2012 Chevrolet Impala Owner Manual

In Brief 1-1
Instrument Panel 1-2
Initial Drive Information 1-3
Vehicle Features 1-13
Performance and Maintenance 1-17

Keys, Doors, and Windows 2-1
Keys and Locks 2-2
Doors 2-9
Vehicle Security 2-11
Exterior Mirrors 2-13
Interior Mirrors 2-14
Windows 2-15
Roof 2-17

Seats and Restraints 3-1
Head Restraints 3-2
Front Seats 3-3
Rear Seats 3-8
Safety Belts 3-10
Airbag System 3-19
Child Restraints 3-33

Storage 4-1
Storage Compartments 4-1
Additional Storage Features ... 4-2

Instruments and Controls 5-1
Controls 5-2
Warning Lights, Gauges, and Indicators 5-9
Information Displays 5-23
Vehicle Messages 5-27
Vehicle Personalization 5-35
Universal Remote System 5-40

Lighting 6-1
Exterior Lighting 6-1
Interior Lighting 6-5
Lighting Features 6-6

Infotainment System 7-1
Introduction 7-1
Radio 7-6
Audio Players 7-13
Phone 7-19

Climate Controls 8-1
Climate Control Systems 8-1
Air Vents 8-4
Maintenance 8-5

Driving and Operating 9-1
Driving Information 9-2
Starting and Operating 9-14
Engine Exhaust 9-21
Automatic Transmission 9-22
Brakes 9-26
Ride Control Systems 9-27
Cruise Control 9-30
Fuel 9-33
Towing 9-39
Conversions and Add-Ons ... 9-45

2012 Chevrolet Impala Owner Manual

Vehicle Care 10-1
General Information 10-2
Vehicle Checks 10-4
Headlamp Aiming 10-24
Bulb Replacement 10-24
Electrical System 10-28
Wheels and Tires 10-33
Jump Starting 10-62
Towing 10-65
Appearance Care 10-67

Service and Maintenance ... 11-1
General Information 11-1
Maintenance Schedule 11-3
Special Application Services 11-8
Additional Maintenance and Care 11-8
Recommended Fluids, Lubricants, and Parts 11-11
Maintenance Records 11-13

Technical Data 12-1
Vehicle Identification 12-1
Vehicle Data 12-2

Customer Information 13-1
Customer Information 13-1
Reporting Safety Defects 13-12
Vehicle Data Recording and Privacy 13-14

OnStar 14-1
OnStar Overview 14-1
OnStar Services 14-2
OnStar Additional Information 14-5

Index i-1

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

This manual describes features that may or may not be on your specific vehicle either because they are options that you did not purchase or due to changes subsequent to the printing of this owner manual.

Please refer to the purchase documentation relating to your specific vehicle to confirm each of the features found on your vehicle. For vehicles first sold in Canada, substitute the name "General Motors of Canada Limited" for Chevrolet Motor Division wherever it appears in this manual.

Keep this manual in the vehicle for quick reference.

Canadian Vehicle Owners

Propriétaires Canadiens

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

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

Helm, Incorporated
P.O. Box 07130
Detroit, MI 48207

1-800-551-4123
Numéro de poste 6438 de langue française
www.helminc.com

Litho in U.S.A.
Part No. 20864990 B Second Printing

©2011 General Motors LLC. All Rights Reserved.

Using this Manual

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

Danger, Warnings, and Cautions

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

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

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

⚠ WARNING

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

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

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

Symbols

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

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

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

Vehicle Symbol Chart

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

: Airbag Readiness Light

: Air Conditioning

: Antilock Brake System (ABS)

: Audio Steering Wheel Controls or OnStar®

: Brake System Warning Light

: Charging System

: Cruise Control

: Engine Coolant Temperature

: Exterior Lamps

: Fog Lamps

: Fuel Gauge

: Fuses

: Headlamp High/Low-Beam Changer

: LATCH System Child Restraints

: Malfunction Indicator Lamp

: Oil Pressure

: Power

: Remote Vehicle Start

: Safety Belt Reminders

: Tire Pressure Monitor

: Traction Control/StabiliTrak®

: Windshield Washer Fluid

✍ NOTES

In Brief

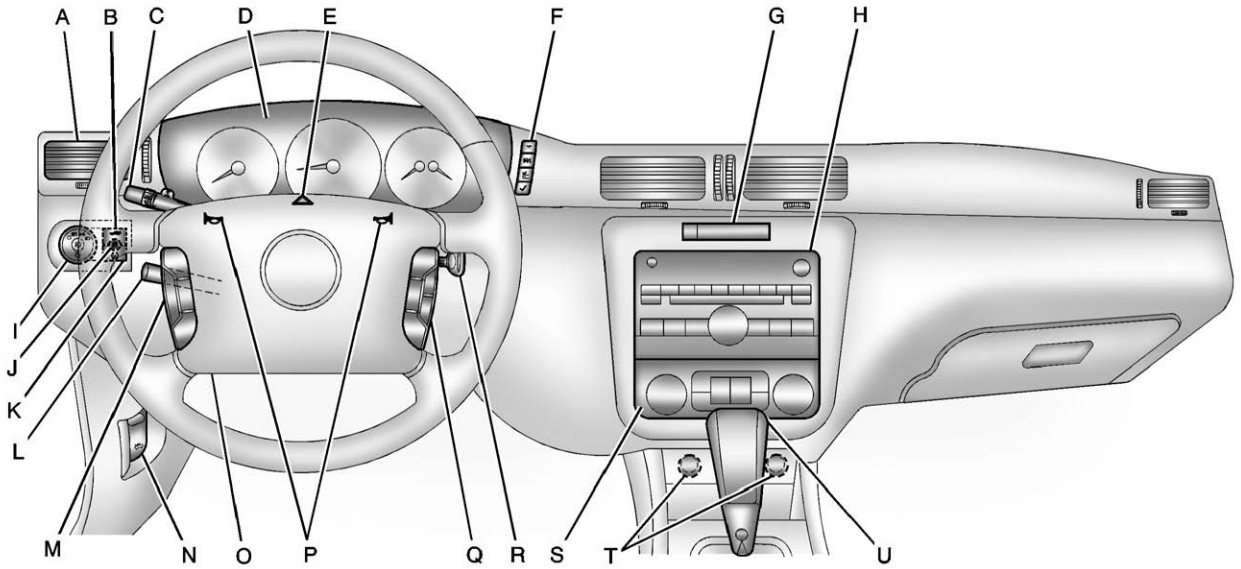
Instrument Panel
Instrument Panel 1-2

Initial Drive Information
Initial Drive Information 1-3
Remote Keyless Entry (RKE) System 1-3
Remote Vehicle Start 1-4
Door Locks 1-5
Trunk Release 1-5
Windows 1-5
Seat Adjustment 1-6
Second Row Seats 1-7
Head Restraint Adjustment 1-7
Safety Belts 1-7
Passenger Sensing System . . . 1-8
Mirror Adjustment 1-8
Steering Wheel Adjustment . . . 1-9
Interior Lighting 1-9
Exterior Lighting 1-10
Windshield Wiper/Washer 1-10
Climate Controls 1-11

Vehicle Features
Radio(s) 1-13
Satellite Radio 1-14
Portable Audio Devices 1-14
Bluetooth® 1-15
Steering Wheel Controls 1-15
Cruise Control 1-16
Power Outlets 1-16

Performance and Maintenance
Traction Control System (TCS) 1-17
Electronic Stability Control (ESC) 1-17
Tire Pressure Monitor 1-17
Engine Oil Life System 1-18
Fuel E85 (85% Ethanol) 1-18
Driving for Better Fuel Economy 1-18
Roadside Assistance Program 1-19
OnStar® 1-19

Instrument Panel



A. *Air Vents on page 8-4*.

B. Remote Trunk Release Button. See *Trunk on page 2-9*.

C. Turn and Lane-Change Lever. See *Turn and Lane-Change Signals on page 6-4*.

D. *Instrument Cluster on page 5-10*.

E. *Hazard Warning Flashers on page 6-3*.

F. *Driver Information Center (DIC) on page 5-23*.

G. *Passenger Airbag Status Indicator on page 5-14*.

H. *Infotainment on page 7-1*.

I. *Exterior Lamp Controls on page 6-1*.

J. *Instrument Panel Illumination Control on page 6-5*.

Dome Lamp Control. See *Dome Lamps on page 6-6*.

K. *Traction Control System (TCS) on page 9-27* (If Equipped).

L. *Steering Wheel Adjustment on page 5-2*.

M. *Cruise Control on page 9-30*.

N. Hood Release. See *Hood on page 10-5*.

O. Data Link Connector (DLC) (Out of View). See *Malfunction Indicator Lamp on page 5-16*.

P. *Horn on page 5-3*.

Q. *Steering Wheel Controls on page 5-3* (If Equipped).

R. *Ignition Positions on page 9-15*.

S. *Climate Control Systems on page 8-1*.

T. *Power Outlets on page 5-8*.

U. Center Console Shift Lever (If Equipped). See *Shifting Into Park on page 9-19*.

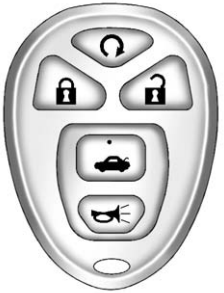
Initial Drive Information

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

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

Remote Keyless Entry (RKE) System

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



Press to unlock the driver door. Press again within five seconds to unlock all remaining doors.

Press to lock all doors.

Lock and unlock feedback can be personalized. See *Vehicle Personalization on page 5-35* for additional information.

Press and hold for approximately one second to open the trunk.

Press and release to locate the vehicle.

Press and hold for more than two seconds to sound the panic alarm.

Press again to cancel the panic alarm.

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

Remote Vehicle Start

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

Starting the Vehicle

1. Aim the RKE transmitter at the vehicle.
2. Press and release .
3. Immediately after completing Step 2, press and hold until the turn signal lamps flash.

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

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

Canceling a Remote Start

To cancel a remote start:

- Aim the RKE transmitter at the vehicle and press and hold until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Turn the ignition on and then back off.

See *Remote Vehicle Start on page 2-5*.

Door Locks

Manual Locks

From outside the vehicle, use the key in the door or the Remote Keyless Entry (RKE) transmitter to lock or unlock the vehicle. From the inside, pull up or push down on the manual door lock knobs.

See *Door Locks on page 2-6*.

Power Door Locks

Power door lock switches are located on the front doors near the handle.

: Press the bottom of the switch to lock all doors.

: Press the top of the switch to unlock all doors.

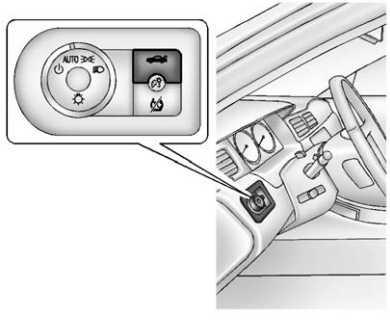
For more information, see:

- *Power Door Locks on page 2-7*.
- *Delayed Locking on page 2-7*.

Trunk Release

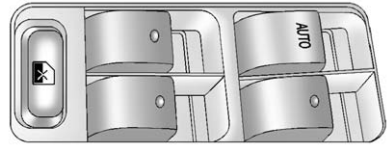
To open the trunk from the outside, press on the RKE transmitter. See *Remote Keyless Entry (RKE) System Operation on page 2-3*.

Or, use the key in the lock cylinder, if equipped.



To open the trunk from the inside, press . See *Trunk on page 2-9*.

Windows



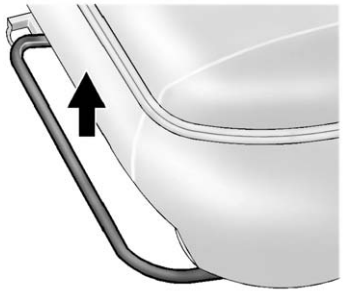
The power window switches are on the driver door armrest. Each passenger door has a switch that controls only that window.

To lower the window, press and hold the front of the switch to the first position until the window is at the desired level. To raise the window, pull up and hold the front of the switch.

For more information, see *Power Windows on page 2-16*.

Seat Adjustment

Manual Seats



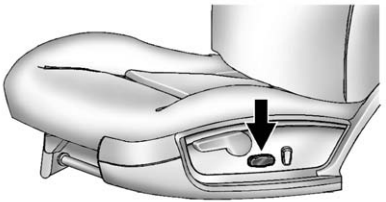
To adjust a manual seat:

1. Lift the bar under the front edge of the seat cushion to unlock the seat.
2. Slide the seat to the desired position and release the bar.
3. Try to move the seat back and forth to be sure the seat is locked in place.

See *Seat Adjustment on page 3-3*.

To adjust the seatback, see “Manual Reclining Seatbacks” under *Reclining Seatbacks on page 3-5*.

Power Seats

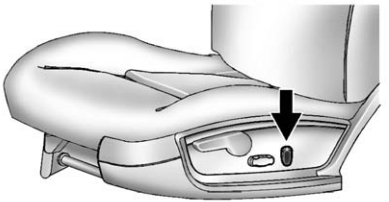


To adjust a power seat, if equipped:

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

See *Power Seat Adjustment on page 3-4*.

Power Reclining Seatback

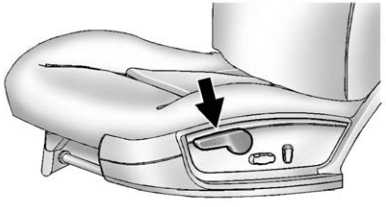


To adjust a power seatback, if equipped:

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

See “Power Reclining Seatbacks” under *Reclining Seatbacks on page 3-5*.

Manual Lumbar



Move the lever up or down to increase or decrease lumbar support.

See *Lumbar Adjustment on page 3-4*.

Second Row Seats

On vehicles with the flip and fold feature, the bottom seat cushions can be flipped forward and the seatback folded down to create an extended cargo area.

The vehicle also has an under seat storage area.

See *Rear Seats (Split Folding) on page 3-8*.

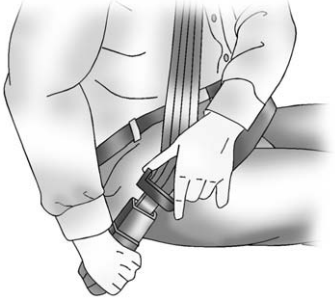
Head Restraint Adjustment

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

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

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

Safety Belts



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

- *Safety Belts on page 3-10*.
- *How to Wear Safety Belts Properly on page 3-11*.
- *Lap-Shoulder Belt on page 3-12*.
- *Lap Belt on page 3-17*.
- *Lower Anchors and Tethers for Children (LATCH System) on page 3-41*.

Passenger Sensing System

The passenger sensing system will turn off the right front passenger frontal airbag under certain conditions. The driver airbags, seat-side impact airbags, and roof-rail airbags are not affected by this.

The passenger airbag status indicator will be visible on the instrument panel when the vehicle is started.

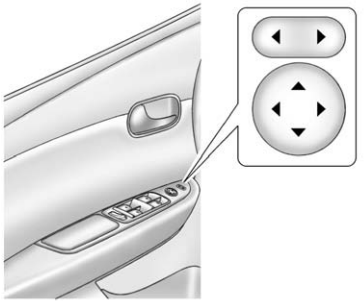
United States

Canada

See *Passenger Sensing System on page 3-26* for important information.

Mirror Adjustment

Exterior Mirrors



Controls for the outside power mirrors are on the driver door armrest.

Press the left or right side of the selector located above the control pad to adjust the driver or passenger mirror. Then press the control pad to move the mirror in the desired direction.

See *Power Mirrors on page 2-14*.

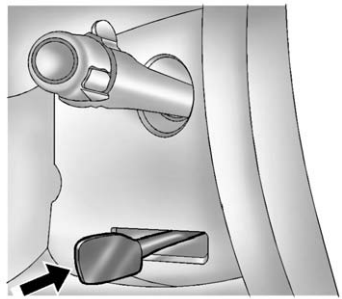
Interior Mirror

Vehicles with a manual rearview mirror can be adjusted by holding the mirror in the center to move it for a clearer view behind the vehicle. Adjust the mirror to avoid glare from the headlamps behind. Pull the lever, located at the bottom of the mirror for nighttime use. Return the lever to its original position for the day position.

See *Manual Rearview Mirror on page 2-14*.

On vehicles with an automatic dimming rearview mirror, the mirror will automatically adjust to reduce the glare of lights from behind the vehicle. See *Automatic Dimming Rearview Mirror on page 2-15*.

Steering Wheel Adjustment



The tilt wheel lever is located on the left side of the steering column.

To adjust the steering wheel:

1. Hold the wheel and pull the lever toward you.
2. Move the steering wheel up or down.
3. Release the lever to lock the steering wheel in place.

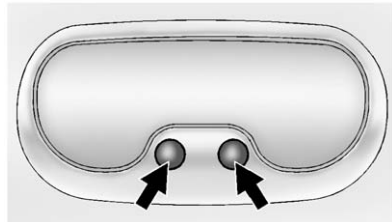
Do not adjust the steering wheel while driving.

Interior Lighting

Dome Lamp

The center mounted dome lamp overhead comes on when a door is opened. This lamp can also be turned on by turning the instrument panel brightness control clockwise.

Reading Lamps



The vehicle has reading lamps that also act as the dome lamp. Press the button near each lamp to turn them on and off.

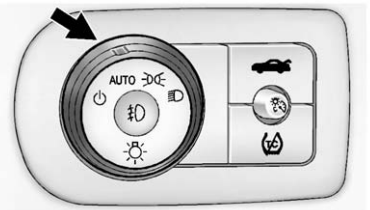
Map Lamps

The vehicle has map lamps on the rearview mirror. Push the button near each lamp to turn the map lamps on and off.

For more information on interior lighting, see:

- *Instrument Panel Illumination Control on page 6-5*.
- *Courtesy Lamps on page 6-5*.

Exterior Lighting



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

: Briefly turn to this position to manually turn the automatic lamp control and Daytime Running Lamps (DRL) off or on. For vehicles first sold in Canada, the off position only works when the vehicle is shifted into the P (Park) position.

AUTO: Automatically operates the headlamps and other exterior lamps at normal brightness.

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

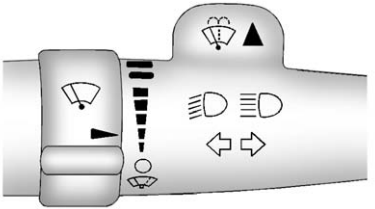
: Turns on the headlamps and other exterior lamps.

: (If Equipped) Turns on the fog lamps.

For more information, see:

- *Exterior Lamp Controls on page 6-1*.
- *Fog Lamps on page 6-4*.
- *Daytime Running Lamps (DRL)/ Automatic Headlamp System on page 6-3*.

Windshield Wiper/Washer



The lever is located on the left side of the steering column.

: Single wipe, turn to , then release. Several wipes, hold the band on longer.

: Turns the windshield wipers off.

: Turn the band up for more frequent wipes or down for less frequent wipes.

: Slow wipes.

: Fast wipes.

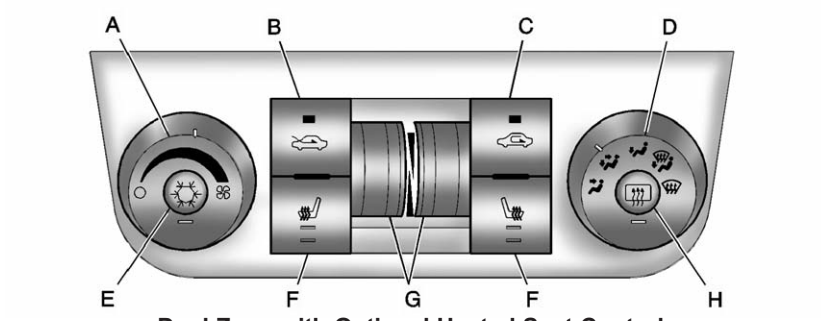
Windshield Washer

Push the paddle at the top of the lever to spray washer fluid on the windshield.

See *Windshield Wiper/Washer on page 5-4*.

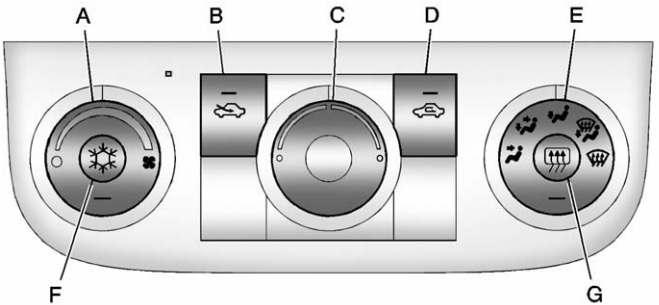
Climate Controls

This vehicle may have a dual or single climate control system. The heating, cooling, defrost, defog, and ventilation can be controlled with either of these systems.



Dual Zone with Optional Heated Seat Controls

A. Fan Control
B. Outside Air
C. Recirculation
D. Air Delivery Mode Control
E. Air Conditioning
F. Driver and Passenger Heated Seats (If Equipped)
G. Driver and Passenger Temperature Controls
H. Rear Window Defogger



Single Zone

A. Fan Control
B. Outside Air
C. Temperature Control
D. Recirculation
E. Air Delivery Mode Control
F. Air Conditioning
G. Rear Window Defogger

See *Climate Control Systems on page 8-1*.

Vehicle Features

Radio(s)

Radio with CD (Base)

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

BAND: Press to choose between FM1, FM2, AM, or XM™ (if equipped) on the Radio with CD (Base).

♫ **:** Select radio stations.

⏮⏭ **:** Seek or scan stations.

ℹ **:** For vehicles with RDS, press to display additional text information related to the current FM-RDS or XM station; or CD, MP3, or WMA song. If information is available during XM or CD playback, the song title information displays on the top line of the display and artist information displays on the bottom line. When information is not available, “No Info” displays.

For more information about these and other radio features, see *Infotainment on page 7-1*.

Storing a Favorite Station

Depending on which radio the vehicle has, radio stations are stored as either favorites or presets.

For radios with a FAV button, a maximum of 36 stations can be stored as favorites using the 6 softkeys located below the radio

station frequency tabs and by using the radio FAV button. Press FAV to go through up to 6 pages of favorites, each having 6 favorite stations available per page. Each page of favorites can contain any combination of AM, FM, or XM stations.

For radios without a FAV button, up to 18 stations (6 FM1, 6 FM2, and 6 AM), can be programmed on the 6 numbered buttons.

See *Operation on page 7-2*.

Setting the Clock

To set the time for the Radio with CD (Base):

1. Press the ◷ button until the hour begins flashing on the display.

   Press ◷ a second time and the minutes begin flashing on the display.

2. To increase or decrease the time, do one of the following while the hours or minutes are flashing:

   - Turn the ♫ knob.
   - Press ⏭ SEEK or ⏮ SEEK.
   - Press ▷▷ FWD or ◁◁ REV.

3. Press the ◷ button again until the clock display stops flashing to set the currently displayed time, or wait five seconds until the flashing stops and the current time displayed is automatically set.

For detailed instructions on setting the clock for your specific audio system, see *Clock on page 5-6*.

Satellite Radio

XM is a satellite radio service based in the 48 contiguous United States and 10 Canadian provinces.

XM satellite radio has a wide variety of programming and commercial-free music, coast to coast, and in digital-quality sound.

A fee is required to receive the XM service.

For more information, refer to:

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

See *Satellite Radio on page 7-8*.

Portable Audio Devices

This vehicle may have an auxiliary input jack, located on the audio faceplate. External devices such as iPods®, MP3 players, etc. can be connected to the auxiliary input jack using a 3.5 mm (1/8 in) input jack cable.

See “Using the Auxiliary Input Jack” under *Auxiliary Devices on page 7-18*.

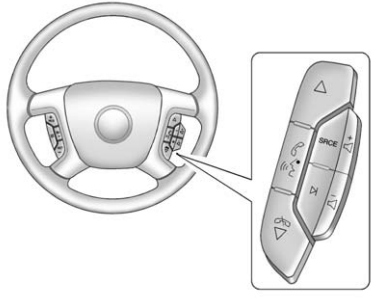
Bluetooth®

For vehicles with a Bluetooth system, it allows users with a Bluetooth-enabled cell phone to make and receive hands-free calls using the vehicle's audio system and controls.

The Bluetooth-enabled cell phone must be paired with the Bluetooth system before it can be used in the vehicle. Not all phones will support all functions. For more information, visit www.gm.com/bluetooth.

For more information, see *Bluetooth on page 7-19*.

Steering Wheel Controls



If equipped, these controls are located on the right side of the steering wheel.

△ **:** Press to go to the next radio station stored as a favorite, or the next track if a CD is playing.

/ **:** Press to silence the vehicle speakers only. Press again to turn the sound on. Press and hold longer than two seconds to interact with the OnStar® or Bluetooth systems, if equipped.

/ ▽ **:** Press to go to the previous radio station stored as a favorite, the next track if a CD is playing, reject an incoming call, or end a current call.

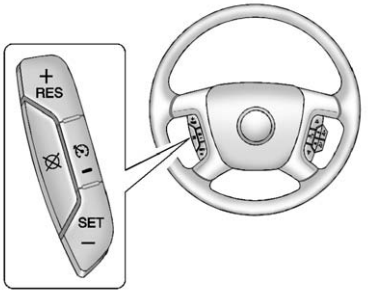
SRCE: Press to choose between the radio, CD, and auxiliary input jack.

+ **–** **:** Press to increase or decrease volume.

: Press to go to the next radio station while in AM, FM, or XM. Press to go to the next track or chapter while sourced to the CD.

For more information, see *Steering Wheel Controls on page 5-3*.

Cruise Control



The cruise control buttons are located on the left side of the steering wheel.

: Press to turn cruise control on and off. The indicator is lit when cruise control is on.

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

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

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

For more information, see *Cruise Control on page 9-30*.

Power Outlets

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

On vehicles with a center console, one outlet is located inside the center floor console and two outlets are located at the front of the console bin under the instrument panel.

On vehicles without a center console, two are located under the climate controls and another outlet for the rear seat passengers is at the rear of the center front seat.

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

See *Power Outlets on page 5-8*.

Performance and Maintenance

Traction Control System (TCS)

The vehicle may have a traction control system which limits wheel spin. The system turns on automatically every time the vehicle is started.

- For vehicles with traction control, press and release the ESC OFF button located on the instrument panel to turn off traction control. The appropriate DIC message displays. See *Ride Control System Messages on page 5-31*.
- Press and release the ESC OFF button again to turn on traction control.

For more information, see *Traction Control System (TCS) on page 9-27*.

Electronic Stability Control (ESC)

The Electronic Stability Control system assists with directional control of the vehicle in difficult driving conditions. The system turns on automatically every time the vehicle is started.

- To turn off both traction control and ESC, press and hold the ESC OFF button located on the instrument panel until illuminates and the appropriate DIC messages display. See *Ride Control System Messages on page 5-31*.
- Press and release the ESC OFF button again to turn on both systems.

For more information, see *Electronic Stability Control (ESC) on page 9-29*.

Tire Pressure Monitor

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

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

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

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

See *Tire Pressure Monitor System on page 10-41*.

Engine Oil Life System

The engine oil life system calculates engine oil life based on vehicle use and displays a DIC message when it is necessary to change the engine oil and filter. The oil life system should be reset to 100% only following an oil change.

Resetting the Oil Life System

1. Display OIL LIFE REMAINING on the DIC.
2. Press and hold the SET/RESET button on the DIC for more than five seconds. The oil life will change to 100%.

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

Fuel E85 (85% Ethanol)

Vehicles that have a FlexFuel badge and a yellow fuel cap can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). See *Fuel E85 (85% Ethanol) on page 9-36*. For all other vehicles, use only the unleaded gasoline described under *Recommended Fuel on page 9-33*.

Driving for Better Fuel Economy

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

- Avoid fast starts and accelerate smoothly.
- Brake gradually and avoid abrupt stops.
- Avoid idling the engine for long periods of time.
- When road and weather conditions are appropriate, use cruise control.
- Always follow posted speed limits or drive more slowly when conditions require.

- Keep vehicle tires properly inflated.
- Combine several trips into a single trip.
- Replace the vehicle's tires with the same TPC Spec number molded into the tire's sidewall near the size.
- Follow recommended scheduled maintenance.

Roadside Assistance Program

U.S.: **1-800-243-8872**

TTY Users: **1-888-889-2438**

Canada: **1-800-268-6800**

As the owner of a new Chevrolet, you are automatically enrolled in the Roadside Assistance program.

See *Roadside Assistance Program on page 13-5*.

Roadside Assistance and OnStar

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

Online Owner Center

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

Sign up today at:

U.S.: chevrolet.com (click on "Owners," then "Manage My Chevrolet/Owners Login")

Canada: chevroletowner.ca

OnStar®

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

✍ NOTES

Keys, Doors, and Windows

Keys and Locks
Keys 2-2
Remote Keyless Entry (RKE) System 2-2
Remote Keyless Entry (RKE) System Operation 2-3
Remote Vehicle Start 2-5
Door Locks 2-6
Power Door Locks 2-7
Delayed Locking 2-7
Automatic Door Locks 2-8
Lockout Protection 2-8
Safety Locks 2-8

Doors
Trunk 2-9

Vehicle Security
Vehicle Security 2-11
Anti-theft Alarm System 2-11
Immobilizer 2-12
Immobilizer Operation 2-12

Exterior Mirrors
Convex Mirrors 2-13
Power Mirrors 2-14
Heated Mirrors 2-14

Interior Mirrors
Manual Rearview Mirror 2-14
Automatic Dimming Rearview Mirror 2-15

Windows
Windows 2-15
Power Windows 2-16
Sun Visors 2-17

Roof
Sunroof 2-17

Keys and Locks

Keys

⚠ WARNING

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

The key can be used for the ignition and the driver's door. If the vehicle is a taxi model, the key can also be used in the trunk.

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

Notice: **If the keys get locked in the vehicle, it may have to be damaged to get them out. Always carry a spare key.**

If you are locked out of your vehicle, contact Roadside Assistance. See *Roadside Assistance Program on page 13-5* for more information.

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

Remote Keyless Entry (RKE) System

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

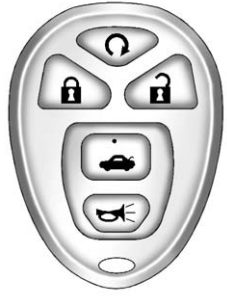
If there is a decrease in the RKE operating range:

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

Remote Keyless Entry (RKE) System Operation

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

There are other conditions which can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System on page 2-2*.



With Remote Start Shown, Without Remote Start Similar

(Remote Vehicle Start): For vehicles with this feature, press to start the engine from outside the vehicle using the RKE transmitter. See *Remote Vehicle Start on page 2-5* for additional information.

(Lock): Press to lock all the doors. If enabled through the Driver Information Center (DIC), the parking lamps flash once to indicate locking has occurred. If enabled through the DIC, the horn chirps when is pressed again within five seconds. See *Vehicle Personalization on page 5-35* for additional information.

Pressing may arm the content theft-deterrent system. See *Anti-theft Alarm System on page 2-11*.

(Unlock): Press once to unlock the driver door. If is pressed again within five seconds, all remaining doors unlock. The interior lamps come on and stay on for 20 seconds or until the ignition is turned on. If enabled through the DIC, the parking lamps flash twice to indicate unlocking has occurred. See *Vehicle Personalization on page 5-35*.

Pressing on the RKE transmitter disarms the content theft-deterrent system. See *Anti-theft Alarm System on page 2-11*.

(Remote Trunk Release): Press and hold for about one second to open the trunk. The transmission must be in P (Park).

(Vehicle Locator/Panic Alarm): Press and release to locate the vehicle. The turn signal lamps flash and the horn sounds three times. Press and hold for more than two seconds to activate the panic alarm. The turn signal lamps flash and the horn sounds repeatedly for 30 seconds. The alarm turns off when the ignition is turned to ON/RUN or is pressed again. The ignition must be in LOCK/OFF for the panic alarm to work.

Programming Transmitters to the Vehicle

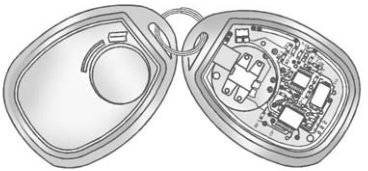
Only RKE transmitters programmed to the vehicle will work. If a transmitter is lost or stolen, a replacement can be purchased and programmed through your dealer.

When the replacement transmitter is programmed to the vehicle, all remaining transmitters must also be programmed. Any lost or stolen transmitters no longer work once the new transmitter is programmed. Each vehicle can have up to eight transmitters programmed to it. See your dealer to program new transmitters.

Battery Replacement

Replace the battery if the REPLACE BATTERY IN REMOTE KEY message displays in the DIC. See “REPLACE BATTERY IN REMOTE KEY” under *Key and Lock Messages on page 5-31* for additional information.

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



To replace the battery:

1. Separate the transmitter with a flat, thin object, such as a flat head screwdriver.
   - Carefully insert the tool into the notch located along the parting line of the transmitter. Do not insert the tool too far. Stop as soon as resistance is felt.
   - Twist the tool until the transmitter is separated.
2. Remove the old battery. Do not use a metal object.

3. Insert the new battery, positive side facing down. Replace with a CR2032 or equivalent battery.
4. Snap the transmitter back together.

Remote Vehicle Start

Your vehicle may have a remote starting feature that allows you to start the engine from outside the vehicle. It may also start the vehicle's heating or air conditioning systems and rear window defogger. When the remote start system is active and the vehicle has an automatic climate control system, it will automatically regulate the inside temperature. Normal operation of these systems will return after the ignition key is turned to ON/RUN.

Laws in some 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 when doing so. Check local regulations for any requirements on remote starting of vehicles.

Do not use the remote start feature if your vehicle is low on fuel. Your vehicle may run out of fuel.

If your vehicle has the remote start feature, the RKE transmitter functions will have an increased range of operation. However, the range may be less while the vehicle is running.

There are other conditions which can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System on page 2-2*.

(Remote Start): This button will be on the RKE transmitter if you have remote start.

To start the vehicle using the remote start feature:

1. Aim the transmitter at the vehicle.
2. Press and release , then immediately press and hold for two to four seconds or until the vehicle's turn signal lamps flash. The doors will lock.

   When the vehicle starts, the parking lamps turn on and remain on while the engine is running.

The remote start feature provides two separate starts per ignition cycle, each with 10 minutes of engine running time, or one start with a time extension. The first start must expire or be canceled to get two separate 10-minute starts.

If it is the first remote start since the vehicle has been driven, repeat the previous steps, while the engine is still running, to extend the engine running time by 10 minutes from the time you repeat the steps for remote starting. The remote start running time can be extended one time and only after the first remote start.

After entering the vehicle during a remote start, insert and turn the key to ON/RUN to drive the vehicle.

The engine will shut off automatically after 10 minutes, unless a time extension has been done or the vehicle's key is inserted into the ignition switch and turned to ON/RUN.

To manually shut off a remote start, do any of the following.

- Aim the RKE transmitter at the vehicle and press and release ❍.
- Turn on the hazard warning flashers.
- Turn the ignition switch out of LOCK/OFF and then back to LOCK/OFF.

After the engine has been started two times, or one time with a time extension, the vehicle's ignition must be turned to ON/RUN using the key before the remote start procedure can be used again. See *Ignition Positions on page 9-15* for information regarding the ignition positions on your vehicle.

The remote vehicle start feature will not operate if any of the follow occur:

- The vehicle's key is in the ignition.
- The vehicle's hood is open.
- The hazard warning flashers are on.
- The check engine light is on. See *Malfunction Indicator Lamp on page 5-16*.
- The engine coolant temperature is too high.
- The oil pressure is low.
- The content theft-deterrent alarm has been activated.
- Two remote vehicle starts, or one start with a time extension, have already been provided for that ignition cycle.

Door Locks

⚠ WARNING

Unlocked doors can be dangerous.

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

(Continued)

WARNING (Continued)

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.

From the outside, use the key in the driver door or use the Remote Keyless Entry (RKE) transmitter to lock and unlock the vehicle. From the inside, use the manual or power door locks.

