on the transmission range selection panel and provides fully automatic shifting operation

which can be further refined using driver mode control. Upshifts may be delayed regardless of mode selection or ambient temperature until the engine is warmed up. Manual operation can also be selected. See *Manual Mode* later in this section.

This transmission is electronically controlled. The shift switches are on the center console. The selected gear position will illuminate red on the shift switch, while all others will display in white. The indicator on the shift switch may flash if the shift is not immediate or if the gear is not fully engaged. This may occur in very cold conditions or when Double Paddle Declutch is used.

The transmission does not operate when the vehicle is off.

If the vehicle is in ACC/ACCESSORY, 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 into 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 vehicle to ensure the vehicle does not move.

Warning

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 to P (Park). See *Shifting Into Park* ⇨ 168.

When the vehicle is stopped, press ENGINE START/STOP to turn off the vehicle. The transmission will shift into P (Park) automatically unless N (Neutral) is selected.

The vehicle will not shift into P (Park) if it is moving too fast. Stop the vehicle and shift into P (Park).

To shift into and out of P (Park), see *Shifting Into Park* ⇨ 168 and *Shifting out of Park* ⇨ 169.

R : Use this gear to back up.

If the vehicle is shifted into R (Reverse) while the speed is too high, the vehicle will shift into N (Neutral). Reduce 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 console.

To shift out of R (Reverse):

1. Bring the vehicle to a complete stop.
2. Shift into 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* ⇨ 159.

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 and hold 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 into the desired gear.

Maintaining N (Neutral) with Engine Off

This vehicle includes a method of keeping the vehicle in N (Neutral) while the engine is off.

This method is not to be used for vehicle towing. If the vehicle needs to be towed, see *Towing the Vehicle* ⇨ 271.

Driver Remains in Vehicle : To place the vehicle in N (Neutral) with the engine off and the vehicle occupied:

1. Ensure the vehicle is on level ground, the engine is running and the vehicle is in P (Park).
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 will now remain in N (Neutral).

Driver Leaves Vehicle : To place the vehicle in N (Neutral) with the engine off and the vehicle unoccupied:

1. Ensure the vehicle is on level ground, the engine is running and the vehicle is in P (Park).
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.
8. The vehicle may automatically shift to P (Park) upon re-entry.

Caution

A transmission hot message may display if the transmission fluid is too hot. Driving under this condition can damage the vehicle. Stop and idle the engine to cool the transmission fluid. This message clears when the transmission fluid has cooled sufficiently.

D : This position is for normal driving. If more power is needed for passing, press the accelerator pedal.

If the vehicle is shifted into D (Drive) while the speed is too high, the transmission will get ready to engage D (Drive). Reduce the vehicle speed, then the transmission will engage D (Drive).

To shift into D (Drive):

1. Bring the vehicle to a complete stop.
2. Pull the D (Drive) switch on the center console.

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* ⇨ 150.

The transmission can be shifted like a manual transmission using the paddle shift controls while in D (Drive). See *Manual Mode* ⇨ 174.

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**Manual Paddle Shift**

With the transmission in D (Drive), press the M (Manual Mode) switch on the center console to enter Manual Mode. Use the paddles on the steering wheel to manually upshift or downshift the transmission. The right + (plus) paddle upshifts, and the left - (minus) paddle downshifts.

When using the Manual Paddle Shift feature, the current gear will be displayed in the instrument cluster

or the Head-Up Display (HUD), if equipped. See *Head-Up Display (HUD)* ⇨ 110.

When accelerating the vehicle from a stop in snowy and icy conditions, shifting to 2 (Second) gear, when available, will allow the vehicle to gain more traction.

The Manual Paddle Shift system can be deactivated by pulling the D (Drive) switch on the center console.

With the transmission in D (Drive), pull the right + paddle or the left – paddle to place the transmission in Temporary Manual Paddle Shift mode.

To exit Temporary Manual Paddle Shift mode do one of the following:

- Hold the + paddle for more than one second.
- Drive at a steady speed without manual shifts or aggressive cornering for more than six seconds.
- Bring the vehicle to a stop.

While the Manual Paddle Shift feature is active, the transmission will automatically downshift through the gears as the vehicle slows. The transmission will select 1 (First) gear as the vehicle stops. From a stop, the vehicle will start from and hold 1 (First) gear unless Manual Paddle Shifts are used to shift into a different gear, or D (Drive) is selected.

To cause the transmission to downshift to the lowest gear possible for the vehicle speed, in Manual Paddle Shift or Temporary Manual Paddle Shift mode:

- Pull and briefly hold the – paddle. If the paddle continues to be held as the vehicle slows, downshifts will continue as vehicle speed allows.

The Manual Paddle Shift system will not allow an upshift or a downshift if vehicle speed is too fast or too slow, nor will it allow a start from any gear other than 1 (First) gear.

When in Manual Paddle Shift mode, if upshifting does not occur when needed, vehicle speed will be

limited to protect the engine. When in Temporary Manual Paddle Shift mode, the transmission will automatically upshift if the accelerator pedal is pressed all the way to the floor.

Manual Paddle Shift can be used with cruise control. See *Cruise Control* ⇨ 196.

The vehicle speeds required for Manual Paddle Shift upshifts depend on several vehicle inputs, which will vary the allowed upshift speed by a few km/h (mph).

To prevent damage to the powertrain, Manual Paddle downshifts to a lower gear cannot be done above certain speeds.

For vehicles with an Electronic Limited-Slip Differential (Z51)		
Upshift Allowed (into gear)	At Approximately	
	km/h	mph
2nd	15	9
3rd	25	16
4th	36	22
5th	47	29
6th	60	37
7th	76	47
8th	92	57
Maximum Downshift Inhibit Speed (into gear)	At Approximately	
	km/h	mph
1st	30	19
2nd	63	39
3rd	104	65
4th	164	102
5th	232	144
6th	304	189
7th	380	236

**For vehicles with an Mechanical Limited-Slip Differential
(Without Z51)**

Upshift Allowed (into gear)	At Approximately	
	km/h	mph
2nd	16	10
3rd	26	16
4th	37	23
5th	49	30
6th	63	39
7th	80	50
8th	97	60
Maximum Downshift Inhibit Speed (into gear)	At Approximately	
	km/h	mph
1st	30	19
2nd	63	39
3rd	113	70
4th	174	108
5th	245	152
6th	321	200
7th	400	249

Double Paddle Declutch

Double Paddle Declutch allows the vehicle to temporarily disconnect the engine from the wheels – similar to N (Neutral). This feature is activated by pulling and holding both the + paddle and – paddle at the same time while the vehicle is in R (Reverse), D (Drive), or M (Manual Mode). The vehicle will remain in this condition until both the + paddle and – paddle are released.

The R, D, or M indicator on the center shift console will flash red to indicate that the vehicle is in Double Paddle Declutch. In addition, the current gear state indicator in the DIC may dim to gray to indicate that the vehicle is in Double Paddle Declutch.

To exit Double Paddle Declutch, release both the + paddle and – paddle. The engine will reconnect to the wheels and the shift indicator will stop flashing. There are two Double Paddle Declutch exit styles:

Rapid Exit : This is intended for use at a closed course race track and not on public roads. Engine power is reapplied to the wheels quickly to support spirited driving. The rate of launch is dependent on how much the accelerator pedal is pressed when the paddles are released: The further the accelerator pedal is pressed, the greater the rate of launch. Tire spin may occur with the accelerator pedal pressed and the Traction Control System (TCS) turned off.

This launch occurs when both of these conditions are met:

- Vehicle speed is below 10 km/h (6 mph).
- Both the + paddle and – paddle are released at the same time.

With the accelerator fully pressed and the engine at the rev limiter, peak performance only occurs if the paddles are released within a short period of time after reaching the rev limit (i.e., a few seconds).

Standard Exit : Engine power is reapplied to the wheels gently to support normal vehicle operation on public roads.

This occurs when paddles are released under any of the these conditions:

- Vehicle speed is above 10 km/h (6 mph).
- The vehicle is in R (Reverse).
- The + paddle and – paddle are not released at the same time.

If the vehicle was in Temporary Manual Paddle Shift mode before entering Double Paddle Declutch, the vehicle will return to D (Drive) with automatic shifting upon exiting Double Paddle Declutch.



Warning

When exiting Double Paddle Declutch, the vehicle may move rapidly. You could lose control and cause a crash with nearby people or objects. Be ready to

(Continued)

Warning (Continued)

release the accelerator pedal or apply the brakes immediately if the vehicle moves too quickly. Do not use the Double Paddle Declutch when people or objects are near.

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 shutdown. 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* ⇨ 105.

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



If equipped, the Electric Parking Brake (EPB) can always be activated, even if the ignition is off. To prevent draining the battery, avoid repeated cycles of the EPB system when the engine is not running.

The system has a (P) Electric Parking Brake light, and a (P) Service Parking Brake light. See *Electric Parking Brake Light* ⇨ 104 and *Service Electric Parking Brake Light* ⇨ 105.

Before leaving the vehicle, check for the (P) light to ensure that the parking brake is applied.

EPB Apply

To apply the EPB:

1. Be sure the vehicle is at a complete stop.
2. Press the EPB switch momentarily.

The (P) light will flash and then stay on once the EPB is fully applied. If the (P) 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 (P) light is flashing. See your dealer.

If the (P) light is on, press the EPB switch and hold it. Continue to hold the switch until the (P) light remains on. If the (P) light remains 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.

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 ACC/ACCESSORY.
2. Apply and hold the brake pedal.
3. Press the EPB switch momentarily.

The EPB is released when the (P) light is off.

If the (P) light is on, release the EPB by pressing and holding the EPB switch. Continue to hold the switch until the (P) light is off. If either light stays on after release is attempted, see your dealer.

Caution

Driving with the parking brake on can overheat the brake system and cause premature wear or damage to brake system parts. Make sure that the parking brake is fully released and the brake warning light is off before driving.

Automatic EPB Release

The EPB will automatically release if the vehicle is running, placed into gear, and an attempt is made to drive away. Avoid rapid acceleration when the EPB is applied, to preserve 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 driving may result in injury, death, or vehicle damage. See *Defensive Driving* ⇨ 147.

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

The vehicle has a Traction Control System (TCS) and a StabiliTrak/Electronic Stability Control (ESC) system. These systems help limit wheel spin and assist the driver in maintaining control, especially on slippery road conditions.

TCS activates if it senses that the rear wheels are spinning too much or are beginning to lose traction. When this happens, TCS applies the brakes to the spinning wheel and reduces engine power (by closing the throttle and managing engine spark) 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.

If cruise control is being used when TCS begins to limit wheel spin, the cruise control will automatically disengage. Cruise control may be reengaged when road conditions allow. See *Cruise Control* ⇨ 196.

If the driver disables TCS, cruise control will disengage. Cruise control will also be disabled if Performance Traction Management (PTM) is selected, or if StabiliTrak is turned off.

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* ⇨ 159 and “Turning the Systems Off and On” later in this section.



The indicator light for both systems is in the instrument cluster. This light will:

- Flash when TCS is limiting wheel spin
- Flash when StabiliTrak/ESC is activated
- Flash when ABS is active
- Turn on and stay on when either system is not working

If either system fails to turn on or to activate, a message displays in the Driver Information Center (DIC), and  comes on and stays on to indicate that the system is inactive and is not assisting the driver in

maintaining control. The vehicle is safe to drive, but driving should be adjusted accordingly.

If  comes on and stays on:

1. Stop the vehicle.
2. Turn the engine off and wait 15 seconds.
3. Start the engine.

Drive the vehicle. If  comes on and stays on, the vehicle may need more time to diagnose the problem. If the condition persists, see your dealer.

Turning the Systems Off and On



The TCS/StabiliTrak/ESC button is on the center console.

Caution

Do not repeatedly brake or accelerate heavily when TCS is off. The vehicle driveline could be damaged.

To turn off only TCS, press and release . The Traction Off light  illuminates in the instrument cluster.

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 StabiliTrak/ESC OFF light  illuminate and stay on in the instrument cluster.

To turn TCS and StabiliTrak/ESC on again, press and release . The Traction Off light  and StabiliTrak/ESC OFF light  in the instrument cluster turn off.

If the Tire Pressure Monitor System (TPMS) system is malfunctioning and the DIC displays SERVICE TIRE MONITOR SYSTEM, StabiliTrak/ESC will be affected as follows:

- StabiliTrak/ESC cannot be turned off by the driver.

- If StabiliTrak/ESC is off, it will be turned on automatically.
- Competitive Driving Mode or Performance Traction Management is unavailable.
- StabiliTrak/ESC will feel different in aiding and maintaining directional control.

Adding accessories can affect the vehicle performance. See *Accessories and Modifications* ⇨ 211.

Hill Rollback Control

If the vehicle is in gear and inadvertently rolls backwards, Hill Rollback Control helps limit the rollback to a very low speed. A noise may be heard while the vehicle speed is actively being controlled. A Driver Information Center (DIC) message displays when active.

Driver Mode Control

Driver Mode Control (DMC) adds a sportier feel, provides a more comfortable ride, or assists in

different weather conditions or terrain. This system simultaneously changes the software settings of various sub-systems to optimize driving performance. Depending on the option package, available features, and mode selection; the Exhaust, Suspension, Steering, Brakes, and Powertrain will change settings to achieve the desired mode characteristics. If the vehicle is equipped with Magnetic Ride Control, selecting the various driver modes adjusts the ride of the vehicle to enhance the ride performance for the road conditions and the selected mode.

Driver Mode Control has multiple modes: My Mode, Weather, Tour, Sport, Track, and Z-Mode.

Weather, Tour, Sport, and Track are four modes that have preset vehicle setting for use in different driving conditions. My Mode and Z-Mode are two modes which can be customized by the driver. In these two modes, vehicle settings are configured to enhance and

personalize the driving experience. See “Mode Description,” later in this section.

Mode Activation



To activate My Mode, Weather, Tour, Sport and Track Mode, turn the Driver Mode Control (DMC) knob on the center console to make a mode selection. When a mode is selected, an indicator will be displayed in the Driver Information Center (DIC).



To activate Z-Mode, press the Z-Mode button on the steering wheel. To deactivate, the driver can either select a different mode through the DMC knob or press the Z-Mode button on the steering wheel. When Z-Mode is deactivated through the Z-Mode button, DMC is always set back to Tour Mode.

Mode Description

***Weather** : Weather Mode is used for slippery surfaces to help control wheel speed. 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* ⇨ 159. See “Driver Mode Attributes,” later in this section.

A/Tour : Use for normal city and highway driving to provide a smooth, soft ride. This setting provides a balanced setting between comfort and handling. This is the standard mode. See “Driver Mode Attributes,” later in this section.

Sport : Use where road conditions or personal preference demand a more controlled response. Used for spirited driving.

In this mode, the vehicle 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 will exit this feature and return to normal operation after a short period when no spirited driving is detected. See “Driver Mode Attributes,” later in this section.

Track : Track Mode is used for closed race tracks. Use when maximum vehicle handling is desired.

When in Track Mode, the dual clutch transmission and steering will function similar to Sport Mode. The accelerator pedal is adjusted to give maximum control during the highest level of spirited driving. See “Driver Mode Attributes,” later in this section.

My Mode : My Mode is used to personalize everyday driving. This mode is designed to allow the driver to configure vehicle sub-systems to their own preference for city or normal driving.

Through the center display, the following vehicle sub-systems may be available for customization in this mode.

Through the center display, the following vehicle sub-systems may be available for customization in this mode:

Engine Sound: (some choices, if equipped) Stealth, Tour, Sport, Track

Steering: Tour, Sport, Track

Suspension: If equipped, Tour, Sport, Track

Brake Response: Tour, Sport, Track

See “Driver Mode Attributes,” later in this section.

See “Driver Mode Customization,” later in this section. Cluster/HUD can be set in the cluster.

Z Z-Mode : Z-Mode is used to personalize dynamic driving. This mode is designed to allow the driver to configure vehicle sub-systems to their own preference for maximum handling. Z-Mode further enhances the driver experience by adding a powertrain customization.

Through the center display, the following vehicle sub-systems may be available for customization in this mode.

Engine Sound: (some choices, if equipped) Stealth, Tour, Sport, Track

Steering: Tour, Sport, Track

Suspension: If equipped, Tour, Sport, Track

Powertrain: Normal, Sport, Track, Weather

Brake Response: Tour, Sport, Track

See “Driver Mode Attributes,” later in this section.

See “Driver Mode Customization,” later in this section.

Driver Mode Attributes

Modes:	MY MODE	WEATHER	TOUR <i>Default</i>	SPORT	TRACK	Z-MODE
Cluster Display	Tour (Default), Sport, Track, Weather (with any info tile set up)	Weather	Tour	Sport	Track	Tour, Sport, Track, Weather (with any info tile set up)
Layout Display (Theme)	Tour (Default), Sport, Track, Weather (with any info tile set up)	Tour	Tour	Sport	Track	Tour, Sport, Track, Weather (with any info tile set up)
Informational Titles (preset)	Tour (Default), Sport, Track, Weather (with any info tile set up)	Weather	Tour	Sport	Track	Tour, Sport, Track, Weather (with any info tile set up)

Powertrain	Normal	Weather	Normal	Sport	Track	Normal, Sport, Track (Default), Weather
Throttle Progression	Normal	Weather	Normal	Normal	Track	Normal, Sport, Track (Default), Weather
Trans Shift Mode (if equipped)	Normal	Weather	Normal	Sport	Track	Normal, Sport, Track (Default), Weather
Active Fuel Management	Enabled (In 4th – 8th gear for mLSD vehicles)	Enabled (In 4th – 8th gear for mLSD vehicles)	Enabled (In 4th – 8th gear)	Enabled (In 5th – 8th gear)	Disable	Tour, Sport, Track (Default), Weather
Traction and Stability Control	Normal	Weather	Normal	Normal	Track	Normal
Performance Traction or Competitive Driving Mode Availability	Unavailable	Unavailable	Unavailable	Comp Mode (available)	PTM (available)	PTM (unavailable)
Engine Sound	Stealth, Tour (Default), Sport, Track	Stealth	Tour	Sport	Track	Stealth, Tour, Sport, Track (Default)

Steering	Tour (Default), Sport, Track	Tour	Tour	Sport	Track	Tour, Sport (Default), Track
Suspension (if equipped with Magnetic Ride)	Tour (Default), Sport, Track	Tour	Tour	Sport	Track	Tour, Sport (Default), Track
Brake Response	Tour (Default), Sport, Track	Tour	Tour	Sport	Track	Tour, Sport (Default), Track

Cluster Display

Configures the gauge cluster display for each mode when linked (default).

The Layout Display (Theme) is a preset of Cluster Display and cannot be modified or changed independently.

Throttle Progression

Adjusts throttle sensitivity by selecting how quickly or slowly the throttle reacts to input.

Throttle Progression is a preset of Powertrain and cannot be modified or changed independently.

Transmission Shift Operation

Basic:

- Transmission upshifts and downshifts are selected based on vehicle speed and accelerator position to optimize comfort and fuel economy during mild driving conditions.

Driver Influenced Gear Selection:

- Aggressive driving will influence both the upshift and downshift points in all modes.

- Criteria which have influence are: driving mode, accelerator, brakes, lateral and longitudinal loading.
- Changes in gear selection behavior due to aggressive driving can include:
 - Downshifting early with higher rpm's during aggressive braking (i.e. entering a corner)
 - Altering upshifts while experiencing lateral acceleration

- Not upshifting when the accelerator is released to avoid unnecessary shifts if the accelerator is re-applied
- Recognizing sporty driving and anticipate upcoming corners with the appropriate gear selection entering and exiting
- Driver Modes
 - Driver influenced changes are effective in all driving modes, however the aggressiveness of the transmission response will increase between Tour, Sport, and Track Modes respectively.

Active Fuel Management (engine cylinder shuts off)

- Normal with Dual Clutch Transmission: The engine uses 8-cylinder mode when accelerating, but changes to 4-cylinder mode when coasting.

Active Fuel Management is a preset of Powertrain and cannot be modified or changed independently.

Engine Sound

Changes when the variable exhaust valves open.

Steering (Assist Effort)

Adjusts from a lighter steering feel to reduced assist for more steering feel.

Magnetic Ride Control (if equipped)

Adjusts the shock dampening firmness based on driving conditions to improve comfort and performance.

Driver Mode Customization

The vehicle is equipped to modify the following vehicle settings base on vehicle content. Through the center stack, under Vehicle Settings, select Drive Mode to customize and personalize My Mode and/or Z-Mode.

Engine Sound:

Engine Sound adjusts the volume of engine noise. Setting range from quietest to loudest volume as you move from Stealth through Track.

- Stealth, Tour, Sport, Track

Steering:

This setting adjusts the effort required to turn the steering wheel. The steering wheel offers better feedback but requires more effort as you move from Tour to Track.

- Tour, Sport, Track

Suspension:

This setting adjusts the firmness of the suspension in the vehicle. Suspension adjust stiffness of the shocks and / or springs. The ride is more comfortable at lower settings and is stiffer at higher settings for better control.

- Tour, Sport, Track

Powertrain:

This setting adjusts the throttle response, gear shifting and engine performance. An increased throttle response enhances the acceleration feel as you move toward Track, but with a comfort trade-off due to more aggressive gear shifting.

- Normal, Tour, Sport, Track

Brake Response:

This setting adjusts the brake pedal response. Settings range from a slower response for more comfortable driving to the quickest response for quicker deceleration. Brake pedal travel decreases and caliper pressure increases as you move from Tour to Sport. Track allows for improved pedal precision at higher decelerations for high performance driving.

- Tour, Sport, Track

Display:

This setting adjusts the cluster display theme (this setting is only configured through the cluster using the steering wheel controls).

- Tour, Sport, Track, Weather (and any informational tiles set-up).

Front Lift System

A two-position lift actuator (one per damper) with 35 mm (1.5 in) of stroke will hydraulically raise the front of the vehicle to provide approximately 50 mm (2 in) of

increased clearance in approximately three seconds (height and time will vary by vehicle). The Front Lift System will allow you to lift the front of the vehicle to enter a driveway, driving over curbs, speed bumps or onto ramps or a trailer.



To use the Front Lift System, press the button on the center console to raise or lower the vehicle. This feature can be operated at speeds up to 38 km/h (24 mph) when the engine is running. The system functions based on the vehicle's state or operating mode:

- The system will not raise up when the doors are open.
- The system can be raised or lowered by the pushbutton, when the vehicle is in RUN or in ACC mode.
- If the vehicle is in the raised position and is driven at speeds above 38 km/h (24 mph), it will automatically lower.
- If the vehicle is turned off, it will automatically lower.
- If a vehicle door is opened during lowering, the movement will pause for 15 seconds then continue to lower, but at a slower rate.

The front height can be raised automatically using GPS navigation in the vehicle. The vehicle will automatically lift in up to 1,000 programmable locations. Once the button is pushed, a notification will appear on the Driver Information Center (DIC) and ask the driver if they would like to "Remember" the location. The driver can select this function through the steering wheel

controls, see *Steering Wheel Controls* ⇨ 87. The driver can also delete stored locations for the automatic lift. If the vehicle is raised automatically using GPS, it will automatically lower once the vehicle is located about 60 meters (197 feet) from the programmed location. Drivers can disable this function by turning off GPS location through their vehicle Front Lift System will still operate, but only by using the pushbutton command, and the “Auto Lift Location Remembered” confirmation message will not display.

The Front Lift System can also be used in accessory mode. Put the vehicle in ACC/ACCESSORY mode, then press and hold the button on the center console for 10 consecutive seconds to automatically raise the vehicle.

The DIC may display the message “Lift System Unavailable” if the following occur:

- Any doors are ajar.
- The hood is open.