To lock or unlock the driver side door from the outside with the key, insert the key and turn it clockwise or counterclockwise.

To lock or unlock the door from the inside, push or pull the manual lock knob.

Power Door Locks

A power door lock switch is located on both front doors next to the door handle.

Press the top of the switch to unlock all doors or press the bottom of the switch to lock all doors.

If the vehicle has the optional content theft-deterrent system and it is armed, the power door lock switches will be disabled. You must use the RKE transmitter or the key to unlock the doors when the system is armed. See *Anti-theft Alarm System on page 2-11*.

Delayed Locking

This feature allows the driver to delay the actual locking of the doors. When the driver power door lock switch is pressed with the key removed from the ignition, and the driver door open, a chime will sound three times to signal that the delayed locking system is active. When all doors have been closed, the doors will lock automatically after several seconds. If any door is opened before this, the timer will reset itself once all the doors have been closed again.

Pressing the driver or passenger power door lock switch again or the RKE transmitter button will override this feature.

Personal Choice Programming

The delayed locking feature can be turned on or off, using the Driver Information Center (DIC) to program this feature. See “DELAY DOOR LOCK” under *Vehicle Personalization on page 5-35*.

Automatic Door Locks

The doors will automatically lock when the shift lever is moved out of P (Park). The automatic door locking feature cannot be disabled.

Programmable Automatic Door Unlock

The vehicle is programmed so that when the shift lever is moved into P (Park) all doors will unlock.

With the vehicle stopped and the engine running, door unlocking can be programmed through prompts displayed on the Driver Information Center (DIC). These prompts allow the driver to choose various unlock settings. For programming information, see *Vehicle Personalization on page 5-35*.

Lockout Protection

This feature helps prevent you from locking the doors while the key is in the ignition. Always remember to take your key with you when exiting the vehicle.

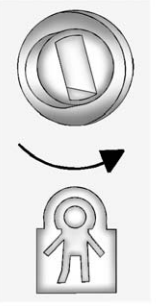
If the lock switch is pressed on the door that is open and the key is in the ignition, all of the doors will lock and then the open door will unlock. A chime sounds continuously until the driver door is closed.

Safety Locks

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

The rear door security locks are located on the inside edge of each rear door. The rear doors must be opened to access them.

To assist in finding the lock, the vehicle has the following:



To use the lock:

1. Insert the key into the security lock slot and turn it so the slot is in the horizontal position.
2. Close the door.
3. Do the same for the other rear door.

To open a rear door when the security lock is on, do the following:

1. Unlock the door by using the Remote Keyless Entry (RKE) transmitter, if the vehicle has one, by pressing the power door lock switch, or by lifting the rear door manual lock.
2. Open the door from the outside.

To cancel the rear door security lock:

1. Unlock the door and open it from the outside.
2. Insert the key into the security lock slot and turn it so the slot is in the vertical position.
3. Do the same for the other rear door.

Doors

Trunk

⚠ WARNING

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

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

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

(Continued)

WARNING (Continued)

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

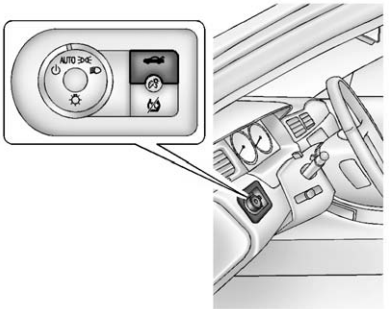
For more information about carbon monoxide, see *Engine Exhaust on page 9-21*.

Trunk Release

To open the trunk from the outside, press on the RKE transmitter. See *Remote Keyless Entry (RKE) System Operation on page 2-3*.

Or, use the key in the lock cylinder, if equipped.

Remote Trunk Release

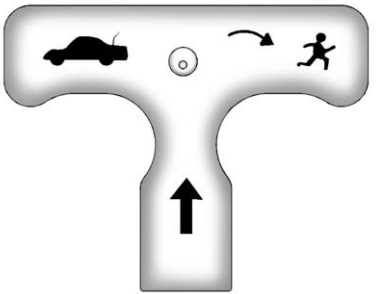


To open the trunk from the inside, press . See *Trunk on page 2-9*.

The trunk can also be opened by lowering the rear seat and pulling the emergency trunk release handle located inside the trunk. See *Rear Seats (Split Folding) on page 3-8* and “Emergency Trunk Release Handle” following.

Emergency Trunk Release Handle

Notice: **Do not use the emergency trunk release handle as a tie-down or anchor point when securing items in the trunk as it could damage the handle. The emergency trunk release handle is only intended to aid a person trapped in a latched trunk, enabling them to open the trunk from the inside.**



There is a glow-in-the-dark trunk release handle located on the latch inside the trunk . This handle will glow following exposure to light. Pull the release handle to open the trunk from the inside.

Vehicle Security

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

Anti-theft Alarm System

Your vehicle may have the optional content theft-deterrent alarm system.

To activate the theft-deterrent system:

1. Open the door.
2. Lock the door with the power door lock switch or the Remote Keyless Entry (RKE) transmitter. If you are using the RKE transmitter, the door does not need to be open.
3. Close all doors.

Once armed, the alarm will go off if someone tries to enter the vehicle without using the RKE transmitter or a key or turns the ignition on with an incorrect key. The horn will sound and the turn signal lamps will flash for about 30 seconds.

When the alarm is armed, the trunk may be opened with the RKE transmitter. The power door lock switches are disabled and the doors remain locked. You must use your RKE transmitter or your key to unlock the doors when the system is armed.

Arming with the Power Lock Switch

The alarm system will arm when you use either power lock switch to lock the doors while any door is open and the key is removed from the ignition. The alarm system will not arm if the trunk is open when you use either power lock switch to lock the doors.

Arming with the RKE Transmitter

The alarm system will arm when you use your RKE transmitter to lock the doors, if the key is not in the ignition.

Disarming with the RKE Transmitter

The alarm system will disarm when you use your RKE transmitter to unlock the doors.

The first time a remote unlock command is received, three flashes will be seen and three horn chirps heard to indicate an alarm condition has occurred since last arming.

Disarming with Your Key

The alarm system will disarm when you use your key to unlock the doors or insert your key in the ignition and turn it from the LOCK/OFF position.

Immobilizer

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

Immobilizer Operation

This vehicle has PASS-Key® III+ (Personalized Automotive Security System) theft-deterrent system. PASS-Key III+ is a passive theft-deterrent system.

The system is automatically armed when the key is removed from the ignition.

The system is automatically disarmed when the key is turned to ON/RUN, ACC/ACCESSORY, or START from the LOCK/OFF position.

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

The security light will come on if there is a problem with arming or disarming the theft-deterrent system.

When the PASS-Key III+ system senses that someone is using the wrong key, it prevents the vehicle from starting. Anyone using a trial-and-error method to start the vehicle will be discouraged because of the high number of electrical key codes.

If the engine does not start and the security light on the instrument panel cluster comes on when trying to start the vehicle, there may be a problem with the theft-deterrent system. Turn the ignition off and try again.

If the engine still does not start, and the key appears to be undamaged, try another ignition key. At this time, you may also want to check the fuse. See *Fuses and Circuit Breakers on page 10-29*. If the engine still does not start with the other key, the vehicle needs service.

If the vehicle does start, the first key may be faulty. See your dealer who can service the PASS-Key III+ to have a new key made.

It is possible for the PASS-Key III+ decoder to learn the transponder value of a new or replacement key. Up to 10 keys may be programmed for the vehicle. The following procedure is for programming additional keys only. If all the currently programmed keys are lost or do not operate, you must see your dealer or a locksmith who can service PASS-Key III+ to have keys made and programmed to the system.

See your dealer or a locksmith who can service PASS-Key III+ to get a new key blank cut exactly as the ignition key that operates the system.

To program the new additional key:

1. Verify that the new key has a ⊕ stamped on it.
2. Insert the original, already programmed key in the ignition and start the engine. If the engine will not start, see your dealer for service.
3. After the engine has started, turn the key to LOCK/OFF, and remove the key.
4. Insert the new key to be programmed and turn it to the ON/RUN position within five seconds of turning the ignition to the LOCK/OFF position in Step 3.

   The security light will turn off once the key has been programmed.
5. Repeat Steps 1 through 4 if additional keys are to be programmed.

If you lose or damage your PASS-Key III+ key, see your dealer or a locksmith who can service PASS-Key III+ to have a new key made.

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

Exterior Mirrors

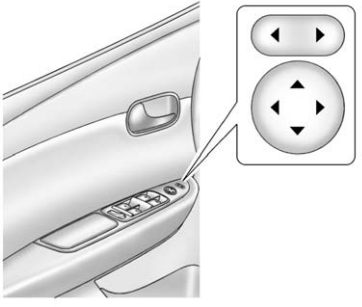
Convex Mirrors

⚠ WARNING

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

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

Power Mirrors



Controls for the outside power mirrors are located on the driver door armrest.

1. Press the left or right side of the selector switch located above the control pad, to select the driver or passenger mirror.
2. Press one of the four buttons located on the control pad to move the mirror to the desired direction.
3. Adjust each outside mirror so that a little of the vehicle and the area behind it can be seen.

Keep the selector switch in the center position when not adjusting either outside mirror.

Heated Mirrors

For vehicles with heated mirrors:

(Rear Window Defogger): Press to heat the outside rearview mirrors. See “Rear Window Defogger” under *Climate Control Systems on page 8-1* for more information.

Interior Mirrors

Manual Rearview Mirror

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

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

Automatic Dimming Rearview Mirror

The vehicle may have an automatic dimming inside rearview mirror.

Automatic dimming reduces the glare from the headlamps of the vehicle behind you. The dimming feature comes on and the indicator light illuminates each time the ignition is turned to start.

⏻ **(On/Off):** Press to turn the dimming feature on or off.

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

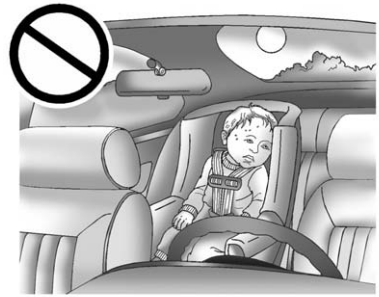
Cleaning the Mirror

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

Windows

⚠ WARNING

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



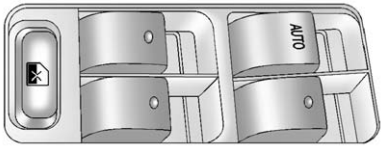
The vehicle aerodynamics are designed to improve fuel economy performance. This may result in a pulsing sound when a window is partially open. To reduce the sound, open another window or the sunroof (if equipped).

Power Windows

⚠ WARNING

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

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



The switches on the driver door armrest are used to control each of the windows. Each passenger door has its own window switch.

The power window switches work while the ignition is in ON/RUN, ACC/ACCESSORY, or while Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP) on page 9-18*.

To lower the window, press and hold the front of the switch to the first position until the window is at the desired level. To raise the window, pull up and hold the front of the switch.

Express-Down Window

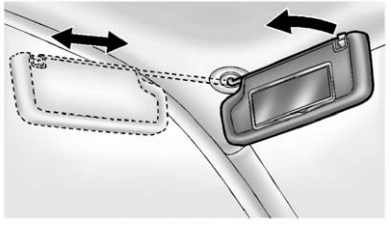
The driver window switch has an express-down feature labeled AUTO. This lets you lower the window completely without holding the switch. Press the front of the switch to the second position and release.

To stop the window while it is lowering, briefly pull up on the switch.

Window Lockout

(Window Lockout): The driver window switches also include a lockout switch. Press the right side of the switch to prevent the rear passengers from using their window switches. The driver can still control all the windows and the front passenger can control their own window with the lockout on. Press the left side of the switch to return to normal window operation. A red bar on the right side of the switch indicates that the lockout is off.

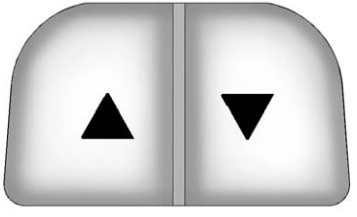
Sun Visors



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

Roof

Sunroof



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

The sunroof can only be operated when the ignition is in ON/RUN or ACC/ACCESSORY, or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP) on page 9-18*.

▲ **(Vent/Express-Open):** Press this switch once to vent the sunroof when it is closed. When using the vent, the sunshade should be fully opened. The sunshade can be opened or closed manually by sliding it rearward or forward.

From the vent position, press this switch again to activate the express-open feature. Press the close switch to stop movement of the sunroof. The sunshade will automatically open when using express-open.

A deflector will automatically pop up when the sunroof is opened. The deflector will retract when the sunroof is closed.

▼ **(Close):** Press and hold this switch until the sunroof motor stops to close the sunroof, or release the switch when the desired position has been reached.

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

Seats and Restraints

Head Restraints
Head Restraints 3-2

Front Seats
Seat Adjustment 3-3
Center Seat 3-4
Power Seat Adjustment 3-4
Lumbar Adjustment 3-4
Reclining Seatbacks 3-5
Heated Front Seats 3-7

Rear Seats
Rear Seats (Split Folding) 3-8

Safety Belts
Safety Belts 3-10
How to Wear Safety Belts Properly 3-11
Lap-Shoulder Belt 3-12
Safety Belt Use During Pregnancy 3-16
Lap Belt 3-17
Safety Belt Extender 3-17
Safety System Check 3-18
Safety Belt Care 3-18
Replacing Safety Belt System Parts after a Crash 3-18

Airbag System
Airbag System 3-19
Where Are the Airbags? 3-21
When Should an Airbag Inflate? 3-23
What Makes an Airbag Inflate? 3-24
How Does an Airbag Restrain? 3-24
What Will You See after an Airbag Inflates? 3-25
Passenger Sensing System 3-26
Servicing the Airbag-Equipped Vehicle 3-31
Adding Equipment to the Airbag-Equipped Vehicle . . . 3-31
Airbag System Check 3-32
Replacing Airbag System Parts after a Crash 3-33

Child Restraints
Older Children 3-33
Infants and Young Children 3-35
Child Restraint Systems 3-38
Where to Put the Restraint . . . 3-40
Lower Anchors and Tethers for Children (LATCH System) 3-41
Replacing LATCH System Parts After a Crash 3-47
Securing Child Restraints (Rear Seat) 3-47
Securing Child Restraints (Center Front Seat Position) 3-49
Securing Child Restraints (Right Front Seat Position) 3-49

Head Restraints

⚠ WARNING

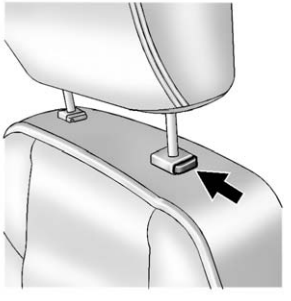
With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.

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

Front Seats

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

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



To lower the head restraint, press the button located on top of the seatback, and push the head

restraint down. Try to move the head restraint after the button is released to make sure that it is locked in place.

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

Rear Seats

The vehicle's rear seat has head restraints in the outboard seating positions that cannot be adjusted.

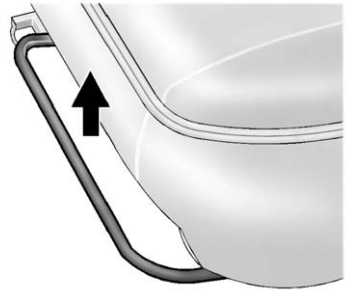
The rear seat outboard head restraints are not designed to be removed.

Front Seats

Seat Adjustment

⚠ WARNING

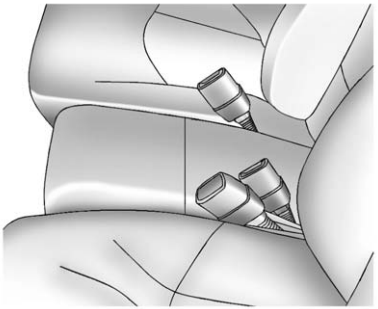
You can lose control of the vehicle if you try to adjust a manual driver seat while the vehicle is moving. The sudden movement could startle and confuse you, or make you push a pedal when you do not want to. Adjust the driver seat only when the vehicle is not moving.



To adjust the seat:

1. Lift the bar under the front edge of the seat cushion to unlock the seat.
2. Slide the seat to the desired position and release the bar.
3. Try to move the seat back and forth to be sure the seat is locked in place.

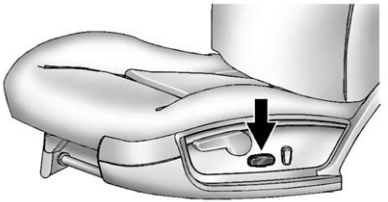
Center Seat



The vehicle may have a front center seat. There are cupholders on the underside of the seat cushion. To use them, flip the seat cushion forward. The seat can also be used as a storage area by lowering the seatback. See *Center Console Storage on page 4-2*.

The seatback doubles as an armrest for the driver or front passenger when the center seat is unoccupied.

Power Seat Adjustment



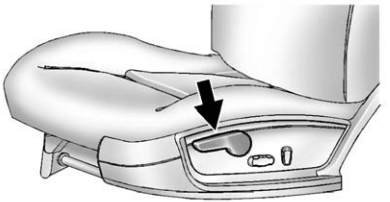
To adjust a power seat, if equipped:

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

The driver seat may have power reclining seatbacks. See “Power Reclining Seatbacks” under *Reclining Seatbacks on page 3-5*.

Lumbar Adjustment

Manual Lumbar



Move the lever up or down to increase or decrease lumbar support.

Reclining Seatbacks

⚠ WARNING

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

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

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

(Continued)

WARNING (Continued)

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

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

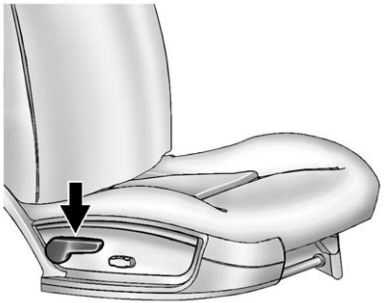
Manual Reclining Seatbacks

⚠ WARNING

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

⚠ WARNING

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



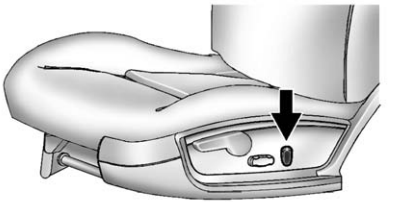
To recline a manual seatback:

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

To return the seatback to the upright position:

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

Power Reclining Seatbacks



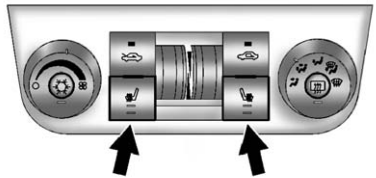
To adjust a power seatback, if equipped:

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

Heated Front Seats

⚠ WARNING

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



If available, the buttons are on the climate control panel. To operate, the ignition must be on.

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

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

The passenger seat may take longer to heat up.

The heated seat are canceled each time the ignition is turned off. To use this feature after restarting the vehicle, press the desired button again.

Rear Seats

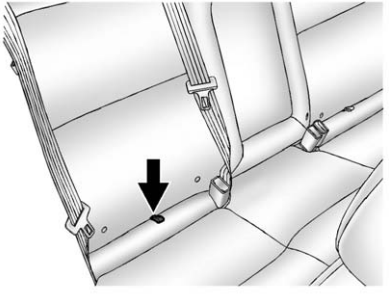
Rear Seats (Split Folding)

Flip and Fold Feature

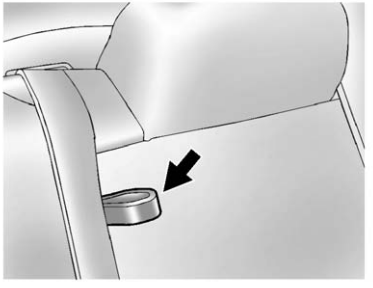
On vehicles with this feature, the seat cushions flip forward and the seatbacks fold down to create an extended flat cargo area.

To flip the seat cushion and fold the seatback:

1. Make sure the front seats are not reclined. The seat cushion will not flip forward completely if the front seats are reclined.



2. Flip the seat cushion forward by pulling up on the tab in the center of the seat cushion where the seatback meets the seat cushion.



3. Lower the seatback by pulling forward on the tab on the outboard side of the seatback.

To return the seats to the normal position:

⚠ WARNING

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

1. Raise the seatback and make sure it latches.

⚠ WARNING

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

2. Make sure the safety belts are properly stowed over the seatback in all three seating positions.
3. Flip the bottom seat cushion back into place. Push down firmly on the seat cushion to make sure it is secure.

When the seat is not in use, the seatback should be placed in the upright, locked position, and the seat cushion should be in the down position.

Under Seat Storage

The vehicle has a storage area under the rear seat. See *Rear Storage on page 4-2*.

Safety Belts

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

⚠ WARNING

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

(Continued)

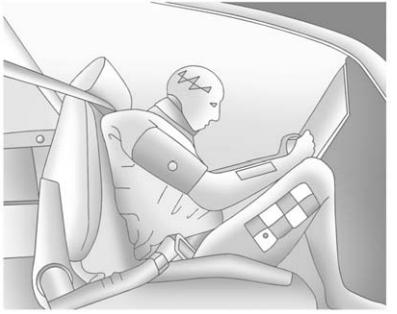
WARNING (Continued)

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

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

This vehicle has indicators as a reminder to buckle the safety belts. See *Safety Belt Reminders on page 5-13*.

Why Safety Belts Work



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

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

safety belts. That is why wearing safety belts makes such good sense.

Questions and Answers About Safety Belts

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

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

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

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

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

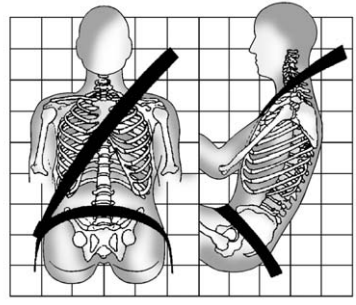
How to Wear Safety Belts Properly

This section is only for people of adult size.

There are special things to know about safety belts and children. And there are different rules for smaller children and infants. If a child will be riding in the vehicle, see *Older Children on page 3-33* or *Infants and Young Children on page 3-35*. Follow those rules for everyone's protection.

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

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



- Sit up straight and always keep your feet on the floor in front of you.
- Always use the correct buckle for your seating position.
- Wear the lap part of the belt low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong pelvic bones and you would be less likely to slide under the lap belt. If you slid under it, the belt would apply force on your abdomen. This could cause serious or even fatal injuries.

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

⚠ WARNING

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

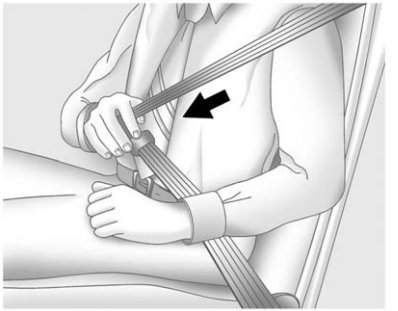
- Never allow the lap or shoulder belt to become loose or twisted.
- Never wear the shoulder belt under both arms or behind your back.
- Never route the lap or shoulder belt over an armrest.

Lap-Shoulder Belt

All seating positions in the vehicle have a lap-shoulder belt except for the center front passenger position (if equipped), which has a lap belt. See *Lap Belt on page 3-17* for more information.

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

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

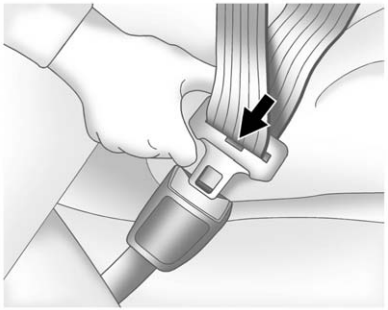


2. Pick up the latch plate and pull the belt across you. Do not let it get twisted.

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

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

Engaging the child restraint locking feature in the right front seating position may affect the passenger sensing system. See *Passenger Sensing System on page 3-26*.



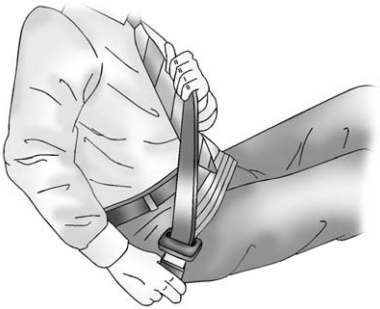
3. Push the latch plate into the buckle until it clicks.

   If the latch plate will not go fully into the buckle, check if the correct buckle is being used.

   Pull up on the latch plate to make sure it is secure. If the belt is not long enough, see *Safety Belt Extender on page 3-17*.

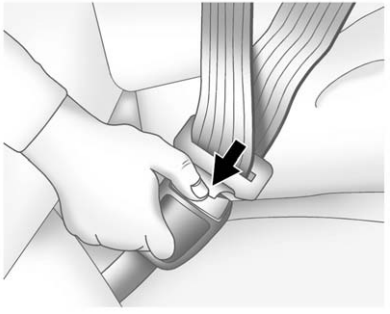
   Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.

4. If equipped with a shoulder belt height adjuster, move it to the height that is right for you. See “Shoulder Belt Height Adjuster” in this section for instructions on use and important safety information.



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

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



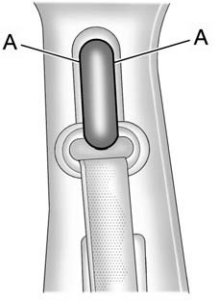
To unlatch the belt, push the button on the buckle. The belt should return to its stowed position.

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

Shoulder Belt Height Adjuster

The vehicle has shoulder belt height adjusters for the driver and right front passenger positions.

Adjust the height so the shoulder portion of the belt is on the shoulder and not falling off of it. The belt should be close to, but not contacting, the neck. Improper shoulder belt height adjustment could reduce the effectiveness of the safety belt in a crash. See *How to Wear Safety Belts Properly on page 3-11*.



Squeeze the buttons (A) on the sides of the height adjuster and move the height adjuster to the desired position.

You can move the adjuster up just by pushing up on the shoulder belt guide.

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

Safety Belt Pretensioners

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

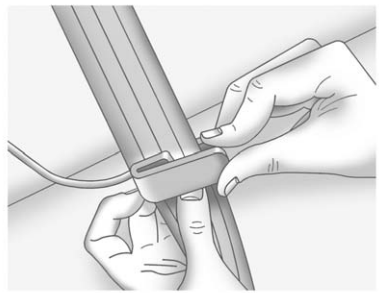
Pretensioners work only once. If the pretensioners activate in a crash, they will need to be replaced, and probably other new parts for the vehicle's safety belt system. See *Replacing Safety Belt System Parts after a Crash on page 3-18*.

Rear Safety Belt Comfort Guides

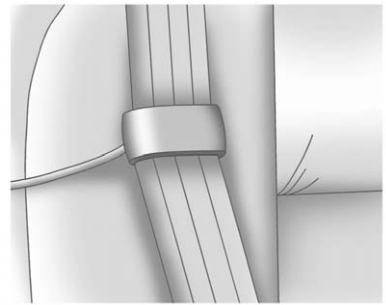
Rear safety belt comfort guides may provide added safety belt comfort for older children who have outgrown booster seats and for some adults. When installed and properly adjusted, the comfort guide positions the belt away from the neck and head.

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

1. Pull the guide out from the pocket on the edge of the seatback.



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



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

⚠ WARNING

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

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

To remove and store the comfort guide, squeeze the belt edges together so that the safety belt can be removed from the guide. Slide the guide into the storage pocket on the edge of the seatback.

Safety Belt Use During Pregnancy

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

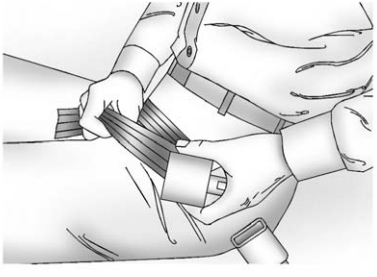
A pregnant woman should wear a lap-shoulder belt, and the lap portion should be worn as low as possible, below the rounding, throughout the pregnancy.

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

Lap Belt

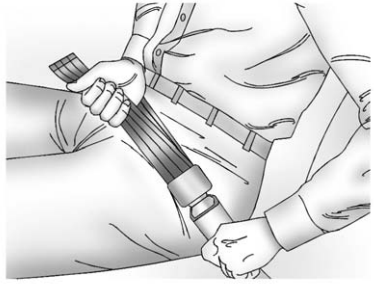
This section is only for the lap belt. To learn how to wear a lap-shoulder belt, see *Lap-Shoulder Belt on page 3-12*.

The vehicle may have a center seating position. When you sit in the center front seating position, you have a lap safety belt, which has no retractor.



To make the belt longer, tilt the latch plate and pull it along the belt.

Buckle, position, and release it the same way as the lap part of a lap-shoulder belt.



To make the belt shorter, pull its free end as shown until the belt is snug.

If the belt is not long enough, see *Safety Belt Extender on page 3-17*.

Make sure the release button on the buckle is positioned so you would be able to unbuckle the safety belt quickly if necessary.

Safety Belt Extender

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

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

Safety System Check

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

Make sure the safety belt reminder light is working. See *Safety Belt Reminders on page 5-13*.

Keep safety belts clean and dry. See *Safety Belt Care on page 3-18*.

Safety Belt Care

Keep belts clean and dry.

⚠ WARNING

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

Replacing Safety Belt System Parts after a Crash

⚠ WARNING

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

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

See your dealer to have the safety belt assemblies inspected or replaced.

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

Have the safety belt pretensioners checked if the vehicle has been in a crash, or if the airbag readiness light stays on after you start the vehicle or while you are driving. See *Airbag Readiness Light on page 5-14*.

Airbag System

The vehicle has the following airbags:

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

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

For frontal airbags, the word AIRBAG will appear on the middle part of the steering wheel for the driver and on the instrument panel for the right front passenger.

With seat-mounted side impact airbags, the word AIRBAG will appear on the side of the seatback closest to the door.

With roof-rail airbags, the word AIRBAG will appear along the headliner or trim.

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

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

⚠ WARNING

You can be severely injured or killed in a crash if you are not wearing your safety belt — even if you have airbags. Airbags are designed to work with safety belts, but do not replace them. Also, airbags are not designed to deploy in every crash. In some crashes safety belts are your only restraint. See *When Should an Airbag Inflate? on page 3-23*.

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

⚠ WARNING

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

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

⚠ WARNING

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Airbags plus lap-shoulder belts offer protection for adults and older children, but not for young children and infants. Neither the vehicle safety belt system nor its airbag system is designed for them. Young children and infants need the protection that a child restraint system can provide. Always secure children properly in the vehicle. To read how, see *Older Children on page 3-33* or *Infants and Young Children on page 3-35*.

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

The system checks the airbag electrical system for malfunctions. The light tells you if there is an electrical problem. See *Airbag Readiness Light on page 5-14* for more information.

Where Are the Airbags?

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

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

Driver Side Shown, Passenger Side Similar

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

Driver Side Shown, Passenger Side Similar

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

⚠ WARNING

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

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

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

When Should an Airbag Inflate?

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

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

Frontal airbags may inflate at different crash speeds. For example:

- If the vehicle hits a stationary object, the airbags could inflate at a different crash speed than if the vehicle hits a moving object.
- If the vehicle hits an object that deforms, the airbags could inflate at a different crash speed than if the vehicle hits an object that does not deform.
- If the vehicle hits a narrow object (like a pole), the airbags could inflate at a different crash speed than if the vehicle hits a wide object (like a wall).
- If the vehicle goes into an object at an angle, the airbags could inflate at a different crash speed than if the vehicle goes straight into the object.

Thresholds can also vary with specific vehicle design.

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

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

The vehicle has seat-mounted side impact and roof-rail airbags. See *Airbag System on page 3-19*. Seat-mounted side impact and roof-rail airbags are intended to inflate in moderate to severe side crashes. Seat-mounted side impact and roof-rail airbags will inflate if the crash severity is above the system's designed threshold level. The threshold level can vary with specific vehicle design.

Roof-rail airbags are not intended to inflate in rollovers or rear impacts. A seat-mounted side impact airbag is intended to deploy on the side of the vehicle that is struck. Both roof-rail airbags will deploy when either side of the vehicle is struck.

In any particular crash, no one can say whether an airbag should have inflated simply because of the damage to a vehicle or because of what the repair costs were. For frontal airbags, inflation is determined by what the vehicle hits, the angle of the impact, and how quickly the vehicle slows down. For seat-mounted side impact and roof-rail airbags, deployment is determined by the location and severity of the side impact.

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 and deploy. The inflator, the airbag, and related hardware are all part of the airbag module.

Frontal airbag modules are located inside the steering wheel and instrument panel. For vehicles with seat-mounted side impact airbags, there are airbags modules in the side of the front seatbacks closest to the door. For vehicles with roof-rail airbags, there are airbag modules in the ceiling of the vehicle, near the side windows that have occupant seating positions.

How Does an Airbag Restrain?

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

Airbags supplement the protection provided by safety belts. Frontal airbags distribute the force of the impact more evenly over the occupant's upper body, stopping the occupant more gradually. Seat-mounted side impact and roof-rail airbags distribute the force of the impact more evenly over the occupant's upper 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? on page 3-23* for more information.

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

What Will You See after an Airbag Inflates?

After the frontal airbags and seat-mounted side impact airbags inflate, they quickly deflate, so quickly that some people may not even realize an airbag inflated. Roof-rail airbags may still be at least partially inflated for some time after they deploy. Some components of the airbag module may be hot for several minutes. For location of the airbag modules, see *What Makes an Airbag Inflate? on page 3-24*.

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

⚠ WARNING

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

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

⚠ WARNING

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

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

In many crashes severe enough to inflate the airbag, windshields are broken by vehicle deformation.

Additional windshield breakage may also occur from the right front 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 your vehicle covers the need to replace other parts.
- The vehicle has a crash sensing and diagnostic module which records information after a crash. See *Vehicle Data Recording and Privacy on page 13-14* and *Event Data Recorders on page 13-14*.
- Let only qualified technicians work on the airbag systems. Improper service can mean that an airbag system will not work properly. See your dealer for service.

Passenger Sensing System

The vehicle has a passenger sensing system for the right front passenger position. The passenger airbag status indicator will be visible on the instrument panel when the vehicle is started.

United States

Canada

The words ON and OFF, or the symbol for on and off, will be visible during the system check. If you are using remote start to start the vehicle from a distance, if equipped, you may not see the system check. When the system check is complete, either the word ON or the word OFF, or the symbol for on or off, will be visible. See *Passenger Airbag Status Indicator on page 5-14*.

The passenger sensing system will turn off the right front passenger frontal airbag under certain conditions. The driver airbag, seat-mounted side impact airbags, and roof-rail airbags are not affected by the passenger sensing system.

The passenger sensing system works with sensors that are part of the right front passenger seat. The sensors are designed to detect the presence of a properly-seated occupant and determine if the right front passenger frontal airbag should be enabled (may inflate) or not.

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

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

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

⚠ WARNING

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

(Continued)

WARNING (Continued)

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

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

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

- The right front passenger seat is unoccupied.
- The system determines that an infant is present in a child restraint.
- A right front passenger takes his/her weight off of the seat for a period of time.
- Or, if there is a critical problem with the airbag system or the passenger sensing system.

When the passenger sensing system has turned off the right front passenger frontal airbag, the off indicator will light and stay lit to remind you that the airbag is off. See *Passenger Airbag Status Indicator on page 5-14*.

The passenger sensing system is designed to turn on (may inflate) the right front passenger frontal airbag anytime the system senses that a person of adult size is sitting properly in the right front passenger seat. When the passenger sensing system has allowed the airbag to be enabled, the on indicator will light and stay lit to remind you 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 right front 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 safety belt properly — whether or not there is an airbag for that person.

⚠ WARNING

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light on page 5-14* for more information, including important safety information.

If the On Indicator is Lit for a Child Restraint

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

1. Turn the vehicle off.
2. Remove the child restraint from the vehicle.
3. Remove any additional items from the seat such as blankets, cushions, seat covers, seat heaters, or seat massagers.
4. Reinstall the child restraint following the directions provided by the child restraint manufacturer and refer to *Securing Child Restraints (Right Front Seat Position) on page 3-49* or *Securing Child Restraints (Center Front Seat Position) on page 3-49* or *Securing Child Restraints (Rear Seat) on page 3-47*.
5. If, after reinstalling the child restraint and restarting the vehicle, the on indicator is still lit, turn the vehicle off. Then slightly recline the vehicle seatback and adjust the seat cushion, if adjustable, to make sure that the vehicle seatback is not pushing the child restraint into the seat cushion.

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

The passenger sensing system may or may not turn off the airbag for a child in a child restraint depending upon the child's seating posture and body build. It is better to secure the child restraint in a rear seat.

If the Off Indicator is Lit for an Adult-Size Occupant

If a person of adult-size is sitting in the right front passenger seat, but the off indicator is lit, it could be because that person is not sitting properly in the seat. If this happens, use the following steps to allow the

system to detect that person and enable the right front passenger frontal airbag:

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

Additional Factors Affecting System Operation

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

A thick layer of additional material, such as a blanket or cushion, or aftermarket equipment such as seat covers, seat heaters, and seat massagers can affect how well the passenger sensing system operates. We recommend that you not use seat covers or other aftermarket equipment except when approved by GM for your specific vehicle. See *Adding Equipment to the Airbag-Equipped Vehicle on page 3-31* for more information about modifications that can affect how the system operates.

A wet seat can affect the performance of the passenger sensing system. Here is how:

- The passenger sensing system may turn off the passenger airbag when liquid is soaked into the seat. If this happens, the off indicator will be lit, and the airbag readiness light on the instrument panel will also be lit.
- Liquid pooled on the seat that has not soaked in may make it more likely that the passenger sensing system will enable (turn on) the passenger airbag while a child restraint or child occupant is on the seat. If the passenger airbag is turned on, the on indicator will be lit.

If the passenger seat gets wet, dry the seat immediately. If the airbag readiness light is lit, do not install a child restraint or allow anyone to occupy the seat. See *Airbag Readiness Light on page 5-14* for important safety information.

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

⚠ WARNING

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

Servicing the Airbag-Equipped Vehicle

Airbags affect how the vehicle should be serviced. There are parts of the airbag system in several places around the vehicle.

Your dealer and the service manual have information about servicing the vehicle and the airbag system. To purchase a service manual, see *Service Publications Ordering Information on page 13-11*.

⚠ 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

Q: Is there anything I might add to or change about the vehicle that could keep the airbags from working properly?

A: Yes. If you add things that change the vehicle's frame, bumper system, height, front end or side sheet metal, they may keep the airbag system from working properly. Changing or moving any parts of the front seats, safety belts, the airbag sensing and diagnostic module, steering wheel, instrument panel, roof-rail airbag modules, ceiling headliner or pillar garnish trim, front sensors, side impact sensors, or airbag wiring can affect the operation of the airbag system.

In addition, the vehicle has a passenger sensing system for the right front passenger position, which includes sensors that are part of the passenger's seat. The passenger sensing system may not operate properly if the original seat trim is replaced with non-GM covers, upholstery or trim, or with GM covers, upholstery or trim designed for a different vehicle. Any object, such as an aftermarket seat heater or a comfort enhancing pad or device, installed under or on top of the seat fabric, could also interfere with the operation of the passenger sensing system. This could either prevent proper deployment of the passenger airbag(s) or prevent the passenger sensing system from properly turning off the passenger airbag(s). See *Passenger Sensing System on page 3-26*.

If you have any questions, call Customer Assistance. The phone numbers and addresses for Customer Assistance are in Step Two of the Customer Satisfaction Procedure in this manual. See *Customer Satisfaction Procedure on page 13-1*.

Q: Because I have a disability, I have to get my vehicle modified. How can I find out whether this will affect my airbag system?

A: If you have questions, call Customer Assistance. The phone numbers and addresses for Customer Assistance are in Step Two of the Customer Satisfaction Procedure in this manual. See *Customer Satisfaction Procedure on page 13-1*.

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

Airbag System Check

The airbag system does not need regularly scheduled maintenance or replacement. Make sure the airbag readiness light is working. See *Airbag Readiness Light on page 5-14*.

Notice: **If an airbag covering is damaged, opened, or broken, the airbag may not work properly. Do not open or break the airbag coverings. If there are any opened or broken airbag covers, have the airbag covering and/or airbag module replaced. For the location of the airbags, see *Where Are the Airbags? on page 3-21*. See your dealer for service.**

Replacing Airbag System Parts after a Crash

⚠ WARNING

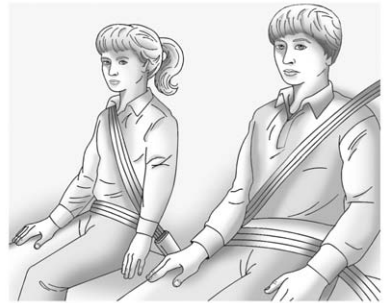
A crash can damage the airbag systems in the vehicle. A damaged airbag system may not work properly and may not protect you and your passenger(s) in a crash, resulting in serious injury or even death. To help make sure the airbag systems are working properly after a crash, have them inspected and any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

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

If the airbag readiness light stays on after the vehicle is started or comes on when you are driving, the airbag system may not work properly. Have the vehicle serviced right away. See *Airbag Readiness Light on page 5-14*.

Child Restraints

Older Children



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

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

- Sit all the way back on the seat. Do the knees bend at the seat edge? If yes, continue. If no, return to the booster seat.
- Buckle the lap-shoulder belt. Does the shoulder belt rest on the shoulder? If yes, continue. If no, try using the rear safety belt comfort guide. See “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt on page 3-12* for more information. If the shoulder belt still does not rest on the shoulder, then return to the booster seat.
- Does the lap belt fit low and snug on the hips, touching the thighs? If yes, continue. If no, return to the booster seat.
- Can proper safety belt fit be maintained for the length of the trip? If yes, continue. If no, return to the booster seat.

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

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

Also see “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt on page 3-12*.

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

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

⚠ WARNING

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

⚠ WARNING

Never allow a child to wear the safety belt with the shoulder belt behind their back. A child can be seriously injured by not wearing the lap-shoulder belt properly. In a crash, the child would not be restrained by the shoulder belt.

(Continued)

WARNING (Continued)

The child could move too far forward increasing the chance of head and neck injury. The child might also slide under the lap belt. The belt force would then be applied right on the abdomen. That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.

Infants and Young Children

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

⚠ WARNING

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

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

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

⚠ WARNING

Never hold an infant or a child while riding in a vehicle. Due to crash forces, an infant or a child will become so heavy it is not possible to hold it during a crash.

(Continued)

WARNING (Continued)

For example, in a crash at only 40 km/h (25 mph), a 5.5 kg (12 lb) infant will suddenly become a 110 kg (240 lb) force on a person's arms. An infant should be secured in an appropriate restraint.

⚠ WARNING

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Never put a rear-facing child restraint in the right front seat. Secure a rear-facing child restraint in a rear seat. It is also better to secure a forward-facing child restraint in a rear seat. If you must secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go.

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

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

For most basic types of child restraints, there are many different models available. When purchasing a child restraint, be sure it is designed to be used in a motor vehicle. If it is, the restraint will have a label saying that it meets federal motor vehicle safety standards.

The restraint manufacturer's instructions that come with the restraint state the weight and height limitations for a particular child restraint. In addition, there are many kinds of restraints available for children with special needs.

⚠ WARNING

To reduce the risk of neck and head injury during a crash, infants need complete support. In a crash, if an infant is in a rear-facing child restraint, the crash forces can be distributed

(Continued)

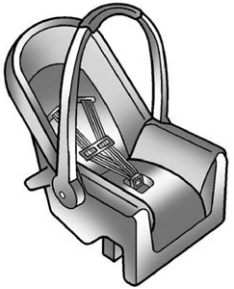
WARNING (Continued)

across the strongest part of an infant's body, the back and shoulders. Infants should always be secured in rear-facing child restraints.

⚠ WARNING

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

Child Restraint Systems



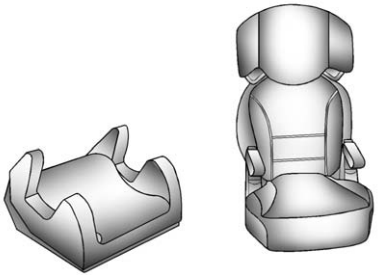
(A) Rear-Facing Infant Seat

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

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

(B) Forward-Facing Child Seat

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



(C) Booster Seats

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

Securing an Add-On Child Restraint in the Vehicle

⚠ WARNING

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

To help reduce the chance of injury, the child restraint must be secured in the vehicle. Child restraint systems must be secured in vehicle seats by lap belts or the lap belt portion of a lap-shoulder belt, or by the LATCH system. See *Lower Anchors and Tethers for Children (LATCH System) on page 3-41* for more information. Children can be endangered in a crash if the child restraint is not properly secured in the vehicle.

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

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

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

Securing the Child within the Child Restraint

⚠ WARNING

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

Where to Put the Restraint

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

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

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

⚠ WARNING

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

The vehicle may have a passenger sensing system which is designed to turn off the right front passenger frontal airbag under certain conditions.

(Continued)

WARNING (Continued)

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

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

See *Passenger Sensing System on page 3-26* for additional information.

⚠ WARNING

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

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

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

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

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

Wherever a child restraint is installed, be sure to secure the child restraint properly.

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

Lower Anchors and Tethers for Children (LATCH System)

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

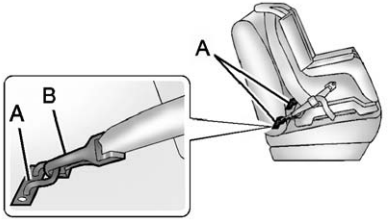
Make sure that a LATCH-compatible child restraint is properly installed using the anchors, or use the vehicle's safety belts to secure the restraint, following the instructions that came with that restraint, and also the instructions in this manual.

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

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

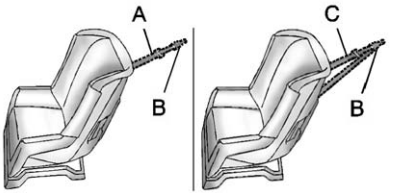
Not all vehicle seating positions or child restraints have lower anchors and attachments or top tether anchors and attachments.

Lower Anchors



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

Top Tether Anchor

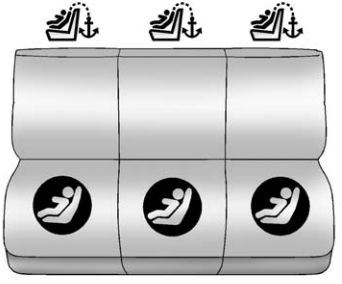


A top tether (A, C) anchors the top of the child restraint to the vehicle. A top tether anchor is built into the vehicle. The top tether attachment (B) on the child restraint connects to the top tether anchor in the vehicle in order to reduce the forward movement and rotation of the child restraint during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

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

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

Lower Anchor and Top Tether Anchor Locations



Rear Seat

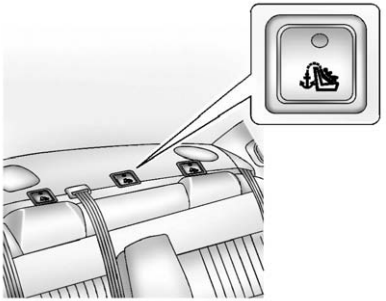
(Top Tether Anchor): Seating positions with top tether anchors.

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

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

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

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



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

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position. See *Where to Put the Restraint on page 3-40* for additional information.

Securing a Child Restraint Designed for the LATCH System

⚠ WARNING

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

⚠ WARNING

Do not attach more than one child restraint to a single anchor. Attaching more than one child

(Continued)

WARNING (Continued)

restraint to a single anchor could cause the anchor or attachment to come loose or even break during a crash. A child or others could be injured. To reduce the risk of serious or fatal injuries during a crash, attach only one child restraint per anchor.

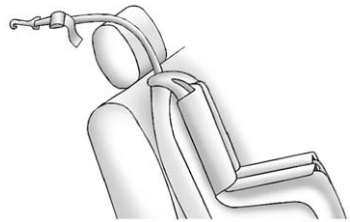
⚠ WARNING

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

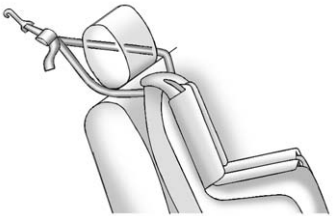
Notice: **Do not let the LATCH attachments rub against the vehicle's safety belts. This may damage these parts. If necessary, move buckled safety belts to avoid rubbing the LATCH attachments.**

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

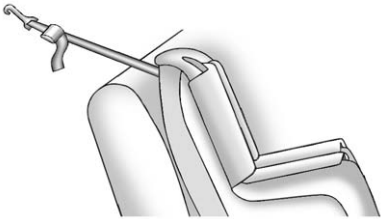
1. Attach and tighten the lower attachments to the lower anchors. If the child restraint does not have lower attachments or the desired seating position does not have lower anchors, secure the child restraint with the top tether and the safety belts. Refer to your child restraint manufacturer instructions and the instructions in this manual.
   1.1. Find the lower anchors for the desired seating position.
   1.2. Put the child restraint on the seat.
   1.3. Attach and tighten the lower attachments on the child restraint to the lower anchors.
2. If the child restraint manufacturer recommends that the top tether be attached, attach and tighten the top tether to the top tether anchor, if equipped. Refer to the child restraint instructions and the following steps:
   2.1. Find the top tether anchor.
   2.2. Push on the depression at the rear of the cover and swing the lid open to expose the top tether anchor.
   2.3. Route, attach, and tighten the top tether according to your child restraint instructions and the following instructions:



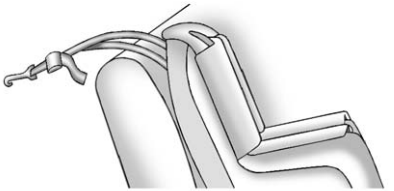
- If the position you are using has a fixed headrest and you are using a single tether, route the tether over the head restraint.



- If the position you are using has a fixed headrest and you are using a dual tether, route the tether around the head restraint.



- If you are using a single tether in the center seating position without a headrest, route the single tether over the seatback.



- If you are using a dual tether in the center seating position without a headrest, route the dual tether over the seatback.

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

Replacing LATCH System Parts After a Crash

⚠ WARNING

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

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

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

Securing Child Restraints (Rear Seat)

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

If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-41* for how and where to install the child restraint using LATCH. If a child restraint is secured in the vehicle using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-41* for top tether anchor locations.

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

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

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

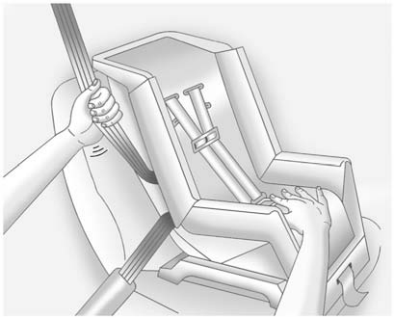
If more than one child restraint needs to be installed in the rear seat, be sure to read *Where to Put the Restraint on page 3-40*.

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

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

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

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



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

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

6. If the child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *Lower Anchors and Tethers for Children (LATCH System) on page 3-41* for more information.
7. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the safety belt path and attempt to move it side to side and back and forth. When the child restraint is properly installed, there should be no more than 2.5 cm (1 in) of movement.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position. If the top tether is attached to a top tether anchor, disconnect it.

Securing Child Restraints (Center Front Seat Position)

⚠ WARNING

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

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

Securing Child Restraints (Right Front Seat Position)

This vehicle has airbags. A rear seat is a safer place to secure a forward-facing child restraint. See *Where to Put the Restraint on page 3-40*.

In addition, the vehicle has a passenger sensing system which is designed to turn off the right front passenger frontal airbag under certain conditions. See *Passenger Sensing System on page 3-26* and *Passenger Airbag Status Indicator on page 5-14* for more information, including important safety information.

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

⚠ WARNING

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

(Continued)

WARNING (Continued)

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

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

See *Passenger Sensing System on page 3-26* for additional information.

If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-41* for how and where to install the child restraint using LATCH. If a child restraint is secured using a safety belt and it uses a top tether, see for top tether anchor locations.

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

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

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

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

   When the passenger sensing system has turned off the right front passenger frontal airbag, the off indicator on the passenger airbag status indicator should light and stay lit when the vehicle is started. See *Passenger Airbag Status Indicator on page 5-14*.

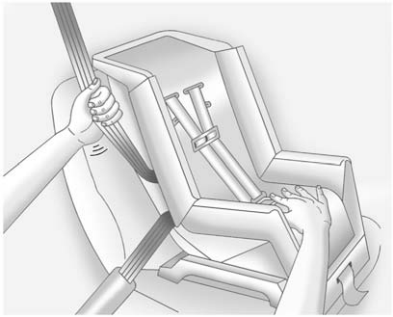
2. Put the child restraint on the seat.

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

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

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

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



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

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

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

If the 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 on page 3-26* for more information.

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

Storage

Storage Compartments
Glove Box 4-1
Cupholders 4-1
Sunglasses Storage 4-1
Armrest Storage 4-1
Rear Storage 4-2
Center Console Storage 4-2

Additional Storage Features
Convenience Net 4-2

Storage Compartments

Glove Box

Lift up on the glove box lever to open it.

Cupholders

Cupholders may be built into the front center console, front portion of the front center seat, and rear armrest of the vehicle.

Sunglasses Storage

A storage compartment for sunglasses may be located above the rearview mirror. Push on the cover to open the compartment.

Armrest Storage

For vehicles with a rear seat armrest, pull the tab on the armrest forward to access it.

Rear Storage

For vehicles with a split folding rear seat, there are two storage areas underneath. Pull the tab(s) located by the passenger side safety belt buckle and the driver side rear seat to access the storage areas. See *Rear Seats (Split Folding) on page 3-8* for more information.

Center Console Storage

For vehicles with a front center console storage area, open it by pulling up on the latch located in the front of the console cover. There may be a removable tray inside.

Additional Storage Features

Convenience Net

For vehicles with a convenience net, it is located in the rear. Use it to store small loads as far forward as possible. The net should not be used to store heavy loads.

Instruments and Controls

Controls

Steering Wheel Adjustment . . . 5-2
Steering Wheel Controls 5-3
Horn 5-3
Windshield Wiper/Washer 5-4
Compass 5-5
Clock 5-6
Power Outlets 5-8
Cigarette Lighter 5-8
Ashtrays 5-9

Warning Lights, Gauges, and Indicators

Warning Lights, Gauges, and Indicators 5-9
Instrument Cluster 5-10
Speedometer 5-11
Odometer 5-11
Tachometer 5-11
Fuel Gauge 5-11
Engine Coolant Temperature Gauge 5-12
Safety Belt Reminders 5-13
Airbag Readiness Light 5-14
Passenger Airbag Status Indicator 5-14
Charging System Light 5-15
Malfunction Indicator Lamp 5-16
Brake System Warning Light 5-18
Antilock Brake System (ABS) Warning Light 5-19
Electronic Stability Control (ESC) Off Light 5-19
Electronic Stability Control (ESC)/Traction Control System (TCS) Indicator/ Warning Light 5-20
Engine Coolant Temperature Warning Light 5-20
Tire Pressure Light 5-21
Engine Oil Pressure Light 5-22
Security Light 5-22
High-Beam On Light 5-23
Front Fog Lamp Light 5-23
Cruise Control Light 5-23

Information Displays

Driver Information Center (DIC) 5-23

Vehicle Messages

Vehicle Messages 5-27
Battery Voltage and Charging Messages 5-28
Brake System Messages 5-28
Door Ajar Messages 5-28
Engine Cooling System Messages 5-29
Engine Oil Messages 5-30
Engine Power Messages 5-30

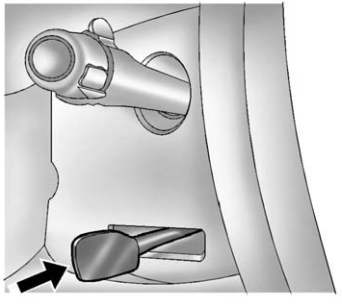
Fuel System Messages 5-30
Key and Lock Messages 5-31
Lamp Messages 5-31
Ride Control System Messages 5-31
Airbag System Messages 5-32
Anti-theft Alarm System Messages 5-32
Service Vehicle Messages . . . 5-33
Tire Messages 5-33
Transmission Messages 5-34
Vehicle Reminder Messages 5-35
Washer Fluid Messages 5-35

Vehicle Personalization
Vehicle Personalization 5-35

Universal Remote System
Universal Remote System . . . 5-40
Universal Remote System Programming 5-40
Universal Remote System Operation 5-46

Controls

Steering Wheel Adjustment



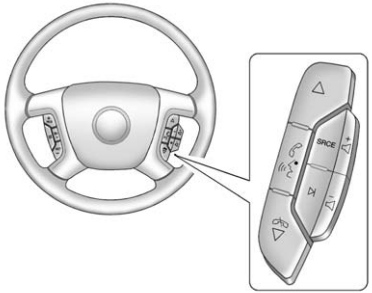
The tilt wheel lever is located on the left side of the steering column.

To adjust the steering wheel:

1. Hold the wheel and pull the lever toward you.
2. Move the steering wheel up or down.
3. Release the lever to lock the steering wheel in place.

Do not adjust the steering wheel while driving.

Steering Wheel Controls



Vehicles with audio steering wheel controls could differ depending on the vehicle's options. Some audio controls can be adjusted at the steering wheel.

△ **(Next):** Press to go to the next radio station stored as a favorite, or the next track if a CD is playing.

/ ▽ **(Previous/End):** Press to go to the previous radio station stored as a favorite, go to the next track if a CD is playing, reject an incoming call, or end a current call.

/ **(Mute/Push to Talk):** Press to silence the vehicle speakers only. Press again to turn the sound on. For vehicles with OnStar® or Bluetooth® systems, press and hold / for longer than two seconds to interact with those systems. See *OnStar Overview on page 14-1* and *Bluetooth on page 7-19* for more information.

SRCE (Source): Press to choose between the radio (AM, FM, XM), CD, and auxiliary input jack.

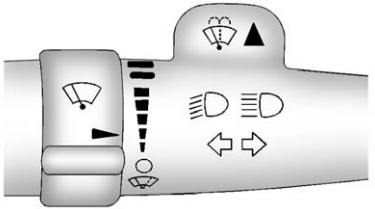
+ − (Volume): Press to increase or to decrease the radio volume.

(Seek): Press to go to the next radio station while in AM, FM, or XM. Press to go to the next track or chapter while sourced to the CD.

Horn

Press near or on the horn symbols on the steering wheel pad to sound the horn.

Windshield Wiper/Washer



Turn the band with the wiper symbol to control the windshield wipers.

(Mist): Single wipe, turn to , then release. Several wipes, hold the band on longer.

(Off): Turns the windshield wipers off.

(Adjustable Interval Wipes): Turn the band up for more frequent wipes or down for less frequent wipes.

(Low Speed): Slow wipes.

(High Speed): Fast wipes.

Clear ice and snow from the wiper blades before using them. If frozen to the windshield, carefully loosen or thaw them. Damaged wiper blades should be replaced. See *Wiper Blade Replacement on page 10-23*.

Heavy snow or ice can overload the wiper motor. A circuit breaker will stop the motor until it cools down.

Windshield Washer

Push the paddle at the top of the lever to spray washer fluid on the windshield. The wipers run for several sweeps and then either stop or return to the preset speed. The ignition key must be in ACC/ACCESSORY or ON/RUN for this to work. See *Washer Fluid on page 10-18*.

⚠ 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.

When the vehicle is low on washer fluid, the WASHER FLUID LOW ADD FLUID displays in the Driver Information Center (DIC) for 60 seconds. When the ignition is turned off, this message displays again for three seconds to remind you that the fluid level is low.

Until the fluid reservoir is refilled, every time the vehicle is started, the WASHER FLUID LOW ADD FLUID message displays in the Driver Information Center (DIC) for 60 seconds. See *Washer Fluid Messages on page 5-35*.

Compass

This vehicle may have a compass in the Driver Information Center (DIC).

Compass Zone

Your dealer will set the correct zone for your location.

Under certain circumstances, such as during a long distance cross-country trip or moving to a new state or province, it will be necessary to compensate for compass variance by resetting the zone through the DIC if the zone is not set correctly.

Compass variance is the difference between the earth's magnetic north and true geographic north. If the compass is not set to the zone where you live, the compass may give false readings. The compass must be set to the variance zone in which the vehicle is traveling.

To adjust for compass variance, use the following procedure:

Compass Variance (Zone) Procedure

1. Do not set the compass zone when the vehicle is moving. Only set it when the vehicle is in P (Park).

   Press until PRESS ✓ TO CHANGE COMPASS ZONE displays.

2. Find the vehicle's current location and variance zone number on the map.

   Zones 1 through 15 are available.

3. Press ✓ to scroll through and select the appropriate variance zone.

4. Press until the vehicle heading, for example, N for North, is displayed in the DIC.

5. If calibration is necessary, calibrate the compass. See “Compass Calibration Procedure” following.

Compass Calibration

The compass can be manually calibrated. Only calibrate the compass in a magnetically clean and safe location, such as an open parking lot, where driving the vehicle in circles is not a danger.

It is suggested to calibrate away from tall buildings, utility wires, manhole covers, or other industrial structures, if possible.

If CAL should ever appear in the DIC display, the compass should be calibrated.

If the DIC display does not show a heading, for example, N for North, or the heading does not change after making turns, there may be a strong magnetic field interfering with the compass. Such interference may be caused by a magnetic CB or cell phone antenna mount, a magnetic emergency light, magnetic note pad holder, or any other magnetic item. Turn off the vehicle, move the magnetic item, then turn on the vehicle and calibrate the compass.

To calibrate the compass, use the following procedure:

Compass Calibration Procedure

1. Before calibrating the compass, make sure the compass zone is set to the variance zone in which the vehicle is located. See “Compass Variance (Zone) Procedure” earlier in this section.

   Do not operate any switches such as window, climate controls, seats, etc. during the calibration procedure.

2. Press until PRESS ✓ TO CALIBRATE COMPASS displays.

3. Press ✓ to start the compass calibration.

4. The DIC will display CALIBRATING: DRIVE IN CIRCLES. Drive the vehicle in tight circles at less than 8 km/h (5 mph) to complete the calibration. The DIC will display CALIBRATION COMPLETE for a few seconds when the calibration is complete. The DIC display will then return to PRESS ✓ TO CALIBRATE COMPASS.

Clock

Without Date Display

AM/FM Base Radio with a Single CD Player

This radio has a button for setting the time.

To set the time:

1. Press the button until the hour begins flashing on the display. Press a second time and the minutes begin flashing on the display.

2. To increase or decrease the time, do one of the following while the hours or minutes are flashing:
   - Turn the ♫ knob.
   - Press ⏭ SEEK or ⏮ SEEK.
   - Press ▷▷ FWD or ◁◁ REV.
3. Press the ◴ button again until the clock display stops flashing to set the currently displayed time, or wait five seconds until the flashing stops and the current time displayed is automatically set.

To change the time default setting from 12 hour to 24 hour, press the ◴ button until 12H or 24H is displayed. Once 12H or 24H is displayed, turn the ♫ knob to the desired option to select the setting. Press the ◴ button again to apply the setting, or let the screen time out.

With Date Display

Single CD (MP3) Player

This radio has a ◴ button for setting the time.

To set the time and date:

1. Turn the radio on.
2. Press the ◴ button and the HR, MIN, MM, DD, and YYYY (hour, minute, month, day, and year) display.
3. Press the pushbutton located under any one of the tabs to be changed.
4. To increase the time or date, do one of the following:
   - Press the pushbutton below the selected tab.
   - Turn the ♫ knob clockwise.
   - Press ⏭ SEEK.
   - Press ▷▷ FWD.
5. To decrease the time or date, do one of the following:
   - Turn the ♫ knob counter-clockwise.
   - Press ⏮ SEEK.
   - Press ◁◁ REV.

The date does not automatically display. To see the date press the ◴ button while the radio is on. The date with display times out after a few seconds and goes back to the normal radio and time display.

To change the time default setting from 12 hour to 24 hour or to change the date default setting from month/day/year to day/month/year:

1. Press the ◴ button and then the pushbutton located under the forward arrow tab. The time 12H and 24H, and the date MM/DD/YYYY (month, day, and year) and DD/MM/YYYY (day, month, and year) displays.

2. Press the pushbutton located under the desired option.
3. Press the ◷ or MENU button again to apply the selected default, or let the screen time out.

Power Outlets

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

On vehicles with a center console, one outlet is located inside the center floor console and two outlets are located at the front of the console bin under the instrument panel.

On vehicles without a center console, two are located under the climate controls and another outlet for the rear seat passengers is at the rear of the center front seat.

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

⚠ WARNING

Power is always supplied to the outlets. 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.

Notice: **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 ampere rating.**

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

When adding electrical equipment, be sure to follow the proper installation instructions included with the equipment. See *Add-On Electrical Equipment on page 9-45*.

Notice: **Hanging heavy equipment from the power outlet can cause damage not covered by the vehicle warranty. The power outlets are designed for accessory power plugs only, such as cell phone charge cords.**

Cigarette Lighter

The vehicle may have a cigarette lighter. The cigarette lighter may be located in the console, if the vehicle has one; otherwise, it may be located in the center armrest of the front seat.

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

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

Ashtrays

The vehicle may have an ashtray. The ashtray may be located in the console, if the vehicle has one; otherwise, it may be located in the center armrest of the front seat.

Notice: **If papers, pins, or other flammable items are put in the ashtray, hot cigarettes or other smoking materials could ignite them and possibly damage the vehicle. Never put flammable items in the ashtray.**

Warning Lights, Gauges, and Indicators

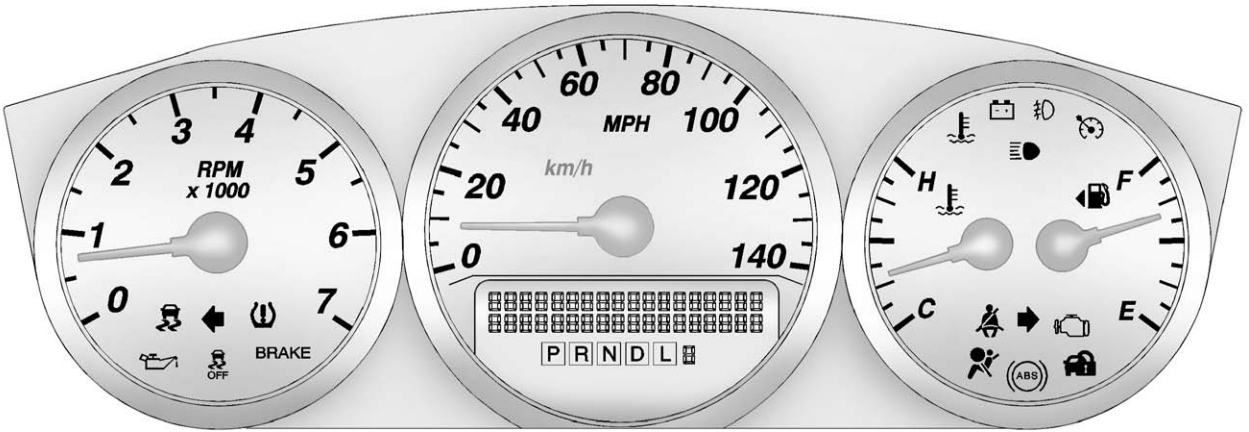
Warning lights and gauges can signal that something is wrong before it becomes serious enough to cause an expensive repair or replacement. Paying attention to the warning lights and gauges could prevent injury.

Warning lights come on when there could be a problem with a vehicle function. Some warning lights come on briefly when the engine is started to indicate they are working.

Gauges can indicate when there could be a problem with a vehicle function. Often gauges and warning lights work together to indicate a problem with the vehicle.

When one of the warning lights comes on and stays on while driving, or when one of the gauges shows there may be a problem, check the section that explains what to do. Follow this manual's advice. Waiting to do repairs can be costly and even dangerous.

Instrument Cluster



English Uplevel Shown, Base and Metric Similar

Speedometer

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

Odometer

The odometer shows how far the vehicle has been driven in either miles (used in the United States) or in kilometers (used in Canada).

This vehicle has a tamper-resistant odometer. If the odometer displays ERROR, it probably has been tampered with and the numbers might not be accurate.

If the vehicle needs a new odometer installed, it must be set to the mileage total of the old odometer. If that is not possible, then it will be set at zero and a label must be put on the driver door to show the old mileage reading of the vehicle when the new odometer was installed.

Tachometer

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

Notice: **If the engine is operated with the tachometer in the shaded warning area, the vehicle could be damaged, and the damages would not be covered by the vehicle warranty. Do not operate the engine with the tachometer in the shaded warning area.**

Fuel Gauge

Metric

English

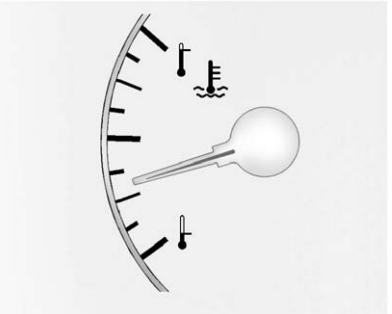
When the ignition is on, the fuel gauge indicates about how much fuel is left in the fuel tank.

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

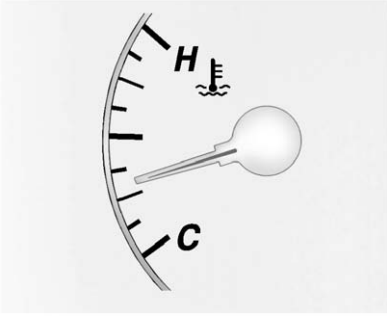
Here are four things that some owners ask about. None of these show a problem with the fuel gauge:

- At the gas station, the gas pump shuts off before the gauge reads full.
- It takes a little more or less fuel to fill up than the gauge indicated. For example, the gauge may have indicated the tank was half full, but it actually took a little more or less than half the fuel tank's capacity to fill the tank.
- The gauge moves a little when while turning a corner or speeding up.
- The gauge does not go back to empty when the ignition is turned off.

Engine Coolant Temperature Gauge



Metric



English

This gauge shows the engine coolant temperature. If the gauge pointer moves toward the “H” (United States) or torward the shaded thermostat (Canada), 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 on page 10-15* for more information.

Safety Belt Reminders

Driver Safety Belt Reminder Light

There is a driver safety belt reminder light on the instrument panel cluster.

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

This cycle may continue several times if the driver remains or becomes unbuckled while the vehicle is moving.

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

Passenger Safety Belt Reminder Light

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

For more information see *Passenger Airbag Status Indicator on page 5-14*.

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

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

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

Airbag Readiness Light

The system checks the airbag's electrical system for possible malfunctions. If the light stays on it indicates there is an electrical problem. The system check includes the airbag sensor(s), passenger sensing system, the pretensioners, the airbag modules, the wiring, and the crash sensing and diagnostic module. For more information on the airbag system, see *Airbag System on page 3-19*.

The airbag readiness light flashes for a few seconds when the engine 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, an airbag Driver Information Center (DIC) message can also come on. See *Vehicle Messages on page 5-27* for more information.

Passenger Airbag Status Indicator

The vehicle has the passenger sensing system. See *Passenger Sensing System on page 3-26* for important safety information. The instrument panel has a passenger airbag status indicator.

United States

Canada

When the vehicle is started, the passenger airbag status indicator will light ON and OFF, or the symbol for on and off, for several seconds as a system check. If you are using remote start, if equipped, to start the vehicle from a distance, you may not see the system check. Then, after several more seconds, the status indicator will light either ON or OFF, or either the on or off symbol to let you know the status of the right front passenger frontal airbag.

If the word ON or the on symbol is lit on the passenger airbag status indicator, it means that the right front passenger frontal airbag is enabled (may inflate).

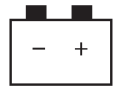
If the word OFF or the off symbol is lit on the airbag status indicator, it means that the passenger sensing system has turned off the right front passenger frontal airbag.