- The vehicle is moving over 38 km/h (24 mph).
- Too many lift requests within a short period.

The Front Lift System should not be used to service the vehicle. Do not place anything or body parts under the vehicle while lifted. See *Recommended Fluids and Lubricants* ⇨ 295.

Competitive Driving Mode

If equipped, Competitive Driving Mode, PTM, and Launch Control are systems designed to allow increased performance while accelerating and/or cornering. This is accomplished by regulating and optimizing the engine, brakes, and suspension performance. These modes are for use at a closed course race track and are not intended for use on public roads. They will not compensate for driver inexperience or lack of familiarity with the race track. Drivers who prefer to allow the system to have more control of the engine, brakes,

and suspension are advised to turn the normal traction control and StabiliTrak/ESC systems on.

Competitive Driving Mode

Competitive Driving Mode allows full engine power while StabiliTrak/ESC helps maintain directional control of the vehicle by selective brake application. In this mode, the TCS is off and Launch Control is available.

Adjust your driving style to account for the available engine power. See “Launch Control” later in this section.



These lights are on when the vehicle is in the Competitive Driving Mode.

In order to select this optional handling mode, the vehicle mode must be Sport or Track (if equipped with Performance Traction Management (PTM), then Competitive Driving Mode is only available in Sport). Then quickly press  on the center console two times. ESC COMPETITIVE MODE displays in the Driver Information Center (DIC).

When  is pressed again, the traction off light  and StabiliTrak/ESC OFF light  will go out.

Performance Traction Management (PTM) (if equipped)

PTM integrates the TCS, StabiliTrak/ESC, and Magnetic Ride Control systems to provide improved and consistent performance when cornering. The amount of available engine power is

based on the mode selected, track conditions, driver skill, and the radius of each corner.



This light is on when the vehicle is in the PTM Mode. To select this optional handling mode, the vehicle mode must be in Track. Then quickly press  on the center console two times. Performance Traction Wet — ESC On displays in the DIC.

To experience the performance benefit of this system, after entering a curve and at the point where normal acceleration occurs, fully press the accelerator pedal. The PTM system will modify the level of engine power for a smooth and consistent corner exit.

The PTM system contains five modes. These modes are selected by turning the MODE switch on the

center console. Scroll through modes 1–5 by turning the mode control dial.

The following is a DIC display description and the recommended usage of each mode:

PTM Mode 1 – Wet

- Intended for all driver skill levels.
- Wet or damp conditions only — not intended for use in heavy rain or standing water.
- StabiliTrak/ESC is on and engine power is reduced based on conditions.

PTM Mode 2 – Dry

- For use by less experienced drivers or while learning a new track.
- Dry conditions only.
- StabiliTrak/ESC is on and engine power is slightly reduced.

PTM Mode 3 – Sport 1

- For use by drivers who are familiar with the track.
- Dry conditions only.

- Requires more driving skill than mode 2.
- StabiliTrak/ESC is on and more engine power is available than in mode 2.

PTM Mode 4 – Sport 2

- For use by drivers who are familiar with the track.
- Dry conditions only.
- Requires more driving skill than modes 2 or 3.
- StabiliTrak/ESC is off and available engine power is the same as mode 3.

PTM Mode 5 – Race

- For use by experienced drivers who are familiar with the track.
- Dry conditions only.
- Requires more driving skill than in other modes.
- StabiliTrak/ESC is off and engine power is available for maximum cornering speed.

Press and release  to turn off PTM and return to the TCS and StabiliTrak/ESC systems. The traction off light  and StabiliTrak Off light  will go out.

Launch Control (Sport and Track Mode Only)

A Launch Control feature is available, within Competitive Driving Mode or PTM, on all vehicles to allow the driver to achieve high levels of vehicle acceleration in a straight line. Launch Control is a form of TCS that manages tire spin, and transmissions clutch, while launching the vehicle. This feature is intended for use during closed course race events where consistent zero to 60 and quarter mile times are desirable.

Launch Control is only available when the following criteria are met:

- Competitive Driving Mode or any of the PTM Modes are selected (if equipped).
- The vehicle is not moving.

- The wheels and steering wheel are pointing straight.

Launching the Vehicle

- Ensure the vehicle is in Competitive Driving Mode or any of the PTM modes.
- The brake pedal must be firmly pressed to the floor, equivalent to a panic brake event.
- While maintaining the brake pedal, the accelerator pedal is rapidly applied to wide open throttle. (If the vehicle rolls due to wide open throttle, release the throttle, press the brake pedal more firmly, and re-apply the accelerator to wide open throttle.)

The Launch Control feature will initially limit engine speed as the driver rapidly applies the accelerator pedal to wide open throttle. Allow the engine rpm's to stabilize. A smooth, quick release of the brake pedal, while maintaining the fully pressed accelerator pedal, will manage tire slip and transmissions

clutch. After the vehicle is launched, the system continues in Competitive Driving Mode or PTM.

Competitive Driving Mode, PTM, and Launch Control are systems designed for a closed course race track and not intended for use on public roads. The systems are not intended to compensate for lack of driver experience or familiarity with the race track.

Caution

The new vehicle break-in period should be completed before using the launch control feature, otherwise performance will be limited and damage may occur to the powertrain/engine. See *New Vehicle Break-In* ⇨ 163.

Limited-Slip Differential (without Z51)

The mechanical limited-slip differential 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 allows the drive wheel with the most traction to move the vehicle. See *Competitive Driving Mode* ⇨ 192 and *Maintenance Schedule* ⇨ 286.

Limited-Slip Differential (with Z51)

The Electronic Limited-Slip Differential (eLSD) is a hydraulically actuated clutch system inside the transaxle. It can infinitely vary the clutch engagement between 0 and 2250 N*m (1659 lb-ft) of breakaway torque between the rear wheels. When necessary it responds from open to full engagement in fractions of a second. Smaller clutch adjustments happen even faster.

The eLSD:

- Uses the vehicle sensors and driver inputs to determine the optimum amount of clutch engagement for the conditions.

- Improves traction while cornering by changing the engagement to achieve a balance between directional control and acceleration.
- Provides optimal engagement for high-speed control and stability without affecting precise steering and turn-in.
- Improves vehicle stability during spirited driving and evasive maneuvers. It is fully integrated with the Active Handling and Performance Traction Management (PTM) systems (if equipped).

There are unique calibrations based on the Traction Control System (TCS) setting. eLSD modes change automatically when the traction control button is pressed. No unique input from the driver is required.

- Mode 1 is the standard mode when the vehicle is started. It provides a touring calibration with an emphasis on vehicle stability. Mode 1 is also used in PTM Wet mode.

- Mode 2 is engaged when both TCS and StabiliTrak are turned off. This calibration provides more nimble corner turn-in, and is biased for better traction out of corners.
- Mode 3 is engaged when PTM is engaged in Dry, Sport 1 & 2, and Race modes. This is a nimble calibration with similar functionality as eLSD Mode 2, however, it is integrated to work with PTM.
- Mode 4 is engaged when TCS is selected off, but StabiliTrak remains on. Vehicle stability is still the priority, while allowing for optimized traction out of corners.

Cruise Control

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).

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.

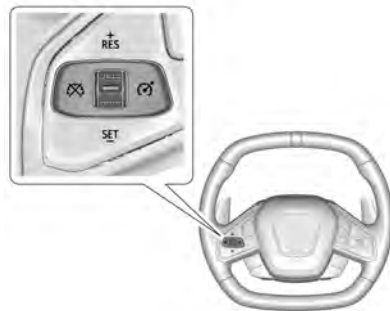
Cruise control can be dangerous on slippery roads. On such roads, fast changes in tire traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.

If the Traction Control System (TCS) begins to limit wheel spin while you are using cruise control, the cruise control automatically disengages. See *Traction Control/Electronic Stability Control* ⇨ 182. When road

conditions allow for using safely again, cruise control can be turned back on.

If the brakes are applied, cruise control disengages.

Cruise control will disengage if either TCS or StabiliTrak/Electronic Stability Control (ESC) is turned off.



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

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

SET- : Press 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.

The speedometer reading can be displayed in either English or metric units. See *Instrument Cluster* ⇨ 94. The increment value used depends on the units displayed.

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- on the steering wheel.
4. Remove 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* ⇨ 94.

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, briefly press +RES. The vehicle returns to the previous set speed.

Increasing Speed While Using Cruise Control

Do one of the following:

- Press and hold +RES until the desired speed is reached, then release it.

- To increase vehicle speed in small increments, briefly press +RES. For each press, the vehicle goes about 1 km/h (1 mph) faster.

Reducing Speed While Using Cruise Control

Do one of the following:

- Press and hold SET- until the desired lower speed is reached, then release it.
- To decrease the vehicle speed in small increments, briefly press SET-. For each press, the vehicle goes about 1 km/h (1 mph) slower.

Passing Another Vehicle While Using Cruise Control

Use the accelerator pedal to increase the vehicle speed. When you take your foot off the pedal, the vehicle will slow down to the previously set cruise speed.

While pressing the accelerator pedal or shortly following the release to override cruise control, briefly pressing SET– will result in cruise set to the current vehicle speed.

Using Cruise Control on Hills

How well the cruise control works on hills depends upon the vehicle speed, load, and the steepness of the hills. When going up steep hills, you may have to step on the accelerator pedal to maintain your speed. When going downhill, you may have to brake or shift to a lower gear to keep your speed down. If the brake pedal is applied, cruise control will disengage.

Cruise Control in Manual Paddle Shift Gear Selection

When the vehicle is in M (Manual Mode) and the manual paddle shift controls are not being used, cruise control operates in the same manner as D (Drive).

When the vehicle is in M (Manual Mode) and the manual paddle shift controls are being used, cruise control operates as follows:

- If cruise control is active and a gear is selected with the manual paddle shift controls, the vehicle speed is maintained in the driver selected gear and will not automatically upshift or downshift the transmission while the driver's gear selection is active.
- If driving in hilly terrain, cruise control may not be able to maintain vehicle speed if an upshift or downshift is not selected by the driver. While driving on hilly terrain and cruise control is active with a manual paddle shift gear selection, the driver must select the proper

gear for the terrain or select D (Drive) on the shifter for full automatic transmission operation.

Ending Cruise Control

- Step lightly on the brake pedal.
- Shift the transmission to N (Neutral).
- Press .
- To turn off cruise control, press .

Erasing Speed Memory

The cruise control set speed is erased from memory if  is pressed or if the ignition is turned off.

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 see alerts or warnings provided by these systems. Failure to use proper care when driving may result in injury, death, or vehicle damage. See *Defensive Driving* ⇨ 147.

Under many conditions, these systems will not:

(Continued)

Warning (Continued)

- 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 Alert

Some driver assistance features alert the driver of obstacles by beeping. To change the volume of the warning chime, see “Comfort and Convenience” under *Vehicle Personalization* ⇨ 116.

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 lenses 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
- Rear side corner bumpers
- Rear Vision Camera above the license plate

Radio Frequency

This vehicle may be equipped with driver assistance systems that operate using radio frequency. See *Radio Frequency Statement* ⇨ 312.

Assistance Systems for Parking or Backing

If equipped, the Rear Vision Camera (RVC), Rear Park Assist (RPA), and Curb View Camera may help the driver park or avoid objects. Always check around the vehicle when parking or backing.

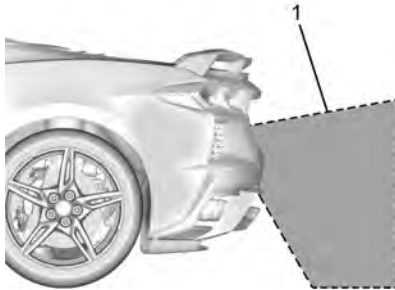
Rear Vision Camera (RVC)

When the vehicle is shifted into R (Reverse), the RVC displays an image of the area behind the vehicle

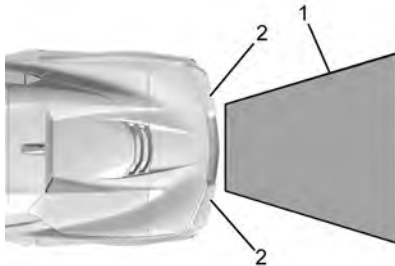
in the infotainment display. The previous screen displays when the vehicle is shifted out of R (Reverse) after a short delay. To return to the previous screen sooner, press Home or Back on the infotainment system, shift into P (Park), or reach a vehicle speed of approximately 12 km/h (8 mph) while in D (Drive).



The camera is above the license plate.



1. View displayed by the camera.

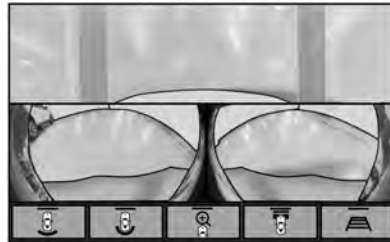


1. View displayed by the camera.

2. Corner 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.

Curb View Camera



If equipped, a view of the area in front of the vehicle displays in the infotainment display. The display shows a front, top down view at the top and left and right front camera images on the bottom.

The front view shows after shifting from R (Reverse) to a forward gear, or by pressing the camera button on the center console, and when the vehicle is moving forward slower than 12 km/h (8 mph).

The front cameras are on both sides of the front fascia.

Rear Junction View

Displays a rear cross traffic view that shows objects directly to the left and right of the back of the vehicle. Touch Junction View on the infotainment display when a camera view is active.

Warning

The camera(s) do not display children, pedestrians, bicyclists, crossing traffic, animals, or any other object outside of the cameras' field of view, below the bumper, or under the vehicle. Shown distances may be different from actual distances. Do not drive or park the vehicle using

(Continued)

Warning (Continued)

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.

Rear Cross Traffic Alert (RCTA)

If equipped, RCTA displays a red warning triangle with a left or right pointing arrow on the RVC screen to warn of traffic coming from the left or right. This system detects objects coming from up to 20 m (65 ft) from the left or right side of the vehicle. When an object is detected, three beeps sound from the left or right, depending on the direction of the detected vehicle.

Turning the Features On or Off

To turn off the guidance lines:

1. On the infotainment system, touch **SETTINGS**, or turn the **MENU** knob to highlight **Settings** and press **MENU**.

2. Select **Rear Camera**.
3. Select **Guidance Lines** and then select **Off** or **On**.

When the System Does Not Seem to Work Properly

The RVC system may not work properly or display a clear image if:

- It is dark.
- The sun or the beam of headlamps is shining directly into the camera lens.
- Ice, snow, mud, or anything else builds up on the camera lens. Clean the lens, rinse it with water, and wipe it with a soft cloth.
- The back of the vehicle is in a crash. The position and mounting angle of the camera can change or the camera can be affected. Be sure to have the camera and its position and mounting angle checked at your dealer.

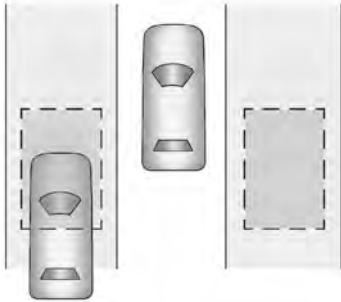
Side Blind Zone Alert (SBZA)

If equipped, the SBZA system is a lane-changing aid that assists drivers with avoiding crashes that occur with moving vehicles in the side blind zone (or spot) areas. The SBZA warning display will light up in the corresponding outside side mirror and will flash if the turn signal is on.

 Warning

SBZA does not alert the driver to vehicles rapidly approaching outside of the side blind 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. Before making a lane change, always check mirrors, glance over your shoulder, and use the turn signals.

SBZA Detection Zones

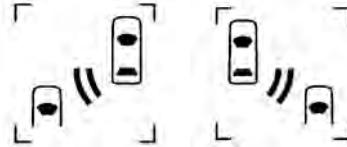


The SBZA sensor covers a zone of approximately one lane over from both sides of the vehicle, or 3.5 m (11 ft). The height of the zone is approximately between 0.5 m (1.5 ft) and 2 m (6 ft) off the ground. This zone starts at approximately the middle of the vehicle and goes back 5 m (16 ft).

How the System Works

The SBZA symbol lights up in the side mirrors when the system detects a moving vehicle in the next lane over that is in the side blind zone. 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 SBZA 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 of a detected vehicle, this display will flash as an extra warning not to change lanes.

SBZA can be disabled through vehicle personalization. See “Collision/Detection Systems” under *Vehicle Personalization* ⇨ 116.

If SBZA is disabled by the driver, the SBZA mirror displays will not light up.

When the System Does Not Seem to Work Properly

SBZA displays may not come on when passing a vehicle quickly or for a stopped vehicle. SBZA may alert to objects attached to the vehicle, such as a bicycle, or object extending out to either side of the vehicle. This is normal system operation; the vehicle does not need service.

SBZA 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.

SBZA may not operate when the SBZA 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* ⇨ 273. If the DIC still displays the system unavailable message after cleaning both sides of the vehicle toward the rear corners of the vehicle, see your dealer.

If the SBZA 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 SBZA is disabled for any reason other than the driver turning it off, the Side Blind Zone Alert On option will not be available on the personalization menu.

Radio Frequency Information

See *Radio Frequency Statement* ⇨ 312.

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



Use premium unleaded gasoline meeting ASTM specification D4814 with a posted octane rating of 93 — (R+M)/2. If unavailable, unleaded gasoline with a posted octane rating of 91 may be used, but with reduced performance and fuel economy. If the octane is less than 91, the engine could be damaged and the repairs would not be covered by the vehicle warranty. If heavy knocking is heard when using gasoline rated at 93 octane, the engine needs service.

Do not use any fuel labeled E85 or FlexFuel. Do not use gasoline with ethanol levels greater than 15% by volume.

Prohibited Fuels

Caution

Do not use fuels with any of the following conditions; doing so may damage the vehicle and void its warranty:

- For vehicles that are not FlexFuel, fuel labeled greater than 15% ethanol by volume, such as mid-level ethanol blends (16–50% ethanol), E85, or FlexFuel.
- 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.

Fuels in Foreign Countries

The U.S., Canada, and Mexico post fuel octane ratings in anti-knock index (AKI). For fuel not to use in a foreign country, see *Prohibited Fuels* ⇨ 205.

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.

Filling the Tank

An arrow on the fuel gauge indicates which side of the vehicle the fuel door is on. See *Fuel Gauge* ⇨ 98.

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:

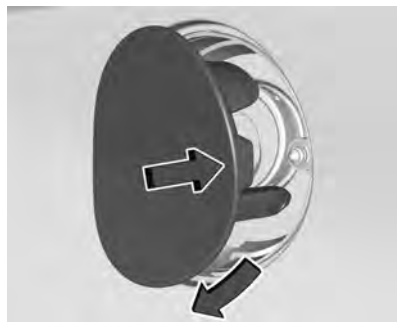
- Read and follow all the instructions on the fuel pump island.
- Turn off the engine when refueling.

(Continued)

Warning (Continued)

- 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.
- 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.

The fuel door unlocks when the vehicle doors are unlocked. See *Remote Keyless Entry (RKE) System Operation* ⇨ 9.



To open the fuel door, push and release the rearward center edge of the door.

The capless refueling system does not have a fuel cap. Fully insert and latch the fill nozzle, begin fueling.

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.
- Under certain conditions, fuel fires.

Be careful not to spill fuel. Wait five seconds after you have finished pumping before removing the fill nozzle. Clean fuel from painted surfaces as soon as possible. See *Exterior Care* ⇨ 273. Push the fuel door closed until it latches.

Warning

If a fire starts while you are refueling, do not remove the fill nozzle. Shut off the flow of fuel by
(Continued)

Warning (Continued)

shutting off the pump or by notifying the station attendant. Leave the area immediately.

Filling the Tank with a Portable Fuel Container

If the vehicle runs out of fuel and must be filled from a portable fuel container:



1. Locate the capless funnel adapter.
2. Insert and latch the funnel into the capless fuel system.

Warning

Attempting to refuel from a portable fuel container without using the funnel adapter may cause fuel spillage and damage the capless fuel system. This could cause a fire. 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.

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

(Continued)

Warning (Continued)

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.
- Do not use electronic devices while pumping fuel.

Trailer Towing

General Towing Information



Warning

Never tow a trailer with your vehicle. It was not designed or intended to tow a trailer.

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)* ⇨ 102 . A device connected to the DLC — such as an aftermarket fleet or driver-behavior tracking device — may interfere with vehicle systems. This could affect vehicle operation and cause a crash. Such devices may also access information stored in the vehicle's systems.

Caution

Some electrical equipment can damage the vehicle or cause components to not work and would not be covered by the vehicle warranty. Always check with your dealer before adding electrical equipment.

Add-on equipment can drain the vehicle's 12-volt battery, even if the vehicle is not operating.

The vehicle has an airbag system. Before attempting to add anything electrical to the vehicle, see *Servicing the Airbag-Equipped Vehicle* ⇨ 72 and *Adding Equipment to the Airbag-Equipped Vehicle* ⇨ 72.

Vehicle Care

General Information

General Information	210
California Proposition	
65 Warning	210
California Perchlorate Materials	
Requirements	211
Accessories and	
Modifications	211
Lifting the Vehicle	211

Vehicle Checks

Doing Your Own	
Service Work	213
Underhood Compartment	
Overview	214
Engine Compartment	
Overview	215
Engine Oil	218
Engine Oil Life System	221
Dual Clutch Transmission	
Fluid	222
Dual Clutch Transmission Fluid	
Life System	223
Engine Air Filter Life	
System	224
Engine Air Cleaner/Filter	224
Cooling System	226

Engine Overheating	230
Washer Fluid	231
Brakes	232
Brake Fluid	233
Battery - North America	234
Park Brake and P (Park)	
Mechanism Check	235
Wiper Blade Replacement	236
Windshield Replacement	236
Gas Strut(s)	237

Headlamp Aiming

Front Headlamp Aiming	238

Bulb Replacement

LED Lighting	238

Electrical System

Electrical System Overload ...	239
Fuses and Circuit Breakers ...	239
Instrument Panel Fuse	
Block	239
Rear Compartment Fuse	
Block	242

Wheels and Tires

Tires	245
All-Season Tires	246
Winter Tires	247
Run-Flat Tires	247
Low-Profile Tires	248
Summer Tires	248

Tire Sidewall Labeling	249
Tire Designations	250
Tire Terminology and	
Definitions	251
Tire Pressure	253
Tire Pressure for High-Speed	
Operation	254
Tire Pressure Monitor	
System	255
Tire Pressure Monitor	
Operation	256
Tire Inspection	259
Tire Rotation	259
When It Is Time for New	
Tires	260
Buying New Tires	261
Different Size Tires and	
Wheels	262
Uniform Tire Quality	
Grading	263
Wheel Alignment and Tire	
Balance	264
Wheel Replacement	265
Tire Chains	266
If a Tire Goes Flat	267

Jump Starting

Jump Starting - North	
America	267

Towing the Vehicle

Towing the Vehicle	271
Recreational Vehicle Towing	273

Appearance Care

Exterior Care	273
Interior Care	279
Floor Mats	282

General Information

For service and parts needs, visit your dealer. You will receive genuine GM parts and GM-trained and supported service people.

Genuine GM parts have one of these marks:



California Proposition 65 Warning

Warning

Most motor vehicles, including this one, as well as many of its service parts and fluids, contain and/or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Engine exhaust, many parts and systems, many fluids, and some component wear by-products contain and/or emit these chemicals. For more information go to www.P65Warnings.ca.gov/passenger-vehicle.

See *Battery - North America* ⇨ 234 and

Jump Starting - North America
⇨ 267 and the back cover.