If, after several seconds, both status indicator lights remain on, or if there are no lights at all, there may be a problem with the lights or the passenger sensing system. See your dealer for service.

⚠ WARNING

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light on page 5-14* for more information, including important safety information.

Charging System Light



This light comes on briefly when the ignition key is turned to START, but the engine is not running, as a check to show it is working.

If it does not, have the vehicle serviced by your dealer.

The light should go out once the engine starts. If it stays on, or comes on while driving, there could be a problem with the charging system. A charging system message in the Driver Information Center (DIC) can also appear. See *Battery Voltage and Charging Messages on page 5-28* for more information. This light could indicate that there are

problems with a generator drive belt, or that there is an electrical problem. Have it checked right away. If the vehicle must be driven a short distance with the light on, turn off accessories, such as the radio and air conditioner.

Malfunction Indicator Lamp

A computer system called OBD II (On-Board Diagnostics-Second Generation) monitors the operation of the vehicle to ensure emissions are at acceptable levels, to produce a cleaner environment. This light comes on when the vehicle is placed in ON/RUN, as a check to show it is working. If it does not, have the vehicle serviced by your dealer. See *Ignition Positions on page 9-15* for more information.

If the malfunction indicator lamp comes on and stays on while the engine is running, this indicates that there is an OBD II problem and service is required.

Malfunctions often are indicated by the system before any problem is apparent. Being aware of the light can prevent more serious damage to the vehicle. This system assists the service technician in correctly diagnosing any malfunction.

Notice: **If the vehicle is continually driven with this light on, the emission controls might not work as well, the vehicle fuel economy might not be as good, and the engine might not run as smoothly. This could lead to costly repairs that might not be covered by the vehicle warranty.**

Notice: **Modifications made to the engine, transmission, exhaust, intake, or fuel system of the vehicle or the replacement of the original tires with other than those of the same Tire Performance Criteria (TPC) can affect the vehicle's emission controls and can cause this light to come on. Modifications to these systems could lead to costly repairs not covered by the vehicle warranty. This could also result in a failure to pass a required Emission Inspection/ Maintenance test. See *Accessories and Modifications on page 10-3*.**

This light comes on during a malfunction in one of two ways:

Light Flashing: A misfire condition has been detected. A misfire increases vehicle emissions and could damage the emission control system on the vehicle. Diagnosis and service might be required.

To prevent more serious damage to the vehicle:

- Reduce vehicle speed.
- Avoid hard accelerations.
- Avoid steep uphill grades.
- If towing a trailer, reduce the amount of cargo being hauled as soon as it is possible.

If the light continues to flash, stop and park the vehicle. Turn the vehicle off, wait at least 10 seconds, and restart the engine. If the light is still flashing, follow the previous steps and see your dealer for service as soon as possible.

Light On Steady: An emission control system malfunction has been detected on the vehicle. Diagnosis and service might be required.

The following may correct an emission system malfunction:

- Check that the fuel cap is fully installed. See *Filling the Tank on page 9-37*. The diagnostic system can determine if the fuel cap has been left off or improperly installed. A loose or missing fuel cap allows fuel to evaporate into the atmosphere. A few driving trips with the cap properly installed should turn the light off.
- Check that good quality fuel is used. Poor fuel quality causes the engine not to run as efficiently as designed and may cause stalling after start-up, stalling when the vehicle is changed into gear, misfiring, hesitation on acceleration, or stumbling on acceleration. These conditions might go away once the engine is warmed up.

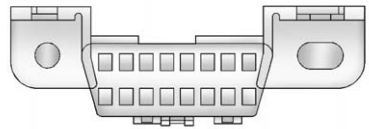
If one or more of these conditions occurs, change the fuel brand used. It will require at least one full tank of the proper fuel to turn the light off.

See *Recommended Fuel on page 9-33*.

If none of the above have made the light turn off, your dealer can check the vehicle. The dealer has the proper test equipment and diagnostic tools to fix any mechanical or electrical problems that might have developed.

Emissions Inspection and Maintenance Programs

Some local governments may have programs to inspect the on-vehicle emission control equipment. For the inspection, the emission system test equipment is connected to the vehicle's Data Link Connector (DLC).



The DLC is under the instrument panel to the left of the steering wheel. See your dealer if assistance is needed.

The vehicle may not pass inspection if:

- The malfunction indicator lamp is on with the engine running, or if the light does not come on when the ignition is turned to ON/RUN while the engine is off. See your dealer for assistance in verifying proper operation of the malfunction indicator lamp.
- The OBD II (On-Board Diagnostics) system determines that critical emission control systems have not been completely diagnosed. The vehicle would be considered not ready for inspection. This can happen if the 12-volt battery has recently been replaced or run down. The diagnostic system is designed to evaluate critical emission control systems during normal driving. This can take several days of routine driving.

  If this has been done and the vehicle still does not pass the inspection for lack of OBD II system readiness, your dealer can prepare the vehicle for inspection.

Brake System Warning Light

The vehicle brake system consists of two hydraulic circuits. If one circuit is not working, the remaining circuit can still work to stop the vehicle. For normal braking performance, both circuits need to be working

If the warning light comes on, there is a brake problem. Have the brake system inspected right away.

Metric

BRAKE

English

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

When the ignition is on, the brake system warning light also comes on when the parking brake is set. The light stays on if the parking brake does not fully release. If it stays on after the parking brake is fully released, it means the vehicle has a brake problem.

If the light comes on while driving, pull off the road and stop carefully. The pedal might be harder to push, or the pedal can go closer to the floor. It may take longer to stop. If the light is still on, have the vehicle towed for service. See *Towing the Vehicle on page 10-65*.

⚠ 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.

Antilock Brake System (ABS) Warning Light

The Antilock Brake System (ABS) light comes on briefly when the engine is started.

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

If the ABS light stays on, turn the ignition off. If the light comes on while driving, stop as soon as it is safely possible and turn the ignition off. A chime may also sound when the light comes on steady. Then start the engine again to reset the system. If the ABS light stays on, or comes on again while driving, the vehicle needs service. If the regular brake system warning light is not on, the vehicle still has brakes, but not antilock brakes. If the regular brake system warning light is also on, the vehicle does not have antilock brakes and there is a problem with the regular brakes. See *Brake System Warning Light on page 5-18*.

See *Driver Information Center (DIC) on page 5-23* for all brake related DIC messages.

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. If the system is working normally, the indicator light then goes off.

Press and release the Electronic Stability Control (ESC) OFF button to turn off the Traction Control System (TCS), and a message displays in the DIC. See *Ride Control System Messages on page 5-31* for more information.

Press and briefly hold the ESC OFF button to turn off the ESC system; the ESC OFF light comes on and a message displays in the Driver Information Center (DIC). See *Ride Control System Messages on page 5-31* for more information.

If the TCS/ESC system is off, the system does not assist in controlling the vehicle. Turn on the TCS/ESC system and the indicator light turns off.

See *Traction Control System (TCS) on page 9-27*, and *Electronic Stability Control (ESC) on page 9-29* for more information.

Electronic Stability Control (ESC)/Traction Control System (TCS) Indicator/Warning Light

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

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

If the light comes on and stays on while driving, and a message displays in the Driver Information Center (DIC), have the vehicle serviced by the dealer. See *Ride Control System Messages on page 5-31* for more information.

If the light flashes while driving, this means that the ESC or the TCS is assisting in controlling the vehicle.

See *Traction Control System (TCS) on page 9-27*, and *Electronic Stability Control (ESC) on page 9-29* for more information.

Engine Coolant Temperature Warning Light

This light comes on briefly while starting the vehicle.

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

Notice: **Driving with the engine coolant temperature warning light on could cause the vehicle to overheat. See *Engine Overheating on page 10-15*. The vehicle's engine could be damaged, and it might not be covered by the vehicle warranty. Never drive with the engine coolant temperature warning light on.**

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

If this happens pull over and turn off the engine as soon as possible. See *Engine Overheating on page 10-15* for more information.

Tire Pressure Light

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

When the Light Is On Steady

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

A Driver Information Center (DIC) tire pressure message may also display. See *Vehicle Messages on page 5-27* for more information.

Stop as soon as possible, and inflate the tires to the pressure value shown on the Tire and Loading Information label. See *Tire Pressure on page 10-40* for more information.

When the Light Flashes First and Then Is On Steady

If the light flashes for about a minute and then stays on, there may be a problem with the TPMS. If the problem is not corrected, the light will come on at every ignition cycle. See *Tire Pressure Monitor Operation on page 10-42* for more information.

Engine Oil Pressure Light

⚠ WARNING

Do not keep driving if the oil pressure is low. The engine can become so hot that it catches fire. Someone could be burned. Check the oil as soon as possible and have the vehicle serviced.

Notice: **Lack of proper engine oil maintenance can damage the engine. Driving with the engine oil low can also damage the engine. The repairs would not be covered by the vehicle warranty.**

Check the oil level as soon as possible. Add oil if required, but if the oil level is within the operating range and the oil pressure is still low, have the vehicle serviced. Always follow the maintenance schedule for changing engine oil.

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 goes off.

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 it might have some other system problem.

Security Light

The security light should come on briefly as the engine is started. If the system is working normally, the indicator light turns off. If it does not come on, have the vehicle serviced by your dealer.

If the light stays on and the engine does not start, there could be a problem with the theft-deterrent system.

This light is also used to indicate the status of the anti-theft alarm system when the ignition is turned off. The light will flash rapidly if the alarm system is arming and one or more of the monitored entry points is not closed. The light will stay on if the alarm is arming and all entry points are closed.

For information regarding this light and the vehicle's security system, see *Anti-theft Alarm System on page 2-11*.

High-Beam On Light

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

See *Headlamp High/Low-Beam Changer on page 6-2* for more information.

Front Fog Lamp Light

The fog lamp light comes on when the fog lamps are in use.

The light goes out when the fog lamps are turned off. See *Fog Lamps on page 6-4* for more information.

Cruise Control Light

The cruise control light comes on whenever the cruise control is set.

The light goes out when the cruise control is turned off. See *Cruise Control on page 9-30* for more information.

Information Displays

Driver Information Center (DIC)

Your vehicle has a Driver Information Center (DIC).

All messages will appear in the DIC display located below the speedometer in the instrument panel cluster. The DIC buttons are located on the instrument panel, to the right of the instrument panel cluster.

The DIC comes on when the ignition is on. After a short delay, the DIC will display the information that was last displayed before the engine was turned off.

The DIC displays trip, fuel, and vehicle system information, and warning messages if a system problem is detected. The bottom line of the DIC shows the shift lever position indicator. See *Automatic Transmission on page 9-22* for more information.

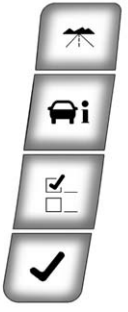
If your vehicle has these features, the DIC also displays the compass direction and the outside air temperature when viewing the trip and fuel information. The compass direction appears on the top right corner of the DIC display. The outside air temperature automatically appears in the bottom right corner of the DIC display.
If there is a problem with the system that controls the temperature display, the numbers will be replaced with dashes. If this occurs, have the vehicle serviced by your dealer.

The DIC also allows some features to be customized. See *Vehicle Personalization on page 5-35* for more information.

DIC Operation and Displays

The DIC has different displays which can be accessed by pressing the DIC buttons located on the instrument panel, to the right of the instrument panel cluster.

DIC Buttons



The buttons are the trip/fuel, vehicle information, customization, and set/reset buttons. The button functions are detailed in the following pages.

(Trip/Fuel): Press this button to display the odometer, trip odometers, fuel range, average economy, instantaneous economy, Active Fuel Management™ indicator on vehicles with this feature, and average speed.

(Vehicle Information): Press this button to display the oil life, units, tire pressure readings, and compass zone and compass calibration on vehicles with this feature.

(Customization): Press this button to customize the feature settings on your vehicle. See *Vehicle Personalization on page 5-35* for more information.

✓ **(Set/Reset):** Press this button to set or reset certain functions and to turn off or acknowledge messages on the DIC.

Trip/Fuel Menu Items

(Trip/Fuel): Press this button to scroll through the following menu items:

Odometer

Press the trip/fuel button until ODOMETER displays. This display shows the distance the vehicle has been driven in either miles (mi) or kilometers (km).

Trip A and Trip B

Press the trip/fuel button until TRIP A or TRIP B displays. This display shows the current distance traveled in either miles (mi) or kilometers (km) since the last reset for each trip odometer. Both trip odometers can be used at the same time.

Each trip odometer can be reset to zero separately by pressing the set/reset button while the desired trip odometer is displayed.

The trip odometer has a feature called the retro-active reset. This can be used to set the trip odometer to the number of miles (kilometers) driven since the ignition was last turned on. This can be used if the trip odometer is not reset at the beginning of the trip.

To use the retro-active reset feature, press and hold the set/reset button for at least four seconds. The trip odometer will display the number of miles (mi) or kilometers (km) driven since the ignition was last turned on and the vehicle was moving. Once the vehicle begins moving, the trip odometer will accumulate mileage. For example, if the vehicle was driven 8 km (5 miles) before it is started again, and then the retro-active reset feature is activated, the display will show 8 km (5 miles). As the vehicle begins moving, the display will then increase to 8.2 km (5.1 miles), 8.4 km (5.2 miles), etc.

If the retro-active reset feature is activated after the vehicle is started, but before it begins moving, the display will show the number of miles (mi) or kilometers (km) that were driven during the last ignition cycle.

Fuel Range

Press the trip/fuel button until FUEL RANGE displays. This display shows the approximate number of remaining miles (mi) or kilometers (km) the vehicle can be driven without refueling.

The fuel range estimate is based on an average of the vehicle's fuel economy over recent driving history and the amount of fuel remaining in the fuel tank. This estimate will change if driving conditions change. For example, if driving in traffic and making frequent stops, this display may read one number, but if the vehicle is driven on a freeway, the number may change even though the same amount of fuel is in the fuel tank. This is because different driving conditions produce different fuel economies. Generally, freeway driving produces better fuel economy than city driving.

If your vehicle is low on fuel, the FUEL LEVEL LOW message displays. See *Fuel System Messages on page 5-30* for more information.

Average Economy

Press the trip/fuel button until AVG ECONOMY displays. This display shows the approximate average miles per gallon (mpg) or liters per

100 kilometers (L/100 km). This number is calculated based on the number of mpg (L/100 km) recorded since the last time this menu item was reset. To reset this display to zero, press and hold the set/reset button.

Instantaneous Economy

Press the trip/fuel button until INST ECONOMY displays. This display shows the current fuel economy at a particular moment and will change frequently as driving conditions change. This display shows the instantaneous fuel economy in miles per gallon (mpg) or liters per 100 kilometers (L/100 km). Unlike average economy, this screen cannot be reset.

Average Speed

Press the trip/fuel button until AVERAGE SPEED displays. This display shows the average speed of the vehicle in miles per hour (mph) or kilometers per hour (km/h). This average is calculated based on the various vehicle speeds recorded since the last reset of this value. To reset the value, press and hold the set/reset button. The display will return to zero.

Blank Display

This display shows no information.

Vehicle Information Menu Items

(Vehicle Information): Press this button to scroll through the following menu items:

Oil Life

Press the vehicle information button until OIL LIFE REMAINING displays. This display shows an estimate of the oil's remaining useful life. If you see 99% OIL LIFE REMAINING on the display, that means 99% of the current oil life remains. The engine oil life system will alert you to change the oil on a schedule consistent with your driving conditions.

When the remaining oil life is low, the CHANGE ENGINE OIL SOON message will appear on the display. See *Engine Oil Messages on page 5-30*. You should change the oil as soon as possible. See *Engine Oil on page 10-7*. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended in the Maintenance Schedule in this manual. See *Maintenance Schedule on page 11-3* for more information.

Remember, you must reset the OIL LIFE yourself after each oil change. It will not reset itself. Also, be careful not to reset the OIL LIFE 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, see *Engine Oil Life System on page 10-10*.

Units

Press the vehicle information button until UNITS displays. This display allows you to select between English or Metric units of measurement. Once in this display, press the set/reset button to select between ENGLISH or METRIC units.

Tire Pressure

On vehicles with the Tire Pressure Monitor System (TPMS), the pressure for each tire can be viewed in the DIC. The tire pressure will be shown in either pounds per square inch (psi) or kilopascals (kPa). Press the vehicle information button until the DIC displays FRONT TIRES PSI (kPa) LEFT ## RIGHT ##. Press the vehicle information button again until the DIC displays REAR TIRES PSI (kPa) LEFT ## RIGHT ##.

If a low tire pressure condition is detected by the system while driving, a message advising you to add air to a specific tire will appear in the display. See *Tire Pressure on page 10-40* and *Tire Messages on page 5-33* for more information.

If the tire pressure display shows dashes instead of a value, there may be a problem with your vehicle. If this consistently occurs, see your dealer for service.

Change Compass Zone

Your vehicle may have this feature. To change the compass zone through the DIC, see *Compass on page 5-5*.

Calibrate Compass

Your vehicle may have this feature. The compass can be manually calibrated. To calibrate the compass through the DIC, see *Compass on page 5-5*.

Blank Display

This display shows no information.

Vehicle Messages

Messages are displayed on the DIC to notify the driver that the status of the vehicle has changed and that some action may be needed by the driver to correct the condition. Multiple messages may appear one after another. Some messages may not require immediate action, but you can press the set/reset button to acknowledge that you received the message and clear it from the DIC display. Pressing any of the DIC buttons also acknowledges and clears any messages. Some messages cannot be cleared from the DIC display because they are more urgent. These messages require action before they can be cleared. You should take any messages that appear on the display seriously and remember that clearing the messages will only make the messages disappear, not correct the problem. The following are the possible messages that can be displayed and some information about them.

Battery Voltage and Charging Messages

BATTERY SAVER ACTIVE

This message displays when the system detects that the battery voltage is dropping beyond a reasonable level. The battery saver system starts reducing certain features of the vehicle that you may be able to notice. At the point that the features are disabled, this message is displayed. It means that the vehicle is trying to save the charge in the battery.

Turn off all unnecessary accessories to allow the battery to recharge.

The normal battery voltage range is 11.5 to 15.5 volts.

SERVICE BATTERY CHARGING SYSTEM

This message displays when there is a problem with the generator and battery charging systems. Driving with this problem could drain the battery. Turn off all unnecessary accessories. Stop and turn off the vehicle as soon as it is safe to do so. Have the electrical system checked by your dealer immediately.

Brake System Messages

SERVICE BRAKE SYSTEM

This message displays when service is required on the brake system. Have the brake system serviced by your dealer as soon as possible. The brake system warning light also appears on the instrument panel cluster when this message appears on the DIC. See *Brake System Warning Light on page 5-18*.

Door Ajar Messages

DRIVER DOOR OPEN

This message displays when the driver door is not closed properly. Make sure that the door is closed completely.

HOOD OPEN

If your vehicle has the remote start feature, this message displays when the hood is not closed properly. Make sure that the hood is closed completely. See *Hood on page 10-5*.

LEFT REAR DOOR OPEN

This message displays when the driver side rear door is not closed properly. Make sure that the door is closed completely.

PASSENGER DOOR OPEN

This message displays when the front passenger door is not closed properly. Make sure that the door is closed completely.

RIGHT REAR DOOR OPEN

This message displays when the passenger side rear door is not closed properly. Make sure that the door is closed completely.

TRUNK OPEN

This message displays when the trunk is not closed completely. Make sure that the trunk is closed completely. See *Trunk on page 2-9*.

Engine Cooling System Messages

ENGINE HOT A/C (Air Conditioning) OFF

This message displays when the engine coolant becomes hotter than the normal operating temperature. To avoid added strain on a hot engine, the air conditioning compressor is automatically turned off. When the coolant temperature returns to normal, the A/C operation automatically resumes. You can continue to drive your vehicle. If this message continues to appear, have the system repaired by your dealer as soon as possible to avoid compressor damage.

ENGINE OVERHEATED IDLE ENGINE

Notice: **If you drive your vehicle while the engine is overheating, severe engine damage may occur. If an overheat warning appears on the instrument panel cluster and/or DIC, stop the vehicle as soon as possible. Do not increase the engine speed above normal idling speed. See *Engine Overheating on page 10-15* for more information.**

This message displays when the engine coolant temperature is too hot. Stop and allow the vehicle to idle until it cools down.

ENGINE OVERHEATED STOP ENGINE

Notice: **If you drive the vehicle while the engine is overheating, severe engine damage may occur. If an overheat warning appears on the instrument panel cluster and/or DIC, stop the vehicle as soon as possible. See *Engine Overheating on page 10-15* for more information.**

This message displays along with a continuous chime when the engine has overheated. Stop and turn the engine off immediately to avoid severe engine damage. See *Engine Overheating on page 10-15*.

SERVICE A/C (Air Conditioning) SYSTEM

This message displays when the electronic sensors that control the air conditioning and heating systems are no longer working. Have the climate control system serviced by your dealer if you notice a drop in heating and air conditioning efficiency.

Engine Oil Messages

CHANGE ENGINE OIL SOON

This message displays when service is required for the vehicle. See your dealer. See *Engine Oil on page 10-7* and *Maintenance Schedule on page 11-3* for more information.

Acknowledging the CHANGE ENGINE OIL SOON message will not reset the OIL LIFE REMAINING. That must be done at the OIL LIFE screen under the vehicle information menu. See “Oil Life” under *Driver Information Center (DIC) on page 5-23* and *Engine Oil Life System on page 10-10*.

OIL PRESSURE LOW STOP ENGINE

Notice: **If you drive the vehicle while the engine oil pressure is low, severe engine damage may occur. If a low oil pressure warning appears on the Driver Information Center (DIC), stop the vehicle as soon as possible. Do not drive the vehicle until the cause of the low oil pressure is corrected. See *Engine Oil on page 10-7* for more information.**

This message displays when the vehicle's engine oil pressure is low. The oil pressure light also appears on the instrument panel cluster. See *Engine Oil Pressure Light on page 5-22*.

Stop the vehicle immediately, as engine damage can result from driving a vehicle with low oil pressure. Have the vehicle serviced by your dealer as soon as possible when this message is displayed.

Engine Power Messages

ENGINE POWER IS REDUCED

This message displays when the vehicle's engine power is reduced. Reduced engine power can affect the vehicle's ability to accelerate. If this message is on, but there is no reduction in performance, proceed to your destination. The performance may be reduced the next time the vehicle is driven. The vehicle may be driven at a reduced speed while this message is on, but acceleration and speed may be reduced. Anytime this message stays on, the vehicle should be taken to your dealer for service as soon as possible.

Fuel System Messages

FUEL LEVEL LOW

This message displays when your vehicle is low on fuel. Refill the fuel tank as soon as possible. See *Fuel Gauge on page 5-11* and *Filling the Tank on page 9-37* for more information.

TIGHTEN GAS CAP

This message may be displayed if the gas cap is not on, or is not fully tightened. Check the gas cap to ensure that it is on properly. See *Filling the Tank on page 9-37* for more information.

Key and Lock Messages

REPLACE BATTERY IN REMOTE KEY

This message displays when the battery in the Remote Keyless Entry (RKE) transmitter needs to be replaced. To replace the battery, see "Battery Replacement" under *Remote Keyless Entry (RKE) System Operation on page 2-3*.

Lamp Messages

AUTOMATIC LIGHT CONTROL OFF

This message displays when the automatic headlamps are turned off. See *Exterior Lamp Controls on page 6-1* for more information.

AUTOMATIC LIGHT CONTROL ON

This message displays when the automatic headlamps are turned on. See *Exterior Lamp Controls on page 6-1* for more information.

TURN SIGNAL ON

This message displays as a reminder to turn off the turn signal if you drive your vehicle for more than about 1.2 km (0.75 mile) with a turn signal on. See *Turn and Lane-Change Signals on page 6-4*.

This message displays and a chime sounds only when the ignition is in ON/RUN. The message will not disappear until the turn signal is manually turned off, or a turn is completed.

Ride Control System Messages

SERVICE STABILITRAK

If your vehicle has Electronic Stability Control (ESC), this message displays if there has been a problem detected with ESC. The ESC/TCS light also appears on the instrument panel cluster. See *Electronic Stability Control (ESC) on page 9-29* and *Electronic Stability Control (ESC)/Traction Control System (TCS) Indicator/Warning Light on page 5-20* for more information.

If this message turns on while you are driving, pull off the road as soon as possible and stop carefully. Try resetting the system by turning the ignition off and then back on. If this message still stays on or turns back on again while you are driving, your vehicle needs service. Have the system inspected by your dealer as soon as possible.

SERVICE TRACTION CONTROL

If your vehicle has the Traction Control System (TCS), this message displays when the system is not functioning properly. The ESC/TCS light also appears on the instrument

panel cluster. See *Electronic Stability Control (ESC)/Traction Control System (TCS) Indicator/ Warning Light on page 5-20*. See *Traction Control System (TCS) on page 9-27* for more information. Have the TCS serviced by your dealer as soon as possible.

STABILITRAK INITIALIZING

If your vehicle has Electronic Stability Control (ESC), this message may display and the ESC/ TCS light on the instrument panel cluster may be on after first driving the vehicle and exceeding 30 km/h (19 mph) for 30 seconds. The ESC system is not functional until the light has turned off. See *Electronic Stability Control (ESC) on page 9-29* for more information.

STABILITRAK OFF

If your vehicle has Electronic Stability Control (ESC), this message displays when the ESC is turned off manually. See *Electronic Stability Control (ESC) on page 9-29* for more information.

TRACTION CONTROL OFF

If your vehicle has the Traction Control System (TCS), this message displays when the TCS turns off. See *Traction Control System (TCS) on page 9-27* for more information.

This message may display when the ignition is in ON/RUN and disappears after 10 seconds, unless it is acknowledged or an urgent warning appears.

Any of the following conditions may cause the TCS to turn off:

- The TCS is turned off by pressing the traction control button. See *Traction Control System (TCS) on page 9-27* for more information.
- The battery is low.

TRACTION CONTROL ON

If your vehicle has the Traction Control System (TCS), this message displays when the TCS is turned on. See *Traction Control System (TCS) on page 9-27* for more information.

Airbag System Messages

SERVICE AIR BAG

This message displays when there is a problem with the airbag system. Have your vehicle serviced by your dealer immediately. See *Airbag Readiness Light on page 5-14* for more information.

Anti-theft Alarm System Messages

SERVICE THEFT SYSTEM

This message displays when there is a problem with the theft-deterrent system programmed in the key.

A fault has been detected in the system which means that the system is disabled and it is not protecting the vehicle. The vehicle usually restarts; however, you may want to take the vehicle to your dealer before turning off the engine. See *Immobilizer Operation on page 2-12* for more information.

THEFT ATTEMPTED

This message displays if the content theft-deterrent system has detected a break-in attempt while you were away from your vehicle. See *Anti-theft Alarm System on page 2-11* for more information.

Service Vehicle Messages

ERROR

This message displays while viewing the odometer or trip odometers if there is a problem with the instrument panel cluster. See your dealer for service.

SERVICE POWER STEERING

This message displays when a problem is detected with the power steering system. When this message is displayed, you may notice that the effort required to steer the vehicle increases or feels heavier, but you will still be able to steer the vehicle. Have your vehicle serviced by your dealer immediately.

SERVICE VEHICLE SOON

This message displays when a non-emissions related malfunction occurs. Have the vehicle serviced by your dealer as soon as possible.

STARTING DISABLED SERVICE THROTTLE

This message displays if the starting of the engine is disabled due to the electronic throttle control system. Have your vehicle serviced by your dealer immediately.

This message only appears while the ignition is in ON/RUN, and will not disappear until the problem is resolved.

This message cannot be acknowledged.

Tire Messages

SERVICE TIRE MONITOR SYSTEM

On vehicles with the Tire Pressure Monitor System (TPMS), this message displays if a part on the TPMS is not working properly. The tire pressure light also flashes and then remains on during the same ignition cycle. See *Tire Pressure Light on page 5-21*. Several conditions may cause this message to appear. See *Tire Pressure Monitor Operation on page 10-42* for more information. If the warning comes on and stays on, there may be a problem with the TPMS. See your dealer.

TIRE LEARNING ACTIVE

On vehicles with the Tire Pressure Monitor System (TPMS), this message displays when the TPMS is re-learning the tire positions on your vehicle. The tire positions must be re-learned after rotating the tires or after replacing a tire or sensor. See *Tire Inspection on page 10-45*, *Tire Rotation on page 10-45*, *Tire Pressure Monitor System on page 10-41*, and *Tire Pressure on page 10-40* for more information.

TIRE LOW ADD AIR TO TIRE

On vehicles with the Tire Pressure Monitor System (TPMS), this message displays when the pressure in one or more of the vehicle's tires is low. This message also displays LEFT FRT (left front), RIGHT FRT (right front), LEFT RR (left rear), or RIGHT RR (right rear) to indicate the location of the low tire. The low tire pressure warning light will also come on. See *Tire Pressure Light on page 5-21*. You can receive more than one tire pressure message at a time. To read the other messages that may have been sent at the same time, press the set/reset button. If a tire pressure message appears on the DIC, stop as soon as you can. Have the tire pressures checked and set to those shown on the Tire and Loading Information label. See *Tires on page 10-33*, *Vehicle Load Limits on page 9-10*, and *Tire Pressure on page 10-40*. The DIC also shows the tire pressure values. See *Driver Information Center (DIC) on page 5-23*.

Transmission Messages

SERVICE TRANSMISSION

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

TRANSMISSION HOT IDLE ENGINE

This message displays when the transmission fluid in your vehicle is too hot. Stop the vehicle and allow it to idle until it cools down. If the warning message continues to display, have the vehicle serviced by your dealer as soon as possible.

Vehicle Reminder Messages

ICE POSSIBLE DRIVE WITH CARE

This message displays when the outside air temperature is cold enough to create icy road conditions. Adjust your driving accordingly.

Washer Fluid Messages

WASHER FLUID LOW ADD FLUID

This message displays when the windshield washer fluid is low. Fill the windshield washer reservoir as soon as possible. See *Engine Compartment Overview on page 10-6* for the location of the windshield washer reservoir. Also, see *Washer Fluid on page 10-18* for more information.

Vehicle Personalization

Your vehicle has customization capabilities that allow you to program certain features to one preferred setting. Customization features can only be programmed to one setting on the vehicle and cannot be programmed to a preferred setting for two different drivers.

All of the customization options may not be available on your vehicle. Only the options available will be displayed on the DIC.

The default settings for the customization features were set when your vehicle left the factory, but may have been changed from their default state since then.

The customization preferences are automatically recalled.

To change customization preferences, use the following procedure.

Entering the Feature Settings Menu

1. Turn the ignition on and place the vehicle in P (Park).

   To avoid excessive drain on the battery, it is recommended that the headlamps are turned off.

2. Press the customization button to enter the feature settings menu.

   If the menu is not available, FEATURE SETTINGS AVAILABLE IN PARK will display. Before entering the menu, make sure the vehicle is in P (Park).

Feature Settings Menu Items

The following are customization features that allow you to program settings to the vehicle:

DISPLAY IN ENGLISH

This feature will only display if a language other than English has been set. This feature allows you to change the language in which the DIC messages appear to English.

Press the customization button until the PRESS ✓ TO DISPLAY IN ENGLISH screen appears on the DIC display. Press the set/reset button once to display all DIC messages in English.

DISPLAY LANGUAGE

This feature allows you to select the language in which the DIC messages will appear.

Press the customization button until the DISPLAY LANGUAGE screen appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customization button to scroll through the following settings:

ENGLISH (default): All messages will appear in English.

FRANCAIS: All messages will appear in French.

ESPANOL: All messages will appear in Spanish.

NO CHANGE: No change will be made to this feature. The current setting will remain.

To select a setting, press the set/reset button while the desired setting is displayed on the DIC.

AUTO DOOR UNLOCK

This feature allows you to select whether or not to turn off the automatic door unlocking feature. It also allows you to select which doors and when the doors will automatically unlock. See “Programmable Automatic Door Unlock” under *Automatic Door Locks on page 2-8* for more information.

Press the customization button until AUTO DOOR UNLOCK appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customization button to scroll through the following settings:

OFF: None of the doors will automatically unlock.

DRIVER AT KEY OUT: Only the driver door will unlock when the key is taken out of the ignition.

DRIVER IN PARK: Only the driver door will unlock when the vehicle is shifted into P (Park) .

ALL AT KEY OUT: All of the doors will unlock when the key is taken out of the ignition.

ALL IN PARK (default): All of the doors will unlock when the vehicle is shifted into P (Park).

NO CHANGE: No change will be made to this feature. The current setting will remain.

To select a setting, press the set/reset button while the desired setting is displayed on the DIC.

REMOTE DOOR LOCK

This feature allows you to select the type of feedback you will receive when locking the vehicle with the Remote Keyless Entry (RKE) transmitter. You will not receive feedback when locking the vehicle with the RKE transmitter if any of the doors are open. See *Remote Keyless Entry (RKE) System Operation on page 2-3* for more information.

Press the customization button until REMOTE DOOR LOCK appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customization button to scroll through the following settings:

HORN & LIGHTS OFF: There will be no feedback when you press the lock button on the RKE transmitter.

LIGHTS ONLY: The exterior lamps will flash when you press the lock button on the RKE transmitter.

HORN ONLY: The horn will sound on the second press of the lock button on the RKE transmitter.

HORN & LIGHTS ON (default): The exterior lamps will flash when you press the lock button on the RKE transmitter, and the horn will sound when the lock button is pressed again within five seconds of the previous command.

NO CHANGE: No change will be made to this feature. The current setting will remain.

To select a setting, press the set/reset button while the desired setting is displayed on the DIC.

REMOTE DOOR UNLOCK

This feature allows you to select the type of feedback you will receive when unlocking the vehicle with the Remote Keyless Entry (RKE) transmitter. You will not receive feedback when unlocking the vehicle with the RKE transmitter if the doors are open. See *Remote Keyless Entry (RKE) System Operation on page 2-3* for more information.

Press the customization button until REMOTE DOOR UNLOCK appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customization button to scroll through the following settings:

LIGHTS OFF: The exterior lamps will not flash when you press the unlock button on the RKE transmitter.

LIGHTS ON (default): The exterior lamps will flash when you press the unlock button on the RKE transmitter.

NO CHANGE: No change will be made to this feature. The current setting will remain.

To select a setting, press the set/reset button while the desired setting is displayed on the DIC.

EXIT LIGHTING

This feature allows you to select the amount of time you want the exterior lamps to remain on when it is dark enough outside. This happens after the key is turned from ON/RUN to LOCK/OFF.

Press the customization button until EXIT LIGHTING appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customization button to scroll through the following settings:

OFF: The exterior lamps will not turn on.

30 SECONDS (default): The exterior lamps will stay on for 30 seconds.

1 MINUTE: The exterior lamps will stay on for one minute.

2 MINUTES: The exterior lamps will stay on for two minutes.

NO CHANGE: No change will be made to this feature. The current setting will remain.

To select a setting, press the set/reset button while the desired setting is displayed on the DIC.

APPROACH LIGHTING

This feature allows you to select whether or not to have the exterior lights turn on briefly during low light periods after unlocking the vehicle using the Remote Keyless Entry (RKE) transmitter.

Press the customization button until APPROACH LIGHTING appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customization button to scroll through the following settings:

OFF: The exterior lights will not turn on when you unlock the vehicle with the RKE transmitter.

ON (default): If it is dark enough outside, the exterior lights will turn on briefly when you unlock the vehicle with the RKE transmitter.

The lights will remain on for 20 seconds or until the lock button on the RKE transmitter is pressed, or the vehicle is no longer off. See *Remote Keyless Entry (RKE) System Operation on page 2-3* for more information.

NO CHANGE: No change will be made to this feature. The current setting will remain.

To select a setting, press the set/reset button while the desired setting is displayed on the DIC.

CHIME VOLUME

This feature allows you to select the volume level of the chime.

Press the customization button until CHIME VOLUME appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customization button to scroll through the following settings:

NORMAL: The chime volume will be set to a normal level.

LOUD: The chime volume will be set to a loud level.

NO CHANGE: No change will be made to this feature. The current setting will remain.

There is no default for chime volume. The volume will stay at the last known setting.