California Perchlorate Materials Requirements

Certain types of automotive applications, such as airbag initiators, seat belt pretensioners, and lithium batteries contained in electronic keys, may contain perchlorate materials. Perchlorate Material – special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

Accessories and Modifications

Adding non-dealer accessories or making modifications to the vehicle can affect vehicle performance and safety, including such things as airbags, braking, stability, ride and handling, emissions systems, aerodynamics, durability, and electronic systems like antilock brakes, traction control, and stability control. These accessories or modifications could even cause malfunction or damage not covered by the vehicle warranty.

Damage to suspension components caused by modifying vehicle height outside of factory settings will not be covered by the vehicle warranty.

Damage to vehicle components resulting from modifications or the installation or use of non-GM certified parts, including control module or software modifications, is not covered under the terms of the vehicle warranty and may affect remaining warranty coverage for affected parts.

GM Accessories are designed to complement and function with other systems on the vehicle. See your dealer to accessorize the vehicle using genuine GM Accessories installed by a dealer technician.

Also, see *Adding Equipment to the Airbag-Equipped Vehicle* ⇨ 72.

Lifting the Vehicle

Warning

Lifting a vehicle can cause an injury. The vehicle can slip off the jack and roll over you or other people. You and they could be badly injured. Find a level place to lift your vehicle. To help prevent the vehicle from moving:

1. Set the parking brake firmly.
2. Put the transmission in P (Park).
3. Turn off the engine.

To be even more certain the vehicle will not move, put blocks in front of and behind the wheels.

Warning

Getting under a vehicle when it is lifted on a jack is dangerous. If the vehicle slips off the jack,

(Continued)

Warning (Continued)

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 or the vehicle may fall and cause injury to you or others.

If a jack is used to lift the vehicle, follow the instructions that came with the jack, and be sure to use the correct lifting points to avoid damaging the vehicle.

Caution

Lifting the vehicle improperly can damage it and result in costly repairs not covered by the vehicle warranty. To lift the vehicle properly and prevent vehicle damage:

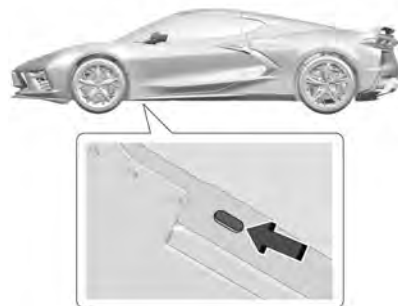
- Be sure to place a block or pad between the jack and the vehicle.
- Lift only in the areas shown in the following illustrations.

For additional information, see your dealer and the service manual.

Caution

The front jack pads must not contact the rocker panels, the front fenders, or the floor pan. If they do, damage may occur.

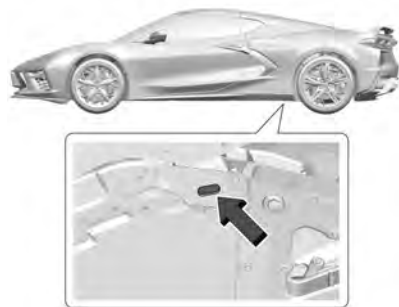
Lifting from the Front – Frame



Use only a service jack with a lifting pad diameter of 64 mm (2.5 in) or smaller, and thick enough to make sure the jack does not contact the vehicle body.

Position the service jack and lifting pad under the frame rail shipping slot reinforcement.

Lifting from the Rear – Frame



Use only a service jack with a lifting pad diameter of 64 mm (2.5 in) or smaller, and thick enough to make sure the jack does not contact the vehicle body.

Position the service jack and lifting pad under the frame rail shipping slot reinforcement.

For more information, see *Doing Your Own Service Work* ⇨ 213.

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. To order the proper service manual, see *Publication Ordering Information* ⇨ 311.

This vehicle has an airbag system. Before attempting to do your own service work, see *Servicing the Airbag-Equipped Vehicle* ⇨ 72.

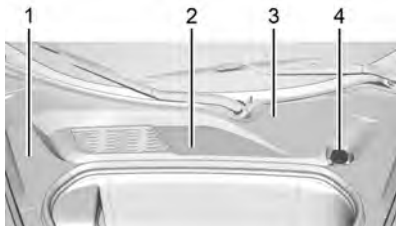
If equipped with remote vehicle start, open the hatch/trunk before performing any service work to prevent remote starting the vehicle accidentally. See *Remote Vehicle Start* ⇨ 15.

Keep a record with all parts receipts and list the mileage and the date of any service work performed. See *Maintenance Records* ⇨ 297.

Caution

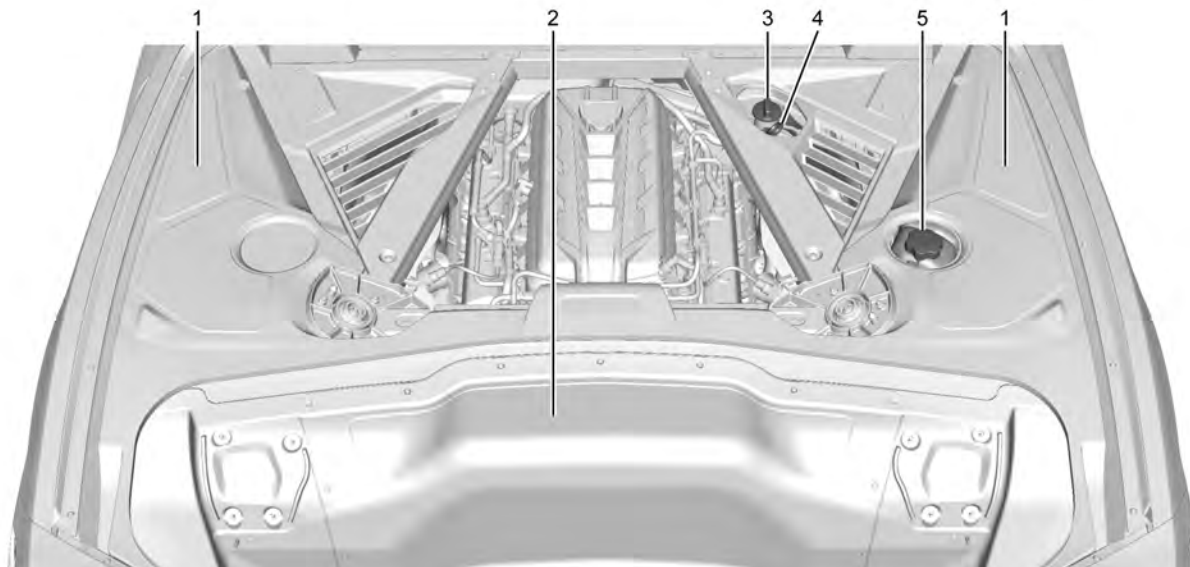
Even small amounts of contamination can cause damage to vehicle systems. Do not allow contaminants to contact the fluids, reservoir caps, or dipsticks.

Underhood Compartment Overview



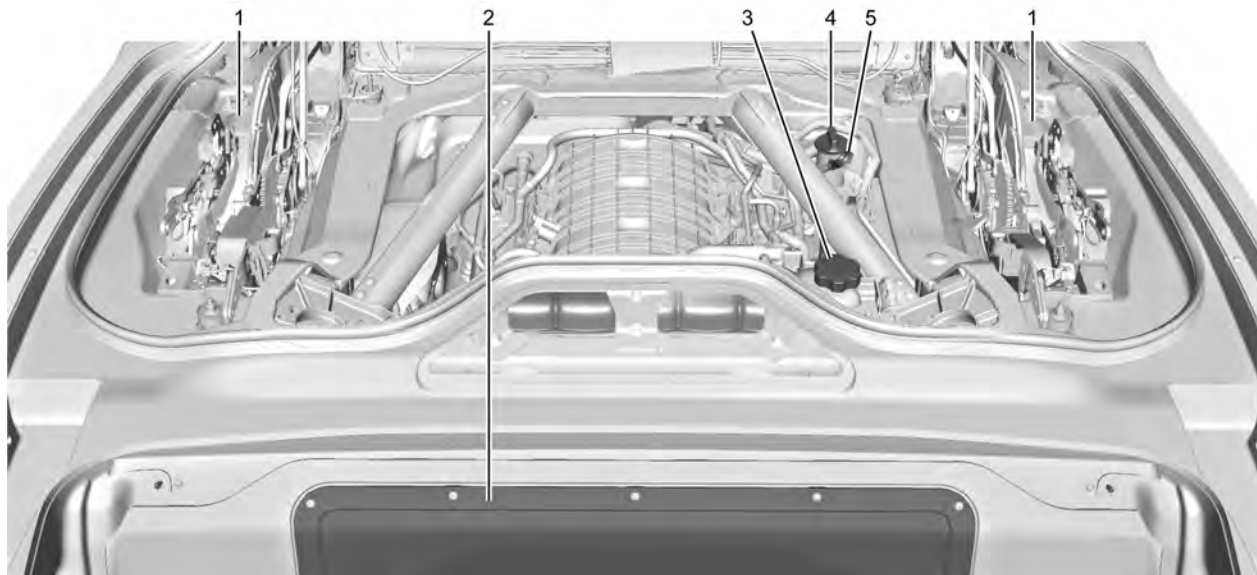
1. Front Lift System Reservoir (Under Cover, if equipped). See *Front Lift System* ⇨ 191.
2. Battery (Under Cover). See *Battery - North America* ⇨ 234.
3. Brake Fluid Reservoir (Under Cover). See *Brake Fluid* ⇨ 233.
4. Windshield Washer Fluid Reservoir. See *Washer Fluid* ⇨ 231.

Engine Compartment Overview



6.2L V8 Engine (Coupe)

1. Engine Cooling Fan (Out of View). See *Cooling System* ⇨ 226.
2. Engine Air Cleaner/Filter (Under Access Panel). See *Engine Air Cleaner/Filter* ⇨ 224.
3. Dry Sump Engine Oil Tank and Fill Cap. See *Engine Oil* ⇨ 218.
4. Engine Oil Dipstick. See *Engine Oil* ⇨ 218.
5. Coolant Surge Tank and Pressure Cap. See *Cooling System* ⇨ 226.



6.2L V8 Engine (Convertible)

1. Engine Cooling Fan (Out of View). See *Cooling System* ⇨ 226.
2. Engine Air Cleaner/Filter (Under Access Panel). See *Engine Air Cleaner/Filter* ⇨ 224.
3. Coolant Surge Tank and Pressure Cap. See *Cooling System* ⇨ 226.
4. Dry Sump Engine Oil Tank and Fill Cap. See *Engine Oil* ⇨ 218.
5. Engine Oil Dipstick. See *Engine Oil* ⇨ 218.

Engine Oil

To ensure proper engine performance and long life, pay careful attention to engine oil. Follow these important steps:

- Use engine oil approved to the proper specification and of the proper viscosity grade. See “Selecting the Right Engine Oil” later 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” later in this section.
- Change the engine oil at the appropriate time. See *Engine Oil Life System* ⇨ 221.
- Always dispose of engine oil properly. See “What to Do with Used Oil” in this section.

Checking the Engine Oil



1. Engine Oil Dipstick
2. Engine Oil Fill Cap

Check the engine oil level regularly, every 650 km (400 mi), especially prior to a long trip. To get an accurate reading, the vehicle must be parked on a level ground.

The engine oil dipstick handle is a loop. See *Engine Compartment Overview* ⇨ 215 for the location.

The vehicle has a racetrack-ready dry sump engine lubrication system. This high performance system operates differently than a standard engine lubrication system and requires a special procedure when checking the engine oil level. Follow this procedure closely.

The engine oil level must be checked when the engine is warm. Cold oil level in the dry sump tank may not indicate the actual amount of oil in the system. Engine oil is contained in an external tank, separate from the engine. Under normal operating conditions, the oil pan under the engine does not store any oil. If the vehicle has been parked for an extended period without the engine being started, some oil will seep back into the oil

pan. This will reduce the amount of oil held in the dry sump tank and there could be no engine oil on the dipstick. This is normal since the dipstick is designed to read the engine oil level only after the engine has run long enough to reach normal operating temperature. Do not add engine oil based on cold engine dipstick readings. The engine oil level on the dipstick must be checked while the engine is running at idle.

To check the engine oil:

1. Turn the engine on and let it warm up to at least 80 °C (175 °F).
2. Once the engine is warm, check the oil while the engine is running at idle.

Warning

The engine oil dipstick handle may be hot; it could burn you. Use a towel or glove to touch the dipstick handle.

3. Remove the dipstick and wipe it with a clean lint-free paper towel or a cloth. Re-insert the dipstick and push it all the way in until it stops.
4. Remove the dipstick again and read the level on the cross-hatched area.
5. Turn the engine off.

When to Add Engine Oil



If the oil is below the cross-hatched area at the tip of the dipstick, add 1 L (1 qt) of the recommended oil through the oil fill cap opening in the oil tank fill tube and then recheck the level. See “Selecting the Right Engine Oil” later in this section for the type of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications* ⇨ 299.

Caution

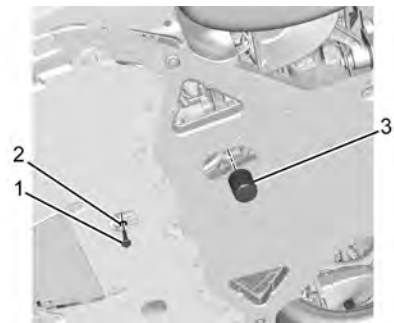
Do not add too much oil. Oil levels above or below the acceptable operating range shown on the dipstick are harmful to the engine. If the oil level is above the operating range (i.e., the engine has so much oil that the oil level gets above the cross-hatched area that shows the proper operating range), the engine could be 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* ⇨ 215 for the location of the external engine oil tank dipstick and fill cap.

Add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back into the oil tank tube when finished.

Changing the Engine Oil and Filter

The vehicle requires a special procedure when changing the engine oil and filter. Follow this procedure closely.



1. Engine Oil Drain Plug
2. O-ring Seal
3. Engine Oil Filter

To change the engine oil and filter:

1. Run the engine at idle for about 20 seconds to return all of the oil back into the dry sump oil tank.

2. Turn the engine off prior to draining the oil.
3. Remove the engine oil drain plug from the bottom of the engine oil pan. Drain plug removal will let the oil drain from the external oil tank and residual oil from the crankcase sump. Allow the oil to drain.
4. Remove the engine oil filter and allow the oil to drain.
5. Inspect the drain plug O-ring seal and replace if it is damaged. Reinstall the drain plug into the oil pan and tighten it to 25 N.m (18 lb ft).
6. Replace the oil filter and tighten it three-quarters to one turn after the gasket makes contact. See *Maintenance Replacement Parts* ⇨ 296 for the correct filter.
7. Remove the oil fill cap from the external engine oil tank.
Add oil to the oil tank through the opening in the fill tube. See *Capacities and Specifications* ⇨ 299.

8. Install the oil fill cap and insert the dipstick, if removed.

Warning

To help avoid personal injury and/or engine damage, always install the engine oil dipstick and oil fill cap until fully seated to a stop. If not fully seated, oil could escape on to hot exhaust parts and cause a fire.

9. Start the engine and check the oil level as described under "Checking the Engine Oil." previously in this section.

Selecting the Right Engine Oil

Selecting the right engine oil depends on both the proper oil specification and the viscosity grade. See *Recommended Fluids and Lubricants* ⇨ 295.

Specification

Use engine oils that meet the dexos2 specification.



Engine oils that have been approved by GM as meeting the dexos2 specification are marked with the dexos2 approved logo. See www.gmdexos.com.

GM recommends Mobil 1 engine oils that show the dexos2 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-40 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" previously in this section.

Engine Oil Additives/Engine Oil Flushes

Do not add anything to the oil. The recommended oils meeting the dexos2 specification are all that is needed for good performance and engine protection.

Engine oil system flushes are not recommended and could cause engine damage not covered by the vehicle warranty.

What to Do with Used Oil

Used engine oil contains certain elements that can be unhealthy for your skin and could even cause cancer. Do not let used oil stay on your skin for very long. Clean your skin and nails with soap and water, or a good hand cleaner. Wash or properly dispose of clothing or rags

containing used engine oil. See the manufacturer's warnings about the use and disposal of oil products.

Used oil can be a threat to the environment. If you change your own oil, 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 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.

This vehicle has a racetrack-ready dry sump engine lubrication system. This high performance system operates differently than a standard engine lubrication system and requires a special procedure when changing the engine oil and filter. See *Engine Oil* ⇨ 218.

When the system has calculated that oil life has been diminished, it indicates that an oil change is necessary. A CHANGE ENGINE OIL SOON message comes on. Change the oil as soon as possible within the next 1 000 km (600 mi). It is possible that, if driving under the best conditions, the oil life system may not indicate that an oil change is necessary for up to a year. The engine oil and filter must be changed at least once a year and, at this time, the system must be reset. Your dealer has trained service people who will perform this work and reset the system. It is also important to check the oil regularly over the course of an oil drain interval and keep it at the proper level.

If the system is ever reset accidentally, the oil must be changed at 5 000 km (3,000 mi) since the last oil change. Remember to reset the oil life system whenever the oil is changed.

How to Reset the Engine Oil Life System

Reset the system whenever the engine oil is changed so that the system can calculate the next engine oil change. To reset the system:

1. Scroll through the DIC Info Pages menu until the REMAINING OIL LIFE percentage is displayed. See *Driver Information Center (DIC)* ⇨ 108.
2. Press and hold SEL on the DIC while the Oil Life display is active. The oil life will change to 100%.

If the CHANGE ENGINE OIL SOON message comes back on when the vehicle is started, the engine oil life system has not reset. Repeat the procedure.

Dual Clutch Transmission Fluid

How to Check Dual Clutch Transmission Fluid

It is not necessary to check the transmission fluid level. A transmission fluid leak is the only reason for fluid loss. If a leak occurs, take the vehicle to the dealer and have it repaired as soon as possible.

The vehicle is not equipped with a transmission fluid level dipstick. There is a special procedure for checking and changing the transmission fluid. Because this procedure is difficult, this should be done at the dealer. Contact the dealer for additional information or the procedure can be found in the service manual. To purchase a service manual, see *Publication Ordering Information* ⇨ 311.

Caution

Use of the incorrect transmission fluid may damage the vehicle, and the damage may not be covered by the vehicle warranty. Always use the correct transmission fluid. See *Recommended Fluids and Lubricants* ⇨ 295.

Change the fluid and filter at the proper intervals. See *Maintenance Schedule* ⇨ 286. Be sure to use the correct fluid. See *Recommended Fluids and Lubricants* ⇨ 295.

Dual Clutch Transmission Fluid Life System

When to Change the Dual Clutch Transmission Fluid

This vehicle has a computer that indicates when to change the transmission fluid. This is based on a combination of factors which include temperature and miles driven. Based on driving conditions,

the mileage at which a fluid change is indicated can vary considerably. For the fluid life system to work properly, the system must be reset every time the fluid is changed. When the system has calculated that fluid life has been diminished, it indicates that a fluid change is necessary. A CHANGE TRANSMISSION FLUID SOON message comes on. Change the fluid as soon as possible within the next 1 000 km (600 mi). Failure to change transmission fluid at required intervals could lead to suboptimal transmission performance. Your dealer has trained service technicians who will change the fluid and reset the system. If the system is ever reset accidentally, the fluid must be changed at 72 000 km (45,000 mi) since the last fluid change.

How to Reset the Dual Clutch Transmission Fluid Life System

Reset the system whenever the transmission fluid is replaced so that the system can calculate the next transmission fluid change.

To reset:

1. Place the vehicle in P (Park).
2. Select the Oil & Fluid Life page under the Maintenance DIC menu. See *Driver Information Center (DIC)* ⇨ 108.
3. Press the thumbwheel under the Oil & Fluid Life page to move to the Reset/Disable display area. Select Reset Transmission Fluid with the thumbwheel scroll then press the thumbwheel. Then press Yes to confirm the reset.
4. When the Transmission Fluid Life System is successfully reset, 100% Transmission Fluid Life will be displayed.

Engine Air Filter Life System

When to Change Engine Air Filter

If equipped, this feature provides an indication of when to change the engine air filter. It is based on driving conditions, which can cause when to change to vary greatly. It is possible an air filter change may not be indicated for up to four years.

When the "Replace at Next Oil Change" message displays, the engine air filter should be replaced at the time of the next engine oil change. When the "Replace Engine Air Filter Now" message displays, the engine air filter should be replaced as soon as possible. Reset the engine air filter life system after the engine air filter is replaced. See your dealer for service and to reset the system.

How to Reset Engine Air Filter Life System

Reset the system whenever the engine air filter is replaced so that the system can calculate the next engine air filter change.

To reset:

1. Place the vehicle in P (Park).
2. Select Air Filter Life under the Maintenance DIC menu. See *Driver Information Center (DIC)* ⇨ 108.
3. Press the thumbwheel under the Air Filter Life page to move to the Reset/Disable area. Select Reset Air Filter Life with the thumbwheel scroll and then press the thumbwheel. Then press Yes to confirm the reset.
4. When the Engine Air Filter Life System is successfully reset, 100% Air Filter Life will be displayed.

Engine Air Cleaner/Filter

See *Engine Compartment Overview* ⇨ 215 for the location of the engine air cleaner/filter.

Caution

If water is sprayed and enters the engine air cleaner/filter intake and housing, the engine could be damaged. The repairs would not be covered by the vehicle warranty.

When to Inspect the Engine Air Cleaner/Filter

For intervals on changing and inspecting the engine air cleaner/filter, see *Maintenance Schedule* ⇨ 286.

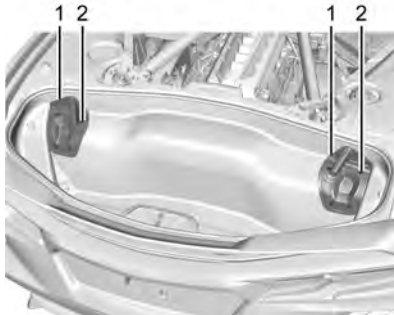
How to Inspect/Replace the Engine Air Cleaner/Filter

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

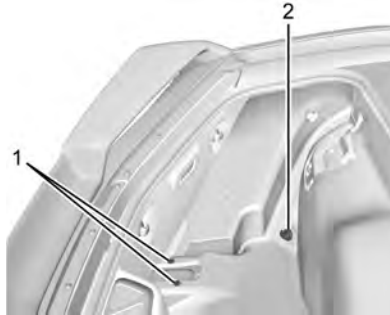
cleaner/filter housing and nearby components are free of dirt and debris. Do not clean the engine air cleaner/filter or components with water or compressed air.

To inspect or replace the air cleaner/filter:

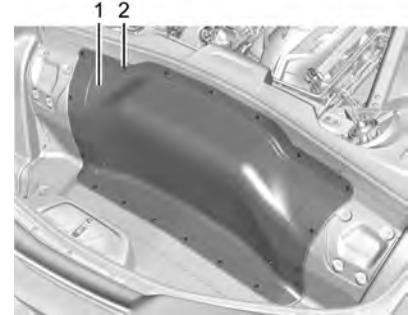
1. Remove the convenience net, if equipped.



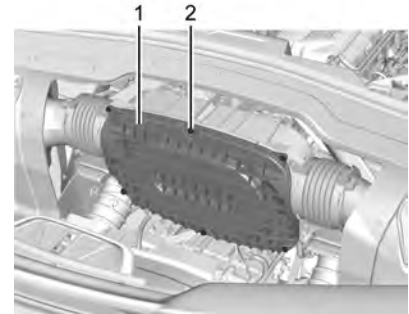
2. Remove the four lift off bracket bolts (2) to remove the brackets (1).