To select a setting, press the set/reset button while the desired setting is displayed on the DIC.

REMOTE START

If your vehicle has this feature, it allows you to turn the remote start off or on. The remote start feature allows you to start the engine from outside of the vehicle using the Remote Keyless Entry (RKE) transmitter. See *Remote Vehicle Start on page 2-5* for more information.

Press the customization button until REMOTE START appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customization button to scroll through the following settings:

OFF: The remote start feature will be disabled.

ON (default): The remote start feature will be enabled.

NO CHANGE: No change will be made to this feature. The current setting will remain.

To select a setting, press the set/reset button while the desired setting is displayed on the DIC.

FACTORY SETTINGS

This feature allows you to set all of the customization features back to their factory default settings.

Press the customization button until FACTORY SETTINGS appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customization button to scroll through the following settings:

RESTORE ALL (default): The customization features will be set to their factory default settings.

DO NOT RESTORE: The customization features will not be set to their factory default settings.

To select a setting, press the set/reset button while the desired setting is displayed on the DIC.

EXIT FEATURE SETTINGS

This feature allows you to exit the FEATURE SETTINGS menu.

Press the customization button until FEATURE SETTINGS PRESS ✓ TO EXIT appears in the DIC display. Press the set/reset button once to exit the menu.

If you do not exit, pressing the customization button again will return you to the beginning of the FEATURE SETTINGS menu.

Exiting the Feature Settings Menu

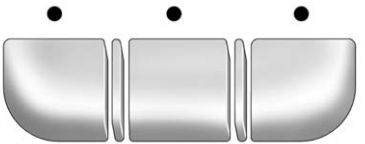
The feature settings menu will be exited when any of the following occurs:

- The vehicle is shifted out of P (Park).
- The vehicle is no longer in ON/RUN.
- The trip/fuel or vehicle information DIC buttons are pressed.
- The end of the feature settings menu is reached and exited.
- A 40-second time period has elapsed with no selection made.

Universal Remote System

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

Universal Remote System Programming



This vehicle may have the Universal Home Remote System.

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

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

Read the instructions completely before attempting to program the transmitter. Because of the steps involved, it may be helpful to have another person available to assist in programming the transmitter.

Be sure to keep the original remote control transmitter for use in other vehicles, as well as for future programming. Only the original remote control transmitter is needed for Fixed Code programming. The programmed buttons should be erased when the vehicle is sold or the lease ends. See “Erasing Universal Home Remote Buttons” in this section.

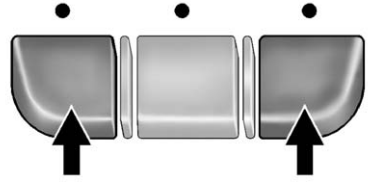
Park the vehicle outside of the garage when programming a garage door. Be sure that people and objects are clear of the garage door or gate that is being programmed.

Programming Universal Home Remote — Rolling Code

For questions or help programming the Universal Home Remote System, call 1-866-572-2728 or go to www.learcar2u.com.

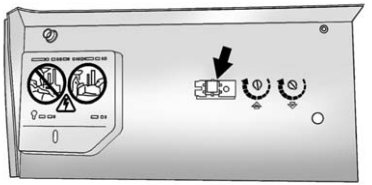
Most garage door openers sold after 1996 are Rolling Code units.

Programming a garage door opener involves time-sensitive actions, so read the entire procedure before starting. Otherwise, the device will time out and the procedure will have to be repeated.



To program up to three devices:

1. From inside the vehicle, press the two outside buttons at the same time for one to two seconds, and immediately release them.



2. In the garage, locate the garage door opener receiver (motor-head unit). Locate the “Learn” or “Smart” button. It can usually be found where the hanging antenna wire is attached to the motor-head unit and may be a colored button. Press this button. After pressing this button, complete the following steps in less than 30 seconds.
3. Immediately return to the vehicle. Press and hold the Universal Home Remote button that will be used to control the garage door until the garage door moves. The indicator light, above the selected button, should slowly blink. This button may need to be held for up to 20 seconds.
4. Immediately, within one second, release the button when the garage door moves. The indicator light will blink rapidly until programming is complete.
5. Press and release the same button again. The garage door should move, confirming that programming is successful and complete.

To program another Rolling Code device such as an additional garage door opener, a security device, or home automation device, repeat Steps 1 through 5, choosing a different function button in Step 3 than what was used for the garage door opener.

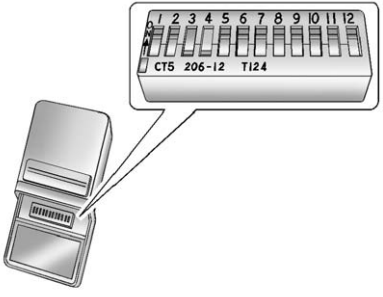
If these instructions do not work, the garage door opener is probably a Fixed Code unit. Follow the Programming instructions that follow for a Fixed Code garage door opener.

Programming Universal Home Remote — Fixed Code

For questions or help programming the Universal Home Remote System, call 1-866-572-2728 or go to www.learcar2u.com.

Most garage door openers sold before 1996 are Fixed Code units.

Programming a garage door opener involves time-sensitive actions, so read the entire procedure before starting. Otherwise, the device will time out and the procedure will have to be repeated.

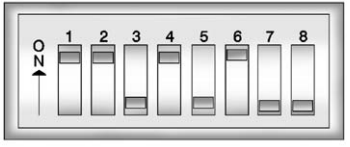


To program up to three devices:

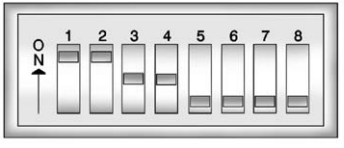
1. To verify that the garage door opener is a Fixed Code unit, remove the battery cover on the hand held transmitter supplied by the manufacturer of the garage door opener motor.
   If there are a row of dip switches similar to the graphic above, the garage door opener is a Fixed Code unit. If you do not see a row of dip switches, return to the previous section for Programming Universal Home Remote – Rolling Code.

Your hand-held transmitter can have between 8 to 12 dip switches depending on the brand of transmitter.

The garage door opener receiver (motor head unit) could also have a row of dip switches that can be used when programming the Universal Home Remote. If the total number of switches on the motor head and hand-held transmitter is different, or if the dip switch settings are different, use the dip switch settings on the motor head unit to program the Universal Home Remote. The motor head dip switch settings can also be used when the original hand held transmitter is not available.



Example of Eight Dip Switches with Two Positions



Example of Eight Dip Switches with Three Positions

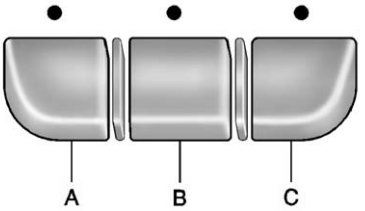
The panel of switches might not appear exactly as they do in the examples above, but they should be similar.

The switch positions on the hand-held transmitter could be labeled, as follows:

- A switch in the up position could be labeled as “Up,” “+,” or “On.”
- A switch in the down position could be labeled as “Down,” “−,” or “Off.”
- A switch in the middle position could be labeled as “Middle,” “0,” or “Neutral.”

2. Write down the 8 to 12 switch settings from left to right as follows:
   - When a switch is in the up position, write “Left.”
   - When a switch is in the down position, write “Right.”
   - If a switch is set between the up and down position, write “Middle.”

     The switch settings written down in Step 2 will now become the button strokes to be entered into the Universal Home Remote in Step 4. Be sure to enter the switch settings written down in Step 2, in order from left to right, into the Universal Home Remote, when completing Step 4.
3. From inside your vehicle, first firmly press all three buttons at the same time for about three seconds. Release the buttons to put the Universal Home Remote into programming mode.



A. Left Button
("Up," "+," or "On.")

B. Middle Button
("Middle," "0," or "Neutral.")

C. Right Button
("Down," "-," or "Off.")

4. The indicator lights will blink slowly. Enter each switch setting from Step 2 into your vehicle's Universal Home Remote. You will have two and one-half minutes to complete Step 4. Now press one button on the Universal Home Remote for each switch setting as follows:
   - If you wrote “Left,” press the left button in the vehicle.
   - If you wrote “Right,” press the right button in the vehicle.
   - If you wrote “Middle,” press the middle button in the vehicle.
5. After entering all of the switch positions, again, firmly press and release all three buttons at the same time. The indicator lights will turn on.
6. Press and hold the button that will be used to control the garage door until the garage door moves. The indicator light above the selected button should slowly blink. This button may need to be held for up to 55 seconds.
7. Immediately release the button when the garage door moves. The indicator light will blink rapidly until programming is complete.
8. Press and release the same button again. The garage door should move, confirming that programming is successful and complete.

To program another Fixed Code device such as an additional garage door opener, a security device, or home automation device, repeat Steps 1 through 8, choosing a different button in Step 6 than what was used for the garage door opener.

Universal Remote System Operation

Press and hold the appropriate button for at least half of a second. The indicator light will come on while the signal is being transmitted.

Reprogramming Universal Home Remote Buttons

Any of the three buttons can be reprogrammed by repeating the instructions.

Erasing Universal Home Remote Buttons

The programmed buttons should be erased when the vehicle is sold or the lease ends.

To erase either Rolling Code or Fixed Code on the Universal Home Remote device:

1. Press and hold the 2 outside buttons at the same time for approximately 20 seconds, until the indicator lights, located directly above the buttons, begin to blink rapidly.
2. Once the indicator lights begin to blink, release both buttons. The codes from all buttons will be erased.

For help or information on the Universal Home Remote System, call the customer assistance phone number under *Customer Assistance Offices on page 13-3*.

Lighting

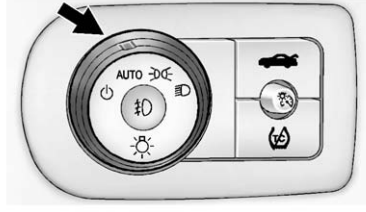
Exterior Lighting
Exterior Lamp Controls 6-1
Headlamp High/Low-Beam Changer 6-2
Flash-to-Pass 6-2
Daytime Running Lamps (DRL)/Automatic Headlamp System 6-3
Hazard Warning Flashers 6-3
Turn and Lane-Change Signals 6-4
Fog Lamps 6-4

Interior Lighting
Instrument Panel Illumination Control 6-5
Courtesy Lamps 6-5
Dome Lamps 6-6
Reading Lamps 6-6

Lighting Features
Entry Lighting 6-6
Delayed Entry Lighting 6-7
Delayed Exit Lighting 6-7
Parade Dimming 6-7
Battery Load Management 6-7
Battery Power Protection 6-8

Exterior Lighting

Exterior Lamp Controls



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

It controls the following systems:

- Headlamps
- Taillamps
- Parking Lamps
- License Plate Lamps
- Instrument Panel Lights
- Fog Lamps (If Equipped)

The exterior lamps control has four positions:

(Off): Turns off the automatic headlamps and Daytime Running Lamps (DRL). Turning the headlamp control to the off position again will turn the automatic headlamps or DRL back on. For vehicles first sold in Canada, the off position only works when the vehicle is shifted into the P (Park) position.

AUTO (Automatic): Automatically turns on the headlamps at normal brightness, together with the following:

- Parking Lamps
- Instrument Panel Lights
- Taillamps
- License Plate Lamps

(Parking Lamps): Turns on the parking lamps together with the following:

- Instrument Panel Lights
- Taillamps
- License Plate Lamps

(Headlamps): Turns on the headlamps together with the following lamps listed below. When the headlamps are turned on while the vehicle is on, the headlamps will turn off automatically 10 minutes after the ignition is turned off. When the headlamps are turned on while the vehicle is off, the headlamps will stay on for 10 minutes before automatically turning off to prevent the battery from being drained. Turn the headlamp control to off and then back to the headlamp on position to make the headlamps stay on for an additional 10 minutes.

- Parking Lamps
- Taillamps
- License Plate Lamps
- Instrument Panel Lights

(Fog Lamps) (If Equipped): Turns on the fog lamps.

See *Fog Lamps on page 6-4*.

Headlamp High/ Low-Beam Changer

To change the headlamps from low beam to high beam, push the turn signal/multifunction lever away from you.

This instrument panel cluster light comes on if the high-beam lamps are turned on while the ignition is in ON/RUN.

To change the headlamps from high beam to low beam, pull the turn signal lever toward you.

Flash-to-Pass

This feature is used to signal to the vehicle ahead that you want to pass.

If the headlamps are off or in the low-beam position, pull the turn signal lever toward you to momentarily switch to high beams.

Release the lever to turn the high-beam headlamps off.

Daytime Running Lamps (DRL)/Automatic Headlamp System

Daytime Running Lamps (DRL) can make it easier for others to see the front of your vehicle during the day. Fully functional daytime running lamps are required on all vehicles first sold in Canada.

The DRL system makes the low-beam headlamps come on at a reduced brightness when the following conditions are met:

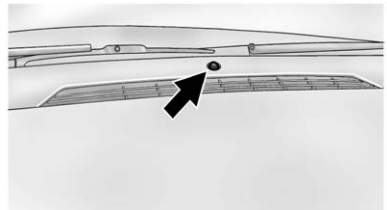
- The ignition is in the ON/RUN position.
- The exterior lamps control is in AUTO.
- The engine is running.

When the DRL are on, the regular headlamps, taillamps, sidemarker, and other lamps are not on. The instrument panel and cluster are also not on.

The headlamps automatically change from DRL to the regular headlamps depending on the darkness of the surroundings. The other lamps that come on with the headlamps will also come on.

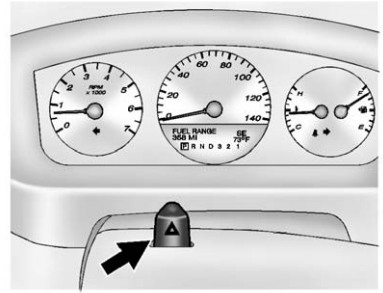
When it is bright enough outside, the headlamps go off and the DRL come on.

The regular headlamp system should be turned on when needed.



Do not cover the light sensor on top of the instrument panel because it works with the DRL.

Hazard Warning Flashers



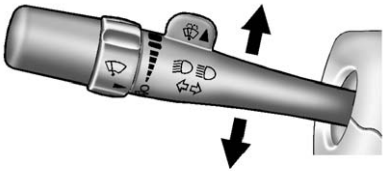
The hazard warning flashers let you warn others that you have a problem.

The hazard warning flasher button is located on top of the steering column.

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

When the hazard warning flashers are on, the turn signals will not work.

Turn and Lane-Change Signals



An arrow on the instrument panel cluster will flash in the direction of the turn or lane change.

Move the lever all the way up or down to signal a turn.

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

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

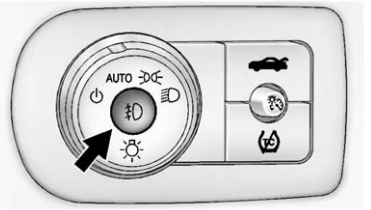
If after signaling a turn or lane change the arrow flashes rapidly or does not come on, a signal bulb might be burned out.

Have the bulbs replaced. If the bulb is not burned out, check the fuse. See *Fuses and Circuit Breakers on page 10-29*.

Turn Signal On Chime

If either one of the turn signals are left on and the vehicle has been driven more than 1.2 km (0.75 mile), a chime will sound.

Fog Lamps



(Fog Lamps): For vehicles with fog lamps, the button is located on the exterior lamps control. The exterior lamps control is located on the instrument panel to the left of the steering column.

The ignition must be in the ON/RUN position for the fog lamps to come on.

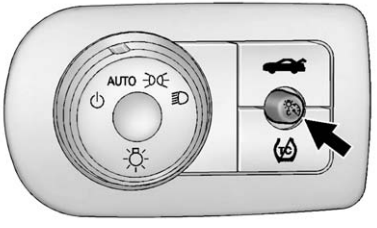
Press ⇶ to turn the fog lamps on or off. A light will come on in the instrument panel cluster.

When the headlamps are changed to high beam, the fog lamps also go off.

Some localities have laws that require the headlamps to be on along with the fog lamps.

Interior Lighting

Instrument Panel Illumination Control



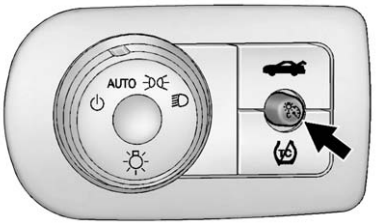
(Instrument Panel Brightness): This knob is located on the instrument panel to the left of the steering wheel. Push the knob in all the way until it extends out and then turn the knob clockwise or counterclockwise to brighten or dim the lights. Push the knob back in when finished.

Courtesy Lamps

When a door is opened, the courtesy lamps automatically come on. They make it easy for you to enter and leave your vehicle. You can also manually turn these lamps on by fully turning the instrument panel brightness control clockwise.

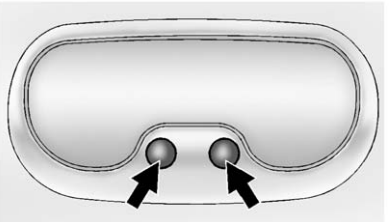
The reading lamps, located on the rearview mirror, can be turned on or off independent of the automatic courtesy lamps, when the doors are closed.

Dome Lamps



The center mounted dome lamp overhead comes on when a door is opened. This lamp can also be turned on by turning the instrument panel brightness control clockwise.

Reading Lamps



The vehicle has reading lamps that also act as the dome lamp. Press the button near each lamp to turn them on and off.

Map Lamps

The vehicle has map lamps on the rearview mirror. Press the button near each lamp on the mirror to turn the map lamps on and off.

Lighting Features

Entry Lighting

For vehicles with courtesy lamps, they come on and stay on for a set time whenever the unlock symbol is pressed on the Remote Keyless Entry (RKE) transmitter.

If a door is opened, the lamps stay on while it is open and then turn off automatically about 20 seconds after the door is closed. If the unlock symbol is pressed and no door is opened, the lamps turn off after about 20 seconds.

Entry lighting includes a feature called theater dimming. With theater dimming, the lamps do not turn off at the end of the delay time. Instead, they slowly dim and then go out. The delay time is canceled if the ignition key is turned to ON/RUN or the power door lock switch is pressed. The lamps will dim right away.

When the ignition is on, illuminated entry is inactive, which means the courtesy lamps will not come on unless a door is opened.

Delayed Entry Lighting

Delayed entry lighting illuminates the interior for a period of time after all the doors have been closed.

The ignition must be off for delayed entry lighting to work. Immediately after all the doors have been closed, the delayed entry lighting feature continues to work until one of the following occurs:

- The ignition is in ON/RUN.
- The doors are locked.
- An illumination period of about 25 seconds has elapsed.

If during the illumination period a door is opened, the timed illumination period is canceled and the interior lamps remain on.

Delayed Exit Lighting

This feature illuminates the interior for a period of time after the key is removed from the ignition.

The ignition must be off for delayed exit lighting to work. When the key is removed, interior illumination activates and remains on until one of the following occurs:

- The ignition is in ON/RUN.
- The power door locks are activated.
- An illumination period of 20 seconds has elapsed.

If during the illumination period a door is opened, the timed illumination period will be canceled and the interior lamps will remain on because a door is open.

Parade Dimming

Parade mode automatically prohibits the dimming of the instrument panel displays during the daylight while the headlamps are on so that the displays are still able to be seen.

Battery Load Management

The vehicle has Electric Power Management (EPM) that estimates the battery's temperature and state of charge. It then adjusts the voltage for best performance and extended life of the battery.

When the battery's state of charge is low, the voltage is raised slightly to quickly bring the charge back up. When the state of charge is high, the voltage is lowered slightly to prevent overcharging.

If the vehicle has a voltmeter gauge or a voltage display on the Driver Information Center (DIC), you may see the voltage move up or down. This is normal. If there is a problem, an alert will be displayed.

The battery can be discharged at idle if the electrical loads are very high. This is true for all vehicles. This is because the generator (alternator) may not be spinning fast enough at idle to produce all the power that is needed for very high electrical loads.

A high electrical load occurs when several of the following are on, such as: headlamps, high beams, fog lamps, rear window defogger, climate control fan at high speed, heated seats, engine cooling fans, trailer loads, and loads plugged into accessory power outlets.

EPM works to prevent excessive discharge of the battery. It does this by balancing the generator's output and the vehicle's electrical needs. It can increase engine idle speed to generate more power, whenever needed. It can temporarily reduce the power demands of some accessories.

Normally, these actions occur in steps or levels, without being noticeable. In rare cases at the highest levels of corrective action, this action may be noticeable to the driver. If so, a Driver Information Center (DIC) message might be displayed, such as BATTERY SAVER ACTIVE. If this messages displays, it is recommended that the driver reduce the electrical loads as much as possible. See *Driver Information Center (DIC) on page 5-23*.

Battery Power Protection

This feature helps prevent the battery from being drained, if the interior courtesy lamps, reading/map lamps, visor vanity lamps, or trunk lamp are accidentally left on. If any of these lamps are left on, they automatically turn off after 10 minutes, if the ignition is off. The lamps will not come back on again until one of the following occurs:

- The ignition is turned on.
- The exterior lamps control is turned off, then on again.

The headlamps will time out after 10 minutes, if they are manually turned on with the ignition on or off.

Infotainment System

Introduction
Infotainment 7-1
Theft-Deterrent Feature 7-2
Operation 7-2

Radio
AM-FM Radio 7-6
Satellite Radio 7-8
Radio Reception 7-11
Backglass Antenna 7-12
Satellite Radio Antenna 7-13

Audio Players
CD Player 7-13
Auxiliary Devices 7-18

Phone
Bluetooth 7-19

Introduction

Infotainment

Determine which radio the vehicle has and read the following pages to become familiar with its features.

⚠ WARNING

Taking your eyes off the road for extended periods could cause a crash resulting in injury or death to you or others. Do not give extended attention to infotainment tasks while driving.

This system provides access to many audio and non-audio listings.

To minimize taking your eyes off the road while driving, do the following while the vehicle is parked:

- Become familiar with the operation and controls of the audio system.
- Set up the tone, speaker adjustments, and preset radio stations.

For more information, see *Defensive Driving on page 9-3*.

Notice: **Contact your dealer before adding any equipment.**

Adding audio or communication equipment could interfere with the operation of the engine, radio, or other systems, and could damage them. Follow federal rules covering mobile radio and telephone equipment.

The vehicle has Retained Accessory Power (RAP). With RAP, the audio system can be played even after the ignition is turned off. See *Retained Accessory Power (RAP) on page 9-18* for more information.

Theft-Deterrent Feature

TheftLock® is designed to discourage theft of the vehicle's radio by learning a portion of the Vehicle Identification Number (VIN). The radio does not operate if it is stolen or moved to a different vehicle.

Operation

Radio with CD (Base)

Radio with CD (MP3)

The vehicle has one of these radios as its infotainment system.

Softkeys

The Radio with CD (MP3) has six softkeys located below the radio display. Softkeys are used to control functions that appear on the radio display as tabs directly above the softkeys.

Using the Radio

⏻ (Power/Volume): Press to turn the system on and off. Turn to increase or decrease the volume.

i (Information): Press to switch the display between the radio station frequency and the time. While the ignition is off, press this button to display the time.

Speed Compensated Volume (SCV): Radios with the Speed Compensated Volume (SCV) feature automatically adjust the radio volume to compensate for road and wind noise as the vehicle speeds up or slows down, so that the volume level is consistent.

To activate SCV:

1. Set the radio volume to the desired level.
2. Press MENU to display the radio setup menu.
3. Press the softkey under the AUTO VOLUM tab on the radio display.

4. Press the softkey under the desired Speed Compensated Volume setting (OFF, Low, Med, or High) to select the level of radio volume compensation. The display times out after approximately 10 seconds. Each higher setting allows for more radio volume compensation at faster vehicle speeds.

Setting the Tone (Bass/Treble) Radio with CD

To adjust the bass or treble:

1. Press the ♫ knob until Bass or Treble displays.
2. To adjust the setting, do one of the following:
   - Turn the ♫ knob.
   - Press ⏭ SEEK or ⏮ SEEK.
   - Press ▷▷ FWD or ◁◁ REV.

EQ (Equalization): Press this button to choose bass and treble equalization settings designed for different types of music. Selecting MANUAL or changing bass or treble, returns the EQ to the manual bass and treble settings.

Unique EQ settings can be saved for each source.

Setting the Tone (Bass/Midrange/Treble) Radio with CD (MP3)

BASS/MID/TREB (Bass, Midrange, or Treble): To adjust the bass, midrange, or treble:

1. Press the ♫ knob until the tone control tabs display.
2. Highlight the desired tone control tab by doing one of the following:
   - Press the ♫ knob.
   - Press the softkey under the desired tab.
3. Adjust the setting by doing one of the following:
   - Turn the ♫ knob clockwise or counterclockwise.
   - Press ⏭ SEEK or ⏮ SEEK.
   - Press ▷▷ FWD or ◁◁ REV.

If a station's frequency is weak or if there is static, decrease the treble.

To quickly adjust bass, midrange, or treble to the middle position, press the softkey positioned under the BASS, MID, or TREB tab for more than two seconds. A beep sounds and the level adjusts to the middle position.

To quickly adjust all tone and speaker controls to the middle position, press the ♫ knob for more than two seconds until a beep sounds.

EQ (Equalization): Press this button to choose bass and treble equalization settings designed for different types of music. Selecting MANUAL or changing bass or treble returns the EQ to the manual bass and treble settings.

Unique EQ settings can be saved for each source.

If the radio has a Bose® audio system, the EQ settings are either MANUAL or TALK.

Adjusting the Speakers (Balance/Fade) Radio with CD

To adjust the balance or fade:

1. Press the button or press the knob until the speaker control label displays.
2. To adjust the setting, do one of the following:
   - Turn the knob.
   - Press SEEK or SEEK.
   - Press FWD or REV.

Adjusting the Speakers (Balance/Fade) Radio with CD (MP3)

BAL/FADE (Balance/Fade): To adjust the balance or fade:

1. Press the knob until the speaker control tabs display.
2. Highlight the desired speaker control tab by doing one of the following:
   - Press the knob.
   - Press the softkey under the desired tab.
3. Adjust the setting by doing one of the following:
   - Turn the knob clockwise or counterclockwise.
   - Press SEEK or SEEK.
   - Press FWD or REV.

To quickly adjust all speaker and tone controls to the middle position, press the knob for more than two seconds.

If the Rear Seat Audio (RSA) is turned on, the radio disables FADE and mutes the rear speakers.

Radio Messages

Calibration Error: Displays if the radio is no longer calibrated properly for the vehicle. The vehicle must be returned to your dealer for service.

Loc or Locked: Displays when the TheftLock® system has activated. Take the vehicle to your dealer for service.

If any error occurs repeatedly or if an error cannot be corrected, contact your dealer.

Radio

AM-FM Radio

Radio Data System (RDS)

The radio may have RDS. The RDS feature is available for use only on FM stations that broadcast RDS information. This system relies upon receiving specific information from these stations and only works when the information is available. While the radio is tuned to an FM-RDS station, the station name or call letters display. In rare cases, a radio station could broadcast incorrect information that causes the radio features to work improperly. If this happens, contact the radio station.

i (Information) (RDS Features): For vehicles with RDS features, press i to display additional text information related to the current FM-RDS station. If information is available, the song title information displays on the top line of the display and artist information displays on the bottom line. When information is not available, “NO INFO” displays.

Auto Text (RDS Features): If additional information is available for the current song being played, Auto Text will automatically page/scroll the information every three seconds above the FAV presets on the radio display. By default, Auto Text is enabled.

To change the Auto Text setting:

1. Press MENU to display the radio setup menu.
2. Press the softkey under AUTO TXT tab on the radio display.
3. Press the softkey under the ON or OFF tab on the radio display.

If i is pressed and the song title or artist information is longer than what can be displayed, the extra information will page every three seconds when Auto Text is activated.

Finding a Station

BAND: Press to choose between FM1, FM2, AM, or XM™ (if equipped) on the Radio with CD (Base). Press to choose between FM, AM, XM (if equipped) on the Radio with CD (MP3).

♫ (Tune): Turn to select radio stations.

⏮ SEEK: Press to seek or scan stations with a strong signal in the selected band.

- To seek stations, press and release ⏮ SEEK to go to the previous station and stay there.
- To scan stations, press and hold ⏮ SEEK for a few seconds until the radio beeps once. The radio goes to a station, plays for a few seconds, then goes to the next station. Press ⏮ SEEK again to stop scanning.
- To scan preset stations in the selected band, press and hold ⏮ SEEK for four seconds

until a double beep sounds. The radio goes to a stored preset, plays for a few seconds, then goes to the next stored preset.

Press ⏮ SEEK again to stop scanning preset stations.

⏭ **SEEK:** Press to seek or scan stations with a strong signal in the selected band.

- To seek stations, press and release ⏭ SEEK to go to the next station and stay there.
- To scan stations, press and hold ⏭ SEEK for a few seconds until the radio beeps once. The radio goes to a station, plays for a few seconds, then goes to the next station. Press ⏭ SEEK again to stop scanning.
- To scan preset stations in the selected band, press and hold ⏭ SEEK for four seconds until a double beep sounds. The radio goes to a stored preset, plays for a few seconds, then goes to the next stored preset.

  Press ⏭ SEEK again to stop scanning preset stations.

Storing Radio Stations

Drivers are encouraged to store radio station while the vehicle is parked. See *Defensive Driving on page 9-3*. Tune to stored radio stations using the presets, favorites button, and steering wheel controls, if the vehicle has this feature.

Radios that have a FAV button store radio stations as favorites, up to 36 stations can be programmed as favorites using the 6 softkeys below the radio station frequency tabs and by using the FAV button. Press the FAV button to go through up to 6 pages of favorites, each having 6 favorite stations available per page. Each page of favorites can contain any combination of AM, FM, or XM, if equipped, stations.

Radios that do not have a FAV button store radio stations as presets, up to 18 stations (6 FM1, 6 FM2, and 6 AM), can be programmed on the 6 numbered pushbuttons.

Storing a Radio Station as a Preset, Radio with CD (Base)

Radios that have numbered pushbuttons store radio stations as presets.

Up to 18 stations (6 FM1, 6 FM2, and 6 AM), can be programmed on the six numbered buttons.

To store preset stations:

1. Tune to a radio station.
2. Press and hold one of the 6 numbered pushbuttons for 3 seconds until a beep sounds.
3. Repeat Steps 1 and 2 to store additional radio stations.

Storing a Radio Station as a Favorite, Radio with CD (MP3)

Radios that have a FAV button store radio stations as favorites.

To store a station as a favorite:

1. Tune to a radio station.

2. Press the FAV button to display the page where the station will be stored.
3. Press and hold one of the 6 softkeys until a beep sounds.
4. Repeat Steps 1 through 3 to store additional radio stations.

The number of favorites pages can be set up using the MENU button. To set up the number of favorites pages:

1. Press the MENU button.
2. Press the softkey located below the FAV 1-6 tab.
3. Select the number of favorites pages by pressing the softkey located below the displayed page numbers.
4. Press the FAV button, or let the menu time out, to return to the original main radio screen showing the radio station frequency tabs and to begin the process of programming favorites.

Satellite Radio

XM™ Satellite Radio Service

XM is a satellite radio service that is based in the 48 contiguous United States and 10 Canadian provinces. XM Satellite Radio has a wide variety of programming and commercial-free music, coast-to-coast, and in digital-quality sound. A service fee is required to receive the XM service. If XM Service needs to be reactivated, the radio will display “No Subscription Please Renew” on channel XM1. For more information, contact XM at www.xmradio.com or call 1-800-929-2100 in the U.S. and www.xmradio.ca or call 1-877-438-9677 in Canada.

i (Information) (XM Satellite Radio Service): For vehicles with XM, press i to display additional text information related to the current XM channel. If information is available, the song title information displays on the top line of the display and artist information displays on the bottom line. When information is not available, “NO INFO” displays.

Auto Text (Satellite Radio Service): If additional information is available for the current song being played, Auto Text will automatically page/scroll the information every three seconds above the FAV presets on the radio display. By default, Auto Text is enabled.

To change the Auto Text setting:

1. Press MENU to display the radio setup menu.
2. Press the softkey under AUTO TXT tab on the radio display.
3. Press the softkey under the ON or OFF tab on the radio display.

If i is pressed and the song title or artist information is longer than what can be displayed, the extra information will page every three seconds when Auto Text is activated.

Finding an XM Channel

BAND: Press to switch between AM, FM, or XM, if equipped.

♫ **(Tune):** Turn to manually select an XM channel.

⏮ **SEEK:** Press to go to the previous XM channel.

- To scan stations, press and hold ⏮ SEEK for a few seconds until the radio beeps once. The radio goes to a cahnnel, plays for a few seconds, then goes to the next station. Press ⏮ SEEK again to stop scanning.

⏭ **SEEK:** Press to go to the next XM channel.

- To scan stations, press and hold ⏭ SEEK for a few seconds until the radio beeps once. The radio goes to a station, plays for a few seconds, then goes to the next station. Press ⏭ SEEK again to stop scanning.

◁◁ **REV:** Press to go to the previous XM category.

▷▷ **FWD:** Press to go to the next XM category.

Finding a Category (CAT) Channel

To find XM channels in a category:

1. Press the CAT button to display the category tabs. Continue pressing the CAT button until the desired category name displays.
   - Radios with CD and DVD can also navigate the category list by pressing the ▷▷ FWD or the ◁◁ REV button.
2. Press either of the two softkeys below the desired category tab to immediately tune to the first XM station in that category.

   To go to the previous or next XM station in the selected category, do one of the following:
   - Turn the ♫ knob.
   - Press the softkey below the right or left arrows in the category tab.
   - Press ⏮ SEEK or ⏭ SEEK.
3. To exit the category search mode, press the FAV button or BAND button to display the favorites again.

Adding and Removing Categories

Categories cannot be added or removed while the vehicle is moving faster than 8 km/h (5 mph).

To add or remove a category:

1. Press the MENU button.
2. Press the softkey located below the XM CAT tab.
3. Turn the ♫ knob to display the category you want to add or remove.
4. Press the softkey located under the Add or Remove tab.

   To restore all removed categories, press the softkey under the Restore All tab.

5. Repeat the steps to remove more categories.

Storing XM Channels

Drivers are encouraged to store radio station while the vehicle is parked. See *Defensive Driving on page 9-3*. Tune to stored radio stations using the presets, favorites button, and steering wheel controls, if the vehicle has this feature.

Up to 36 stations can be programmed as favorites using the 6 softkeys below the radio station frequency tabs and by using the FAV button. Press the FAV button to go through up to 6 pages of favorites, each having 6 favorite stations available per page. Each page of favorites can contain any combination of AM, FM, or XM, if equipped, stations.

Storing an XM Channel as a Favorite

To store a station as a favorite:

1. Tune to an XM channel.
2. Press the FAV button to display the page where the station will be stored.
3. Press and hold one of the 6 softkeys until a beep sounds.
4. Repeat Steps 1 through 3 to store additional radio stations.

The number of favorites pages can be set up using the MENU button. To set up the number of favorites pages:

1. Press the MENU button.
2. Press the softkey located below the FAV 1-6 tab.
3. Select the number of favorites pages by pressing the softkey located below the displayed page numbers.
4. Press the FAV button, or let the menu time out, to return to the original main radio screen showing the radio station frequency tabs and to begin the process of programming favorites.

XM Radio Messages

XL (Explicit Language Channels): These channels, or any others, can be blocked at a customer's request, by calling 1-800-929-2100 in the U.S. and 1-877-438-9677 in Canada.

XM Updating: The encryption code in the receiver is being updated, and no action is required. This process should take no longer than 30 seconds.

No XM Signal: The system is functioning correctly, but the vehicle is in a location that is blocking the XM signal. When the vehicle is moved into an open area, the signal should return.

Loading XM: The audio system is acquiring and processing audio and text data. No action is needed. This message should disappear shortly.

Channel Off Air: This channel is not currently in service. Tune in to another channel.

Channel Unauth: This channel is blocked or cannot be received with your XM subscription package.

Channel Unavail: This previously assigned channel is no longer assigned. Tune to another station. If this station was one of the presets, choose another station for that preset button.