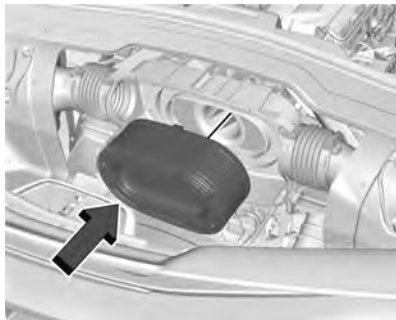
3. Remove the convenience net hooks (2) and plastic retainers (1).
4. Remove the carpet.



5. Remove the rear compartment access panel screws (2) and panel (1).



6. Remove the air cleaner cover screws (2) and cover (1).



7. Remove the air cleaner/filter.
8. Inspect or replace the air cleaner/filter.
9. Reverse Steps 2–7 to replace the air cleaner/filter.



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

(Continued)

Warning (Continued)

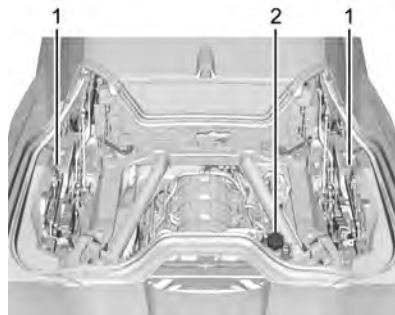
not start the engine or drive the vehicle with the air cleaner/filter off, as flames may be present if the engine backfires.

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.

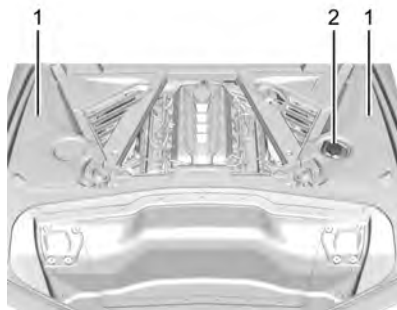
Cooling System

The cooling system allows the engine to maintain the correct working temperature.



Convertible

1. Engine Cooling Fans (Out of View)
2. Coolant Surge Tank with Pressure Cap



Coupe

1. Engine Cooling Fans (Out of View)
2. Coolant Surge Tank with 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 or radiator 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. See *Recommended Fluids and Lubricants* ⇨ 295. The fluid requires changing at certain intervals. See *Maintenance Schedule* ⇨ 286.

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* ⇨ 230.

What to Use

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 too hot but there would not be an overheat warning. The engine could catch fire and you or others could be burned.

Use a mixture of 40% DEX-COOL coolant and 60% clean, drinkable water. If using this mixture, nothing else needs to be added. This mixture:

- Gives freezing protection down to -28°C (-18°F), outside temperature.
- Gives boiling protection up to 129°C (265°F), engine temperature.
- Protects against rust and corrosion.

228 Vehicle Care

- 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, 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.

If ambient temperatures are anticipated below -28°C (-18°F), make sure a proper mixture ratio of 50% DEX-COOL coolant and 50% clean, drinkable water is used.

Checking Coolant

Be sure the cooling system is cool and that the vehicle is on a level surface.

Check to see if coolant is visible in the coolant surge tank. If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down. If coolant is visible but the coolant level is not at or above the cold fill line, add a mixture of 40% DEX-COOL coolant and 60% clean, drinkable water at the coolant recovery tank, but be sure the cooling system is cool before this is done. See *Engine Overheating* ⇨ 230.

The surge tank is in the engine compartment. See *Engine Compartment Overview* ⇨ 215.



When the engine is cold, the coolant level should be at the COLD FILL indicator in the coolant surge tank.

When the engine is hot, the level could be higher than the COLD FILL indicator. If the coolant is below the COLD FILL indicator when the engine is hot, there could be a leak in the cooling system.

If the coolant is low, add the coolant or take the vehicle to your dealer for service.

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

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 coolant is needed, be sure the cooling system is cool, then add the proper DEX-COOL coolant mixture directly to the surge tank.

1. Open the Hatch/Trunk. See *Hatch (Trunk)* ⇨ 23.



2. When the cooling system, including the coolant surge tank pressure cap and engine, is no longer hot, remove the pressure cap.

Turn the pressure cap slowly counterclockwise about one-quarter turn and then stop.

If a hiss is heard, wait for that to stop. A hiss means there is still some pressure left.

3. Keep turning the pressure cap slowly, and remove it.



4. Fill the coolant surge tank with the proper mixture until the level inside stabilizes at the COLD FILL indicator in the surge tank.

5. With the coolant surge tank pressure cap off, start the engine and let it run until the engine is hot.

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 stabilizes at the COLD FILL indicator in the coolant surge tank.

6. Replace the pressure cap tightly.
7. Verify coolant level after the engine is shut off and the coolant is cold. If necessary, repeat coolant fill procedure Steps 3–7.

If the coolant still is not at the proper level when the system cools down again, see your dealer.

Caution

If the pressure cap is not tightly installed, coolant loss and engine damage may occur. Be sure the cap is properly and tightly secured.

Engine Overheating

The vehicle has several indicators to warn of engine overheating.

There is an engine coolant temperature gauge on the instrument cluster. See *Engine Coolant Temperature Gauge* ⇨ 99.

The vehicle may also display a message on the Driver Information Center (DIC).

If the decision is made not to lift the hatch but to get service help right away, see *Roadside Assistance Program* ⇨ 306.

If the decision is made to lift the hatch, make sure the vehicle is parked on a level surface.

Then check to see if the engine cooling fans are running. There are two cooling fans located in the front (one at each corner) and two cooling fans in the rear (one on each side of the engine). If the engine is overheating, the fans should be running. If they are not, do not continue to run the engine, and have the vehicle serviced.

Caution

Do not run the engine if there is a leak in the engine cooling system. This can cause a loss of all

(Continued)

Caution (Continued)

coolant and can damage the system and vehicle. Have any leaks fixed right away.

If Steam Is Coming from the Engine **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 Steam Is Coming from the Engine Compartment with no Overheat Warning

Water from rain and car washes could enter the engine compartment and contact hot surfaces. If steam is coming from the engine compartment with no accompanying overheat warning, no service is needed.

If No Steam Is Coming from the Engine

If an engine overheat warning is displayed but no steam can be seen or heard, the problem may not be too serious. Sometimes the engine can get a little too hot when the vehicle:

- Climbs a long hill on a hot day.
- Stops after high-speed driving.
- Idles for long periods in traffic.

If the overheat warning is displayed with no sign of steam:

1. Turn the air conditioning off.

2. Turn the heater on to the highest temperature and to the highest fan speed. Open the windows as necessary.
3. When it is safe to do so, pull off the road, shift to P (Park) or N (Neutral), and let the engine idle.

If the engine coolant temperature gauge is no longer in the shaded area 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 safely, and park the vehicle right away.

If there is no sign of steam, idle the engine for three minutes while parked. If the warning is still displayed, turn off the engine until it cools down.

Washer Fluid

What to Use

When the vehicle needs windshield washer fluid, be sure to read the manufacturer instructions before use. If the vehicle will be operating in an area where the temperature may fall below freezing, use a fluid that has sufficient protection against freezing.

Adding Washer Fluid

1. Open the hood. See *Hood* ⇨ 21.



2. Open the cap with the washer symbol on it. Add washer fluid until the tank is full.

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

(Continued)

Caution (Continued)

for fluid expansion if freezing occurs, which could damage the tank if it is completely full.

Brakes**Brake Wear**

Disc brake pads have built-in wear indicators that make a high-pitched warning sound when the brake pads are worn and new pads are needed. The sound can come and go or be heard continuously while the vehicle is moving, except when applying the brake pedal firmly.

 Warning

The brake wear warning sound means that soon the brakes will not work well. That could lead to a crash. When the brake wear warning sound is heard, have the vehicle serviced.

Caution

Continuing to drive with worn-out brake pads could result in costly brake repair.

Under certain weather or operating conditions, brake squeal may be heard from the vehicle performance braking system. This brake system is designed for superior fade resistance and consistent operation using high performance brake pads. Brake squeal is normal and does not affect system performance.

If equipped with high performance brake linings, there could be an increased buildup of brake dust as well as noises as compared to standard brake linings.

Brake linings should always be replaced as complete axle sets.

Brake Pedal Travel

See your dealer if the brake pedal does not return to normal height, or if there is a rapid increase in pedal travel. This could be a sign that brake service may be required.

Replacing Brake System Parts

Always replace brake system parts with new, approved replacement parts. If this is not done, the brakes may not work properly. The braking performance expected can change in many other ways if the wrong replacement brake parts are installed or parts are improperly installed.

The Brake Fade Warning Assist system is designed for use with the factory-installed brake pads or GM-approved replacement pads. If the brake pads on the vehicle need to be replaced, use GM-approved brake pads. If this is not done, the brake fade warning system may not function properly.

Cold Weather Brake Operation

High performance brake components may bind and clunk when moving the vehicle. This may be noticeable after parking when the brakes have been wet, such as when driving in the rain or after a car wash. This is normal for brakes with high friction pads and does not affect the operation of the brakes.

Apply the brakes several times until the binding or clunking stops. Drive the vehicle and apply the brakes several times if it is washed before long-term storage.

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* ⇨ 215 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.

Caution

If too much brake fluid is added, the brake fluid can spill and cause vehicle damage, including damage to electrical components and surfaces. 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* ⇨ 104.

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* ⇨ 286.

What to Add

Use only GM approved DOT 4 brake fluid from a clean, sealed container. See *Recommended Fluids and Lubricants* ⇨ 295.

 Warning

The wrong or contaminated brake fluid could result in damage to the brake system. This could result in the loss of braking leading to a possible injury. Always use the proper GM approved brake fluid.

Caution

If brake fluid is spilled on the vehicle's painted surfaces, the paint finish can be damaged. Immediately wash off any painted surface.

Battery - North America

The original equipment battery is maintenance free. Do not remove the cap and do not add fluid.

Refer to the replacement number on the original battery label when a new battery is needed. For battery replacement, see your dealer.

 Warning

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. **WASH HANDS AFTER HANDLING.** For more information go to www.P65Warnings.ca.gov/passenger-vehicle.

See *California Proposition 65 Warning* ⇨ 210 and the back cover.

Vehicle Storage

Warning

Batteries have acid that can burn you and gas that can explode. You can be badly hurt if you are not careful. See *Jump Starting - North America* ⇨ 267 for tips on working around a battery without getting hurt.



Some vehicles have a battery maintainer package. Follow the instructions provided with the battery maintainer package to keep

the battery charged when the vehicle is not in use. Plug the battery maintainer into the underhood accessory power outlet only.

For vehicles without a battery maintainer, see the following information:

Infrequent Usage: Remove the black, negative (-) cable from the battery to keep the battery from running down.

See “Window Indexing” under *Power Windows* ⇨ 35.

Extended Storage: It is recommended that the battery maintainer package be used. However, if not, remove the black, negative (-) cable from the battery. All vehicle memory settings will need to be reset when battery power is restored.

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.

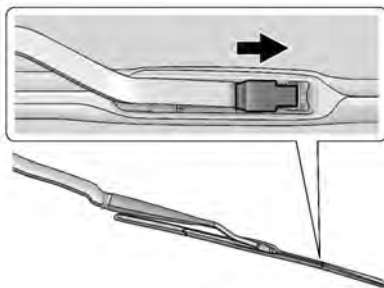
Wiper Blade Replacement

Windshield wiper blades should be inspected for wear and cracking.

Replacement blades come in different types and are removed in different ways. For proper type and length, see *Maintenance Replacement Parts* ⇨ 296.

To replace the windshield wiper blade:

1. Pull the windshield wiper assembly away from the windshield.



2. Lift up on the latch in the middle of the wiper blade where the wiper arm attaches.
3. With the latch open, pull the wiper blade down toward the windshield far enough to release it from the J-hooked end of the wiper arm.
4. Remove the wiper blade.

Allowing the wiper blade 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 blade arm to touch the windshield.

5. Reverse Steps 1–3 for wiper blade replacement.

Windshield Replacement

HUD System

The windshield is part of the HUD system. If the windshield needs to be replaced, be sure to 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.

Acoustic Windshield

The vehicle is equipped with an acoustic windshield. If the windshield needs to be replaced be sure to get an acoustic windshield so you will continue to have the benefits an acoustic windshield can provide.

Gas Strut(s)

This vehicle is 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

(Continued)

Warning (Continued)

is held open with enough force. If struts are failing to hold the hood/trunk/liftgate, do not operate. Have the vehicle serviced.

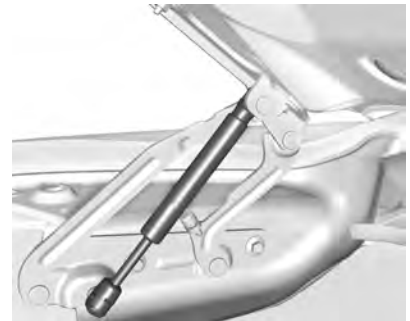
Caution

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* ⇨ 286.



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

LED Lighting

This vehicle has all LED lamps. For replacement of any LED lighting assembly, contact your dealer.

Electrical System

Electrical System Overload

The vehicle has fuses to protect against an electrical system overload.

Fuses protect power devices in the vehicle.

Replace a bad fuse with a new one of the identical size and rating.

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 fuses. 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

(Continued)

Danger (Continued)

fuse or circuit breaker can result in a vehicle fire. You and others could be seriously injured or killed.

To check a fuse, look at the silver-colored band inside the fuse. If the band is broken or melted, replace the fuse. Be sure to replace a bad fuse with a new one of the identical size and rating.

Fuses of the same amperage can be temporarily borrowed from another fuse location, if a fuse goes out. Replace the fuse as soon as possible.

Instrument Panel Fuse Block

The instrument panel fuse block is behind the glove box. The glove box can be accessed by unlatching the door damper and squeezing the pivot to release the damper ring. Pull the glove box bin side walls in

to release the door stops. Then turn the door until the hinge hooks release from hinge pin.



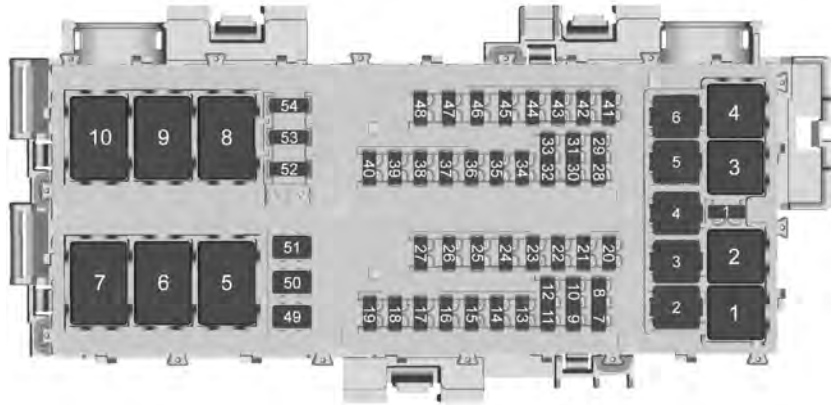
To Access:

- 1. Open the top cover.
- 2. Remove the top cover by pushing inward on the latch.
- 3. Pull the cover upward.

To Install:

- 1. Insert the tabs on the back of the cover into the slots in the instrument panel.
- 2. Align the clip with the slots in the instrument panel.

3. Press the cover into place.
See your dealer if additional assistance is needed.



The vehicle may not be equipped with all of the fuses and relays shown.

Fuses		Usage
1	—	
2		Front wiper

Fuses	Usage
3	Cooling fan 1
4	—
5	Cooling fan 2
6	Front blower

Fuses	Usage	Fuses	Usage	Fuses	Usage
7	Front lift/Automatic level control	21	Exterior lighting module 3	33	Data link connection/Wireless charging module
8	Shifter interface board module	22	Exterior lighting module 4	34	Telematics/Head up display
9	—	23	Body control module 2	35	Horn
10	Display IP cluster/HVAC/Center stack module	24	Exterior lighting module 6	36	—
11	USB	25	Amplifier	37	—
12	—	26	Automatic occupant sensing/Electric park brake	38	Front wash pump
13	—	27	Video processing module	39	Rear auxiliary power outlet
14	Glove box	28	Right headlamp	40	Performance data recorder/Center stack module
15	—	29	—	41	—
16	—	30	Sensing and diagnostic module/Automatic occupant sensing	42	Theft deterrent
17	Remote function actuator	31	Body control module 1	43	Left headlamp
18	Front trunk release	32	Column lock module	44	Exterior lighting module 2
19	Intelligent battery sensor			45	Power steering column module
20	Exterior lighting module 1			46	Body control module 3

Fuses	Usage
47	Exterior lighting module 5
48	Exterior lighting module 7
49	Body control module 4
50	Front auxiliary power outlet
51	—
52	Steering wheel control switch
53	Heated steering wheel
54	—

Relays	Usage
1	—
2	Glove box relay
3	Horn relay
4	Front wash relay
5	Retained accessory power/Accessory relay

Relays	Usage
6	Front trunk release relay 1
7	—
8	—
9	Front trunk release relay 2
10	Wiper relay

Rear Compartment Fuse Block

The rear compartment fuse block is in the rear of the vehicle in between the seats.



To Access:

1. Open top cover.
2. Remove the top cover by pushing inward on the latch.
3. Pull the cover upward.

To Install:

1. Insert the tabs on the back of the cover into the slots in the rear compartment.
2. Align the clip with the slots in the instrument panel.
3. Press the cover into place.

See your dealer if additional assistance is needed.



The vehicle may not be equipped with all of the fuses, relays, and features shown.

Fuses	Usage
1	Driver memory seat module/Power seat
2	Driver heated seat
3	Passenger memory seat module/Power seat

Fuses	Usage
4	Passenger heated seat
5	Transmission control module
6	Rear park assist
7	Power sounder module/Pedestrian friendly alert function

Fuses	Usage
8	Side blind zone alert
9	Column lock module
10	Engine control module/Air conditioning
11	–
12	Lithium ion battery module
13	Active fuel management
14	Seat fan
15	–
16	Exterior lighting module
17	Instrument panel cluster/Shifter interface board/Transmission control module/Electronic brake control module

244 Vehicle Care

Fuses	Usage	Fuses	Usage	Fuses	Usage
18	Engine control module	31	O2 sensor/Engine oil/Canister purge/Active fuel management	43	—
19	—			44	Air conditioning clutch
20	Sensing and diagnostic module/Inside rear view mirror	32	Ignition even	45	—
		33	Ignition odd	46	—
21	Exhaust valve solenoid	34	Engine control module 1	47	—
22	Fuel pump/Fuel tank zone module	35	Engine control module/Mass air flow sensor/O2 sensor/Air conditioning	48	—
23	Tonneau left			49	Auxiliary cooling fan right
24	Tonneau right			50	—
25	Convertible top right	36	—	51	—
26	Convertible top left	37	Canister vent	52	—
27	Electronic suspension control	38	Latch control module	53	Starter solenoid
28	—	39	Right window switch/Door lock	54	Auxiliary cooling fan left
29	CGM	40	Left window switch/Door lock	55	Front lift/Automatic leveling control
30	O2 sensor	41	—	56	—
		42	Engine control module 2	57	Rear window defogger
				58	—

Fuses	Usage
59	Left/right window
60	Passenger power seat
61	Driver power seat

Relays	Usage
1	—
2	Powertrain relay
3	Run/crank relay
4	Rear defogger relay
5	Air conditioning clutch relay
6	—
7	—
8	—
9	—
10	—
11	—
12	—
13	—

Relays	Usage
14	Starter solenoid relay
15	—

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* ⇨ 160.

(Continued)

Warning (Continued)

- Underinflated tires pose the same danger as overloaded tires. The resulting crash could cause serious injury. Check all tires frequently to maintain the recommended pressure. Tire pressure should be checked when the tires are cold.
- Overinflated tires are more likely to be cut, punctured, or broken by a sudden impact — such as when hitting a pothole. Keep tires at the recommended pressure.
- Worn or old tires can cause a crash. If the tread is badly worn, replace them.

(Continued)

Warning (Continued)

- Replace any tires that have been damaged by impacts with potholes, curbs, etc.
- Improperly repaired tires can cause a crash. Only the dealer or an authorized tire service center should repair, replace, dismount, and mount the tires.
- Do not spin the tires in excess of 56 km/h (35 mph) on slippery surfaces such as snow, mud, ice, etc. Excessive spinning may cause the tires to explode.

See *Tire Pressure for High-Speed Operation* ⇨ 254 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* ⇨ 247.

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* ⇨ 261.

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.

Run-Flat Tires

This vehicle, when new, had run-flat tires. There is no spare tire, no tire changing equipment, and no place to store a tire in the vehicle.

The vehicle also has a Tire Pressure Monitor System (TPMS) that indicates a loss of tire pressure in any of the tires.

Warning

If the low tire warning light displays on the instrument cluster, the handling capabilities will be reduced during severe maneuvers. Driving too fast could cause loss of control and you or others could be injured. Do not

(Continued)

Warning (Continued)

drive over 80 km/h (50 mph) when the low tire warning light is displayed. Drive cautiously and check the tire pressures as soon as possible.

Run-flat tires can be driven on with no air pressure. There is no need to stop on the side of the road to change the tire. Continue driving; however, do not drive too far or too fast. Driving on the tire may not be possible if there is permanent damage. To prevent permanent damage, the tire can be driven with no air pressure for up to 80 km (50 mi) at speeds slower than 80 km/h (50 mph) when carrying a load of driver plus one passenger. When carrying a heavier load, total distance driven without air should be reduced. As soon as possible, contact the nearest authorized GM or run-flat servicing facility for inspection and repair or replacement.

When driving on a deflated run-flat tire, avoid potholes and other road hazards that could damage the tire and/or wheel beyond repair. When a tire has been damaged, or if driven any distance while deflated, check with an authorized run-flat tire service center to determine whether the tire can be repaired or should be replaced. To maintain the run-flat feature, all replacement tires must be run-flat tires.

To locate the nearest GM or run-flat servicing facility, call Customer Assistance.

Low-Profile Tires

Low-Profile Performance Tires

Caution

If the vehicle has 245/35ZR19 and 305/30ZR20 size tires, they are classified as low-profile performance tires. Low-profile tires are more susceptible to damage from road

(Continued)

Caution (Continued)

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.

Summer Tires

High Performance Summer Tires

This vehicle may come with 245/35ZR19 and 305/30ZR20 high performance summer tires. These tires have a special tread and compound that are optimized for maximum dry and wet road performance. This special tread and compound will have decreased performance in cold climates, and

on ice and snow. It is recommended that winter tires be installed on the vehicle if frequent driving at temperatures below approximately 5 °C (40 °F) or on ice or snow covered roads is expected. See *Winter Tires* ⇨ 247.

Caution

High performance summer tires have rubber compounds that lose flexibility and may develop surface cracks in the tread area at temperatures below -7 °C (20 °F). Always store high performance summer tires indoors and at temperatures above -7 °C (20 °F) when not in use. If the tires have been subjected to -7 °C (20 °F) or less, let them warm up in a heated space to at least 5 °C (40 °F) for 24 hours or more before being installed or driving a vehicle on which they are installed. Do not apply heat or blow heated air

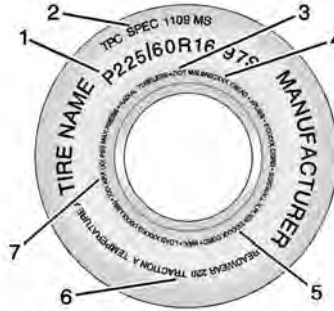
(Continued)

Caution (Continued)

directly on the tires. Always inspect tires before use. See *Tire Inspection* ⇨ 259.

Tire Sidewall Labeling

Useful information about a tire is molded into its sidewall. The example shows a typical passenger tire sidewall.

**Passenger (P-Metric) Tire Example**

(1) Tire Size : The tire size is a combination of letters and numbers used to define a particular tire's width, height, aspect ratio, construction type, and service description. See the "Tire Size" illustration later in this section.

(2) TPC Spec (Tire Performance Criteria Specification) : Original equipment tires designed to GM's specific tire performance criteria have a TPC specification

code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

(3) DOT (Department of Transportation) : The Department of Transportation (DOT) code indicates that the tire is in compliance with the U.S. Department of Transportation Motor Vehicle Safety Standards.

DOT Tire Date of

Manufacture : The last four digits of the TIN indicate the tire manufactured date. The first two digits represent the week (01-52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

(4) Tire Identification Number (TIN) : The letters and numbers following the DOT code are the Tire Identification Number (TIN).

The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

(5) Tire Ply Material : The type of cord and number of plies in the sidewall and under the tread.

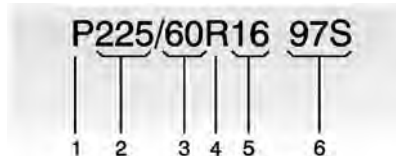
(6) Uniform Tire Quality Grading (UTQG) : Tire manufacturers are required to grade tires based on three performance factors: treadwear, traction, and temperature resistance. For more information see *Uniform Tire Quality Grading* ⇨ 263.

(7) Maximum Cold Inflation Load Limit : Maximum load that can be carried and the maximum pressure needed to support that load.

Tire Designations

Tire Size

The example shows a typical passenger vehicle tire size.



(1) Passenger (P-Metric) Tire : The United States version of a metric tire sizing system. The letter “P” as the first character in the tire size means a passenger vehicle tire engineered to standards set by the U.S. Tire and Rim Association.

(2) Tire Width : The three-digit number indicates the tire section width in millimeters from sidewall to sidewall.

(3) Aspect Ratio : A two-digit number that indicates the tire height-to-width measurements.

For example, if the tire size aspect ratio is 60, as shown in item (3) of the illustration, it would mean that the tire's sidewall is 60 percent as high as it is wide.

(4) Construction Code : A letter code is used to indicate the type of ply construction in the tire. The letter “R” means radial ply construction; the letter “D” means diagonal or bias ply construction.

(5) Rim Diameter : Diameter of the wheel in inches.

(6) Service Description : These characters represent the load index and speed rating of the tire. The load index represents the load carrying capacity a tire is certified to carry. The speed rating is the maximum speed a tire is certified to carry a load.

Tire Terminology and Definitions

Air Pressure : The amount of air inside the tire pressing outward on each square inch of the tire. Air pressure is expressed in kPa (kilopascal) or psi (pounds per square inch).

Accessory Weight : The combined weight of optional accessories. Some examples of optional accessories are automatic transmission, power windows, power seats, and air conditioning.

Aspect Ratio : The relationship of a tire's height to its width.

Belt : A rubber coated layer of cords between the plies and the tread. Cords may be made from steel or other reinforcing materials.

Bead : The tire bead contains steel wires wrapped by steel cords that hold the tire onto the rim.

Bias Ply Tire : A pneumatic tire in which the plies are laid at alternate angles less than 90 degrees to the centerline of the tread.

Cold Tire Pressure : The amount of air pressure in a tire, measured in kPa (kilopascal) or psi (pounds per square inch) before a tire has built up heat from driving. See *Tire Pressure* ⇨ 253.

Curb Weight : The weight of a motor vehicle with standard and optional equipment including the maximum capacity of fuel, oil, and coolant, but without passengers and cargo.

DOT Markings : A code molded into the sidewall of a tire signifying that the tire is in compliance with the U.S.

Department of Transportation (DOT) Motor Vehicle Safety Standards. The DOT code includes the Tire Identification Number (TIN), an alphanumeric designator which can also identify the tire manufacturer, production plant, brand, and date of production.

GVWR : Gross Vehicle Weight Rating. See *Vehicle Load Limits* ⇨ 160.

GAWR FRT : Gross Axle Weight Rating for the front axle. See *Vehicle Load Limits* ⇨ 160.

GAWR RR : Gross Axle Weight Rating for the rear axle. See *Vehicle Load Limits* ⇨ 160.

Intended Outboard Sidewall : The side of an asymmetrical tire that must always face outward when mounted on a vehicle.

Kilopascal (kPa) : The metric unit for air pressure.

Light Truck (LT-Metric) Tire : A tire used on light duty trucks and some multipurpose passenger vehicles.

Load Index : An assigned number ranging from 1 to 279 that corresponds to the load carrying capacity of a tire.

Maximum Inflation Pressure : The maximum air pressure to which a cold tire can be inflated. The maximum air pressure is molded onto the sidewall.

Maximum Load Rating : The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum Loaded Vehicle Weight : The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Normal Occupant Weight : The number of occupants a vehicle is designed to seat multiplied by 68 kg (150 lb). See *Vehicle Load Limits* ⇨ 160.

Occupant Distribution : Designated seating positions.

Outward Facing Sidewall : The side of an asymmetrical tire that has a particular side that faces outward when mounted on a vehicle. The side of the tire that contains a whitewall, bears white lettering, or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same moldings on the other sidewall of the tire.

Passenger (P-Metric) Tire : A tire used on passenger cars and some light duty trucks and multipurpose vehicles.

Recommended Inflation Pressure : Vehicle manufacturer's recommended

tire inflation pressure as shown on the tire placard. See *Tire Pressure* ⇨ 253 and *Vehicle Load Limits* ⇨ 160.

Radial Ply Tire : A pneumatic tire in which the ply cords that extend to the beads are laid at 90 degrees to the centerline of the tread.

Rim : A metal support for a tire and upon which the tire beads are seated.

Sidewall : The portion of a tire between the tread and the bead.

Speed Rating : An alphanumeric code assigned to a tire indicating the maximum speed at which a tire can operate.

Traction : The friction between the tire and the road surface. The amount of grip provided.

Tread : The portion of a tire that comes into contact with the road.

Treadwear Indicators : Narrow bands, sometimes called wear bars, that show across the tread of a tire when only 1.6 mm (1/16 in) of tread remains. See *When It Is Time for New Tires* ⇨ 260.

UTQGS (Uniform Tire Quality Grading Standards) : A tire information system that provides consumers with ratings for a tire's traction, temperature, and treadwear. Ratings are determined by tire manufacturers using government testing procedures. The ratings are molded into the sidewall of the tire. See *Uniform Tire Quality Grading* ⇨ 263.

Vehicle Capacity Weight : The number of designated seating positions multiplied by 68 kg (150 lb) plus the rated cargo load. See *Vehicle Load Limits* ⇨ 160.

Vehicle Maximum Load on the Tire : Load on an individual tire due to curb weight, accessory weight, occupant weight, and cargo weight.

Vehicle Placard : A label permanently attached to a vehicle showing the vehicle capacity weight and the original equipment tire size and recommended inflation pressure. See "Tire and Loading Information Label" under *Vehicle Load Limits* ⇨ 160.

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.

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. See *Vehicle Load Limits* ⇨ 160.

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 your tires once a month or more.

How to Check

Use a good quality pocket-type gauge to check the 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 the 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 and prevent leaks. Use only valve caps designed for the vehicle by GM. TPMS sensors

could be damaged and would not be covered by the vehicle warranty.

Tire Pressure for High-Speed Operation

Warning

Driving at high speeds, 255 km/h (155 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 245/35ZR19 and 305/30ZR20 size tires require inflation pressure adjustment when driving the vehicle at speeds of 255 km/h (155 mph) or higher. Set the cold tire inflation pressure to 260 kPa (38 psi).

Return the tires to the recommended cold tire inflation pressure when high-speed driving has ended. See *Vehicle Load Limits* ⇨ 160.

Tire Pressure Monitor System

The Tire Pressure Monitor System (TPMS) uses radio and sensor technology to check tire pressure levels. The TPMS sensors monitor the air pressure in your tires and transmit tire pressure readings to a receiver located in the vehicle.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation

pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.

Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire

pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to

ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

See *Tire Pressure Monitor Operation* ⇨ 256.

See *Radio Frequency Statement* ⇨ 312.

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 on your vehicle. The TPMS sensors monitor the air pressure in the tires and transmit the tire pressure readings to a receiver located in the vehicle.



When a low tire pressure condition is detected, the TPMS illuminates the low tire pressure warning light, located in the instrument cluster. If the warning light comes on, stop as soon as possible and inflate the tires to the recommended pressure shown on the tire loading information label. See *Vehicle Load Limits* ⇨ 160.

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 appear 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)* ⇨ 108.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This could be an early indicator that the air pressure is getting low and needs to be inflated to the proper pressure.

A Tire and Loading Information label shows the size of the original equipment tires and the correct inflation pressure for the tires when they are cold. See *Vehicle Load Limits* ⇨ 160, for an example of the Tire and Loading Information label and its location. Also see *Tire Pressure* ⇨ 253 for additional information.

The TPMS can warn about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection* ⇨ 259, *Tire Rotation* ⇨ 259, *When It Is Time for New Tires* ⇨ 260, and *Tires* ⇨ 245.

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" later in this section.
- The TPMS sensor matching process was not done or not completed successfully after rotating the tires. The malfunction light and the DIC message should go off after successfully completing the sensor matching process.
- 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.

- 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* ⇨ 261.
- 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 stays 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. If the tire being inflated is a front tire, then the front turn signal lamp closest to the tire being inflated will stop flashing and briefly turn solid. If the tire being inflated is a rear tire, then the rear turn signal lamp closest to the tire being inflated will stop flashing.

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. See *Tire Sidewall Labeling* ⇨ 249 and *Vehicle Load Limits* ⇨ 160.

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)* ⇨ 108. 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.
- The tire has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

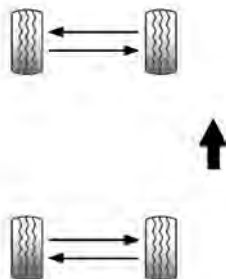
Tire Rotation

The tires should be rotated every 12 000 km (7,500 mi). See *Maintenance Schedule* ⇨ 286.

Tires are rotated to achieve 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* ⇨ 260 and *Wheel Replacement* ⇨ 265.

Different tire sizes should not be rotated front to rear.



Use this rotation pattern if the vehicle has different size tires on the front and rear.

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* ⇨ 253 and *Vehicle Load Limits* ⇨ 160.

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation* ⇨ 256.

Check that all wheel nuts are properly tightened. See “Wheel Nut Torque” under *Capacities and Specifications* ⇨ 299.

Warning

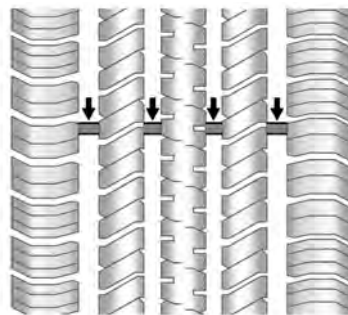
Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause a crash. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper towel can 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

buildup. Do not get grease on the flat wheel mounting surface or on the wheel nuts or bolts.

When It Is Time for New Tires

Factors such as maintenance, temperatures, driving speeds, vehicle loading, and road conditions affect the wear rate of the tires.



Treadwear indicators are one way to tell when it is time for new tires. Treadwear indicators appear when the tires have only 1.6 mm (1/16 in)

or less of tread remaining. See *Tire Inspection* ⇨ 259 and *Tire Rotation* ⇨ 259.

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) which is molded into one side of the tire sidewall. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

Vehicle Storage

Tires age when stored normally mounted on a parked vehicle. Park a vehicle that will be stored for at

least a month in a cool, dry, clean area away from direct sunlight to slow aging. This area should be free of grease, gasoline, or other substances that can deteriorate rubber.

Parking for an extended period can cause flat spots on the tires that may result in vibrations while driving. When storing a vehicle for at least a month, remove the tires or raise the vehicle to reduce the weight from the tires.

Buying New Tires

GM has developed and matched specific tires for the vehicle. The original equipment tires installed were designed to meet General Motors Tire Performance Criteria Specification (TPC Spec) system rating. When replacement tires are needed, GM strongly recommends buying tires with the same TPC Spec rating.

GM's exclusive TPC Spec system considers over a dozen critical specifications that impact the overall performance of the vehicle, including brake system performance, ride and handling, traction control, and tire pressure monitoring performance. GM's TPC Spec number is molded onto the tire's sidewall near the tire size. If the tires have an all-season tread design, the TPC Spec number will be followed by MS for mud and snow. See *Tire Sidewall Labeling* ⇨ 249, for additional information.

GM recommends replacing worn tires in complete sets of four. Uniform tread depth on all tires will help to maintain the performance of the vehicle. Braking and handling performance may be adversely affected if all the tires are not replaced at the same time. If proper rotation and

maintenance have been done, all four tires should wear out at about the same time. See *Tire Rotation* ⇨ 259 for information on proper tire rotation. However, if it is necessary to replace only one axle set of worn tires, place the new tires on the rear axle.

Winter tires with the same speed rating as the original equipment tires may not be available for H, V, W, and ZR speed rated tires. Never exceed the winter tire's maximum speed capability when using winter tires with a lower speed rating.

 Warning

Tires could explode during improper service. Attempting to mount or dismount a tire could cause injury or death. Only your dealer or authorized tire service center should mount or dismount the tires.

 Warning

Mixing tires of different sizes (other than those originally installed on the vehicle), brands, or types may cause loss of control of the vehicle, resulting in a crash or other vehicle damage. Use the correct size, brand, and type of tire on all four wheels.

 Warning

Using bias-ply tires on the vehicle may cause the wheel rim flanges to develop cracks after many miles of driving. A tire and/or wheel could fail suddenly and cause a crash. Use only radial-ply tires with the wheels on the vehicle.

If the vehicle tires must be replaced with a tire that does not have a TPC Spec number, make sure they are the same size,

load range, speed rating, and construction (radial) as the original tires.

Vehicles that have a tire pressure monitoring system could give an inaccurate low-pressure warning if non-TPC Spec rated tires are installed. See *Tire Pressure Monitor Operation* ⇨ 256.

The Tire and Loading Information label indicates the original equipment tires on the vehicle. See *Vehicle Load Limits* ⇨ 160.

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* ⇨ 261 and *Accessories and Modifications* ⇨ 211.

Uniform Tire Quality Grading

The following information relates to the system developed by the United States National Highway

Traffic Safety Administration (NHTSA), which grades tires by treadwear, traction, and temperature performance. This applies only to vehicles sold in the United States. The grades are molded on the sidewalls of most passenger car tires. The Uniform Tire Quality Grading (UTQG) system does not apply to deep tread, winter tires, compact spare tires, tires with nominal rim diameters of 10 to 12 inches (25 to 30 cm), or to some limited-production tires.

While the tires available on General Motors passenger cars and light trucks may vary with respect to these grades, they must also conform to federal safety requirements and additional General Motors Tire Performance Criteria (TPC) standards.

Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example:

Treadwear 200 Traction AA Temperature A

All Passenger Car Tires Must Conform to Federal Safety Requirements In Addition To These Grades.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one-half (1½) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the

norm due to variations in driving habits, service practices and differences in road characteristics and climate.

Traction

The traction grades, from highest to lowest, are AA, A, B, and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance. Warning: The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning, or peak traction characteristics.

Temperature

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law. Warning: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed,

underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

Wheel Alignment and Tire Balance

The tires and wheels were aligned and balanced at the factory to provide the longest tire life and best overall performance. Adjustments to wheel alignment and tire balancing are not necessary on a regular basis. Consider an alignment check if there is unusual tire wear or the vehicle is significantly pulling to one side or the other. Some slight pull to the left or right, depending on the crown of the road and/or other road surface variations such as troughs or ruts, is normal. If the vehicle is vibrating when driving on a smooth road, the tires and wheels may need to be rebalanced. See your dealer for proper diagnosis.

Road Imperfections/Crown Effects

The vehicle's precise steering and handling make it very responsive to road surface feedback. A slight pull may be felt in the steering depending on the crown of the road and/or other road surface variations such as troughs or ruts. This is normal and the vehicle does not require service.

Tire Chatter/Hop

When driving at slow speeds and in very tight turns, the vehicle may have tire chatter/hop. This is normal and the vehicle does not require service.

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, or wheel nuts with new GM original equipment parts.

Warning

Using the wrong replacement wheels, wheel bolts, or wheel nuts can be dangerous. It could affect the braking and handling of the vehicle. Tires can lose air, and cause loss of control, causing a crash. Always use the correct wheel, wheel bolts, and wheel nuts for replacement.

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 clearance to the body and chassis.

Tightening Wheel Lug Nuts**⚠ Warning**

Never use oil or grease on studs or the threads of the wheel nuts. The wheel nuts might come loose and the wheel could fall off, causing a crash.

⚠ Warning

Incorrect wheel nuts or improperly tightened wheel nuts can cause the wheel to become loose and even come off. This could lead to a crash. Be sure to use the correct wheel nuts. If you have to replace them, be sure to get new GM original equipment wheel nuts.

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.



Tighten the wheel lug nuts firmly in a crisscross sequence. See *Capacities and Specifications* ⇨ 299.

Tire Chains**⚠ Warning**

Do not use tire chains. There is not enough clearance. Tire chains used on a vehicle without the proper amount of clearance can cause damage to the brakes, suspension, or other vehicle parts. The area damaged by the tire chains could cause loss of control and a crash. Use another type of traction device only if its manufacturer recommends it for the vehicle's tire size combination and road conditions. Follow that manufacturer's instructions. To avoid vehicle damage, drive slowly and readjust or remove the traction device if it contacts the vehicle. Do not spin the wheels. If traction devices are used, install them on the rear tires.

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. See *Tires* ⇨ 245 for additional information. 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.

The vehicle has no spare tire, no tire changing equipment, and no place to store a tire.

If the vehicle has run-flat tires, there is no need to stop on the side of the road to change a flat tire. See *Run-Flat Tires* ⇨ 247.

Warning

Special tools and procedures are required to service a run-flat tire. If these special tools and procedures are not used, injury or vehicle damage may occur. Always be sure the proper tools and procedures, as described in the service manual, are used.

Jump Starting

Jump Starting - North America

For more information about the vehicle battery, see *Battery - North America* ⇨ 234.

If the battery has run down, use another vehicle and some jumper cables to start the vehicle. Be sure to use the following steps to do it safely.

Warning

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. **WASH HANDS AFTER**

(Continued)

Warning (Continued)

HANDLING. For more information go to www.P65Warnings.ca.gov/passenger-vehicle.

See *California Proposition 65 Warning* ⇨ 210 and the back cover.

 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.

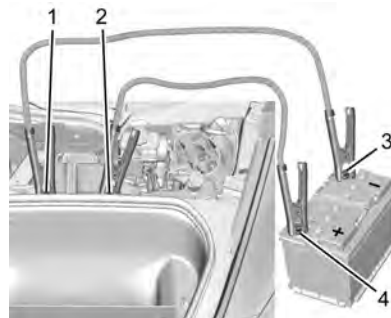
Caution

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.

The battery is under a battery cover and side extensions/shields in the underhood compartment.

To access the battery under the hood, the right hand and left hand sight shields need to be removed to be able to remove the second cover assembly to access the battery. The positive battery terminal is on the driver side and the negative terminal is on the passenger side.

Before you connect the cables, here are some basic things you should know. Positive (+) will go to the positive (+) terminal. Negative (-) will go to the negative (-) terminal.



1. Discharged Battery Negative (-) Terminal
 2. Discharged Battery Positive (+) Terminal
 3. Good Battery Negative (-) Terminal
 4. Good Battery Positive (+) 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 a ground connection you do not want. You would not be able to start the 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 brakes.

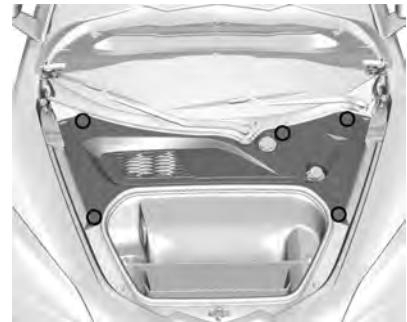
Caution

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 off the ignition on both vehicles. Unplug unnecessary accessories plugged into the cigarette lighter or the accessory power outlet. Turn off the radio and all lamps that are not needed. This will avoid sparks and help save both batteries. And it could save the radio!
4. Open the hood. See *Hood* ⇨ 21.



5. Release the four clips for the left and right outer covers.



6. Release the five clips and remove the outer cover to access the battery.
7. Locate the battery positive (+) and negative (-) terminals.
8. 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.
9. Open the positive terminal trim cover and connect the red positive (+) cable to the positive (+) terminal (2) of the dead battery.
10. Do not let the other end touch metal. Connect it to the positive (+) terminal (4) of the good battery.
11. Now connect the black negative (-) cable to the negative (-) terminal (3) of the good battery.

Do not let the other end touch anything until the next step.

12. Connect the other end of the negative (-) cable to the negative (-) terminal (1) on the dead battery.
13. Now start the vehicle with the good battery and run the engine for a while.
14. Try to start the vehicle that had the dead battery. If it will not start after a few tries, it probably needs service.

Caution
If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by the vehicle warranty. Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.

Jumper Cable Removal

Reverse the sequence exactly when removing the jumper cables.

After starting the disabled vehicle and removing the jumper cables, allow it to idle for several minutes.

The power windows may need to be initialized. See "Window Indexing" under *Power Windows* ⇨ 35.

Towing the Vehicle

Caution

Incorrectly towing a disabled vehicle may cause damage. The damage would not be covered by the vehicle warranty. Do not lash or hook to suspension components. Use the proper straps around the tires to secure the vehicle. Do not drag a locked wheel/tire. Use tire skates or dollies under any locked wheel/tire while loading the vehicle. Do not use a sling type lift to tow the vehicle. This could damage the vehicle.

GM recommends a flatbed tow truck to transport a disabled vehicle. Use ramps to help reduce approach angles, if necessary. A towed vehicle should have its drive wheels off the ground. If the disabled vehicle must be towed, and is covered by GM and/or OnStar

roadside benefits, contact Roadside Assistance. Otherwise contact a professional towing service.

The Front Lift System can be raised with the engine off. With the vehicle in ACC/ACCESSORY and the doors closed, press and hold the Front Lift System button for 10 seconds. See *Front Lift System* ⇨ 191.

After the vehicle is loaded, the front can be lowered by pressing the Front Lift System button again with the doors closed.

Using the Tow Eye

Caution

Improper use of the tow eye can damage the vehicle. If equipped, use the tow eye to load a disabled vehicle onto a flatbed tow truck from a flat road surface, or to move the vehicle a short distance. Use caution and low speeds. The transmission must be in (N) Neutral when moving the vehicle.

The vehicle may be equipped with a tow eye that can be used to pull the vehicle onto a flatbed car carrier from a flat road surface. Do not use the tow eye to pull the vehicle from snow, mud, or sand.

A tow eye may have been provided at vehicle delivery. If necessary, a tow eye can be obtained from your dealer.



Front Tow Eye Cover



Rear Tow Eye Cover

The tow eye sockets are accessible through covers in the fascia.

Carefully remove the cover using a flat plastic tool in the small notch on the side of the cover. Slowly lift the cover away from the fascia to avoid damage.