No Artist Info: No artist information is available at this time on this channel. The system is working properly.

No Title Info: No song title information is available at this time on this channel. The system is working properly.

No CAT Info: No category information is available at this time on this channel. The system is working properly.

No Information: No text or informational messages are available at this time on this channel. The system is working properly.

No Subscription Please Renew: XM subscription needs to be reactivated. Contact XM at www.xmradio.com or call 1-800-929-2100 in the U.S. and www.xmradio.ca or call 1-877-438-9677 in Canada.

CAT Not Found: There are no channels available for the selected category. The system is working properly.

XM Theftlocked: The XM receiver in the vehicle could have previously been in another vehicle. For security purposes, XM receivers cannot be swapped between vehicles. If this message is received after having the vehicle serviced, check with your dealer.

XM Radio ID: If tuned to channel 0, this message alternates with the XM Radio 8 digit radio ID label. This label is needed to activate the service.

Unknown: If this message is received when tuned to channel 0, there could be a receiver fault. Consult with your dealer.

Check Antenna: If this message does not clear within a short period of time, the receiver or antenna could have a fault. Consult with your dealer.

Check XM Receivr: If this message does not clear within a short period of time, the receiver could have a fault. Consult with your dealer.

XM Not Available: If this message does not clear within a short period of time, the receiver could have a fault. Consult with your dealer.

Radio Reception

Frequency interference and static can occur during normal radio reception if items such as cell phone chargers, vehicle convenience accessories, and external electronic devices are plugged into the accessory power outlet. If there is

interference or static, unplug the item from the accessory power outlet.

AM

The range for most AM stations is greater than for FM, especially at night. The longer range can cause station frequencies to interfere with each other. For better radio reception, most AM radio stations boost the power levels during the day, and then reduce these levels during the night. Static can also occur when things like storms and power lines interfere with radio reception. When this happens, try reducing the treble on the radio.

FM Stereo

FM signals only reach about 16 to 65 km (10 to 40 mi). Although the radio has a built-in electronic circuit that automatically works to reduce interference, some static can occur, especially around tall buildings or hills, causing the sound to fade in and out.

XM™ Satellite Radio Service

XM Satellite Radio Service gives digital radio reception from coast to coast in the 48 contiguous United States, and in Canada. Just as with FM, tall buildings or hills can interfere with satellite radio signals, causing the sound to fade in and out. In addition, traveling or standing under heavy foliage, bridges, garages, or tunnels may cause loss of the XM signal for a period of time.

Cellular Phone Usage

Cellular phone usage may cause interference with the vehicle's radio. This interference may occur when making or receiving phone calls, charging the phone's battery, or simply having the phone on. This interference causes an increased level of static while listening to the radio. If static is received while listening to the radio, unplug the cellular phone and turn it off.

Backglass Antenna

The AM-FM antenna is integrated with the rear window defogger, located in the rear window. Make sure that the inside surface of the rear window is not scratched and that the lines on the glass are not damaged. If the inside surface is damaged, it could interfere with radio reception. For proper radio reception, the antenna connector needs to be properly attached to the post on the glass.

If a cellular telephone antenna needs to be attached to the glass, make sure that the grid lines for the AM-FM antenna are not damaged. There is enough space between the grid lines to attach a cellular telephone antenna without interfering with radio reception.

Notice: **Using a razor blade or sharp object to clear the inside rear window can damage the rear window antenna and/or the rear**

window defogger. Repairs would not be covered by the vehicle warranty. Do not clear the inside rear window with sharp objects.

Notice: **Do not apply aftermarket glass tinting with metallic film. The metallic film in some tinting materials will interfere with or distort the incoming radio reception. Any damage caused to your backglass antenna due to metallic tinting materials will not be covered by the vehicle warranty.**

Satellite Radio Antenna

The XM Satellite Radio antenna is located on the roof of the vehicle. Keep the antenna clear of obstructions for clear radio reception.

If the vehicle has a sunroof, the performance of the XM system (if equipped) may be affected if the sunroof is open.

Audio Players

CD Player

Some CD players can play MP3 CD-R or CD-RW discs. See “MP3” later in this section for more information.

The CD player can play the smaller 8 cm (3 in) single discs with an adapter ring.

Care of the CD Player

Do not add labels to a disc. It could get caught in the CD player. Use a marking pen to write on the top of the disc if a description is needed.

Do not use CD lens cleaners. They could damage the CD player.

Notice: **If a label is added to a CD, more than one CD is inserted into the slot at a time, or an attempt is made to play scratched or damaged CDs, the CD player could be damaged. While using the CD player, use only CDs in good condition without any label, load one CD at a time, and keep the CD player and the loading slot free of foreign materials, liquids, and debris.**

If an error displays, see “CD Messages” later in this section.

Care of CDs

Store a disc in its original case or a protective case and away from direct sunlight and dust. If the bottom of a disc is damaged it may not play properly or at all. Do not touch the bottom of a disc while handling it, pick it up by grasping the outer edges or the edge of the hole and the outer edge.

If the surface of a disc is dirty, take a soft, lint-free cloth or dampen a clean, soft cloth in a mild, neutral detergent solution mixed with water, and clean it. Make sure the wiping process starts from the center to the edge.

Inserting a Disc

Insert the disc partway into the slot, label side up. The player pulls it in and the disc begins playing.

Use an adapter ring when playing the smaller 8 cm (3 in) discs. Smaller discs with the adapter ring are loaded the same way as a full-size disc.

Ejecting a Disc

⏏ **EJECT:** Press to eject the disc. If the disc is not removed after several seconds, the CD player automatically pulls the disc back in.

Playing a CD

When a CD is inserted into the player, the CD symbol displays. As each new track starts to play, the track number displays.

If the ignition or radio is turned off when a CD is in the player, the CD stays in the player. If the ignition or radio is turned on when a CD is in the player, the CD starts to play where it stopped, if it was the last selected audio source.

Buttons and Knobs

The buttons and knobs on the radio control the following features.

♫ **(Tune):** Turn to select tracks on the CD.

⏮ **SEEK:** Press to go to the start of the current track, if more than 10 seconds have played. Press and hold or press multiple times to continue moving backward through the tracks on the CD.

⏭ **SEEK:** Press to go to the next track. Press and hold or press multiple times to continue moving forward through the tracks on the CD.

◁◁ **REV (Reverse):** Press and hold to reverse playback quickly within a track. Sound is heard at a reduced volume and the elapsed time of the track displays. Release to resume playing the track.

▷▷ **FWD (Fast Forward):** Press and hold to advance playback quickly within a track. Sound is heard at a reduced volume and the elapsed time of the track displays. Release to resume playing the track.

ℹ **(Information):** Press to display available additional information about the current track.

BAND: Press to listen to the radio while a CD is playing. The CD remains inside the CD player.

CD/AUX (CD/Auxiliary): Press to play a CD while listening to the radio or a portable audio device. Press this button again and the system automatically searches for an auxiliary input device, such as a portable audio player. If a portable audio player is not connected, No Aux Input Device Found may display.

Softkeys

The six softkeys below the radio display are used to control functions that display as tabs.

The softkeys below the radio display control the following features.

RDM (Random): Tracks can be listened to in random, rather than sequential order.

To use random:

1. Press the softkey below the RDM tab until Random Current Disc displays.
2. Press the softkey again to turn off random play.

MP3 Supported Files

The Radio with CD (MP3) has the capability of playing an MP3 CD-R or CD-RW disc.

The radio can also play discs that contain both uncompressed CD audio and MP3 files. When a disc contains both types of audio, the CD player reads all MP3 files first, then the uncompressed CD audio files.

Supported File and Folder Structure

The radio supports:

- Up to 50 folders.
- Up to 8 folders in depth.
- Up to 50 playlists.
- Up to 255 files.
- Playlists with an .m3u or .wpl extension.
- Files with an .mp3 or .cda file extension.

Root Directory

The root directory is treated as a folder. Files are stored in the root directory when the disc or storage device does not contain folders. Files accessed from the root directory of a disc display as F1 ROOT.

Empty Folder

Folders that do not contain files are skipped, and the player advances to the next folder that contains files.

File Naming

The song name that displays is the song name that is contained in the ID3 tag. If the song name is not present in the ID3 tag, then the radio displays the file name without the file extension as the track name.

Track names longer than 32 characters or 4 pages are shortened. The display does not show parts of words on the last page of text and the extension of the filename is not displayed.

Playlists

Discs that have playlists that were created using WinAmp™, MusicMatch™, or Real Jukebox™ software can be accessed; however, there is no playlist editing capability using the radio. These playlists are treated as special folders containing compressed audio song files.

Playing an MP3

Order of Play

Tracks are played in the following order:

- Play begins from the first track in the first playlist and continues sequentially through all tracks in each playlist. When the last track of the last playlist has played, play continues from the first track of the first playlist.
- Play begins from the first track in the first folder and continues sequentially through all tracks in each folder. When the last track of the last folder has played, play continues from the first track of the first folder.

When playback starts from a new folder, the new track name displays unless folder mode has been chosen as the default display, then the new folder name displays.

Buttons and Knobs

The buttons and knobs on the radio control the following features.

♫ (Tune): Turn to select MP3 files on the disc.

⏮ SEEK: Press to go to the start of the track, if more than 10 seconds have played. Press and hold or press multiple times to continue moving backward through tracks.

⏭ SEEK: Press to go to the next track. Press and hold or press multiple times to continue moving forward through tracks.

◁◁ REV (Reverse): Press and hold to reverse playback quickly. Sound is heard at a reduced volume and the elapsed time of the track displays. Release ◁◁ REV to resume playing.

▷▷ FWD (Fast Forward): Press and hold to advance playback quickly. Sound is heard at a reduced volume and the elapsed time of the track displays. Release ▷▷ FWD to resume playing.

i (Information): Press to display available additional information about the current track.

BAND: Press to listen to the radio while an MP3 disc is playing. The MP3 disc remains inside the CD player.

CD/AUX (CD/Auxiliary): Press to play an MP3 disc while listening to the radio or a portable audio device. Press this button again and the system automatically searches for an auxiliary input device, such as a portable audio player. If a portable audio player is not connected, No Aux Input Device Found may display.

Softkeys

The six softkeys below the radio display are used to control functions that display as tabs.

The softkeys below the radio display control the following features.

(Previous Folder): Press the softkey below to go to the first track in the previous folder.

(Next Folder): Press the softkey below to go to the first track in the next folder.

RDM (Random): MP3 files can be listened to on a CD in random, rather than sequential order. To use random:

1. Press the softkey under the RDM tab until Random Current Disc displays to play songs from the current CD in random order.
2. Press the same softkey again to turn off random play.

(Music Navigator): Press the softkey below to have the files played in order by artist or album. The player scans the disc to sort the files by artist and album ID3 tag information. It can take several minutes to scan the disc depending on the number of files on the disc. The radio may begin playing while it is scanning in the background.

When the scan is finished, the disc begins playing files in order by artist. The current artist playing is shown on the second line of the display. Once all songs by that artist are played, the player moves to the next artist in alphabetical order and begins playing files by that artist.

To listen to files by another artist, press the softkey located below either arrow tab. The disc goes to the next or previous artist in alphabetical order. Continue pressing either softkey below the arrow tab until the desired artist displays.

To change from playback by artist to playback by album:

1. Press the softkey located below the Sort By tab.
2. Press one of the softkeys below the Album tab from the sort screen.
3. Press the softkey below the Back tab to return to the main music navigator screen.

The album name displays on the second line between the arrows and songs from the current album begins to play. Once all songs from that album have played, the player moves to the next album in alphabetical order on the disc and begins playing MP3 files from that album.

To exit music navigator mode, press the softkey below the Back tab to return to normal MP3 playback.

CD Player Messages

CHECK DISC: If an error message displays and/or the disc comes out, it could be for one of the following reasons:

- The CD player is very hot. When the temperature returns to normal, the disc should play.
- The road is very rough. When the road becomes smoother, the disc should play.
- The disc is dirty, scratched, wet, or upside down.
- The air is very humid. If so, wait about an hour and try again.
- A problem occurred while burning the disc.
- The label is caught in the CD player.

If the disc is not playing correctly for any other reason, try a known good disc.

If any error occurs repeatedly or if an error cannot be corrected, contact your dealer. If the radio displays an error message, write it down and provide it to your dealer when reporting the problem.

Auxiliary Devices

Using the Auxiliary Input Jack

The radio system has an auxiliary input jack located on the lower right side of the faceplate. This is not an audio output; do not plug the headphone set into the front auxiliary input jack. However, an external audio device such as an iPod, laptop computer, MP3 player, CD changer, or cassette tape player can be connected to the auxiliary input jack as another source for audio listening.

Drivers are encouraged to set up any auxiliary device while the vehicle is in P (Park). See *Defensive Driving on page 9-3* for more information on driver distraction.

To use a portable audio player, connect a 3.5 mm (1/8 in) cable to the radio's front auxiliary input jack. While a device is connected, press the radio CD/AUX button to begin playing audio from the device over the vehicle speakers.

⏻ (Power/Volume): Turn to increase or decrease the volume of the portable player. Additional volume adjustments might need to be made from the portable device.

BAND: Press to listen to the radio while a portable audio device is playing. The portable audio device continues playing until it is stopped or turned off.

CD/AUX (CD/Auxiliary): Press to play a CD while a portable audio device is playing. Press again and the system begins playing audio from the connected portable audio player. If a portable audio player is not connected, No Aux Input Device Found may display.

Phone

Bluetooth

For vehicles equipped with Bluetooth capability, the system can interact with many cell phones, allowing:

- Placement and receipt of calls in a hands-free mode.
- Sharing of the cell phone's address book or contact list with the vehicle.

To minimize driver distraction, before driving, and with the vehicle parked:

- Become familiar with the features of the cell phone. Organize the phone book and contact lists clearly and delete duplicate or rarely used entries. If possible, program speed dial or other shortcuts.
- Review the controls and operation of the infotainment system.
- Pair cell phone(s) to the vehicle. The system may not work with all cell phones. See "Pairing" in this section for more information.
- If the cell phone has voice dialing capability, learn to use that feature to access the address book or contact list. See "Voice Pass-Thru" in this section for more information.
- See "Storing and Deleting Phone Numbers" in this section for more information.

⚠ WARNING

When using a cell phone, it can be distracting to look too long or too often at the screen of the phone or the infotainment (navigation) system. Taking your eyes off the road too long or too often could cause a crash resulting in injury or death. Focus your attention on driving.

A Bluetooth system can use a Bluetooth-capable cell phone with a Hands-Free Profile to make and receive phone calls. The system can be used while the key is in the ON/RUN or ACC/ACCESSORY position. The range of the Bluetooth system can be up to 9.1 m (30 ft). Not all phones support all functions, and not all phones work with the in-vehicle Bluetooth system. See www.gm.com/bluetooth for more information on compatible phones.

Voice Recognition

The Bluetooth system uses voice recognition to interpret voice commands to dial phone numbers and name tags.

For additional information, say "Help" while you are in a voice recognition menu.

Noise: Keep interior noise levels to a minimum. The system may not recognize voice commands if there is too much background noise.

When to Speak: A short tone sounds after the system responds indicating when it is waiting for a voice command. Wait until the tone and then speak.

How to Speak: Speak clearly in a calm and natural voice.

Audio System

When using the in-vehicle Bluetooth system, sound comes through the vehicle's front audio system speakers and overrides the audio system. Use the audio system volume knob, during a call, to change the volume level. The adjusted volume level remains in memory for later calls. To prevent missed calls, a minimum volume level is used if the volume is turned down too low.

Bluetooth Controls

Use the buttons located on the steering wheel to operate the in-vehicle Bluetooth system. See *Steering Wheel Controls on page 5-3* for more information.

/ (Push To Talk): Press to answer incoming calls, confirm system information, and start speech recognition.

/ (End): Press to end a call, reject a call, or cancel an operation.

Pairing

A Bluetooth enabled cell phone must be paired to the Bluetooth system and then connected to the vehicle before it can be used. See the cell phone manufacturer's user guide for Bluetooth functions before pairing the cell phone. If a Bluetooth phone is not connected, calls will be made using OnStar Hands-Free Calling, if equipped. See *OnStar Overview on page 14-1* for more information.

Pairing Information

- A Bluetooth phone with MP3 capability cannot be paired to the vehicle as a phone and an MP3 player at the same time.
- Up to five cell phones can be paired to the Bluetooth system.
- The pairing process is disabled when the vehicle is moving.
- Pairing only needs to be completed once, unless the pairing information on the cell phone changes or the cell phone is deleted from the system.
- Only one paired cell phone can be connected to the Bluetooth system at a time.
- If multiple paired cell phones are within range of the system, the system connects to the first available paired cell phone in the order that they were first paired to the system. To connect to a different paired phone, see “Connecting to a Different Phone” later in this section.

Pairing a Phone

1. Press and hold ✆ / ⌇ for two seconds.
2. Say “Bluetooth.” This command can be skipped.
3. Say “Pair.” The system responds with instructions and a four-digit Personal Identification Number (PIN). The PIN is used in Step 5.
4. Start the pairing process on the cell phone that you want to pair. For help with this process, see the cell phone manufacturer's user guide.
5. Locate the device named “Your Vehicle” in the list on the cell phone. Follow the instructions on the cell phone to enter the PIN provided in Step 3. After the PIN is successfully entered, the system prompts you to provide a name for the paired cell phone. This name will be used to indicate which phones are paired and connected to the vehicle. The system responds with “<phone name> has been successfully paired” after the pairing process is complete.
6. Repeat Steps 1 through 5 to pair additional phones.

Listing All Paired and Connected Phones

The system can list all cell phones paired to it. If a paired cell phone is also connected to the vehicle, the system responds with “is connected” after that phone name.

1. Press and hold ✆ / ⌇ for two seconds.
2. Say “Bluetooth.”
3. Say “List.”

Deleting a Paired Phone

If the phone name you want to delete is unknown, see “Listing All Paired and Connected Phones.”

1. Press and hold ✆ / ⌇ for two seconds.
2. Say “Bluetooth.”
3. Say “Delete.” The system asks which phone to delete.
4. Say the name of the phone you want to delete.

Connecting to a Different Phone

To connect to a different cell phone, the Bluetooth system looks for the next available cell phone in the order in which all the available cell phones were paired. Depending on which cell phone you want to connect to, you may have to use this command several times.

1. Press and hold ✆ / ⌇ for two seconds.
2. Say “Bluetooth.”
3. Say “Change phone.”
   - If another cell phone is found, the response will be “<Phone name> is now connected.”
   - If another cell phone is not found, the original phone remains connected.

Storing and Deleting Phone Numbers

The system can store up to 30 phone numbers as name tags in the Hands-Free Directory that is shared between the Bluetooth and OnStar systems, if equipped.

The following commands are used to delete and store phone numbers.

Store: This command will store a phone number, or a group of numbers as a name tag.

Digit Store: This command allows a phone number to be stored as a name tag by entering the digits one at a time.

Delete: This command is used to delete individual name tags.

Delete All Name Tags: This command deletes all stored name tags in the Hands-Free Calling Directory and the OnStar Turn-by-Turn Destinations Directory, if equipped.

Using the "Store" Command

1. Press and hold ✆ / ⌇ for two seconds.
2. Say "Store."
3. Say the phone number or group of numbers you want to store all at once with no pauses, then follow the directions given by the system to save a name tag for this number.

Using the "Digit Store" Command

If an unwanted number is recognized by the system, say "Clear" at any time to clear the last number.

To hear all of the numbers recognized by the system, say "Verify" at any time.

1. Press and hold ✆ / ⌇ for two seconds.
2. Say "Digit Store."
3. Say each digit, one at a time, that you want to store. After each digit is entered, the system repeats back the digit it heard followed by a tone. After the last digit has been entered, say "Store," and then follow the directions given by the system to save a name tag for this number.

Using the "Delete" Command

1. Press and hold ✆ / ⌇ for two seconds.
2. Say "Delete."
3. Say the name tag you want to delete.

Using the "Delete All Name Tags" Command

This command deletes all stored name tags in the Hands-Free Calling Directory and the OnStar Turn-by-Turn Destinations Directory, if equipped.

To delete all name tags:

1. Press and hold ✆ / ⁂ for two seconds.
2. Say “Delete all name tags.”

Listing Stored Numbers

The list command will list all stored numbers and name tags.

Using the “List” Command

1. Press and hold ✆ / ⁂ for two seconds.
2. Say “Directory.”
3. Say “Hands-Free Calling.”
4. Say “List.”

Making a Call

Calls can be made using the following commands.

Dial or Call: The dial or call command can be used interchangeably to dial a phone number or a stored name tag.

Digit Dial: This command allows a phone number to be dialed by entering the digits one at a time.

Re-dial: This command is used to dial the last number used on the cell phone.

Using the “Dial” or “Call” Command

1. Press and hold ✆ / ⁂ for two seconds.
2. Say “Dial” or “Call.”
3. Say the entire number without pausing, or say the name tag.

Once connected, the person called will be heard through the audio speakers.

Using the “Digit Dial” Command

The digit dial command allows a phone number to be dialed by entering the digits one at a time. After each digit is entered, the system repeats back the digit it heard followed by a tone.

If an unwanted number is recognized by the system, say “Clear” at any time to clear the last number.

To hear all of the numbers recognized by the system, say “Verify” at any time.

1. Press and hold ✆ / ⁂ for two seconds.
2. Say “Digit Dial.”
3. Say each digit, one at a time, that you want to dial. After each digit is entered, the system repeats back the digit it heard followed by a tone. After the last digit has been entered, say “Dial.”

Once connected, the person called will be heard through the audio speakers.

Using the “Re-dial” Command

1. Press and hold ✆ / ⌇ for two seconds.
2. After the tone, say “Re-dial.”

Once connected, the person called will be heard through the audio speakers.

Receiving a Call

When an incoming call is received, the audio system mutes and a ring tone is heard in the vehicle.

- Press ✆ / ⌇ to answer the call.
- Press ☎ / ▽ to ignore a call.

Call Waiting

Call waiting must be supported on the cell phone and enabled by the wireless service carrier.

- Press ✆ / ⌇ to answer an incoming call when another call is active. The original call is placed on hold.
- Press ✆ / ⌇ again to return to the original call.
- To ignore the incoming call, no action is required.
- Press ☎ / ▽ to disconnect the current call and switch to the call on hold.

Three-Way Calling

Three-way calling must be supported on the cell phone and enabled by the wireless service carrier.

1. While on a call, press ✆ / ⌇.
2. Say “Three-way call.”
3. Use the dial or call command to dial the number of the third party to be called.
4. Once the call is connected, press ✆ / ⌇ to link all callers together.

Ending a Call

Press ☎ / ▽ to end a call.

Muting a Call

During a call, all sounds from inside the vehicle can be muted so that the person on the other end of the call cannot hear them.

- To mute a call, press ✆ / ⌇ , and then say “Mute call.”
- To cancel mute, press ✆ / ⌇ , and then say “Un-mute call.”

Transferring a Call

Audio can be transferred between the Bluetooth system and the cell phone.

The cell phone must be paired and connected with the Bluetooth system before a call can be transferred. The connection process can take up to two minutes after the ignition is turned to ON/RUN.

Transferring Audio from the Bluetooth System to a Cell Phone

During a call with the audio in the vehicle:

1. Press ✆ / ⌇.
2. Say “Transfer Call.”

Transferring Audio to the Bluetooth System from a Cell Phone

During a call with the audio on the cell phone, press ✆ / ⌇. The audio transfers to the vehicle. If the audio does not transfer to the vehicle, use the audio transfer feature on the cell phone. See your cell phone manufacturer's user guide for more information.

Voice Pass-Thru

Voice pass-thru allows access to the voice recognition commands on the cell phone. See your cell phone manufacturer's user guide to see if the cell phone supports this feature.

To access contacts stored in the cell phone:

1. Press and hold ✆ / ⌇ for two seconds.
2. Say “Bluetooth.” This command can be skipped.
3. Say “Voice.” The system responds “OK, accessing <phone name>.”

The cell phone's normal prompt messages will go through their cycle according to the phone's operating instructions.

Dual Tone Multi-Frequency (DTMF) Tones

The Bluetooth system can send numbers and the numbers stored as name tags during a call. You can use this feature when calling a menu-driven phone system. Account numbers can also be stored for use.

Sending a Number or Name Tag During a Call

1. Press ✆ / ⌇. The system responds “Ready,” followed by a tone.
2. Say “Dial.”
3. Say the number or name tag to send.

Clearing the System

Unless information is deleted out of the in-vehicle Bluetooth system, it will be retained indefinitely. This includes all saved name tags in the phone book and phone pairing information. For information on how to delete this information, see the previous section “Deleting a Paired Phone” and the previous sections on deleting name tags.

Other Information

The Bluetooth® word mark and logos are owned by the Bluetooth® SIG, Inc. and any use of such marks by General Motors is under license. Other trademarks and trade names are those of their respective owners.

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

Climate Controls

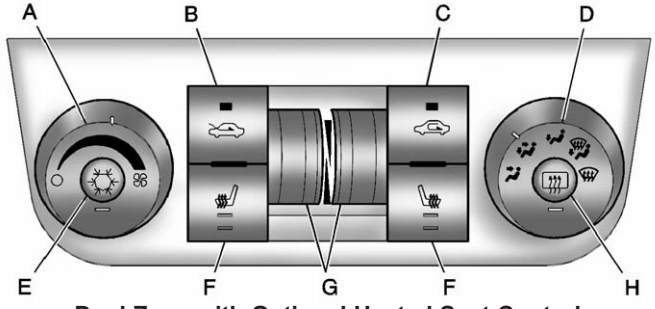
Climate Control Systems
Climate Control Systems 8-1

Air Vents
Air Vents 8-4

Maintenance
Passenger Compartment Air Filter 8-5

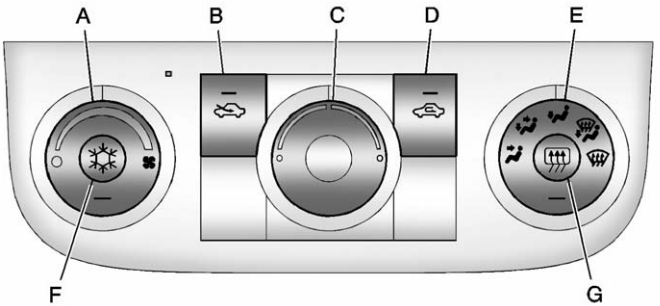
Climate Control Systems

This vehicle may have a dual or single climate control system. The heating, cooling, defrost, defog and ventilation can be controlled with this system. For vehicles with heated seats, see *Heated Front Seats on page 3-7*.



Dual Zone with Optional Heated Seat Controls

A. Fan Control
B. Outside Air
C. Recirculation
D. Air Delivery Mode Control
E. Air Conditioning
F. Driver and Passenger Heated Seats (If Equipped)
G. Driver and Passenger Temperature Controls
H. Rear Window Defogger



Single Zone

A. Fan Control
B. Outside Air
C. Temperature Control
D. Recirculation
E. Air Delivery Mode Control
F. Air Conditioning
G. Rear Window Defogger

Temperature Control: For dual zone, turn the thumbwheels up or down to increase or decrease the temperature on the driver or the passenger side of the vehicle. For single zone, turn the knob clockwise or counterclockwise to increase or decrease the temperature.

(Fan Control): Turn clockwise or counterclockwise to increase or decrease the fan speed. Positioning the knob between two modes can select a combination of those modes.

If the airflow seems low when the fan is at the highest setting, the passenger compartment air filter may need to be replaced. There will be some airflow noticeable from the various outlets when driving, even with the fan in the off position. For more information, see *Passenger Compartment Air Filter on page 8-5* and *Maintenance Schedule on page 11-3*.

Air Delivery Mode Control: Turn clockwise or counterclockwise to change the direction of the airflow inside the vehicle.

To change the current mode, select one of the following:

(Vent): Air is directed to the instrument panel outlets.

(Bi-Level): Air is divided between the instrument panel outlets and the floor outlets.

(Floor): Air is directed to the floor outlets, with some of the air directed to the windshield and side window outlets. In this mode, the system automatically selects outside air.

(Defog): This mode clears the windshield of fog or moisture. Air is directed equally to the windshield and the floor outlets. When defog is selected, the system turns off recirculation and runs the air conditioning compressor unless the outside temperature is below 4°C (40°F).

(Defrost): This mode clears the windshield of fog or frost more quickly. Air is directed to the windshield with some air to the side window vents and the floor vents. When defrost is selected, the system automatically forces outside air into the vehicle. The air conditioning compressor will run automatically in this setting, unless the outside temperature is below 4°C (40°F).

(Air Conditioning): Press to turn the air conditioning system on or off. An indicator light comes on to show that it is on. The air conditioning can be selected in any mode as long as the fan is on and the outside temperature is above freezing. A flashing indicator light indicates that the air conditioning compressor is currently not available.

On hot days, open the windows to let hot inside air escape; then close them. This helps to reduce the time it takes for the vehicle to cool down. It also helps the system to operate more efficiently.

For quick cool down on hot days, do the following:

1. Select the mode.
2. Press the button.
3. Select the coolest temperature for both zones.
4. Select the highest speed.
5. When the coolest temperature is selected in the A/C mode, the system automatically goes into the recirculation mode to improve cooling.

Using these settings together for long periods of time may cause the air inside the vehicle to become too dry. To prevent this from happening, after the air inside the vehicle has cooled, turn the recirculation mode off.

The air conditioning system removes moisture from the air, so a small amount of water may drip under the vehicle while idling or after turning off the engine. This is normal.

(Outside Air): Press to turn on outside air. An indicator light comes on to show that it is on. Outside air will circulate throughout the vehicle.

(Recirculation): Press to turn on the recirculation mode. An indicator light comes on to show that it is on.

This mode helps to quickly heat or cool the air inside the vehicle once the temperature inside the vehicle is equal to or better than the outside temperature. It can be used to prevent outside air and odors from entering the vehicle. The recirculation mode is not available in outside air, floor, defog, or defrost modes. If the button is selected while in these modes, the indicator flashes three times.

Rear Window Defogger

The rear window defogger uses a warming grid to remove fog from the rear window.

(Rear Window Defogger): The rear window defogger turns off automatically after it has been activated for 10 minutes. It can be turned off manually, by pressing the button again or by turning the ignition to the LOCK/OFF position.

The rear window defogger can be turned on again for additional window clearing. The length of defogger operation will increase if the vehicle is being driven.

For vehicles with heated outside rearview mirrors, the mirrors heat to help clear fog or frost from the surface of the mirror when the rear window defog button is pressed. See *Power Mirrors on page 2-14*.

Do not drive the vehicle until all the windows are clear.

Notice: **Do not use anything sharp on the inside of the rear window. If you do, you could cut or damage the warming grid, and the repairs would not be covered by the vehicle warranty. Do not attach a temporary vehicle license, tape, a decal, or anything similar to the defogger grid.**

Air Vents

Use the thumbwheel located below or to the side of the outlet, to change the direction of the air flow.

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.
- Use of non-GM approved hood deflectors may adversely affect the performance of the system.
- Keep the path under the front seats clear of objects to help circulate the air inside the vehicle more effectively.

- If the airflow seems low when the fan is at the highest setting, the passenger compartment air filter, if equipped, may need to replaced. For more information, see *Passenger Compartment Air Filter on page 8-5* and *Maintenance Schedule on page 11-3*.
- If fogging reoccurs while in vent or bi-level modes with mild temperature throughout the vehicle, turn on the air conditioner to reduce windshield fogging.

Maintenance

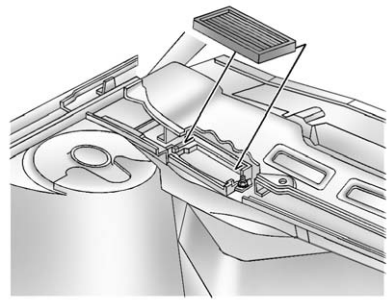
Passenger Compartment Air Filter

The vehicle has a passenger compartment particulate air filter. It is located in the engine compartment, below the air inlet grille on the passenger side.

The filter traps most of the pollen from air entering the climate control system. It needs to be changed periodically to ensure system performance. For information on how often to change the passenger compartment air filter, see *Maintenance Schedule on page 11-3*.

To change the passenger compartment air filter:

1. Turn off the ignition when the windshield wipers are in the up position.
2. Raise the vehicle hood.
3. Pull back the hood weatherstrip from the passenger side of the vehicle halfway to center.



4. Remove the air inlet grille retainers.

5. Lift the air inlet grille and disconnect the washer hose at the quick-connect.
6. Remove the air inlet grille.
7. Remove the water deflector plate.
8. Remove the old passenger compartment air filter.
9. Reverse the steps to install the new air filter.

For best climate control system performance, reinstall the air filter.

For the type of filter to use, see *Maintenance Replacement Parts on page 11-12*.

Driving and Operating

Driving Information
Distracted Driving 9-2
Defensive Driving 9-3
Drunk Driving 9-3
Control of a Vehicle 9-3
Braking 9-3
Steering 9-4
Off-Road Recovery 9-4
Loss of Control 9-5
Driving on Wet Roads 9-6
Highway Hypnosis 9-6
Hill and Mountain Roads 9-7
Winter Driving 9-7
If the Vehicle Is Stuck 9-9
Vehicle Load Limits 9-10

Starting and Operating
New Vehicle Break-In 9-14
Ignition Positions 9-15
Starting the Engine 9-16
Engine Heater 9-18
Retained Accessory Power (RAP) 9-18
Shifting Into Park 9-19
Shifting out of Park 9-20
Parking over Things That Burn 9-21

Engine Exhaust
Engine Exhaust 9-21
Running the Vehicle While Parked 9-22

Automatic Transmission
Automatic Transmission 9-22
Manual Mode 9-25

Brakes
Antilock Brake System (ABS) 9-26
Parking Brake 9-27

Ride Control Systems
Traction Control System (TCS) 9-27
Electronic Stability Control (ESC) 9-29

Cruise Control
Cruise Control 9-30

Fuel
Fuel 9-33
Recommended Fuel 9-33
Gasoline Specifications (U.S. and Canada Only) 9-34
California Fuel Requirements 9-34
Fuels in Foreign Countries . . . 9-34
Fuel Additives 9-35
Fuel E85 (85% Ethanol) 9-36
Filling the Tank 9-37
Filling a Portable Fuel Container 9-38

Towing
General Towing Information 9-39
Driving Characteristics and Towing Tips 9-39
Trailer Towing 9-42
Towing Equipment 9-44

Conversions and Add-Ons
Add-On Electrical Equipment 9-45

Driving Information

Distracted Driving

Distraction comes in many forms and can take your focus from the task of driving. Exercise good judgment and do not let other activities divert your attention away from the road. Many local governments have enacted laws regarding driver distraction. Become familiar with the local laws in your area.

To avoid distracted driving, always keep your eyes on the road, hands on the wheel, and mind on the drive.

- Do not use a phone in demanding driving situations. Use a hands-free method to place or receive necessary phone calls.
- Watch the road. Do not read, take notes, or look up information on phones or other electronic devices.
- Designate a front seat passenger to handle potential distractions.
- Become familiar with vehicle features before driving, such as programming favorite radio stations and adjusting climate control and seat settings. Program all trip information into any navigation device prior to driving.
- Wait until the vehicle is parked to retrieve items that have fallen to the floor.
- Stop or park the vehicle to tend to children.
- Keep pets in an appropriate carrier or restraint.
- Avoid stressful conversations while driving, whether with a passenger or on a cell phone.

⚠ WARNING

Taking your eyes off the road too long or too often could cause a crash resulting in injury or death. Focus your attention on driving.

Refer to the infotainment section for more information on using that system, including pairing and using a cell phone.

If equipped, refer to the navigation manual for information on that system, including pairing and using a cell phone.

Defensive Driving

Defensive driving means “always expect the unexpected.” The first step in driving defensively is to wear the safety belt. See *Safety Belts on page 3-10*.

- Assume that other road users (pedestrians, bicyclists, and other drivers) are going to be careless and make mistakes. Anticipate what they might do and be ready.
- Allow enough following distance between you and the driver in front of you.
- Focus on the task of driving.

Drunk Driving

Death and injury associated with drinking and driving is a global tragedy.

⚠ WARNING

Drinking and then driving is very dangerous. Your reflexes, perceptions, attentiveness, and judgment can be affected by even a small amount of alcohol. You can have a serious— or even fatal— collision if you drive after drinking.

Do not drink and drive or ride with a driver who has been drinking. Ride home in a cab; or if you are with a group, designate a driver who will not drink.

Control of a Vehicle

Braking, steering, and accelerating are important factors in helping to control a vehicle while driving.

Braking

Braking action involves perception time and reaction time. Deciding to push the brake pedal is perception time. Actually doing it is reaction time.

Average driver reaction time is about three-quarters of a second. In that time, a vehicle moving at 100 km/h (60 mph) travels 20 m (66 ft), which could be a lot of distance in an emergency.

Helpful braking tips to keep in mind include:

- Keep enough distance between you and the vehicle in front of you.
- Avoid needless heavy braking.
- Keep pace with traffic.

If the engine ever stops while the vehicle is being driven, brake normally but do not pump the brakes. Doing so could make the pedal harder to push down. If the engine stops, there will be some power brake assist but it will be used when the brake is applied. Once the power assist is used up, it can take longer to stop and the brake pedal will be harder to push.

Steering

Hydraulic Power Steering

Your vehicle has hydraulic power steering. It may require maintenance. See *Power Steering Fluid on page 10-17*.

If power steering assist is lost due to a system malfunction, the vehicle can be steered, but may require increased effort.

See your dealer if there is a problem.

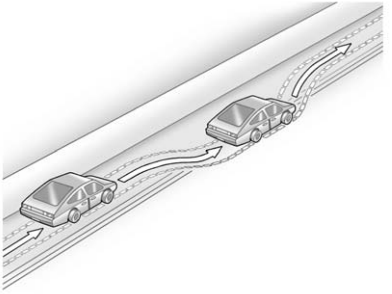
Curve Tips

- Take curves at a reasonable speed.
- Reduce speed before entering a curve.
- Maintain a reasonable steady speed through the curve.
- Wait until the vehicle is out of the curve before accelerating gently into the straightaway.

Steering in Emergencies

- There are some situations when steering around a problem may be more effective than braking.
- Holding both sides of the steering wheel allows you to turn 180 degrees without removing a hand.
- The Antilock Brake System (ABS) allows steering while braking.

Off-Road Recovery



The vehicle's right wheels can drop off the edge of a road onto the shoulder while driving. Follow these tips:

1. Ease off the accelerator and then, if there is nothing in the way, steer the vehicle so that it straddles the edge of the pavement.

2. Turn the steering wheel about one-eighth of a turn, until the right front tire contacts the pavement edge.
3. Then turn the steering wheel to go straight down the roadway.

Loss of Control

Skidding

There are three types of skids that correspond to the vehicle's three control systems:

- Braking Skid — wheels are not rolling.
- Steering or Cornering Skid — too much speed or steering in a curve causes tires to slip and lose cornering force.
- Acceleration Skid — too much throttle causes the driving wheels to spin.

Defensive drivers avoid most skids by taking reasonable care suited to existing conditions, and by not overdriving those conditions. But skids are always possible.

If the vehicle starts to slide, follow these suggestions:

- Ease your foot off the accelerator pedal and quickly steer the way you want the vehicle to go. The vehicle may straighten out. Be ready for a second skid if it occurs.
- Slow down and adjust your driving according to weather conditions. Stopping distance can be longer and vehicle control can be affected when traction is reduced by water, snow, ice, gravel, or other material on the road. Learn to recognize warning clues — such as enough water, ice, or packed snow on the road to make a mirrored surface — and slow down when you have any doubt.
- Try to avoid sudden steering, acceleration, or braking, including reducing vehicle speed by shifting to a lower gear. Any sudden changes could cause the tires to slide.

Remember: Antilock brakes help avoid only the braking skid.

Driving on Wet Roads

Rain and wet roads can reduce vehicle traction and affect your ability to stop and accelerate. Always drive slower in these types of driving conditions and avoid driving through large puddles and deep-standing or flowing water.

⚠ WARNING

Wet brakes can cause crashes. They might not work as well in a quick stop and could cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car/vehicle wash, lightly apply the brake pedal until the brakes work normally.

(Continued)

WARNING (Continued)

Flowing or rushing water creates strong forces. Driving through flowing water could cause the vehicle to be carried away. If this happens, you and other vehicle occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

Hydroplaning

Hydroplaning is dangerous. Water can build up under the vehicle's tires so they actually ride on the water. This can happen if the road is wet enough and you are going fast enough. When the vehicle is hydroplaning, it has little or no contact with the road.

There is no hard and fast rule about hydroplaning. The best advice is to slow down when the road is wet.

Other Rainy Weather Tips

Besides slowing down, other wet weather driving tips include:

- Allow extra following distance.
- Pass with caution.
- Keep windshield wiping equipment in good shape.
- Keep the windshield washer fluid reservoir filled.
- Have good tires with proper tread depth. See *Tires on page 10-33*.
- Turn off cruise control.

Highway Hypnosis

Always be alert and pay attention to your surroundings while driving. If you become tired or sleepy, find a safe place to park the vehicle and rest.

Other driving tips include:

- Keep the vehicle well ventilated.
- Keep the interior temperature cool.
- Keep your eyes moving — scan the road ahead and to the sides.
- Check the rearview mirror and vehicle instruments often.

Hill and Mountain Roads

Driving on steep hills or through mountains is different than driving on flat or rolling terrain. Tips for driving in these conditions include:

- Keep the vehicle serviced and in good shape.
- Check all fluid levels and brakes, tires, cooling system, and transmission.
- Shift to a lower gear when going down steep or long hills.

⚠ WARNING

If you do not shift down, the brakes could get so hot that they would not work well. You would then have poor braking or even none going down a hill. You could crash. Shift down to let the engine assist the brakes on a steep downhill slope.

⚠ WARNING

Coasting downhill in N (Neutral) or with the ignition off is dangerous. The brakes will have to do all the work of slowing down and they could get so hot that they would not work well. You would then have poor braking or even none going down a hill. You could crash. Always have the engine running and the vehicle in gear when going downhill.

- Stay in your own lane. Do not swing wide or cut across the center of the road. Drive at speeds that let you stay in your own lane.
- Be alert on top of hills; something could be in your lane (stalled car, accident).
- Pay attention to special road signs (falling rocks area, winding roads, long grades, passing or no-passing zones) and take appropriate action.

Winter Driving

Driving on Snow or Ice

Drive carefully when there is snow or ice between the tires and the road, creating less traction or grip. Wet ice can occur at about 0°C (32°F) when freezing rain begins to fall, resulting in even less traction. Avoid driving on wet ice or in freezing rain until roads can be treated with salt or sand.

Drive with caution, whatever the condition. Accelerate gently so traction is not lost. Accelerating too quickly causes the wheels to spin and makes the surface under the tires slick, so there is even less traction.

Try not to break the fragile traction. If you accelerate too fast, the drive wheels will spin and polish the surface under the tires even more.

The *Antilock Brake System (ABS) on page 9-26* improves vehicle stability during hard stops on slippery roads, but apply the brakes sooner than when on dry pavement.

Allow greater following distance on any slippery road and watch for slippery spots. Icy patches can occur on otherwise clear roads in shaded areas. The surface of a curve or an overpass can remain icy when the surrounding roads are clear. Avoid sudden steering maneuvers and braking while on ice.

Turn off cruise control on slippery surfaces.

Blizzard Conditions

Being stuck in snow can be a serious situation. Stay with the vehicle unless there is help nearby. If possible, use the *Roadside Assistance Program on page 13-5*. 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

(Continued)

WARNING (Continued)

cannot be seen or smelled. It can cause unconsciousness and even death.

If the vehicle is stuck in the snow:

- Clear away snow from around the base of your vehicle, especially any that is blocking the exhaust pipe.
- Check again from time to time to be sure snow does not collect there.
- Open a window about 5 cm (2 in) on the side of the vehicle that is away from the wind to bring in fresh air.
- Fully open the air outlets on or under the instrument panel.

(Continued)

WARNING (Continued)

- Adjust the climate control system to a setting that circulates the air inside the vehicle and set the fan speed to the highest setting. See Climate Control System in the Index.

For more information about carbon monoxide, see *Engine Exhaust on page 9-21*.

Snow can trap exhaust gases under your vehicle. This can cause deadly CO (Carbon Monoxide) gas to get inside. CO could overcome you and kill you. You cannot see it or smell it, so you might not know it is in your vehicle. Clear away snow from around the base of your vehicle, especially any that is blocking the exhaust.

Run the engine for short periods only as needed to keep warm, but be careful.

To save fuel, run the engine for only short periods as needed to warm the vehicle and then shut the engine off and close the window most of the way to save heat. Repeat this until help arrives but only when you feel really uncomfortable from the cold. Moving about to keep warm also helps.

If it takes some time for help to arrive, now and then when you run the engine, push the accelerator pedal slightly so the engine runs faster than the idle speed. This keeps the battery charged to restart the vehicle and to signal for help with the headlamps. Do this as little as possible to save fuel.

If the Vehicle Is Stuck

Slowly and cautiously spin the wheels to free the vehicle when stuck in sand, mud, ice, or snow.

If the vehicle has a traction system, it can often help to free a stuck vehicle. Refer to the vehicle's traction system in the Index. If stuck too severely for the traction system to free the vehicle, turn the traction system off and use the rocking method.

⚠ WARNING

If the vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 55 km/h (35 mph).

See *Tire Chains on page 10-52*.

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 or stability system. Shift back and forth between R (Reverse) and a forward gear, spinning the wheels as little as possible. To prevent transmission wear, wait until the wheels stop spinning before shifting gears. Release the accelerator pedal while shifting, and press lightly on the accelerator pedal when the transmission is in gear. Slowly spinning the wheels in the forward and reverse directions causes a rocking motion that could free the vehicle. If that does not get the vehicle out after a few tries, it might need to be towed out. See *Towing the Vehicle on page 10-65*.

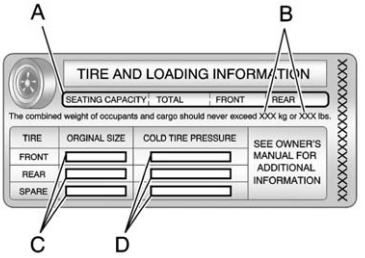
Vehicle Load Limits

It is very important to know how much weight your vehicle can carry. Two labels on your vehicle show how much weight it may properly carry, the Tire and Loading Information label and the Vehicle Certification label.

⚠ WARNING

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also shorten the life of the vehicle.

Tire and Loading Information Label



Label Example

A vehicle-specific Tire and Loading Information label is attached to the vehicle's center pillar (B-pillar). With the driver door open, you will find the label attached below the door lock post (striker). The Tire and Loading Information label lists the number of occupant seating

positions (A), and the maximum vehicle capacity weight (B) in kilograms and pounds. The vehicle capacity weight includes the weight of all occupants, cargo, and all nonfactory-installed options.

The Tire and Loading Information label also lists the tire size of the original equipment tires (C) and the recommended cold tire inflation pressures (D). For more information on tires and inflation, see *Tires on page 10-33* and *Tire Pressure on page 10-40*.

There is also important loading information on the Certification label. It tells you the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axle, see “Certification Label” later in this section.

Steps for Determining Correct Load Limit

1. Locate the statement “The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs” on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the “XXX” amount equals 1400 lbs and there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs (1400 − 750 (5 x 150) = 650 lbs).
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step³4.
6. If your vehicle will be towing a trailer, the load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity for your vehicle.

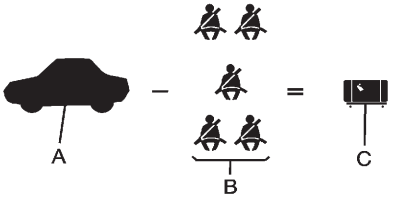
If your vehicle can tow a trailer, see *Trailer Towing on page 9-42* for important information on towing a trailer, towing safety rules, and trailering tips.

Example 1

A. Maximum Vehicle Capacity Weight for Example 1 = 453 kg (1,000 lbs)

B. Subtract Occupant Weight @ 68 kg (150 lbs) × 2 = 136 kg (300 lbs)

C. Available Occupant and Cargo Weight = 317 kg (700 lbs)

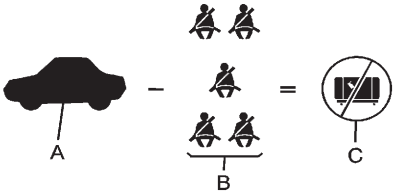


Example 2

A. Maximum Vehicle Capacity Weight for Example 2 = 453 kg (1,000 lbs)

B. Subtract Occupant Weight @ 68 kg (150 lbs) × 5 = 340 kg (750 lbs)

C. Available Cargo Weight = 113 kg (250 lbs)



Example 3

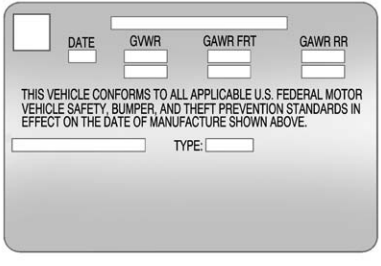
A. Maximum Vehicle Capacity Weight for Example 3 = 453 kg (1,000 lbs)

B. Subtract Occupant Weight @ 91 kg (200 lbs) × 5 = 453 kg (1,000 lbs)

C. Available Cargo Weight = 0 kg (0 lbs)

Refer to your vehicle's Tire and Loading Information label for specific information about your vehicle's maximum vehicle capacity weight and seating positions. The combined weight of the driver, passengers, and cargo should never exceed your vehicle's maximum vehicle capacity weight.

Certification Label



A vehicle-specific Certification label is found on the rear edge of the driver door.

The label shows the gross weight capacity of your vehicle, called the Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, and cargo.

Never exceed the GVWR for your vehicle or the Gross Axle Weight Rating (GAWR) for either the front or rear axle.

If there is a heavy load, it should be spread out.

⚠ 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).

(Continued)

WARNING (Continued)

This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also shorten the life of the vehicle.

***Notice:* Overloading the vehicle may cause damage. Repairs would not be covered by the vehicle warranty. Do not overload the vehicle.**

If things like suitcases, tools, packages, or anything else are put inside the vehicle, they will go as fast as the vehicle goes. If you have to stop or turn quickly, or if there is a crash, they will keep going.

⚠ WARNING

Things inside the vehicle can strike and injure people in a sudden stop or turn, or in a crash.

- Put things in the cargo area of the vehicle. In the cargo area, put them as far forward as possible. Try to spread the weight evenly.
- Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.

(Continued)

WARNING (Continued)

- Do not leave an unsecured child restraint in the vehicle.
- Secure loose items in the vehicle.
- Do not leave a seat folded down unless needed.

Starting and Operating

New Vehicle Break-In

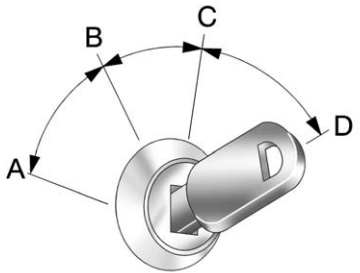
Notice: **The vehicle does not need an elaborate break-in. But it will perform better in the long run if you follow these guidelines:**

- **Do not drive at any one constant speed, fast or slow, for the first 805 km (500 miles). Do not make full-throttle starts. Avoid downshifting to brake or slow the vehicle.**
- **Avoid making hard stops for the first 322 km (200 miles) or so. During this time the new brake linings are not yet broken in. Hard stops with new linings can mean premature wear and earlier replacement. Follow this breaking-in guideline every time you get new brake linings.**

- **Do not tow a trailer during break-in. See *Trailer Towing on page 9-42* for the trailer towing capabilities of your vehicle and more information.**

Following break-in, engine speed and load can be gradually increased.

Ignition Positions



The ignition switch has four different positions.

To shift out of P (Park), the ignition must be in ON/RUN and the brake pedal must be applied.

Notice: **Using a tool to force the key to turn in the ignition could cause damage to the switch or break the key. Use the correct key, make sure it is all the way in, and turn it only with your hand. If the key cannot be turned by hand, see your dealer.**

A (STOPPING THE ENGINE/ LOCK/OFF): When the vehicle is stopped, turn the ignition switch to LOCK/OFF to turn the engine off. Retained Accessory Power (RAP) will remain active. See *Retained Accessory Power (RAP) on page 9-18*

This position locks the ignition and steering wheel. It also locks the transmission. This is the only position in which the ignition key can be inserted or removed.

Do not turn the engine off when the vehicle is moving. This will cause a loss of power assist in the brake and steering systems and disable the airbags.

If the vehicle must be shut off in an emergency:

1. Brake using a firm and steady pressure. Do not pump the brakes repeatedly. This may deplete power assist, requiring increased brake pedal force.
2. Shift the vehicle to N (Neutral). This can be done while the vehicle is moving. After shifting to N (Neutral), firmly apply the brakes and steer the vehicle to a safe location.
3. Come to a complete stop, shift to P (Park), and turn the ignition to LOCK/OFF. On vehicles with an automatic transmission, the shift lever must be in P (Park) to turn the ignition switch to the LOCK/OFF position.

4. Set the parking brake. See *Parking Brake on page 9-27*

⚠ WARNING

Turning off the vehicle while moving may cause loss of power assist in the brake and steering systems and disable the airbags. While driving, only shut the vehicle off in an emergency.

If the vehicle cannot be pulled over, and must be shut off while driving, turn the ignition to ACC/ACCESSORY.

The steering can bind with the wheels turned off center. If this happens, move the steering wheel from left to right while turning the key to ACC/ACCESSORY. If this doesn't work, then the vehicle needs service.

B (ACC/ACCESSORY): This is the position in which you can operate the radio and windshield wipers while the engine is off. To use ACC/ACCESSORY, turn the key clockwise.

C (ON/RUN): This position can be used to operate the electrical accessories and to display some instrument panel cluster warning and indicator lights. This position can also be used for service and diagnostics, and to verify the proper operation of the malfunction indicator lamp as may be required for emission inspection purposes. The switch stays in this position when the engine is running.

If you leave the key in the ACC/ACCESSORY or ON/RUN position with the engine off, the battery could be drained. You may not be able to start the vehicle if the battery is allowed to drain for an extended period of time.

D (START): This is the position that starts the engine. When the engine starts, release the key. The ignition switch returns to ON/RUN for driving.

A warning chime will sound and the Driver Information Center (DIC) will display DRIVER DOOR OPEN when the driver door is opened, the ignition is in ACC/ACCESSORY or LOCK/OFF, and the key is in the ignition. See *Door Ajar Messages on page 5-28* for more information.

Starting the Engine

Move the shift lever to P (Park) or N (Neutral). The engine will not start in any other position. To restart the engine when the vehicle is already moving, use N (Neutral) only.

Notice: **Do not try to shift to P (Park) if the vehicle is moving. If you do, you could damage the transmission. Shift to P (Park) only when the vehicle is stopped.**

Starting Procedure

1. With your foot off the accelerator pedal, turn the ignition to START. When the engine starts, let go of the key. The idle speed will slow down as the engine warms. Do

not race the engine immediately after starting it. Operate the engine and transmission gently to allow the oil to warm up and lubricate all moving parts.

The vehicle has a Computer-Controlled Cranking System. This feature assists in starting the engine and protects components. If the ignition key is turned to the START position, and then released when the engine begins cranking, the engine will continue cranking for a few seconds or until the vehicle starts. If the engine does not start and the key is held in START, cranking will be stopped after 15 seconds to prevent cranking motor damage. To prevent gear damage, this system also prevents cranking if the engine is already running. Engine cranking can be stopped by turning the ignition switch to the ACC/ACCESSORY or LOCK/OFF position.

When the Low Fuel warning lamp is on and the FUEL LEVEL LOW message is displayed in the Driver Information Center (DIC), the Computer-Controlled Cranking System is disabled to prevent possible vehicle component damage. When this happens, hold the ignition switch in the START position to continue engine cranking.

Notice: **Cranking the engine for long periods of time, by returning the key to the START position immediately after cranking has ended, can overheat and damage the cranking motor, and drain the battery. Wait at least 15 seconds between each try, to let the cranking motor cool down.**

2. If the engine does not start after five to 10 seconds, especially in very cold weather (below −18°C or 0°F), it could be flooded with too much gasoline. Try pushing the accelerator pedal all the way to the floor and holding it there as you hold the key in START for up to a maximum of 15 seconds. Wait at least 15 seconds between each try, to allow the cranking motor to cool down. When the engine starts, let go of the key and accelerator. If the vehicle starts briefly but then stops again, repeat these steps. This clears the extra gasoline from the engine. Do not race the engine immediately after starting it. Operate the engine and transmission gently until the oil warms up and lubricates all moving parts.

Notice: **The engine is designed to work with the electronics in the vehicle. If you add electrical parts or accessories, you could change the way the engine operates. Before adding electrical equipment, check with your dealer. If you do not, the engine might not perform properly. Any resulting damage would not be covered by the vehicle warranty.**

Engine Heater

The engine coolant heater can provide easier starting and better fuel economy during engine warm-up in cold weather conditions at or below −18°C (0°F). Vehicles with an engine coolant heater should be plugged in at least four hours before starting.

To Use the Engine Heater

1. Turn off the engine.
2. Open the hood and unwrap the electrical cord. The cord is attached to the diagonal brace on the driver side of the engine compartment.
3. Plug it into a normal, grounded 110-volt AC outlet.

⚠ WARNING

Plugging the cord into an ungrounded outlet could cause an electrical shock. Also, the wrong kind of extension cord could overheat and cause a fire. You could be seriously injured. Plug the cord into a properly grounded three-prong 110-volt AC outlet. If the cord will not reach, use a heavy-duty three-prong extension cord rated for at least 15 amps.

4. Before starting the engine, be sure to unplug and store the cord as it was before to keep it away from moving engine parts, and prevent damage.

The length of time the heater should remain plugged in depends on several factors. Ask a dealer in the area where you will be parking the vehicle for the best advice on this.

Retained Accessory Power (RAP)

These vehicle accessories can be used for up to 10 minutes after the engine turned off:

- Audio System
- Power Windows

The radio will work when the key is in ON/RUN or ACC/ACCESSORY. Once the key is turned from ON/RUN to LOCK/OFF the radio will continue to work 10 minutes or until the driver door is opened. The power windows will continue to work for up to 10 minutes or until any door is opened.

Shifting Into Park

⚠ WARNING

It can be dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, use the steps that follow. If you are pulling a trailer, see *Driving Characteristics and Towing Tips on page 9-39*.

Steering Column Shift Lever

If the vehicle has a steering column shift lever, use this procedure to shift the vehicle into P (Park):

1. Hold the brake pedal down.
2. Move the shift lever into P (Park) by pulling the shift lever toward you and moving it up as far as it will go.
3. With your foot still holding the brake pedal down, set the parking brake. See *Parking Brake on page 9-27* for more information.
4. Turn the ignition key to LOCK/OFF.
5. Remove the key and take it with you. If you can leave the vehicle with the ignition key in your hand, the vehicle is in P (Park).

Console Shift Lever

If the vehicle is equipped with a console shift lever, use this procedure to shift the vehicle into P (Park):

1. Hold the brake pedal down.
2. Move the shift lever into P (Park) by pushing the lever all the way toward the front of the vehicle.
3. While keeping the brake pedal applied, set the parking brake. See *Parking Brake on page 9-27* for more information.
4. Turn the ignition key to LOCK/OFF.
5. Remove the key and take it with you. If you can leave the vehicle with the ignition key in your hand, the vehicle is in P (Park).

Leaving the Vehicle With the Engine Running

⚠ WARNING

It can be dangerous to leave the vehicle with the engine running. The vehicle could move suddenly if the shift lever is not fully in P (Park) with the parking brake firmly set. And, if you leave the vehicle with the engine running, it could overheat and even catch fire. You or others could be injured. Do not leave the vehicle with the engine running.

If you have to leave the vehicle with the engine running, be sure your vehicle is in P (Park) and the parking brake is firmly set before you leave it. See *Parking Brake on page 9-27* for more information.

Torque Lock

Torque lock is when the weight of the vehicle puts too much force on the parking pawl in the transmission. This happens when parking on a hill and shifting the transmission into P (Park) is not done properly and then it is difficult to shift out of P (Park). To prevent torque lock, set the parking brake and then shift into P (Park). To find out how, see “Shifting Into Park” in this section.

If torque lock does occur, your vehicle may need to be pushed uphill by another vehicle to relieve the parking pawl pressure, so you can shift out of P (Park).

Shifting out of Park

Automatic Transmission Shift Lock

The vehicle has an electronic shift lock release system. The shift lock release is designed to:

- Prevent ignition key removal unless the shift lever is in P (Park).
- Prevent movement of the shift lever out of P (Park), unless the ignition is in ON/RUN and the regular brake pedal is applied.

The shift lock is always functional except in the case of a an uncharged or low voltage (less than 9 volt) battery.

If the vehicle has an uncharged battery or a battery with low voltage, try charging or jump starting the battery. See *Jump Starting on page 10-62*.

Console Shift

If the console shift lever cannot be moved out of P (Park):

1. Apply and maintain the regular brakes.
2. Turn the ignition to ON/RUN position. See *Ignition Positions on page 9-15* for more information.
3. Let up on the shift lever and make sure the shift lever is pushed all the way into P (Park).
4. Press the shift lever button.
5. Then, move the shift into the desired gear.

If you still cannot move the shift lever from P (Park), consult your dealer or a professional towing service.

Column Shift

If the column shift lever cannot be moved out of P (Park):

1. Apply and maintain the regular brakes.

2. Turn the ignition key to the ON/RUN position. See *Ignition Positions on page 9-15* for more information.
3. Shift out of the P (Park) position to the N (Neutral) position.
4. Move the vehicle to a safe location.

If you still cannot move the shift lever from P (Park), consult your dealer or a professional towing service.

Parking over Things That Burn

⚠ WARNING

Things that can burn could touch hot exhaust parts under the vehicle and ignite. Do not park over papers, leaves, dry grass, or other things that can burn.

Engine Exhaust

⚠ WARNING

Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. Exposure to CO can cause unconsciousness and even death.

Exhaust may enter the vehicle if:

- The vehicle idles in areas with poor ventilation (parking garages, tunnels, deep snow that may block underbody airflow or tail pipes).
- The exhaust smells or sounds strange or different.
- The exhaust system leaks due to corrosion or damage.
- The vehicle exhaust system has been modified, damaged or improperly repaired.

(Continued)

WARNING (Continued)

- There are holes or openings in the vehicle body from damage or aftermarket modifications that are not completely sealed.

If unusual fumes are detected or if it is suspected that exhaust is coming into the vehicle:

- Drive it only with the windows completely down.
- Have the vehicle repaired immediately.

Never park the vehicle with the engine running in an enclosed area such as a garage or a building that has no fresh air ventilation.

Running the Vehicle While Parked

It is better not to park with the engine running. But if you ever have to, here are some things to know.

⚠ WARNING

Idling a vehicle in an enclosed area with poor ventilation is dangerous. Engine exhaust may enter the vehicle. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death. Never run the engine in an enclosed area that has no fresh air ventilation. For more information, see *Engine Exhaust on page 9-21*.

⚠ WARNING

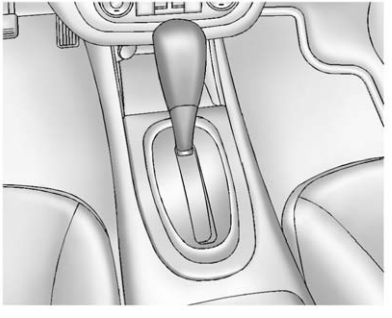
It can be dangerous to get out of the vehicle if the automatic transmission shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll. Do not leave the vehicle when the engine is running unless you have to. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park).

Follow the proper steps to be sure the vehicle will not move. See *Shifting Into Park on page 9-19*.

If parking on a hill and pulling a trailer, see *Driving Characteristics and Towing Tips on page 9-39*.

Automatic Transmission

The automatic transmission has a shift lever located on the console between the seats, or on the steering column. Gear positions are indicated on the instrument cluster.



P (Park): This position locks the front wheels. It is the best position to use when starting the engine because the vehicle cannot move easily.

⚠ WARNING

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

(Continued)

WARNING (Continued)

Do not leave the vehicle when the engine is running unless you have to. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park on page 9-19*. If you are pulling a trailer, see *Driving Characteristics and Towing Tips on page 9-39*.

Make sure the shift lever is fully in P (Park) before starting the engine. The vehicle has an automatic transmission shift lock control system. You must fully apply the regular brake before shifting from P (Park) when the ignition key is in ON/RUN. If you cannot shift out of P (Park), ease pressure on the shift lever, then push the shift lever all the way into P (Park) as you maintain brake application. Then move the shift lever into another gear. See *Shifting out of Park on page 9-20*.

R (Reverse): Use this gear to back up.

Notice: **Shifting to R (Reverse) while the vehicle is moving forward could damage the transmission. The repairs would not be covered by the vehicle warranty. Shift to R (Reverse) only after the vehicle is stopped.**

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 on page 9-9*.

N (Neutral): 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. Also, use N (Neutral) when the vehicle is being towed.

> ⚠ **WARNING**
>
> Shifting into a drive gear while the engine is running at high speed is dangerous. Unless your foot is firmly on the brake pedal, the vehicle could move very rapidly. You could lose control and hit people or objects. Do not shift into a drive gear while the engine is running at high speed.

Notice: **Shifting out of P (Park) or N (Neutral) with the engine running at high speed may damage the transmission. The repairs would not be covered by the vehicle warranty. Be sure the engine is not running at high speed when shifting the vehicle.**

D (Drive): This position is for normal driving. It provides the best fuel economy. If you need more power for passing, and you are:

- Going less than 56 km/h (35 mph), push the accelerator pedal about halfway down.
- Going about 56 km/h (35 mph) or more, push the accelerator all the way down.

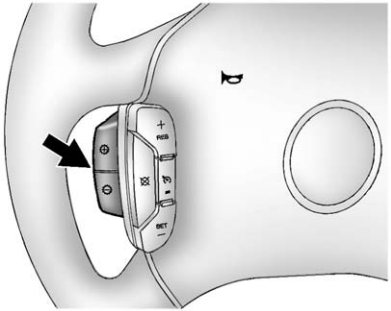
Notice: **If the vehicle seems to accelerate slowly or not shift gears when you go faster, and you continue to drive the vehicle that way, you could damage the transmission. Have the vehicle serviced right away. You can drive in L (Low) when you are driving less than 56 km/h (35 mph) and D (Drive) for higher speeds until then.**

Downshifting the transmission in slippery road conditions could result in skidding, see "Skidding" under *Loss of Control on page 9-5*.

L (Low): This position gives you access to gear ranges. This provides more engine braking but lower fuel economy than D (Drive). You can use it on very steep hills, or in deep snow or mud. See the following text on Manual Mode.

Manual Mode

Electronic Range Select (ERS) Mode



ERS mode allows you to choose the top-gear limit of the transmission, which can help control the vehicle's speed while driving downhill or towing a trailer.

The vehicle has an electronic shift position indicator within the instrument cluster. When using the ERS mode a number will display next to the L, indicating the current range that has been selected.

To use this feature:

1. Move the shift lever to L (Low).
2. Press the + (Plus) or − (Minus) button located on the left side of the steering wheel, to increase or decrease the gear range available.

When you shift from D (Drive) to L (Low), the transmission will shift to a pre-determined lower gear range.

The highest gear available for this pre-determined range is displayed next to the L in the DIC. The number displayed in the DIC is the highest gear that the transmission will be allowed to operate in. All gears below that number are available. For example, when 4 (Fourth) is shown next to the L, 1 (First) through 4 (Fourth) gears are automatically shifted by the vehicle. The transmission will not shift into 5 (Fifth) until the + (Plus) button is used or you shift back into D (Drive).

While in L (Low), the transmission will prevent shifting to a lower gear range if the engine speed is too high.

Brakes

Antilock Brake System (ABS)

This vehicle has the Antilock Brake System (ABS), an advanced electronic braking system that helps prevent a braking skid.

When the engine is started and the vehicle begins to drive away, ABS checks itself. A momentary motor or clicking noise might be heard while this test is going on, and it might even be noticed that the brake pedal moves a little. This is normal.

If there is a problem with ABS, this warning light stays on. See *Antilock Brake System (ABS) Warning Light on page 5-19*.

If driving safely on a wet road and it becomes necessary to slam on the brakes and continue braking to avoid a sudden obstacle, a computer senses that the wheels are slowing down. If one of the wheels is about to stop rolling, the computer will separately work the brakes at each wheel.

ABS can change the brake pressure to each wheel, as required, faster than any driver could. This can help the driver steer around the obstacle while braking hard.

As the brakes are applied, the computer keeps receiving updates on wheel speed and controls braking pressure accordingly.

Remember: ABS does not change the time needed to get a foot up to the brake pedal or always decrease stopping distance. If you get too close to the vehicle in front of you, there will not be enough time to apply the brakes if that vehicle suddenly slows or stops. Always leave enough room up ahead to stop, even with ABS.

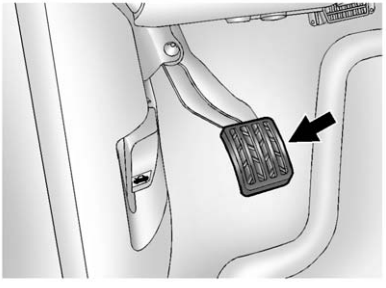
Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly and let ABS work. You might hear the ABS pump or motor operating and feel the brake pedal pulsate, but this is normal.

Braking in Emergencies

ABS allows the driver to steer and brake at the same time. In many emergencies, steering can help more than even the very best braking.

Parking Brake



The parking brake is located to the left of the brake pedal, near the driver door.

To set the parking brake, hold the brake pedal down, then push down the parking brake pedal.

To release the parking brake, hold the brake pedal down and push the parking brake pedal. When you lift your foot off the parking brake pedal, the pedal will follow it to the released position.

A warning chime will sound and a brake warning light located on the instrument panel cluster will come on, if the parking brake is set, the ignition is on, and the vehicle speed is greater than 8 km/h (5 mph).

Notice: **Driving with the parking brake on can overheat the brake system and cause premature wear or damage to brake system parts. Make sure that the parking brake is fully released and the brake warning light is off before driving.**

If you are towing a trailer and parking on any hill, see *Driving Characteristics and Towing Tips on page 9-39*.

Ride Control Systems

Traction Control System (TCS)

The vehicle may have a Traction Control System (TCS) that limits wheel spin. This is especially useful in slippery road conditions. The system operates only if it senses that one or both of the front wheels are spinning or beginning to lose traction. When this happens, the system reduces engine power and may also upshift the transmission and apply the front brakes to limit wheel spin.

This light will flash when the TCS is limiting wheel spin.

The system may be heard or felt while it is working, but this is normal.

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 on page 9-30*.

The TCS operates in all transmission shift lever positions. But the system can upshift the transmission only as high as the shift lever position chosen, so use the lower gears only when necessary. See *Automatic Transmission on page 9-22*.

When the system is on, this warning light comes on and stays on if there is a problem.

A SERVICE TRACTION CONTROL message also appears on the DIC. When this warning light is on, the system will not limit wheel spin. Adjust your driving accordingly. See *Ride Control System Messages on page 5-31* for more information.

To limit wheel spin, especially in slippery road conditions, TCS should always be left on. But the system can be turned off if needed. Turn the system off if the vehicle gets stuck in sand, mud, or snow and rocking the vehicle is required. See *If the Vehicle Is Stuck on page 9-9* for more information.

To turn the system on or off, press the ESC OFF button located on the instrument panel.

When the system is turned off, the TRACTION CONTROL OFF message appears on the DIC. If the traction control system is limiting wheel spin when the button is pressed to turn the system off, the TRACTION CONTROL OFF message will appear on the DIC and the system will turn off right away.

Press the ESC OFF button again to turn the system back on. The TRACTION CONTROL ON message will appear in the DIC.

Adding non-dealer accessories can affect the vehicle performance. See *Accessories and Modifications on page 10-3* for more information.