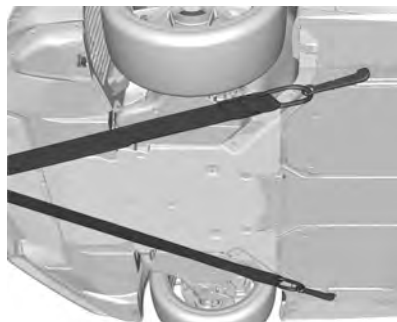


Front Tow Eye



Rear Tow Eye

Install the tow eye into the socket by turning it clockwise until it stops. When the tow eye is removed, reinstall the cover with the notch in the original position.



The vehicle is equipped with slots that are located underneath the vehicle rearward of the front tires. These can be used to pull the vehicle onto a flatbed car carrier from a flat road surface. Do not use the tow eye to pull the vehicle from snow, mud, or sand.

To tow the vehicle behind another vehicle for recreational purposes, such as behind a motor home, see "Recreational Vehicle Towing" following.

Recreational Vehicle Towing

Caution

Dolly towing or dinghy towing the vehicle may cause damage because of reduced ground clearance. Always put the vehicle on a flatbed truck or trailer.

The vehicle was neither designed nor intended to be towed with any of its wheels on the ground. If the vehicle must be towed, see *Towing the Vehicle* ⇨ 271.

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* ⇨ 295.

Washing the Vehicle

To preserve the vehicle's finish, wash it often and out of direct sunlight.

Caution

Do not use petroleum-based, acidic, or abrasive cleaning agents as they can damage the vehicle's paint, metal, or plastic parts. If damage occurs, it would not be covered by the vehicle warranty. Approved cleaning products can be obtained from

(Continued)

Caution (Continued)

your dealer. Follow all manufacturer directions regarding correct product usage, necessary safety precautions, and appropriate disposal of any vehicle care product.

Caution

Avoid using high-pressure washes closer than 30 cm (12 in) to the surface of the vehicle. Use of power washers exceeding 8 274 kPa (1,200 psi) can result in damage or removal of paint and decals.

Cleaning Underhood Components**Caution**

Do not power wash any component under the hood that
(Continued)

Caution (Continued)

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 usages of these chemicals should be avoided. Recommend water only.

A pressure washer may be used, but care must be utilized. 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.

Automatic Car Wash**Caution**

Automatic car washes can cause damage to the vehicle, wheels, ground effects, and convertible top (if equipped).

Do not use automatic car washes due to lack of clearance for the undercarriage, wide rear tires, and wheels.

Hand Wash

Rinse the vehicle well, before washing and after, to remove all cleaning agents completely. If they dry on the surface staining could occur.

Dry the finish with a soft, clean chamois or an all-cotton towel to avoid surface scratches and water spotting.

Finish Care

Application of aftermarket clearcoat sealant/wax materials is not recommended. If painted surfaces

are damaged, see your dealer to have the damage assessed and repaired. Foreign materials such as calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, etc., can damage the vehicle 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, flat paint, or metal mesh grilles as damage can occur.

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, and 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, and 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.

Convertible Top Care

Only lower the top when it is completely dry and avoid leaving the top lowered for extended periods of time to prevent excessive interior weathering.

Carbon Fiber Care

Carbon fiber composite parts can be washed and waxed like any other parts. Use a clear or black pigmented wax. See *Composite Materials* ⇨ 164.

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 while they are 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

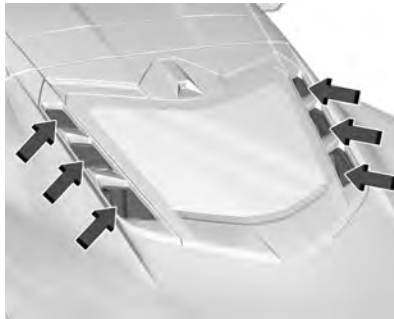
Using wax on low gloss black finish stripes can increase the gloss level and create a non-uniform finish. Clean low gloss stripes with soap and water only.

Air Intakes - Mesh Grilles

Keep the rear and hood mesh grilles clear of debris. The metal mesh grilles may be hot to the touch after vehicle operation.



Rear Mesh Grille



Coupe Mesh Grille



Convertible Mesh Grille

Do not apply wax to the mesh grilles.

Windshield and Wiper Blades

Clean the outside of the windshield with glass cleaner.

Clean rubber blades using 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 not stick or squeak. Lubricate weatherstrips at least once a year. Hot, dry climates require more frequent application. Black marks from rubber material on painted surfaces can be removed by rubbing with a clean cloth. See *Recommended Fluids and Lubricants* ⇨ 295.

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/

(Continued)

Caution (Continued)

or tires. When applying a 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. A wax may then be applied.

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 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 other brake parts, including drums, wheel cylinders, calipers, parking brake, master cylinder,

brake fluid reservoir, vacuum pipes, electric vacuum pump including bracket and vent hose, if equipped.

If equipped with Z51, inspect brake cooling components. See *Track Events and Competitive Driving (Z51 Only)* ⇨ 150.

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 hook-up, binding, leaks, cracks, chafing, etc.

Visually check constant velocity joint boots and axle seals for leaks.

Body Component Lubrication

Lubricate all key lock cylinders, hood hinges, and liftgate hinges, unless the components are plastic. Applying silicone grease on weatherstrips with a clean cloth will make them last longer, seal better, and not stick or squeak.

Underbody Maintenance

At least twice a year, spring and fall, use plain water to flush any corrosive materials from the underbody. Take care to thoroughly clean any areas where mud and other debris can collect.

Do not directly power wash the transfer case and/or front/rear axle output seals. High pressure water can overcome the seals and contaminate the fluid. Contaminated fluid will decrease the life of the transfer case and/or axles and should be replaced.

Body 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. 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 interior. Immediately remove any soils. Newspapers or dark garments can transfer color to the vehicle interior.

Use a soft bristle brush to remove dust from knobs and crevices on the instrument cluster. Using a mild soap solution, immediately remove

hand lotions, sunscreen, and insect repellent from all interior surfaces or permanent damage may result.

Use cleaners specifically designed for the surfaces being cleaned to prevent permanent damage. Apply all cleaners directly to the cleaning cloth. Do not spray cleaners on any switches or controls. Remove cleaners quickly.

Before using cleaners, read and follow all safety instructions on the label. While cleaning the interior, open the doors and windows to get proper ventilation.

To prevent damage, do not clean the interior using the following cleaners or techniques:

- Never use a razor or any other sharp object to remove soil from any interior surface.
- Never use a brush with stiff bristles.
- Never rub any surface aggressively or with too much pressure.

- Do not use laundry detergents or dishwashing soaps with degreasers. For liquid cleaners, use approximately 20 drops per 3.8 L (1 gal) of water. A concentrated soap solution will create streaks and attract dirt. Do not use solutions that contain strong or caustic soap.
- Do not heavily saturate the upholstery when cleaning.
- Do not use solvents or cleaners containing solvents.

Interior Glass

To clean, use a terry cloth fabric dampened with water. Wipe droplets left behind with a clean dry cloth. If necessary, use a commercial glass cleaner after cleaning with plain water.

Caution

To prevent scratching, never use abrasive cleaners on automotive glass. Abrasive cleaners or aggressive cleaning may damage the rear window defogger.

Cleaning the windshield with water during the first three to six months of ownership will reduce tendency to fog.

Speaker Covers

Vacuum around a speaker cover gently, so that the speaker will not be damaged. Clean spots with water and mild soap.

Coated Moldings

Coated moldings should be cleaned.

- When lightly soiled, wipe with a sponge or soft, lint-free cloth dampened with water.
- When heavily soiled, use warm soapy water.

Fabric/Carpet/Suede

Start by vacuuming the surface using a soft brush attachment. If a rotating vacuum brush attachment is being used, only use it on the floor carpet. Before cleaning, gently remove as much of the soil as possible:

- Gently blot liquids with a paper towel. Continue blotting until no more soil can be removed.
- For solid soils, remove as much as possible prior to vacuuming.

To clean:

1. Saturate a clean, lint-free colorfast cloth with water. A microfiber cloth is recommended to prevent lint transfer to the fabric or carpet.
2. Remove excess moisture by gently wringing until water does not drip from the cleaning cloth.
3. Start on the outside edge of the soil and gently rub toward the center. Fold the cleaning cloth

to a clean area frequently to prevent forcing the soil in to the fabric.

4. Continue gently rubbing the soiled area until there is no longer any color transfer from the soil to the cleaning cloth.
5. If the soil is not completely removed, use a mild soap solution followed only by plain water.

If the soil is not completely removed, it may be necessary to use a commercial upholstery cleaner or spot lifter. Test a small hidden area for colorfastness before using a commercial upholstery cleaner or spot lifter. If ring formation occurs, clean the entire fabric or carpet.

After cleaning, use a paper towel to blot excess moisture.

Cleaning High Gloss Surfaces and Vehicle Information and Radio Displays

Use a microfiber cloth on high gloss surfaces or vehicle displays. First, use a soft bristle brush to remove dirt that can scratch the surface. Then gently clean by rubbing with a microfiber cloth. Never use window cleaners or solvents. Periodically hand wash the microfiber cloth separately, using mild soap. Do not use bleach or fabric softener. Rinse thoroughly and air dry before next use.

Caution

Do not attach a device with a suction cup to the display. This may cause damage and would not be covered by the vehicle warranty.

Instrument Panel, Leather, Vinyl, Other Plastic Surfaces, Low Gloss Paint Surfaces, and Natural Open Pore Wood Surfaces

Use a soft microfiber cloth dampened with water to remove dust and loose dirt. For a more thorough cleaning, use a soft microfiber cloth dampened with a mild soap solution.

Caution

Soaking or saturating leather, especially perforated leather, as well as other interior surfaces, may cause permanent damage. Wipe excess moisture from these surfaces after cleaning and allow them to dry naturally. Never use heat, steam, or spot removers. Do not use cleaners that contain silicone or wax-based products. Cleaners containing these solvents can permanently change

(Continued)

Caution (Continued)

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.

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.

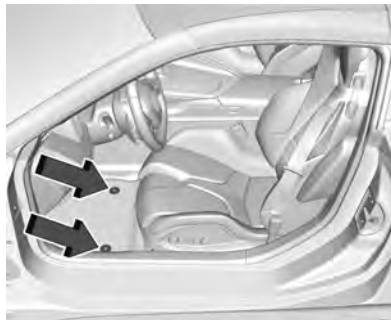
Floor Mats **Warning**

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 cause a crash and injury. Make sure the floor mat does not interfere with the pedals.

Use the following guidelines for proper floor mat usage:

- The original equipment floor mats were designed for your vehicle. If the floor mats need replacing, it is recommended that GM certified floor mats be purchased. Non-GM floor mats may not fit properly and may interfere with the accelerator or brake pedal. Always check that the floor mats do not interfere with the pedals.

- Do not use a floor mat if the vehicle is not equipped with a floor mat retainer on the driver side floor.
- Use the floor mat with the correct side up. Do not turn it over.
- Do not place anything on top of the driver side floor mat.
- Use only a single floor mat on the driver side.
- Do not place one floor mat on top of another.



The floor mats are held in place by two retainers.

Installing and Replacing the Floor Mats

1. Pull up on the rear of the floor mat to remove it from the retainers.
2. Reinstall by lining up the openings in the floor mat over the retainers and push down into position.
3. Make sure the floor mat is properly secured in place. Verify the floor mat does not interfere with the pedals.

Service and Maintenance

General Information

General Information 284

Maintenance Schedule

Maintenance Schedule 286

Special Application Services

Special Application
Services 292

Additional Maintenance and Care

Additional Maintenance
and Care 292

Recommended Fluids, Lubricants, and Parts

Recommended Fluids and
Lubricants 295
Maintenance Replacement
Parts 296

Maintenance Records

Maintenance Records 297

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, 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 12 000 km (7,500 mi). Proper vehicle maintenance helps to keep the vehicle in good working condition, improves fuel economy, and reduces vehicle emissions.

Because of the way people use vehicles, maintenance needs vary. There may need to be more frequent checks and services. The Additional Required Services - Normal are for vehicles that:

- Carry passengers and cargo within recommended limits on the Tire and Loading Information label. See *Vehicle Load Limits* ⇨ 160.
- Are driven on reasonable road surfaces within legal driving limits.
- Use the recommended fuel. See *Recommended Fuel* ⇨ 204.

Refer to the information in the Maintenance Schedule Additional Required Services - Normal chart.

The Additional Required Services - Severe are for vehicles that are:

- Mainly driven in heavy city traffic in hot weather.
- Mainly driven in hilly or mountainous terrain.
- Used for high speed or competitive driving.
- Used for taxi, police, or delivery service.

Refer to the information in the Maintenance Schedule Additional Required Services - Severe chart.

Warning

Performing maintenance work can be dangerous and can cause serious injury. Perform maintenance work only if the required information, proper tools, and equipment are available.

(Continued)

Warning (Continued)

If they are not, see your dealer to have a trained technician do the work. See *Doing Your Own Service Work* ⇨ 213.

Maintenance Schedule

Owner Checks and Services

Check the engine oil level. See *Engine Oil* ⇨ 218.

Once a Month

- Check the tire inflation pressures. See *Tire Pressure* ⇨ 253.
- Inspect the tires for wear. See *Tire Inspection* ⇨ 259.
- Check the windshield washer fluid level. See *Washer Fluid* ⇨ 231.

Engine Oil Change

When the CHANGE ENGINE OIL SOON message displays, change the engine oil and filter within the next 1 000 km (600 mi). If driven under the best conditions, the engine oil life system may not indicate the need for vehicle service for up to a year. The engine oil and filter must be changed at least once a year and the oil life system must

be reset. Your trained dealer technician can perform this work. If the engine oil life system is reset accidentally, service the vehicle within 5 000 km (3,000 mi) since the last service. Reset the oil life system when the oil is changed. See *Engine Oil Life System* ⇨ 221.

Engine Air Filter Change

When the REPLACE AT NEXT OIL CHANGE message displays, change the engine air filter 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* ⇨ 224.

Transmission Fluid Change

When the CHANGE TRANSMISSION FLUID SOON message displays, change the fluid and filter within the next 1 000 km (600 mi). Failure to change the transmission fluid at required intervals can lead to reduced

transmission performance. The transmission fluid must be changed at least every three years and the Fluid Life System must be reset. Your dealer has trained service technicians who will change the fluid and reset the system. If the system is ever reset accidentally, the fluid must be changed at 72 000 km (45,000 mi) since the last fluid change. See *Dual Clutch Transmission Fluid Life System* ⇨ 223.

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.

Required Services Every 12 000 km (7,500 mi)

- Check engine oil level and oil life percentage. If needed, change engine oil and filter, and

reset oil life system. See *Engine Oil* ⇨ 218 and *Engine Oil Life System* ⇨ 221.

- If equipped with the engine air filter life system, 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* ⇨ 224. If the vehicle is not equipped with the engine air filter life system, inspect the engine air cleaner filter. See *Engine Air Cleaner/Filter* ⇨ 224.
- Check engine coolant level. See *Cooling System* ⇨ 226.
- Check windshield washer fluid level. See *Washer Fluid* ⇨ 231.
- Check tire inflation pressures. See *Tire Pressure* ⇨ 253.
- Inspect tire wear. See *Tire Inspection* ⇨ 259.
- Visually check for fluid leaks.
- Inspect brake system. See *Exterior Care* ⇨ 273.

- 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* ⇨ 273.
- Inspect power steering for proper attachment, connections, binding, leaks, cracks, chafing, etc.
- Visually inspect halfshafts and driveshafts 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* ⇨ 61.
- Visually inspect fuel system for damage or leaks.

- Visually inspect exhaust system and nearby heat shields for loose or damaged parts.
- Lubricate body components. See *Exterior Care* ⇨ 273.
- Check parking brake and dual clutch transmission park mechanism. See *Park Brake and P (Park) Mechanism Check* ⇨ 235.
- 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 is low, service the gas strut. See *Gas Strut(s)* ⇨ 237.

[illegible]

Footnotes — Maintenance Schedule Additional Required Services - Normal

- (1) Or every two years, whichever comes first. More frequent passenger compartment air filter replacement may be needed if driving in areas with heavy traffic, poor air quality, high dust levels, or environmental allergens. Passenger compartment air filter replacement may also be needed if there is reduced airflow, window fogging, or odors. Your GM dealer can help determine when to replace the filter.
- (2) Visually check all fuel and vapor lines and hoses for proper attachment, connection, routing, and condition.
- (3) Or every four years, whichever comes first. If driving in dusty conditions, inspect the filter at each oil change or more often as needed. See *Engine Air Cleaner/Filter* ⇨ 224.
- (4) Or every three years, whichever comes first. If the vehicle mileage is near the canister filter replacement interval, replace the fluid and filter.

More frequent fluid and filter replacement may be needed if the vehicle is competitively or aggressively driven. This service can be complex. See your dealer.

(5) Check the transmission fluid life percentage. If the percentage is less than 10%, replace the fluid and filter. The initial transmission canister filter change must be performed at 12 000 km (7,500 mi), and every 36 000 km (22,500 mi) thereafter. This service can be complex. See your dealer.

(6) Or every five years, whichever comes first. See *Cooling System* ⇨ 226.

(7) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

(8) Replace brake fluid every five years. See *Brake Fluid* ⇨ 233.

(9) Replace front lift system fluid every five years. See *Recommended Fluids and Lubricants* ⇨ 295

(10) Or every 12 months, whichever comes first. See *Wiper Blade Replacement* ⇨ 236.

(11) Or every 10 years, whichever comes first. See *Gas Strut(s)* ⇨ 237.

(12) Replace air conditioning desiccant every seven years.

[illegible]

Footnotes — Maintenance Schedule Additional Required Services - Severe

(1) Or every two years, whichever comes first. More frequent passenger compartment air filter replacement may be needed if driving in areas with heavy traffic, poor air quality, high dust levels, or environmental allergens. Passenger compartment air filter replacement may also be needed if there is reduced airflow, window fogging, or odors. Your GM dealer can help determine when to replace the filter.

(2) Visually check all fuel and vapor lines and hoses for proper attachment, connection, routing, and condition.

(3) Or every four years, whichever comes first. If driving in dusty conditions, inspect the filter at each oil change or more often as needed. See *Engine Air Cleaner/Filter* ⇨ 224.

(4) Or every three years, whichever comes first. If the vehicle mileage is near the canister filter replacement interval, replace the fluid and filter.

More frequent fluid and filter replacement may be needed if the vehicle is competitively or aggressively driven. This service can be complex. See your dealer.

(5) Check the transmission fluid life percentage. If the percentage is less than 10%, replace the fluid and filter. The initial transmission canister filter change must be performed at 12 000 km (7,500 mi), and every 36 000 km (22,500 mi) thereafter. This service can be complex. See your dealer.

(6) Or every five years, whichever comes first. See *Cooling System* ⇨ 226.

(7) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

(8) Replace brake fluid every five years. See *Brake Fluid* ⇨ 233.

(9) Replace front lift system fluid every five years. See *Recommended Fluids and Lubricants* ⇨ 295

(10) Or every 12 months, whichever comes first. See *Wiper Blade Replacement* ⇨ 236.

(11) Or every 10 years, whichever comes first. See *Gas Strut(s)* ⇨ 237.

(12) Replace air conditioning desiccant every seven years.

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* ⇨ 273.

Additional Maintenance and Care

Your vehicle is an important investment and caring for it properly may help to avoid future costly repairs. To maintain vehicle performance, additional maintenance services may be required.

It is recommended that your dealer perform these services — their trained dealer technicians know your vehicle best. Your dealer can also perform a thorough assessment with a multi-point inspection to recommend when your vehicle may need attention.

The following list is intended to explain the services and conditions to look for that may indicate services are required.

Battery

The 12-volt battery supplies power to start the engine and operate any additional electrical accessories.

- To avoid break-down or failure to start the vehicle, maintain a battery with full cranking power.
- Trained dealer technicians have the diagnostic equipment to test the battery and ensure that the connections and cables are corrosion-free.

Belts

- Belts may need replacing if they squeak or show signs of cracking or splitting.
- Trained dealer technicians have access to tools and equipment to inspect the belts and recommend adjustment or replacement when necessary.

Brakes

Brakes stop the vehicle and are crucial to safe driving.

- Signs of brake wear may include chirping, grinding, or squealing noises, or difficulty stopping.

- Trained dealer technicians have access to tools and equipment to inspect the brakes and recommend quality parts engineered for the vehicle.

Fluids

Proper fluid levels and approved fluids protect the vehicle's systems and components. See *Recommended Fluids and Lubricants* ⇨ 295 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* ⇨ 279 and *Exterior Care* ⇨ 273.

Front Air Dam and Splitter

These components not only enhance the looks of a vehicle, they are important for fuel economy and vehicle handling as well.

Inspect front air dam and splitter. See your dealer if missing or damaged. See *Front Air Dam (and Splitter)* ⇨ 164 and *Composite Materials* ⇨ 164.

Wheel Alignment

Wheel alignment is critical for ensuring that the tires deliver optimal wear and performance.

- Signs that the alignment may need to be adjusted include pulling, improper vehicle handling, or unusual tire wear.

- Your dealer has the required equipment to ensure proper wheel alignment.

Windshield

For safety, appearance, and the best viewing, keep the windshield clean and clear.

- Signs of damage include scratches, cracks, and chips.
- Trained dealer technicians can inspect the windshield and recommend proper replacement if needed.

Wiper Blades

Wiper blades need to be cleaned and kept in good condition to provide a clear view.

- Signs of wear include streaking, skipping across the windshield, and worn or split rubber.
- Trained dealer technicians can check the wiper blades and replace them when needed.

Recommended Fluids, Lubricants, and Parts

Recommended Fluids and Lubricants

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
Chassis Lubrication	Chassis lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Dual Clutch Transmission	See your dealer.
Engine Coolant	40/60 coolant/water mixture of clean, drinkable water and use only DEX-COOL Coolant. See <i>Cooling System</i> ⇨ 226.
Engine Oil	Engine oil meeting the dexos2 specification of the proper SAE viscosity grade. Mobil 1 dexos2 full synthetic is recommended. See <i>Engine Oil</i> ⇨ 218.
Front Lift System	GM Approved DOT 4 Hydraulic Brake Fluid. See <i>Front Lift System</i> ⇨ 191.
Hydraulic Brake System	GM Approved DOT 4 Hydraulic Brake Fluid.
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	84378662	A3249C
Engine Oil Filter	12696048	PF64
Passenger Compartment Air Filter Element	13508023	CF185
Spark Plug	12622442	41-149
External Transmission Filter Kit	24299326	—
Wiper Blades		
Driver Side – 600 mm (23.6 in)	84566977	—
Passenger Side – 525 mm (20.7 in)	84566978	—

Maintenance Records

After the scheduled services are performed, record the date, odometer reading, who performed the service, and the type of services performed in the boxes provided. Retain all maintenance receipts.

[illegible]

Technical Data

Vehicle Identification

Vehicle Identification	
Number (VIN)	298
Service Parts Identification ...	298

Vehicle Data

Capacities and	
Specifications	299
Engine Drive Belt Routing	301

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 and Service Parts labels and certificates of title and registration.

Engine Identification

The eighth character in the VIN is the engine code. This code identifies the vehicle's engine, specifications, and replacement

parts. See "Engine Specifications" under *Capacities and Specifications* ⇨ 299 for the vehicle's engine code.

Service Parts Identification

There will be a large barcode on the certification label located on the driver's door that you can scan for the following information:

- Vehicle Identification Number (VIN)
- Model designation
- Paint information
- Production options

Vehicle Data

Capacities and Specifications

The following approximate capacities are given in metric and English conversions.

See *Recommended Fluids and Lubricants* ⇨ 295.

Application	Capacities	
	Metric	English
Air Conditioning Refrigerant	For the air conditioning system refrigerant charge type and amount, see the refrigerant label under the hood. See your dealer for more information.	
Engine Cooling System with Performance Package*	21.5 L	22.7 qt
Engine Cooling System without Performance Package*	20.5 L	21.7 qt
Engine Oil with Filter	7.1 L	7.5 qt
Fuel Tank	70.0 L	18.5 gal
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.		

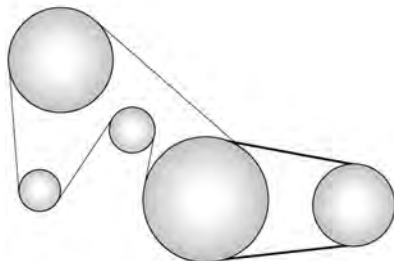
Engine Specifications

Engine	VIN Code	Transmission	Spark Plug Gap	Firing Order
6.2L V8 Engine (LT2)	4	Dual Clutch Transmission	0.95-1.10 mm (0.037-0.043 in)	1-8-7-2-6-5-4-3
Spark plug gaps are preset by the manufacturer. Re-gapping the spark plug is not recommended and can damage the spark plug.				

Engine Data

Engine	Horsepower	Torque	Displacement	Compression Ratio
6.2L V8 Engine (LT2) with Performance Exhaust	495	470 lb ft	6.2 L	11.5:1
6.2L V8 Engine (LT2) with Standard Exhaust	490	465 lb ft	6.2 L	11.5:1

Engine Drive Belt Routing



6.2L LT2 Engine

Customer Information

Customer Information

Customer Satisfaction Procedure	302
Customer Assistance Offices	304
Customer Assistance for Text Telephone (TTY) Users	305
Online Owner Center	305
GM Mobility Reimbursement Program	306
Roadside Assistance Program	306
Scheduling Service Appointments	308
Courtesy Transportation Program	308
Collision Damage Repair	309
Publication Ordering Information	311
Radio Frequency Statement	312

Reporting Safety Defects

Reporting Safety Defects to the United States Government	312
Reporting Safety Defects to the Canadian Government	313
Reporting Safety Defects to General Motors	313

Vehicle Data Recording and Privacy

Vehicle Data Recording and Privacy	314
Cybersecurity	314
Event Data Recorders	314
OnStar	315
Infotainment System	315

Customer Information

Customer Satisfaction Procedure

Your satisfaction and goodwill are important to your dealer and to Chevrolet. Normally, any concerns with the sales transaction or the operation of the vehicle will be resolved by your dealer's sales or service departments. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur. If your concern has not been resolved to your satisfaction, the following steps should be taken:

STEP ONE : Discuss your concern with a member of dealership management. Normally, concerns can be quickly resolved at that level. If the matter has already been reviewed with the sales, service, or parts manager, contact the owner of your dealership or the general manager.

STEP TWO : If after contacting a member of dealership management, it appears your concern cannot be

resolved by your dealership without further help, in the U.S., call the Chevrolet Customer Assistance Center at 1-800-222-1020. In Canada, call General Motors of Canada Customer Care Centre at 1-800-263-3777 (English), or 1-800-263-7854 (French).

We encourage you to call the toll-free number in order to give your inquiry prompt attention. Have the following information available to give the Customer Assistance representative:

- Vehicle Identification Number (VIN). This is available from the vehicle registration or title, or the plate at the top left of the instrument panel and visible through the windshield.
- Dealership name and location.
- Vehicle delivery date and present mileage.

When contacting Chevrolet, remember that your concern will likely be resolved at a dealer's facility. That is why we suggest following Step One first.

STEP THREE — U.S. Owners :

Both General Motors and your dealer are committed to making sure you are completely satisfied with your new vehicle. However, if you continue to remain unsatisfied after following the procedure outlined in Steps One and Two, you can file with the Better Business Bureau (BBB) Auto Line Program to enforce your rights.

The BBB Auto Line Program is an out-of-court program administered by BBB National Programs, Inc. to settle automotive disputes regarding vehicle repairs or the interpretation of the New Vehicle Limited Warranty. Although you may be required to resort to this informal dispute resolution program prior to filing a court action, use of the program is free of charge and your case will generally be heard within 40 days. If you do not agree with the decision given in your case, you may reject it and proceed with any other venue for relief available to you.

You may contact the BBB Auto Line Program using the toll-free telephone number or write them at the following address:

BBB Auto Line Program
BBB National Programs, Inc.
3033 Wilson Boulevard
Suite 600
Arlington, VA 22201

Telephone: 1-800-955-5100
<http://www.bbb.org/council/programs-services/dispute-handling-and-resolution/bbb-auto-line>

This program is available in all 50 states and the District of Columbia. Eligibility is limited by vehicle age, mileage, and other factors. General Motors reserves the right to change eligibility limitations and/or discontinue its participation in this program.

STEP THREE — Canadian

Owners : In the event that you do not feel your concerns have been addressed after following the procedure outlined in Steps One and Two, General Motors of Canada Company wants you to be aware of

its participation in a no-charge Mediation/Arbitration Program. General Motors of Canada Company has committed to binding arbitration of owner disputes involving factory-related vehicle service claims. The program provides for the review of the facts involved by an impartial third party arbiter, and may include an informal hearing before the arbiter. The program is designed so that the entire dispute settlement process, from the time you file your complaint to the final decision, should be completed in about 70 days. We believe our impartial program offers advantages over courts in most jurisdictions because it is informal, quick, and free of charge.

For further information concerning eligibility in the Canadian Motor Vehicle Arbitration Plan (CAMVAP), call toll-free 1-800-207-0685, or call the General Motors Customer Care Centre, 1-800-263-3777 (English), 1-800-263-7854 (French), or write to:

The Mediation/Arbitration Program
c/o Customer Care Centre
General Motors of Canada
Company
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Your inquiry should be accompanied by the Vehicle Identification Number (VIN).

Customer Assistance Offices

Chevrolet encourages customers to call the toll-free number for assistance. However, if a customer wishes to write or e-mail Chevrolet, the letter should be addressed to:

United States and Puerto Rico

Chevrolet Motor Division
Chevrolet Customer Assistance
Center
P.O. Box 33170
Detroit, MI 48232-5170
www.Chevrolet.com

1-800-222-1020
1-800-833-2438 (For Text
Telephone Devices (TTYs))
Roadside Assistance:
1-800-243-8872

From U.S. Virgin Islands:
1-800-496-9994

Canada

General Motors of Canada
Company
Customer Care Centre, Mail Code:
CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7
www.gm.ca

1-800-263-3777 (English)
1-800-263-7854 (French)
1-800-263-3830 (For Text)

Telephone devices (TTYs))
 Roadside Assistance:
 1-800-268-6800

Overseas

Please contact the local General Motors Business Unit.

Customer Assistance for Text Telephone (TTY) Users

To assist customers who are deaf, hard of hearing, or speech-impaired and who use Text Telephones (TTYs), Chevrolet has TTY equipment available at its Customer Assistance Center. Any TTY user in the U.S. can communicate with Chevrolet by dialing: 1-800-833-2438. TTY users in Canada can dial 1-800-263-3830.

Online Owner Center

Online Owner Experience (U.S.) my.chevrolet.com

The Chevrolet online owner experience allows access to videos, articles, and vehicle health specific to your Chevrolet as well as your OnStar Account information all in one place.

Membership Benefits

 : Download owner's manuals and view vehicle-specific how-to videos.

 : View maintenance schedules, alerts, and Vehicle Diagnostic Information. Schedule service appointments.

 : View and print dealer-recorded service records and self-recorded service records.

 : Select a preferred dealer and view locations, maps, phone numbers, and hours.

 : Track your vehicle's warranty information.

 : View active recalls by Vehicle Identification Number (VIN). See *Vehicle Identification Number (VIN)* ⇨ 298.

 : Compare and shop for Chevrolet and OnStar plans and services. View GM Card and SiriusXM information (if equipped).

 : Chat with online help representatives.

See my.chevrolet.com to register your vehicle.

Chevrolet Owner Centre (Canada) mychevrolet.ca

Visit the Chevrolet Owner Centre at mychevrolet.ca (English) or my.chevrolet.ca (French) to access similar benefits to the U.S. site.

GM Mobility Reimbursement Program



This program is available to qualified applicants for cost reimbursement, up to certain limits, of eligible aftermarket adaptive equipment required for the vehicle, such as hand controls or a wheelchair/scooter lift for the vehicle.

To learn about the GM Mobility program, see www.gmmobility.com or call the GM Mobility Assistance Center at 1-800-323-9935. Text Telephone (TTY) users, call 1-800-833-9935.

General Motors of Canada also has a Mobility program. See www.gm.ca, or call

1-800-GM-DRIVE (800-463-7483) for details. TTY users call 1-800-263-3830.

Roadside Assistance Program

For U.S.-purchased vehicles, call 1-800-243-8872. (Text Telephone (TTY): 1-888-889-2438.)

For Canadian-purchased vehicles, call 1-800-268-6800.

Service is available 24 hours a day, 365 days a year.

Calling for Assistance

When calling Roadside Assistance, have the following information ready:

- Your name, home address, and home telephone number
- Telephone number of your location
- Location of the vehicle
- Model, year, color, and license plate number of the vehicle

- Odometer reading, Vehicle Identification Number (VIN), and delivery date of the vehicle
- Description of the problem

Coverage

Services are provided for the duration of the vehicle's powertrain warranty.

In the U.S., anyone driving the vehicle is covered. In Canada, a person driving the vehicle without permission from the owner is not covered.

Roadside Assistance is not a part of the New Vehicle Limited Warranty. General Motors North America and Chevrolet reserve the right to make any changes or discontinue the Roadside Assistance program at any time without notification.

General Motors North America and Chevrolet reserve the right to limit services or payment to an owner or driver if they decide the claims are made too often, or the same type of claim is made many times.

Services Provided

- **Emergency Fuel Delivery:** Delivery of enough fuel for the vehicle to get to the nearest service station.
- **Lock-Out Service:** Service to unlock the vehicle if you are locked out. A remote unlock may be available if you have OnStar. For security reasons, the driver must present identification before this service is given.
- **Emergency Tow from a Public Road or Highway:** Tow to the nearest Chevrolet dealer for warranty service, or if the vehicle was in a crash and cannot be driven. Assistance is not given when the vehicle is stuck in the sand, mud, or snow.
- **Flat Tire Change:** Service to change a flat tire with the spare tire. The spare tire, if equipped, must be in good condition and properly inflated. It is the owner's responsibility for the repair or replacement of the tire if it is not covered by the warranty.

- **Battery Jump Start:** Service to jump start a dead battery.
- **Trip Interruption Benefits and Assistance:** If your trip is interrupted due to a warranty event, incidental expenses may be reimbursed within the Powertrain warranty period. Items considered are reasonable and customary hotel, meals, rental car, or a vehicle being delivered back to the customer, up to 500 miles.

Services Not Included in Roadside Assistance

- Impound towing caused by violation of any laws
- Legal fines
- Mounting, dismounting, or changing of snow tires, chains, or other traction devices

Service is not provided if a vehicle is in an area that is not accessible to the service vehicle or is not a regularly traveled or maintained

public road, which includes ice and winter roads. Off-road use is not covered.

Services Specific to Canadian-Purchased Vehicles

- **Fuel Delivery:** Reimbursement is up to 7 liters. If available, diesel fuel delivery may be restricted. Propane and other fuels are not provided through this service.
- **Lock-Out Service:** Vehicle registration is required.
- **Trip Interruption Benefits and Assistance:** Must be over 150 km from where your trip was started to qualify. Pre-authorization, original detailed receipts, and a copy of the repair orders are required. Once authorization has been received, the Roadside Assistance advisor will help to make arrangements and explain how to receive payment.
- **Alternative Service:** If assistance cannot be provided right away, the Roadside

Assistance advisor may give permission to get local emergency road service. You will receive payment, up to \$100, after sending the original receipt to Roadside Assistance. Mechanical failures may be covered, however any cost for parts and labor for repairs not covered by the warranty are the owner responsibility.

Scheduling Service Appointments

When the vehicle requires warranty service, contact your dealer and request an appointment. By scheduling a service appointment and advising the service consultant of your transportation needs, your dealer can help minimize your inconvenience.

If the vehicle cannot be scheduled into the service department immediately, keep driving it until it can be scheduled for service, unless, of course, the problem is

safety related. If it is, please call your dealership, let them know this, and ask for instructions.

If your dealer requests you to bring the vehicle for service, you are urged to do so as early in the work day as possible to allow for same-day repair.

Courtesy Transportation Program

To enhance your ownership experience, we and our participating dealers are proud to offer Courtesy Transportation, a customer support program for vehicles with the Bumper-to-Bumper (Base Warranty Coverage period in Canada), extended powertrain, and/or hybrid-specific warranties in both the U.S. and Canada.

Several Courtesy Transportation options are available to assist in reducing inconvenience when warranty repairs are required.

Courtesy Transportation is not a part of the New Vehicle Limited Warranty. A separate manual

entitled "Limited Warranty and Owner Assistance Information" furnished with each new vehicle provides detailed warranty coverage information.

Transportation Options

Warranty service can generally be completed while you wait. However, if you are unable to do so, your dealer may offer the following transportation options:

Shuttle Service

This includes one-way or round-trip shuttle service within reasonable time and distance parameters of your dealer's area.

Public Transportation or Fuel Reimbursement

If overnight warranty repairs are needed, and public transportation is used, the expense must be supported by original receipts and within the maximum amount allowed by GM. If U.S. customers arrange their own transportation, limited reimbursement for reasonable fuel expenses may be available. Claim

amounts should reflect actual costs and be supported by original receipts. See your dealer for information.

Courtesy Rental Vehicle

For an overnight warranty repair, the dealer may provide an available courtesy rental vehicle or provide for reimbursement of a rental vehicle. Reimbursement is limited and must be supported by original receipts as well as a signed and completed rental agreement and meet state/provincial, local, and rental vehicle provider requirements.

Requirements vary and may include minimum age requirements, insurance coverage, credit card, etc. Additional fees such as fuel, rental vehicle insurance, taxes, levies, usage fees, excessive mileage, or rental usage beyond the completion of the repair are also your responsibility.

It may not be possible to provide a like vehicle as a courtesy rental.

Additional Program Information

All program options, such as shuttle service, may not be available at every dealer. Contact your dealer for specific availability.

General Motors reserves the right to unilaterally modify, change, or discontinue Courtesy Transportation at any time and to resolve all questions of claim eligibility pursuant to the terms and conditions described herein at its sole discretion.

Collision Damage Repair

If the vehicle is involved in a collision and it is damaged, have the damage repaired by a qualified technician using the proper equipment and quality replacement parts. Poorly performed collision repairs diminish the vehicle resale value, and safety performance can be compromised in subsequent collisions.

Collision Parts

Genuine GM Collision parts are new parts made with the same materials and construction methods as the parts with which the vehicle was originally built. Genuine GM Collision parts are the best choice to ensure that the vehicle's designed appearance, durability, and safety are preserved. The use of Genuine GM parts can help maintain the GM New Vehicle Limited Warranty.

Recycled original equipment parts may also be used for repair. These parts are typically removed from vehicles that were total losses in prior crashes. In most cases, the parts being recycled are from undamaged sections of the vehicle. A recycled original equipment GM part may be an acceptable choice to maintain the vehicle's originally designed appearance and safety performance; however, the history of these parts is not known. Such parts are not covered by the GM New Vehicle Limited Warranty, and any related failures are not covered by that warranty.

Aftermarket collision parts are also available. These are made by companies other than GM and may not have been tested for the vehicle. As a result, these parts may fit poorly, exhibit premature durability/corrosion problems, and may not perform properly in subsequent collisions. Aftermarket parts are not covered by the GM New Vehicle Limited Warranty, and any vehicle failure related to such parts is not covered by that warranty.

Repair Facility

GM also recommends that you choose a collision repair facility that meets your needs before you ever need collision repairs. Your dealer may have a collision repair center with GM-trained technicians and state-of-the-art equipment, or be able to recommend a collision repair center that has GM-trained technicians and comparable equipment.

Insuring the Vehicle

Protect your investment in the GM vehicle with comprehensive and collision insurance coverage. There are significant differences in the quality of coverage afforded by various insurance policy terms. Many insurance policies provide reduced protection to the GM vehicle by limiting compensation for damage repairs through the use of aftermarket collision parts. Some insurance companies will not specify aftermarket collision parts. When purchasing insurance, we recommend that you ensure that the vehicle will be repaired with GM original equipment collision parts. If such insurance coverage is not available from your current insurance carrier, consider switching to another insurance carrier.

If the vehicle is leased, the leasing company may require you to have insurance that ensures repairs with Genuine GM Original Equipment Manufacturer (OEM) parts or Genuine Manufacturer replacement

parts. Read the lease carefully, as you may be charged at the end of the lease for poor quality repairs.

If a Crash Occurs

If there has been an injury, call emergency services for help. Do not leave the scene of a crash until all matters have been taken care of. Move the vehicle only if its position puts you in danger, or you are instructed to move it by a police officer.

Give only the necessary information to police and other parties involved in the crash.

For emergency towing see *Roadside Assistance Program* ⇨ 306.

Gather the following information:

- Driver name, address, and telephone number
- Driver license number
- Owner name, address, and telephone number
- Vehicle license plate number

- Vehicle make, model, and model year
- Vehicle Identification Number (VIN)
- Insurance company and policy number
- General description of the damage to the other vehicle

Choose a reputable repair facility that uses quality replacement parts. See "Collision Parts" earlier in this section.

If the airbag has inflated, see *What Will You See after an Airbag Inflates?* ➔ 66.

Managing the Vehicle Damage Repair Process

In the event that the vehicle requires damage repairs, GM recommends that you take an active role in its repair. If you have a pre-determined repair facility of choice, take the vehicle there, or have it towed there. Specify to the facility that any required replacement collision parts be original equipment parts, either new Genuine GM parts or recycled

original GM parts. Remember, recycled parts will not be covered by the GM vehicle warranty.

Insurance pays the bill for the repair, but you must live with the repair. Depending on your policy limits, your insurance company may initially value the repair using aftermarket parts. Discuss this with the repair professional, and insist on Genuine GM parts. Remember, if the vehicle is leased, you may be obligated to have the vehicle repaired with Genuine GM parts, even if your insurance coverage does not pay the full cost.

If another party's insurance company is paying for the repairs, you are not obligated to accept a repair valuation based on that insurance company's collision policy repair limits, as you have no contractual limits with that company. In such cases, you can have control of the repair and parts choices as long as the cost stays within reasonable limits.

Publication Ordering Information

Service Manuals

Service manuals have the diagnosis and repair information on the engine, transmission, axle, suspension, brakes, electrical system, steering system, body, etc.

Customer Literature

Owner's manuals are written specifically for owners and are intended to provide basic operational information about the vehicle. The owner's manual includes the Maintenance Schedule for all models.

Customer literature publications available for purchase include owner's manuals, warranty manuals, infotainment manuals, and portfolios. Portfolios include an owner's manual, warranty manual, infotainment manual, if applicable, and zip lock bag or pouch.

Current and Past Models

Service manuals and customer literature are available for many current and past model year GM vehicles.

To order, call 1-800-551-4123
Monday–Friday, 8:00 a.m.–6:00 p.m.
eastern time

For credit card orders only (VISA, MasterCard, or Discover), see
Helm, Inc. at: www.helminc.com.

To order by mail, write to:

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

Make checks payable in U.S. funds.

Radio Frequency Statement

This vehicle has systems that operate on a radio frequency that complies with Part 15/Part 18 of the Federal Communications Commission (FCC) rules and with

Innovation, Science and Economic Development (ISED) Canada's RSP-100 / ICES-GEN.

Operation is subject to the following two conditions:

1. The device may not cause harmful interference.
2. The device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to any of these systems by other than an authorized service facility could void authorization to use this equipment.

Reporting Safety Defects

Reporting Safety Defects to the United States Government

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying General Motors.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or General Motors.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to <http://www.safercar.gov>; or write to:

Administrator, NHTSA
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

Reporting Safety Defects to the Canadian Government

If you live in Canada, and you believe that the vehicle has a safety defect, notify Transport Canada immediately, and notify General Motors of Canada Company. Call Transport Canada at 1-800-333-0510; go to:

www.tc.gc.ca/recalls (English)

www.tc.gc.ca/rappels (French)
or write to:

Transport Canada
Motor Vehicle Safety Directorate
Defect Investigations and
Recalls Division
80 Noel Street
Gatineau, QC J8Z 0A1

Reporting Safety Defects to General Motors

In addition to notifying NHTSA (or Transport Canada) in a situation like this, notify General Motors.

In the U.S., call 1-800-222-1020, or write:

Chevrolet Motor Division
Chevrolet Customer Assistance
Center
P.O. Box 33170
Detroit, MI 48232-5170

In Canada, call 1-800-263-3777 (English) or 1-800-263-7854 (French), or write:

General Motors of Canada
Company
Customer Care Centre, Mail Code:
CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

In Mexico, call 800-466-0811 or 800-508-0000

In other Central America and Caribbean Countries, call 52-555-329-0806.

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 air bag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating;

- Whether or not the driver and passenger safety belts were buckled/fastened;
- How far (if at all) the driver was depressing the accelerator and/or brake pedal; and,
- How fast the vehicle was traveling.

These data can help provide a better understanding of the circumstances in which crashes and injuries occur.

Note

EDR data are recorded by your vehicle only if a non-trivial crash situation occurs; no data are recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) are recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

GM will not access these data or share it with others except: with the consent of the vehicle owner or, if the vehicle is leased, with the consent of the lessee; in response to an official request by police or similar government office; as part of GM's defense of litigation through the discovery process; or, as required by law. Data that GM collects or receives may also be used for GM research needs or may be made available to others for research purposes, where a need is shown and the data is not tied to a specific vehicle or vehicle owner.

OnStar

If the vehicle is equipped with OnStar and has an active 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*
 ⇨ 318.

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 manual for information on stored data and for deletion instructions.

OnStar

OnStar Overview

OnStar Overview 316

OnStar Services

Emergency 317

Security 318

OnStar Additional Information

OnStar Additional
Information 318

OnStar Overview



 Voice Command Button

 Blue OnStar Button

 Red Emergency Button

This vehicle may be equipped with a comprehensive, in-vehicle system that can connect to an OnStar Advisor for Emergency, Security, Navigation, Connections, and Diagnostics Services. OnStar services may require a paid 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 www.onstar.com (U.S.) or www.onstar.ca (Canada).

The OnStar system status light is next to the OnStar buttons. If the status light is:

- Solid Green: System is ready.
- Flashing Green: On a call.
- Red: Indicates a problem.
- Off: System is off. Press  twice to speak with an OnStar Advisor.

Press  or call 1-888-4ONSTAR (1-888-466-7827) to speak to an Advisor.

Functionality of the Voice Command button may vary by vehicle and region.

Press  to:

- Open the OnStar app on the infotainment display. See the infotainment manual for information on how to use the OnStar app.

Or

- Give OnStar Turn-by-Turn Navigation voice commands.
- 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.
- Get driving directions.
- 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 Samaritan or respond to an AMBER Alert.
- Get assistance in severe weather or other crisis situations and find evacuation routes.

OnStar Services

Emergency

Emergency Services require an active 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 OnStar Crisis Assist, specially trained Advisors are available 24 hours a day, 7 days a week, to provide a central point of contact, assistance, and information during a crisis.

With Roadside Assistance, Advisors can locate a nearby service provider to help with a flat tire, a battery jump, or an empty gas tank.

Security

If equipped, OnStar provides these services:

- With Stolen Vehicle Assistance, OnStar Advisors can use GPS to pinpoint the vehicle and help authorities quickly recover it.
- With Remote Ignition Block, if equipped, OnStar can block the engine from being restarted.
- With Stolen Vehicle Slowdown, if equipped, OnStar can work with law enforcement to gradually slow the vehicle down.

Theft Alarm Notification

If equipped, if the doors are locked and the vehicle alarm sounds, a notification by text, e-mail, or phone call will be sent. If the vehicle is stolen, an OnStar Advisor can work with authorities to recover the vehicle.

OnStar Additional Information

In-Vehicle Audio Messages

Audio messages may play important information at the following times:

- Prior to vehicle purchase. Press  to set up an account.
- After change in ownership and at 90 days.

Transferring Service

Press  to request account transfer eligibility information. The Advisor can cancel or change account information.

Selling/Transferring the Vehicle

Call 1-888-4ONSTAR (1-888-466-7827) immediately to terminate your OnStar or connected services if the vehicle is disposed of, sold, transferred, or if the lease ends.

Reactivation for Subsequent Owners

Press  and follow the prompts to speak to an Advisor as soon as possible. The Advisor will update vehicle records and explain OnStar or connected service options.

How OnStar Service Works

Automatic Crash Response, Emergency Services, Crisis Assist, 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:

- Call 1-888-4ONSTAR (1-888-466-7827).
- See www.onstar.com (U.S.).
- See www.onstar.ca (Canada).
- Call TTY 1-877-248-2080.

- Press **Ⓢ** to speak with an Advisor.

OnStar 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.

See *Radio Frequency Statement*
⇒ 312.

Services for People with Disabilities

Advisors provide services to help with physical disabilities and medical conditions.

Press **Ⓢ** to help:

- Locate a gas station with an attendant to pump gas.
- Find a hotel, restaurant, etc., that meets accessibility needs.
- Provide directions to the closest hospital or pharmacy in urgent situations.

TTY Users

OnStar has the ability to communicate to deaf, hard-of-hearing, or speech-impaired customers while in the vehicle. The available dealer-installed TTY system can provide in-vehicle

access to all OnStar services, except Virtual Advisor and OnStar Turn-by-Turn Navigation.

If equipped, TTY mode can be turned on or off by touching Settings, then Apps, and then Phone. When TTY mode is on, phone calls can be made or received with OnStar using the infotainment display.

OnStar Personal Identification Number (PIN)

A PIN is needed to access some OnStar services. The PIN will need to be changed the first time when speaking with an Advisor. To change the OnStar PIN, contact an OnStar Advisor by pressing **Ⓢ** or calling 1-888-4ONSTAR.

Warranty

OnStar equipment may be warranted as part of the vehicle warranty.

Languages

The vehicle can be programmed to respond in multiple languages.

Press  and ask for an Advisor. Advisors are available in English, Spanish, and French. Available languages may vary by country.

Potential Issues

OnStar cannot perform Remote Door Unlock or Stolen Vehicle Assistance after the vehicle has been off continuously for 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.

A temporary loss of GPS can cause loss of the ability to send a Turn-by-Turn Navigation route. The Advisor may give a verbal route or may ask for a call back after the vehicle is driven into an open area.

Cellular and GPS Antennas

Cellular reception is required for OnStar to send remote signals to the vehicle. Do not place items over or near the antenna to prevent blocking cellular and GPS signal reception.

Unable to Connect to OnStar Message

If there is limited cellular coverage or the cellular network has reached maximum capacity, this message

may come on. Press  to try the call again or try again after driving a few miles into another cellular area.

Vehicle and Power Issues

OnStar services require a vehicle electrical system, wireless service, and GPS satellite technologies to be available and operating for features to function properly. These systems may not operate if the battery is discharged or disconnected.

Add-On Electrical Equipment

The OnStar system is integrated into the electrical architecture of the vehicle. Do not add any electrical equipment. See *Add-On Electrical Equipment* ⇨ 208. 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 www.onstar.com (U.S.), or www.onstar.ca (Canada). We recommend that you review it. If you have any questions, call 1-888-4ONSTAR (1-888-466-7827) or press  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.

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 <http://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.

Connected Services

Connected Services

Navigation	322
Connections	323
Diagnostics	324

Connected Services Navigation

Navigation requires a specific OnStar or connected service plan.

Press  to receive Turn-by-Turn directions or have them sent to the vehicle navigation screen, if equipped.

Turn-by-Turn Navigation

1. Press  to connect to an Advisor.
2. Request directions to be downloaded to the vehicle.
3. Follow the voice-guided commands.

Using Voice Commands During a Planned Route

Functionality of the Voice Command button, if equipped, may vary by vehicle and region. For some vehicles, press  to open the OnStar app on the infotainment display. For other vehicles press  as follows.

Cancel Route

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Cancel route." System responds: "Do you want to cancel directions?"
3. Say "Yes." System responds: "OK, request completed, thank you, goodbye."

Route Preview

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Route preview." System responds with the next three maneuvers.

Repeat

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Repeat." System responds with the last direction given, then responds with "OnStar ready," then a tone.

Get My Destination

1. Press . System responds: "OnStar ready," then a tone.
2. Say "Get my destination." System responds with the address and distance to the destination, then responds with "OnStar ready," then a tone.

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 www.onstar.com (U.S.) or www.onstar.ca (Canada).

Connections

The following services help with staying connected.

For coverage maps, see www.onstar.com (U.S.) or www.onstar.ca (Canada).

Ensuring Security

- Change the default passwords for the Wi-Fi hotspot and 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).
3. To change the SSID or password, press  or call 1-888-4ONSTAR to connect with an Advisor. On some vehicles, the SSID and password can be changed in the Wi-Fi Hotspot menu.

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 myChevrolet mobile app, or by contacting an OnStar Advisor. On some vehicles, Wi-Fi can also be managed from the Wi-Fi Hotspot menu.

MyChevrolet Mobile App (If Available)

Download the myChevrolet mobile app to compatible Apple and Android smartphones. 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.
- Send destinations to the vehicle.
- Locate the vehicle on a map (U.S. market only).

- Turn the vehicle's Wi-Fi hotspot on/off, manage settings, and monitor data consumption, if equipped.
- Locate a dealer and schedule service.
- Request roadside service.
- Set a parking reminder with pin drop, take a photo, make a note, and set a timer.
- Connect with Chevrolet on social media.

Features are subject to change. For myChevrolet mobile app information and compatibility, see my.chevrolet.com.

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 www.onstar.com for details and system limitations.

Remote Services

Contact an OnStar Advisor to unlock the doors or sound the horn and flash the lamps.

Marketplace

OnStar Advisors can provide offers from restaurants and retailers on your route, help locate hotels, or book a room. These services vary by market.

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.onstar.com for details and system limitations. Features are subject to change. For updates on feature capabilities, see my.chevrolet.com. Message and data rates may apply.

Index

A

Accessories and Modifications	211
Accessory Power	168
Active Fuel Management	169
Add-On Electrical Equipment ...	208
Additional Information	
OnStar	318
Additional Maintenance and Care	292
Adjustments	
Lumbar, Front Seats	49
Air Cleaner/Filter, Engine	224
Air Conditioning	139
Air Dam, Front	164
Air Filter	
Life System	224
Air Filter, Passenger Compartment	143
Air Vents	143
Airbag System	
Check	73
How Does an Airbag Restrain?	66
Passenger Sensing System ...	68
What Makes an Airbag Inflate?	66

Airbag System (cont'd)	
What Will You See after an Airbag Inflates?	66
When Should an Airbag Inflate?	65
Where Are the Airbags?	64
Airbags	
Adding Equipment to the Vehicle	72
Passenger Status Indicator ...	100
Readiness Light	100
Servicing Airbag-Equipped Vehicles	72
System Check	63
Alarm	
Vehicle Security	26
Alert	
Side Blind Zone (SBZA)	202
All-Season Tires	246
Antilock Brake System (ABS) ...	179
Warning Light	105
Appearance Care	
Exterior	273
Interior	279
Assistance Program,	
Roadside	306
Assistance Systems for Parking and Backing	200

Automatic	
Dimming Mirrors	31
Door Locks	20
Headlamp System	127

B

Battery	
Exterior Lighting Battery	
Saver	131
Power Protection	131
Battery - North America	234, 267
Blade Replacement, Wiper	236
Brake	
Electric Boost	179
Parking, Electric	179
System Warning Light	104
Brakes	232
Antilock	179
Assist	181
Fluid	233
Braking	148
Break-In, New Vehicle	163
Bulb Replacement	
Headlamp Aiming	238
Buying New Tires	261

C

Calibration	88

California	
Perchlorate Materials	
Requirements	211
California	
Proposition	
65 Warning	210, 234, 267,
Back Cover	
Canadian Vehicle Owners	2
Capacities and	
Specifications	299
Carbon Monoxide	
Engine Exhaust	170
Hatch	23
Winter Driving	158
Cargo	
Tie-Downs	85
Caution, Danger, and Warning	3
Center Console Storage	85
Chains, Tire	266
Charging	
Wireless	90
Charging System Light	101
Check	
Engine Light (Malfunction	
Indicator)	102
Child Restraints	
Infants and Young Children	75

Child Restraints (cont'd)	
Lower Anchors and Tethers	
for Children	79
Older Children	74
Securing	80
Systems	77
Circuit Breakers	239
Cleaning	
Exterior Care	273
Interior Care	279
Climate Control Systems	
Dual Automatic	139
Clock	89
Cluster, Instrument	94
Collision Damage Repair	309
Compartment	
Underhood	214
Compartments	
Storage	83
Compass	88
Competitive Driving Mode	192
Composite Materials	164
Connected Services	
Connections	323
Diagnostics	324
Navigation	322
Connections	
Connected Services	323

Control	
Hill Rollback	184
Traction and Electronic Stability	182
Control of a Vehicle	148
Convenience Net	85
Convertible Top	41
Convex Mirrors	29
Coolant	
Engine Temperature Gauge	99
Cooling	139
Cooling System	226
Courtesy Lamps	129
Courtesy Transportation	
Program	308
Cruise Control	196
Light	108
Cupholders	83
Customer Assistance	305
Offices	304
Text Telephone (TTY) Users	305
Customer Information	
Publications Ordering Information	311
Customer Satisfaction	
Procedure	302
Cybersecurity	314

D	
Damage Repair, Collision	309
Danger, Warning, and Caution	3
Data Collection	
Infotainment System	315
OnStar	315
Data Recorder	
Performance	132
Data Recorders, Event	314
Daytime Running	
Lamps (DRL)	126
Defensive Driving	147
Delayed Locking	20
Diagnostics	
Connected Services	324
Differential, Limited-Slip	195
Distracted Driving	146
Door	
Ajar Light	108
Delayed Locking	20
Locks	17
Drive Belt Routing, Engine	301
Driver Assistance Systems	199
Driver Information	
Center (DIC)	108
Driver Mode Control	184
Driving	
Better Fuel Economy	146

Driving (cont'd)	
Competitive	192
Defensive	147
Drunk	147
Hill and Mountain Roads	157
If the Vehicle is Stuck	159
Loss of Control	150
Off-Road Recovery	149
Track Events and	
Competitive	150
Vehicle Load Limits	160
Wet Roads	156
Winter	158
Dual Automatic Climate	
Control System	139
Dual Clutch Transmission	171
Manual Mode	174
Dual Clutch Transmission	
Fluid	222
Dual Clutch Transmission	
Fluid Life System	223
E	
Electric Brake Boost	179
Electric Parking Brake	179
Electric Parking Brake Light	104
Electrical Equipment,	
Add-On	208

Electrical System		Entry Lighting	130	Front Lift System Light	103
Fuses and Circuit Breakers ...	239	Event Data Recorders	314	Front Seats	
Instrument Panel Fuse		Exit Lighting	130	Heated and Ventilated	53
Block	239	Extended Parking	169	Front Storage	83
Overload	239	Extender, Seat Belt	61	Fuel	
Rear Compartment Fuse		Exterior Lamp Controls	125	Additives	205
Block	242	Exterior Lamps Off Reminder ...	126	Economy, Driving for Better ...	146
Electronic Stability Control		Exterior Lighting Battery		Filling a Portable Fuel	
(ESC) Off Light	106	Saver	131	Container	207
Emergency		F		Filling the Tank	205
OnStar	317	Filter,		Foreign Countries	205
Engine		Engine Air Cleaner	224	Gauge	98
Air Cleaner/Filter	224	Flash-to-Pass	126	Management, Active	169
Check Light (Malfunction		Flashers, Hazard Warning	128	Prohibited Fuels	205
Indicator)	102	Flat Tire	267	Recommended	204
Compartment Overview	215	Floor Mats	282	Top Tier	204
Coolant Temperature Gauge ...	99	Fluid		Fuses	
Cooling System	226	Brakes	233	Fuses and Circuit Breakers ...	239
Drive Belt Routing	301	Dual Clutch Transmission ...	222	Instrument Panel Fuse	
Exhaust	170	Dual Clutch Transmission		Block	239
Oil Life System	221	Life System	223	Rear Compartment Fuse	
Oil Pressure Light	107	Washer	231	Block	242
Overheating	230	Folding Mirrors	30	G	
Power Messages	115	Frequency Statement		Garage Door Opener	121
Running While Parked	171	Radio	312	Programming	121
Starting	166	Front Air Dam	164	Gas Strut(s)	237
Engine Air Filter Life System ...	224	Front Lift System	191		
Engine Compartment Lamp	129				

Gauges	
Engine Coolant Temperature . . .	99
Fuel	98
Odometer	98
Speedometer	98
Tachometer	98
Transmission Temperature	99
Trip Odometer	98
Warning Lights and Indicators	93
General Information	
Service and Maintenance	284
Towing	208
Vehicle Care	210
Glove Box	83
GM Mobility Reimbursement Program	306
H	
Hatch	23
Hazard Warning Flashers	128
Head Restraints	47
Head-up Display	110
Headlamps	
Aiming	238
Automatic	127
Daytime Running Lamps (DRL)	126

Headlamps (cont'd)	
Flash-to-Pass	126
High-Beam On Light	107
High/Low Beam Changer	126
Lamps On Reminder	108
Heated	
Steering Wheel	87
Heated and Ventilated Front Seats	53
Heated Mirrors	31
Heating	139
High-Beam On Light	107
High-Speed Operation	254
Hill and Mountain Roads	157
Hill Rollback Control	184
Hill Start Assist (HSA)	181
Hood	21
Horn	87
How to Wear Seat Belts Properly	56
HVAC	139
I	
Ignition Positions	165
Immobilizer	28
Infants and Young Children, Restraints	75

Information	
Publication Ordering	311
Infotainment	132
Infotainment System	315
Instrument Cluster	94
Instrument Panel Overview	5
Interior Rearview Mirrors	32
Introduction	2
J	
Jump Starting - North America	267
K	
Keyless Entry	
Remote (RKE) System	9
Keys	7
L	
Labeling, Tire Sidewall	249
Lamps	
Courtesy	129
Daytime Running (DRL)	126
Engine Compartment	129
Exterior Controls	125
Exterior Lamps Off	
Reminder	126
Exterior Lighting Battery Saver	131

Lamps (cont'd)	
Malfunction Indicator (Check Engine)	102
On Reminder	108
Reading	129
Lap-Shoulder Belt	58
LATCH, Lower Anchors and Tethers for Children	79
LED Lighting	238
Lifting the Vehicle, Tires	211
Lighting	
Entry	130
Exit	130
Illumination Control	129
LED	238
Lights	
Airbag Readiness	100
Antilock Brake System (ABS) Warning	105
Brake System Warning	104
Charging System	101
Check Engine (Malfunction Indicator)	102
Cruise Control	108
Door Ajar	108
Electric Parking Brake	104
Electronic Stability Control (ESC), Off	106

Lights (cont'd)	
Engine Oil Pressure	107
Flash-to-Pass	126
Front Lift System	103
High-Beam On	107
High/Low Beam Changer	126
Seat Belt Reminders	99
Security	107
Service Electric Parking Brake	105
Tire Pressure	106
Traction Off	105
Limited-Slip Differential	195
Locks	
Automatic Door	20
Delayed Locking	20
Door	17
Lockout Protection	20
Loss of Control	150
Low-Profile Tires	248
Lower Anchors and Tethers for Children (LATCH System)	79
Lumbar Adjustment	49
Front Seats	49

M	
Maintenance	
Records	297
Maintenance and Care	
Additional	292
Maintenance Schedule	286
Recommended Fluids and Lubricants	295
Malfunction Indicator Lamp	102
Manual Mode	174
Memory Seats	50
Messages	
Engine Power	115
Vehicle	114
Vehicle Speed	115
Mirror	
Rear Camera	32
Mirrors	
Automatic Dimming	31
Automatic Dimming	
Rearview	32
Convex	29
Folding	30
Heated	31
Manual Rearview	32
Power	30
Tilt in Reverse	31
Mirrors, Interior Rearview	32

Mode	184
Driver Control	184
Monitor System, Tire	
Pressure	255

N

Navigation	
Connected Services	322
Net, Convenience	85
New Vehicle Break-In	163

O

Odometer	98
Trip	98
Off-Road	
Recovery	149
Oil	
Engine	218
Engine Oil Life System	221
Pressure Light	107
Older Children, Restraints	74
Online Owner Center	305
OnStar	315
OnStar Additional	
Information	318
OnStar Emergency	317
OnStar Overview	316
OnStar Security	318

Outlets	
Power	89
Overheating, Engine	230
Overview	
Instrument Panel	5
Underhood Compartment	214

P

Panel, Roof	37
Park	
Shifting Into	168
Shifting Out of	169
Park Assist	200
Parking	
Brake and P (Park)	
Mechanism Check	235
Extended	169
Over Things That Burn	169
Parking or Backing	
Assistance Systems	200
Passenger Airbag Status	
Indicator	100
Passenger Compartment Air	
Filter	143
Passenger Sensing System	68
Perchlorate Materials	
Requirements, California	211

Performance Data	
Recorder (PDR)	132
Personalization	
Vehicle	116
Power	
Mirrors	30
Outlets	89
Protection, Battery	131
Retained Accessory (RAP) ...	168
Seat Adjustment	48
Windows	35
Pregnancy, Using Seat Belts	61
Privacy	
Vehicle Data Recording	314
Program	
Courtesy Transportation	308
Prohibited Fuels	205
Proposition	
65 Warning,	
California	210, 234, 267,
Back Cover	
Publication Ordering	
Information	311

R	
Radio Frequency Statement	312
Reading Lamps	129
Rear Camera Mirror	32
Rear Storage	84
Rear Vision Camera (RVC)	200
Rear Windows	37
Rearview Mirrors	32
Automatic Dimming	32
Reclining Seatbacks	49
Recommended	
Fuel	204
Recommended Fluids and Lubricants	295
Records	
Maintenance	297
Recreational Vehicle Towing	273
Reimbursement Program, GM Mobility	306
Remote Keyless Entry (RKE) System	9
Remote Vehicle Start	15
Replacement Parts	
Airbags	73
Maintenance	296
Replacing Airbag System	73
Replacing Seat Belt System	
Parts after a Crash	62
Reporting Safety Defects	
Canadian Government	313
General Motors	313
U.S. Government	312
Retained Accessory Power (RAP)	168
Reverse Tilt Mirrors	31
Ride Control Systems	
Enhanced Traction System (ETS)	195
Roads	
Driving, Wet	156
Roadside Assistance Program	306
Roof Panel	37
Rotation, Tires	259
Routing, Engine Drive Belt	301
Run-Flat Tires	247
Running the Vehicle While Parked	171
S	
Safety Defects Reporting	
Canadian Government	313
General Motors	313

Safety Defects Reporting (cont'd)	
U.S. Government	312
Safety System Check	61
Scheduling Appointments	308
Seat Belts	55
Care	61
Extender	61
How to Wear Seat Belts	
Properly	56
Lap-Shoulder Belt	58
Reminders	99
Replacing after a Crash	62
Use During Pregnancy	61
Seats	
Head Restraints	47
Heated and Ventilated Front	53
Lumbar Adjustment, Front	49
Memory	50
Power Adjustment, Front	48
Reclining Seatbacks	49
Securing Child Restraints	80
Security	
Light	107
OnStar	318
Vehicle	26
Vehicle Alarm	26
Service	144

Service (cont'd)	
Accessories and Modifications	211
Doing Your Own Work	213
Maintenance Records	297
Maintenance, General Information	284
Parts Identification	298
Scheduling Appointments	308
Service Electric Parking Brake Light	105
Services	
Special Application	292
Servicing the Airbag	72
Shifting	
Into Park	168
Out of Park	169
Side Blind Zone Alert (SBZA) ..	202
Signals, Turn and Lane-Change	128
Special Application Services	292
Specifications and Capacities	299
Speedometer	98
Start Vehicle, Remote	15
Starting the Engine	166
Steering	148
Heated Wheel	87

Steering (cont'd)	
Wheel Adjustment	87
Wheel Controls	87
Storage	
Rear	84
Storage Areas	
Center Console	85
Convenience Net	85
Front	83
Glove Box	83
Storage Compartments	83
Struts	
Gas	237
Stuck Vehicle	159
Summer Tires	248
Sun Visors	37
Symbols	3
System	
Engine Air Filter Life	224
Front Lift	191
Infotainment	132, 315
Systems	
Driver Assistance	199

T

Tachometer	98
Text Telephone (TTY) Users	305
Theft-Deterrent Systems	28

Theft-Deterrent Systems (cont'd)	
Immobilizer	28
Time	89
Tires	245
All-Season	246
Buying New Tires	261
Chains	266
Designations	250
Different Size	262
If a Tire Goes Flat	267
Inspection	259
Lifting the Vehicle	211
Low Profile	248
Pressure	253, 254
Pressure Light	106
Pressure Monitor Operation ..	256
Pressure Monitor System	255
Rotation	259
Run-Flat	247
Sidewall Labeling	249
Terminology and Definitions ..	251
Uniform Tire Quality Grading	263
Wheel Alignment and Tire Balance	264
Wheel Replacement	265
When It Is Time for New Tires	260

Tires (cont'd)	
Winter	247
Top Tier Fuel	204
Towing	
General Information	208
Recreational Vehicle	273
Vehicle	271
Track Events and	
Competitive Driving	150
Traction	
Limited-Slip Differential	195
Off Light	105
Traction Control/Electronic	
Stability Control	182
Transmission	
Dual Clutch	171
Dual Clutch Fluid	222
Dual Clutch Fluid Life	
System	223
Temperature Gauge	99
Transportation Program,	
Courtesy	308
Trip Odometer	98
Turn and Lane-Change	
Signals	128

U

Underhood Compartment	
Overview	214
Uniform Tire Quality Grading ...	263
Universal Remote System	121
Operation	123
Programming	121
Using This Manual	2

V

Vehicle	
Alarm System	26
Canadian Owners	2
Control	148
Identification Number (VIN) ...	298
Load Limits	160
Messages	114
Personalization	116
Remote Start	15
Security	26
Speed Messages	115
Towing	271
Vehicle Care	
Tire Pressure	253
Vehicle Data Recording and	
Privacy	314
Ventilation, Air	143
Visors	37

W

Warning	
Brake System Light	104
Caution and Danger	3
Warning Lights, Gauges, and	
Indicators	93
Warnings	
Hazard Flashers	128
Washer Fluid	231
Wheels	
Alignment and Tire Balance ..	264
Different Size	262
Replacement	265
When It Is Time for New	
Tires	260
Windows	35
Power	35
Rear	37
Windshield	
Replacement	236
Wiper/Washer	87
Winter	
Driving	158
Winter Tires	247
Wiper Blade Replacement	236
Wireless Charging	90



WARNING

Operating, servicing and maintaining a passenger vehicle or off-highway motor vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle.



Certified Service



23295642 B