Electronic Stability Control (ESC)

Your vehicle may have an Electronic Stability Control (ESC) system which combines antilock brake, traction, and stability control systems and helps the driver maintain directional control of the vehicle in most driving conditions.

When you first start your vehicle and begin to drive away, the system performs several diagnostic checks to ensure there are no problems. You may hear or feel the system working. This is normal and does not mean there is a problem with your vehicle. The system should initialize before the vehicle reaches 32 km/h (20 mph).

If the system fails to turn on or activate due to a fault, the ESC/TCS light will be on solid, and the SERVICE STABILITRAK message will be displayed. If the system fails to turn on or activate due to it not initializing, the DIC will display STABILITRAK INITIALIZING.

For more information, see *Ride Control System Messages on page 5-31*.

This light will flash on the instrument panel cluster when the ESC system is both on and activated.

You may also feel or hear the system working; this is normal.

When the light is on solid and the SERVICE STABILITRAK message is displayed, the system will not assist the driver in maintaining directional control of the vehicle. Adjust your driving accordingly. See *Ride Control System Messages on page 5-31*.

The Electronic Stability Control (ESC) system is automatically enabled whenever you start your vehicle. To assist the driver with vehicle directional control, especially in slippery road conditions, you should always leave the system on. But, you can turn ESC off if you ever need to.

If the vehicle is in cruise control when the system begins to assist the driver maintain directional control of the vehicle, the ESC/TCS light will flash and the cruise control will automatically disengage. When road conditions allow you to use cruise again, you may re-engage the cruise control. See *Cruise Control on page 9-30*.

The ESC OFF button is located on the instrument panel.

The traction control system can be turned off or back on by pressing the ESC OFF button. To disable both traction control and ESC, press and hold the button briefly.

When the ESC system is turned off, the TRACTION CONTROL OFF message will appear, the STABILITRAK OFF message will appear, and the ESC OFF light will be on solid to warn the driver that both traction control and ESC are disabled.

It is recommended to leave the system on for normal driving conditions, but it may be necessary to turn the system off if your vehicle is stuck in sand, mud, ice, or snow, and you want to “rock” your vehicle to attempt to free it. It may also be necessary to turn off the system when driving in extreme off-road conditions where high wheel spin is required. See *If the Vehicle Is Stuck on page 9-9*.

ESC may also turn off automatically if it determines that a problem exists with the system. The SERVICE STABILITRAK message and the ESC/TCS light will be on solid to warn the driver that ESC is disabled and requires service. If the problem does not clear after restarting the vehicle, you should see your dealer for service. See *Ride Control System Messages on page 5-31* for more information.

Adding non-dealer accessories can affect your vehicle performance. See *Accessories and Modifications on page 10-3* for more information.

Cruise Control

With cruise control, you can maintain a speed of about 40 km/h (25 mph) or more without keeping your foot on the accelerator. Cruise control does not work at speeds below about 40 km/h (25 mph).

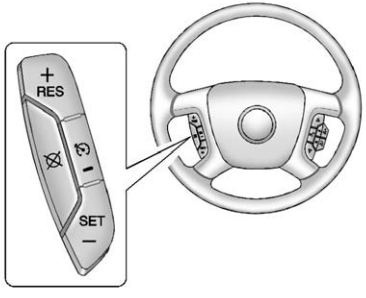
⚠ WARNING

Cruise control can be dangerous where you cannot drive safely at a steady speed. So, do not use the cruise control on winding roads or in heavy traffic.

Cruise control can be dangerous on slippery roads. On such roads, fast changes in tire traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.

If your vehicle has the Traction Control System (TCS) and the cruise control is on, TCS will begin to limit wheel spin and the cruise

control automatically turns off . See *Traction Control System (TCS) on page 9-27*. When road conditions allow you to safely use it again, the cruise control can be turned back on.



The cruise control buttons are located on left side of the steering wheel.

(On/Off): Press to turn cruise control on and off. The indicator is lit when cruise control is on.

+RES (Resume/Accelerate): Press briefly to make the vehicle resume to a previously set speed, or press and hold to accelerate.

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

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

Setting Cruise Control

The cruise control light on the instrument panel cluster comes on after the cruise control has been set to the desired speed. See *Instrument Cluster on page 5-10*.

If the cruise button is on when not in use, it could get bumped and go into cruise when not desired. Keep the cruise control switch off when cruise is not being used.

1. Press the button to turn the cruise system on.
2. Get up to the desired speed.
3. Press and release the SET– button located on the steering wheel.
4. Take your foot off the accelerator.

Resuming a Set Speed

If cruise control is set at a desired speed and then the brakes are applied, the cruise control is disengaged without erasing the set speed from memory.

Once the vehicle speed is 40 km/h (25 mph) or greater, press the +RES button on the steering wheel. The vehicle returns to the previously selected speed and stays there.

Increasing Speed While Using Cruise Control

If the cruise control system is already activated:

- Press and hold the +RES button on the steering wheel until the desired speed is reached, then release it.
- To increase vehicle speed in small increments, press the +RES button. Each time this is done, the vehicle goes about 1.6 km/h (1 mph) faster.

Reducing Speed While Using Cruise Control

If the cruise control system is already activated:

- Press and hold the SET– button on the steering wheel until the lower speed desired is reached, then release it.
- To slow down in small amounts, press the SET– button briefly. Each time this is done, the vehicle goes about 1.6 km/h (1 mph) slower.

Passing Another Vehicle While Using Cruise Control

Use the accelerator pedal to increase vehicle speed. When you take your foot off the pedal, the vehicle will slow down to the cruise speed you set earlier.

Using Cruise Control on Hills

How well the cruise control will work on hills depends upon the vehicle speed, load and the steepness of the hills. When going up steep hills, you might have to step on the accelerator pedal to maintain your speed. When going downhill, you might have to brake or shift to a lower gear to keep your speed down. If the brakes are applied the cruise control will turn off.

Ending Cruise Control

There are three ways to end cruise control:

- To disengage cruise control, step lightly on the brake pedal.
- Press the ⊗ button on the steering wheel.
- To turn off the cruise control, press the button on the steering wheel.

Erasing Speed Memory

The cruise control set speed memory is erased from memory by pressing or if the ignition is turned off.

Fuel

Use of the recommended fuel is an important part of the proper maintenance of this vehicle. To help keep the engine clean and maintain optimum vehicle performance, we recommend the use of gasoline advertised as TOP TIER Detergent Gasoline.

Look for the TOP TIER label on the fuel pump to ensure gasoline meets enhanced detergency standards developed by auto companies. A list of marketers providing TOP TIER Detergent Gasoline can be found at www.toptiergas.com.

TOP TIER™
Detergent Gasoline

CATEGORIE SUPERIEURE™
Essences Détergentes

Vehicles that have a FlexFuel badge and a yellow fuel cap can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). See *Fuel E85 (85% Ethanol) on page 9-36*. For all other vehicles, use only the unleaded gasoline described under *Recommended Fuel on page 9-33*.

Recommended Fuel

Use regular unleaded gasoline with a posted octane rating of 87 or higher. If the octane rating is less than 87, an audible knocking noise, commonly referred to as spark knock, might be heard when driving. If this occurs, use a gasoline rated at 87 octane or higher as soon as possible. If heavy knocking is heard when using gasoline rated at 87 octane or higher, the engine needs service.

Gasoline Specifications (U.S. and Canada Only)

At a minimum, gasoline should meet ASTM specification D 4814 in the United States or CAN/CGSB-3.5 or 3.511 in Canada. Some gasolines contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT). We recommend against the use of gasolines containing MMT. See *Fuel Additives on page 9-35* for additional information.

California Fuel Requirements

If the vehicle is certified to meet California Emissions Standards, it is designed to operate on fuels that meet California specifications. See the underhood emission control label. If this fuel is not available in states adopting California Emissions Standards, the vehicle will operate satisfactorily on fuels meeting federal specifications, but emission control system performance might be affected. The malfunction indicator lamp could turn on and the vehicle might fail a smog-check test. See *Malfunction Indicator Lamp on page 5-16*. If this occurs, return to your authorized dealer for diagnosis. If it is determined that the condition is caused by the type of fuel used, repairs might not be covered by the vehicle warranty.

Fuels in Foreign Countries

Never use leaded gasoline or any other fuel not recommended in the previous text on fuel. Costly repairs caused by use of improper fuel would not be covered by the vehicle warranty.

To check the fuel availability, ask an auto club, or contact a major oil company that does business in the country where you will be driving.

Fuel Additives

To provide cleaner air, all gasolines in the United States are now required to contain additives that help prevent engine and fuel system deposits from forming, allowing the emission control system to work properly. In most cases, nothing should have to be added to the fuel. However, some gasolines contain only the minimum amount of additive required to meet U.S. Environmental Protection Agency regulations. To help keep fuel injectors and intake valves clean and avoid problems due to dirty injectors or valves, look for gasoline that is advertised as TOP TIER Detergent Gasoline. Look for the TOP TIER label on the fuel pump to ensure gasoline meets enhanced detergency standards developed by the auto companies. A list of marketers providing TOP TIER Detergent Gasoline can be found at www.toptiergas.com.

For customers who do not use TOP TIER Detergent Gasoline regularly, one bottle of GM Fuel System Treatment PLUS, added to the fuel tank at every engine oil change, can help clean deposits from fuel injectors and intake valves. GM Fuel System Treatment PLUS is the only gasoline additive recommended by General Motors. It is available at your dealer.

Gasolines containing oxygenates, such as ethers and ethanol, and reformulated gasolines might be available in your area. We recommend that you use these gasolines, if they comply with the specifications described earlier. However, E85 (85% ethanol) and other fuels containing more than 15% ethanol must not be used in vehicles that were not designed for those fuels.

Notice: **This vehicle was not designed for fuel that contains methanol. Do not use fuel containing methanol. It can corrode metal parts in the fuel system and also damage plastic and rubber parts. That damage would not be covered under the vehicle warranty.**

Some gasolines that are not reformulated for low emissions can contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT); ask the attendant where you buy gasoline whether the fuel contains MMT. We recommend against the use of such gasolines. Fuels containing MMT can reduce spark plug life and affect emission control system performance. The malfunction indicator lamp might turn on. If this occurs, return to your dealer for service.

Fuel E85 (85% Ethanol)

Vehicles that have a FlexFuel badge and a yellow fuel cap can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). For all other vehicles, use only the unleaded gasoline described under *Recommended Fuel on page 9-33*.

We encourage the use of E85 in vehicles that are designed to use it. The ethanol in E85 is a “renewable” fuel, meaning it is made from renewable sources such as corn and other crops.

Many service stations will not have an 85% ethanol fuel (E85) pump available. The U.S. Department of Energy has an alternative fuels website (www.afdc.energy.gov/afdc/locator/stations/) that can help you find E85 fuel. Those stations that do have E85 should have a label indicating ethanol content. Do not use the fuel if the ethanol content is greater than 85%.

At a minimum, E85 should meet ASTM Specification D 5798 or CGSB Specification 3.512. Filling the tank with fuel mixtures that do not meet ASTM or CGSB specifications can affect driveability and could cause the malfunction indicator lamp to come on. As the outside temperature approaches freezing, ethanol fuel distributors should supply winter grade ethanol, the same as with unleaded gasoline.

The starting characteristics of E85 fuel make it unsuitable for use when temperatures fall below −18°C (0°F). In the range of −18°C (0°F) to 0°C (32°F), it may take more time to start the engine.

E85 has less energy per liter (gallon) than gasoline, so you will need to refill the fuel tank more often when using E85 than when you are using gasoline. See *Filling the Tank on page 9-37*.

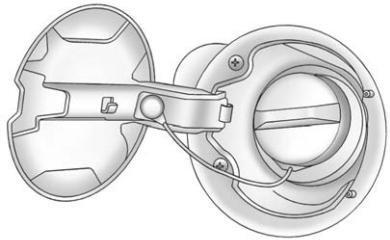
Notice: **Some additives are not compatible with E85 fuel and can harm the vehicle's fuel system. Do not add anything to E85. Damage caused by additives would not be covered by the vehicle warranty.**

Notice: **This vehicle was not designed for fuel that contains methanol. Do not use fuel containing methanol. It can corrode metal parts in the fuel system and also damage plastic and rubber parts. That damage would not be covered under the vehicle warranty.**

Filling the Tank

⚠ WARNING

Fuel vapor burns violently and a fuel fire can cause bad injuries. To help avoid injuries to you and others, read and follow all the instructions on the fuel pump island. Turn off the engine when refueling. Do not smoke near fuel or when refueling the vehicle. Do not use cellular phones. Keep sparks, flames, and smoking materials away from fuel. Do not leave the fuel pump unattended when refueling the vehicle. This is against the law in some places. Do not re-enter the vehicle while pumping fuel. Keep children away from the fuel pump; never let children pump fuel.



The tethered fuel cap is located behind a hinged fuel door on the driver side of the vehicle. If the vehicle has E85 fuel capability, the fuel cap will be yellow and state that E85 or gasoline can be used. See *Fuel E85 (85% Ethanol) on page 9-36*.

To remove the fuel cap, turn it slowly counterclockwise.

While refueling, hang the tethered fuel cap on the hook on the inside of the fuel door.

⚠ WARNING

Fuel can spray out on you if you open the fuel cap too quickly. If you spill fuel and then something ignites it, you could be badly burned. This spray can happen if the tank is nearly full, and is more likely in hot weather. Open the fuel cap slowly and wait for any hiss noise to stop. Then unscrew the cap all the way.

Be careful not to spill fuel. Do not top off or overfill the tank and wait a few seconds after you have finished pumping before removing the nozzle. Clean fuel from painted surfaces as soon as possible. See *Exterior Care on page 10-67*.

When replacing the fuel cap, turn it clockwise until it clicks. Make sure the cap is fully installed. The diagnostic system can determine if

the fuel cap has been left off or improperly installed. This would allow fuel to evaporate into the atmosphere. See *Malfunction Indicator Lamp on page 5-16*.

The TIGHTEN GAS CAP message displays on the Driver Information Center (DIC) if the fuel cap is not properly installed. See *Fuel System Messages on page 5-30* for more information.

⚠ WARNING

If a fire starts while you are refueling, do not remove the nozzle. Shut off the flow of fuel by shutting off the pump or by notifying the station attendant. Leave the area immediately.

Notice: **If a new fuel cap is needed, be sure to get the right type of cap from your dealer. The wrong type of fuel cap might not fit properly, might cause the malfunction indicator lamp to light, and could damage the fuel tank and emissions system. See *Malfunction Indicator Lamp on page 5-16*.**

Filling a Portable Fuel Container

⚠ WARNING

Never fill a portable fuel container while it is in the vehicle. Static electricity discharge from the container can ignite the fuel vapor. You can be badly burned and the vehicle damaged if this occurs. To help avoid injury to you and others:

- Dispense fuel only into approved containers.

(Continued)

WARNING (Continued)

- Do not fill a container while it is inside a vehicle, in a vehicle's trunk, pickup bed, or on any surface other than the ground.
- Bring the fill nozzle in contact with the inside of the fill opening before operating the nozzle. Contact should be maintained until the filling is complete.
- Do not smoke while pumping fuel.
- Do not use a cellular phone while pumping fuel.

Towing

General Towing Information

Only use towing equipment that has been designed for the vehicle. Contact your dealer or trailering dealer for assistance with preparing the vehicle for towing a trailer.

See the following trailer towing information in this section:

- For information on driving while towing a trailer, see “Driving Characteristics and Towing Tips.”
- For maximum vehicle and trailer weights, see “Trailer Towing.”
- For information on equipment to tow a trailer, see “Towing Equipment.”

For information on towing a disabled vehicle, see *Towing the Vehicle on page 10-65*. For information on towing the vehicle behind another vehicle such as a motor home, see *Recreational Vehicle Towing on page 10-66*.

Driving Characteristics and Towing Tips

Pulling a Trailer

Here are some important points:

- There are many different laws, including speed limit restrictions, having to do with trailering. Make sure the rig will be legal, not only where you live but also where you will be driving. A good source for this information can be state or provincial police.
- Do not tow a trailer at all during the first 1600 km (1,000 miles) the new vehicle is driven. The engine, transmission or other parts could be damaged. The repairs would not be covered by the vehicle's warranty.
- Then, during the first 800 km (500 miles) that a trailer is towed, do not drive over 80 km/h (50 mph) and do not make starts at full throttle. This helps the engine and other parts of the vehicle wear in at the heavier loads.
- Obey speed limit restrictions when towing a trailer. Do not drive faster than the maximum posted speed for trailers, or no more than 90 km/h (55 mph), to save wear on the vehicle's parts.
- Do not tow a trailer when the outside temperature is above 38°C (100°F).

Three important considerations have to do with weight:

- the weight of the trailer,
- the weight of the trailer tongue
- and the total weight on the vehicle's tires.

Driving with a Trailer

Towing a trailer requires a certain amount of experience. Get to know the rig before setting out for the open road. Get acquainted with the feel of handling and braking with the added weight of the trailer. And always keep in mind that the vehicle you are driving is now longer and not as responsive as the vehicle is by itself.

Before starting, check all trailer hitch parts and attachments, safety chains, electrical connectors, lamps, tires and mirror adjustments. If the trailer has electric brakes, start the vehicle and trailer moving and then apply the trailer brake controller by hand to be sure the brakes are working. This checks the electrical connection at the same time.

During the trip, check occasionally to be sure that the load is secure, and that the lamps and any trailer brakes are still working.

Following Distance

Stay at least twice as far behind the vehicle ahead as you would when driving the vehicle without a trailer. This can help to avoid situations that require heavy braking and sudden turns.

Passing

More passing distance is needed when towing a trailer. Because the rig is longer, it is necessary to go much farther beyond the passed vehicle before returning to the lane.

Backing Up

Hold the bottom of the steering wheel with one hand. Then, to move the trailer to the left, move that hand to the left. To move the trailer to the right, move your hand to the right. Always back up slowly and, if possible, have someone guide you.

Making Turns

Notice: **Making very sharp turns while trailering could cause the trailer to come in contact with the vehicle. The vehicle could be damaged. Avoid making very sharp turns while trailering.**

When turning with a trailer, make wider turns than normal. Do this so the trailer will not strike soft shoulders, curbs, road signs, trees or other objects. Avoid jerky or sudden maneuvers. Signal well in advance.

Turn Signals When Towing a Trailer

The arrows on the instrument panel flash whenever signaling a turn or lane change. Properly hooked up, the trailer lamps also flash, telling other drivers the vehicle is turning, changing lanes or stopping.

When towing a trailer, the arrows on the instrument panel flash for turns even if the bulbs on the trailer are burned out. For this reason you may think other drivers are seeing the signal when they are not. It is important to check occasionally to be sure the trailer bulbs are still working.

Driving on Grades

Notice: **Do not tow on steep continuous grades exceeding 9.6 km (6 miles). Extended, higher than normal engine and transmission temperatures may result and damage the vehicle. Frequent stops are very important to allow the engine and transmission to cool.**

Reduce speed and shift to a lower gear *before* starting down a long or steep downgrade. If the transmission is not shifted down, the brakes might have to be used so much that they would get hot and no longer work well.

On a long uphill grade, shift down and reduce the vehicle's speed to around 70 km/h (45 mph) to reduce the possibility of the engine and the transmission overheating. If the engine does overheat, see *Engine Overheating on page 10-15*.

Parking on Hills

⚠ WARNING

Parking the vehicle on a hill with the trailer attached can be dangerous. If something goes wrong, the rig could start to move. People can be injured, and both the vehicle and the trailer can be damaged. When possible, always park the rig on a flat surface.

If parking the rig on a hill:

1. Press the brake pedal, but do not shift into P (Park) yet. Turn the wheels into the curb if facing downhill or into traffic if facing uphill.
2. Have someone place chocks under the trailer wheels.
3. When the wheel chocks are in place, release the brake pedal until the chocks absorb the load.
4. Reapply the brake pedal. Then apply the parking brake and shift the transmission into P (Park).
5. Release the brake pedal.

Leaving After Parking on a Hill

1. Apply and hold the brake pedal while you:
   - start the engine,
   - shift into a gear, and
   - release the parking brake.
2. Let up on the brake pedal.
3. Drive slowly until the trailer is clear of the chocks.
4. Stop and have someone pick up and store the chocks.

Maintenance When Trailer Towing

The vehicle needs service more often when pulling a trailer. See *Maintenance Schedule on page 11-3* for more information. Things that are especially important in trailer operation are automatic transmission fluid, engine oil, belts, cooling system and brake system. It is a good idea to inspect these before and during the trip.

Check periodically to see that all hitch nuts and bolts are tight.

Engine Cooling When Trailer Towing

The cooling system may temporarily overheat during severe operating conditions. See *Engine Overheating on page 10-15*.

Changing a Tire When Trailer Towing

If the vehicle gets a flat tire while towing a trailer, be sure to secure the trailer and disconnect it from the vehicle before changing the tire.

Trailer Towing

⚠ WARNING

The driver can lose control when pulling a trailer if the correct equipment is not used or the vehicle is not driven properly. For example, if the trailer is too heavy, the brakes may not work well — or even at all. The driver and passengers could be seriously injured. The vehicle may also be damaged; the resulting repairs would not be covered by the vehicle warranty. Pull a trailer only if all the steps in this section have been followed.

(Continued)

WARNING (Continued)

Ask your dealer for advice and information about towing a trailer with the vehicle.

Notice: **Pulling a trailer improperly can damage the vehicle and result in costly repairs not covered by the vehicle warranty. To pull a trailer correctly, follow the advice in this section and see your dealer for important information about towing a trailer with the vehicle.**

The vehicle can tow a trailer if it is equipped with the proper trailer towing equipment. To identify the trailering capacity of the vehicle, read the information in “Weight of the Trailer” that appears later in this section. Trailering is different than just driving the vehicle by itself. Trailering means changes in handling, acceleration, braking, durability and fuel economy.

Successful, safe trailering takes correct equipment, and it has to be used properly.

The following information has many time-tested, important trailering tips and safety rules. Many of these are important for the safety of the driver and the passengers. So please read this section carefully before pulling a trailer.

Load-pulling components such as the engine, transmission, axles, wheel assemblies and tires are forced to work harder against the drag of the added weight. The engine is required to operate at relatively higher speeds and under greater loads, generating extra heat. The trailer also adds considerably to wind resistance, increasing the pulling requirements.

Weight of the Trailer

How heavy can a trailer safely be?

It should never weigh more than 454 kg (1,000 lbs). But even that can be too heavy.

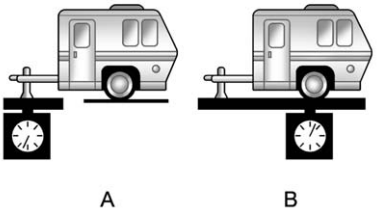
It depends on how the rig is used. For example, speed, altitude, road grades, outside temperature and how much the vehicle is used to pull a trailer are all important. It can depend on any special equipment on the vehicle, and the amount of tongue weight the vehicle can carry. See “Weight of the Trailer Tongue” later in this section for more information.

Maximum trailer weight is calculated assuming only the driver is in the tow vehicle and it has all the required trailering equipment. The weight of additional optional equipment, passengers and cargo in the tow vehicle must be subtracted from the maximum trailer weight.

Ask your dealer for trailering information or advice, or write us at our Customer Assistance Offices. See *Customer Assistance Offices on page 13-3* for more information.

Weight of the Trailer Tongue

The tongue load (A) of any trailer is an important weight to measure because it affects the total gross weight of the vehicle. The Gross Vehicle Weight (GVW) includes the curb weight of the vehicle, any cargo carried in it, and the people who will be riding in the vehicle. If there are a lot of options, equipment, passengers or cargo in the vehicle, it will reduce the tongue weight the vehicle can carry, which will also reduce the trailer weight the vehicle can tow. If towing a trailer, the tongue load must be added to the GVW because the vehicle will be carrying that weight, too. See *Vehicle Load Limits on page 9-10* for more information about the vehicle's maximum load capacity.



Using a weight-carrying hitch, the trailer tongue (A) should weigh 10 to 15 percent of the total loaded trailer weight (B).

After loading the trailer, weigh the trailer and then the tongue, separately, to see if the weights are proper. If they are not, adjustments might be made by moving some items around in the trailer.

Total Weight on the Vehicle's Tires

Be sure the vehicle's tires are inflated to the upper limit for cold tires. These numbers can be found on the Certification/Tire label. See *Vehicle Load Limits on page 9-10*. Make sure not to go over the GVW limit for the vehicle, including the weight of the trailer tongue.

Towing Equipment

Hitches

It is important to have the correct hitch equipment. Crosswinds, large trucks going by and rough roads are a few reasons why the right hitch is needed. Here are some rules to follow:

- The rear bumper on the vehicle is not intended for hitches. Do not attach rental hitches or other bumper-type hitches to it. Use only a frame-mounted hitch that does not attach to the bumper.
- Will any holes be made in the body of the vehicle when the trailer hitch is installed? If there are, then be sure to seal the holes later when the hitch is removed. If the holes are not sealed, dirt, water, and deadly carbon monoxide (CO) from the exhaust can get into the vehicle. See *Engine Exhaust on page 9-21* in the Index for more information.

Safety Chains

Always attach chains between the vehicle and the trailer. Cross the safety chains under the tongue of the trailer to help prevent the tongue from contacting the road if it becomes separated from the hitch. Instructions about safety chains may be provided by the hitch manufacturer or by the trailer manufacturer. Follow the manufacturer's recommendation for attaching safety chains and do not attach them to the bumper.

Always leave just enough slack so the rig can turn. Never allow safety chains to drag on the ground.

Trailer Brakes

Because the vehicle has antilock brakes, do not try to tap into the vehicle's hydraulic brake system. If you do, both brake systems will not work well, or at all.

Does your trailer have its own brakes? Be sure to read and follow the instructions for the trailer brakes so you will be able to install, adjust and maintain them properly.

Conversions and Add-Ons

Add-On Electrical Equipment

Notice: **Do not add anything electrical to the vehicle unless you check with your dealer first. Some electrical equipment can damage the vehicle and the damage would not be covered by the vehicle's warranty. Some add-on electrical equipment can keep other components from working as they should.**

Add-on equipment can drain the vehicle's 12-volt battery, even if the vehicle is not operating.

The vehicle has an airbag system. Before attempting to add anything electrical to the vehicle, see *Servicing the Airbag-Equipped Vehicle on page 3-31* and *Adding Equipment to the Airbag-Equipped Vehicle on page 3-31*.

✍ NOTES

Vehicle Care

General Information

General Information 10-2
California Proposition 65 Warning 10-3
California Perchlorate Materials Requirements 10-3
Accessories and Modifications 10-3

Vehicle Checks

Doing Your Own Service Work 10-4
Hood 10-5
Engine Compartment Overview 10-6
Engine Oil 10-7
Engine Oil Life System 10-10
Automatic Transmission Fluid 10-10
Engine Air Cleaner/Filter 10-11
Cooling System 10-12
Engine Coolant 10-13
Engine Overheating 10-15
Overheated Engine Protection Operating Mode 10-16
Power Steering Fluid 10-17
Washer Fluid 10-18
Brakes 10-18
Brake Fluid 10-19
Battery 10-21
Starter Switch Check 10-21
Automatic Transmission Shift Lock Control Function Check 10-22
Ignition Transmission Lock Check 10-22
Park Brake and P (Park) Mechanism Check 10-22
Wiper Blade Replacement 10-23

Headlamp Aiming

Headlamp Aiming 10-24

Bulb Replacement

Bulb Replacement 10-24
Halogen Bulbs 10-24
Headlamps, Front Turn Signal, Sidemarker, and Parking Lamps 10-24
Taillamps, Turn Signal, Sidemarker, Stoplamps, and Back-Up Lamps 10-27
License Plate Lamp 10-28
Replacement Bulbs 10-28

Electrical System

Electrical System Overload 10-28
Fuses and Circuit Breakers 10-29
Engine Compartment Fuse Block 10-29
Instrument Panel Fuse Block 10-32

Wheels and Tires

Tires 10-33
Tire Sidewall Labeling 10-34
Tire Designations 10-36
Tire Terminology and Definitions 10-37
Tire Pressure 10-40
Tire Pressure Monitor System 10-41
Tire Pressure Monitor Operation 10-43
Tire Inspection 10-45
Tire Rotation 10-46

When It Is Time for New Tires 10-47
Buying New Tires 10-48
Different Size Tires and Wheels 10-49
Uniform Tire Quality Grading 10-49
Wheel Alignment and Tire Balance 10-51
Wheel Replacement 10-51
Tire Chains 10-52
If a Tire Goes Flat 10-53
Tire Changing 10-54
Compact Spare Tire 10-61

Jump Starting
Jump Starting 10-62

Towing
Towing the Vehicle 10-66
Recreational Vehicle Towing 10-66

Appearance Care
Exterior Care 10-68
Interior Care 10-70
Floor Mats 10-73

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:

ACDelco®

Genuine GM | Parts

GM Accessories

California Proposition 65 Warning

Most motor vehicles, including this one, contain and/or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Engine exhaust, many parts and systems, many fluids, and some component wear by-products contain and/or emit these chemicals.

California Perchlorate Materials Requirements

Certain types of automotive applications, such as airbag initiators, safety belt pretensioners, and lithium batteries contained in Remote Keyless Entry transmitters, may contain perchlorate materials. Special handling may be necessary. For additional information, see www.dtsc.ca.gov/hazardouswaste/perchlorate.

Accessories and Modifications

Adding non-dealer accessories or making modifications to the vehicle can affect vehicle performance and safety, including such things as airbags, braking, stability, ride and handling, emissions systems, aerodynamics, durability, and electronic systems like antilock brakes, traction control, and stability control. These accessories or modifications could even cause malfunction or damage not covered by the vehicle warranty.

Damage to vehicle components resulting from modifications or the installation or use of non-GM certified parts, including control module or software modifications, is not covered under the terms of the vehicle warranty and may affect remaining warranty coverage for affected parts.

GM Accessories are designed to complement and function with other systems on the vehicle. See your dealer to accessorize the vehicle using genuine GM Accessories installed by a dealer technician.

Also, see *Adding Equipment to the Airbag-Equipped Vehicle on page 3-31*.

Vehicle Checks

Doing Your Own Service Work

⚠ WARNING

It can be dangerous to work on your vehicle if you do not have the proper knowledge, service manual, tools, or parts. Always follow owner manual procedures and consult the service manual for your vehicle before doing any service work.

If doing some of your own service work, use the proper service manual. It tells you much more about how to service the vehicle than this manual can. To order the proper service manual, see *Service Publications Ordering Information on page 13-11*.

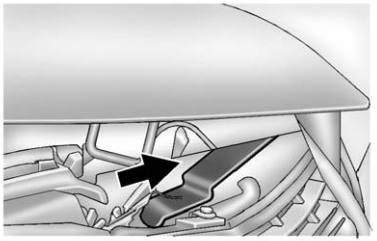
This vehicle has an airbag system. Before attempting to do your own service work, see *Servicing the Airbag-Equipped Vehicle on page 3-31*.

Keep a record with all parts receipts and list the mileage and the date of any service work performed. See *Maintenance Records on page 11-13*.

Hood

To open the hood, do the following:

1. Pull the interior hood release handle with this symbol on it. It is located to the left of the parking brake pedal.

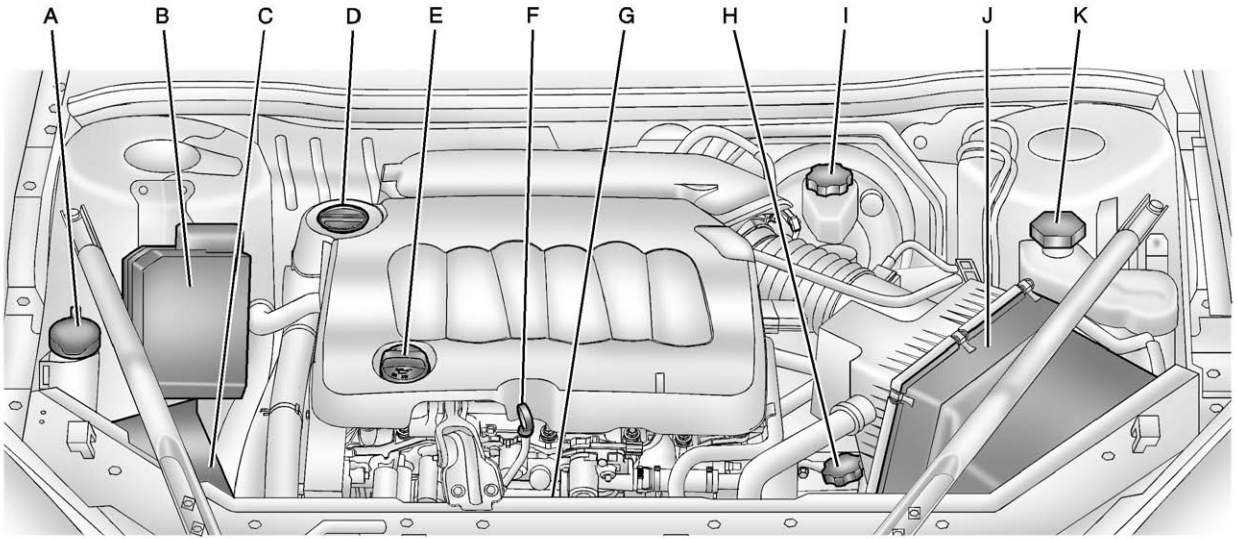


2. Then go to the front of the vehicle and release the secondary hood latch, located near the center of the hood front, by pushing the latch to the right.

3. Lift the hood.

Before closing the hood, be sure all the filler caps are on properly. Then pull the hood down and close it firmly.

Engine Compartment Overview



A. Windshield Washer Fluid Reservoir. See *Washer Fluid on page 10-18*.

B. *Engine Compartment Fuse Block on page 10-29*.

C. *Battery on page 10-21*.

D. Power Steering Reservoir and Cap. See *Power Steering Fluid on page 10-17*.

E. Engine Oil Fill Cap. See *Engine Oil on page 10-7*.

F. Engine Oil Dipstick. See *Engine Oil on page 10-7*.

G. Engine Cooling Fans (Out of View. See *Cooling System on page 10-12*.

H. Transmission Fluid Cap. See *Automatic Transmission Fluid on page 10-10*.

I. Brake Fluid Reservoir. See *Brakes on page 10-18*.

J. *Engine Air Cleaner/Filter on page 10-11*.

K. Coolant Surge Tank and Pressure Cap. See *Engine Coolant on page 10-13*.

Engine Oil

To ensure proper engine performance and long life, careful attention must be paid to engine oil. Following these simple, but important steps will help protect your investment:

- Always use engine oil approved to the proper specification and of the proper viscosity grade. See “Selecting the Right Engine Oil” in this section.
- Check the engine oil level regularly and maintain the proper oil level. See “Checking Engine Oil” and “When to Add Engine Oil” in this section.
- Change the engine oil at the appropriate time. See *Engine Oil Life System on page 10-10*.
- Always dispose of engine oil properly. See “What to Do with Used Oil” in this section.

Checking Engine Oil

It is a good idea to check the engine oil level at each fuel fill. In order to get an accurate reading, the vehicle must be on level ground. The engine oil dipstick handle is a yellow loop. See *Engine Compartment Overview on page 10-6* for the location of the engine oil dipstick.

Obtaining an accurate oil level reading is essential:

1. If the engine has been running recently, turn off the engine and allow several minutes for the oil to drain back into the oil pan. Checking the oil level too soon after engine shutoff will not provide an accurate oil level reading.
2. Pull out the dipstick and clean it with a paper towel or cloth, then push it back in all the way. Remove it again, keeping the tip down, and check the level.

When to Add Engine Oil

If the oil is below the cross-hatched area at the tip of the dipstick, add 1 L (1 qt) of the recommended oil and then recheck the level. See "Selecting the Right Engine Oil" in this section for an explanation of what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications on page 12-2*.

Notice: **Do not add too much oil. Oil levels above or below the acceptable operating range shown on the dipstick are harmful to the engine. If you find that you have an oil level above the operating range, i.e., the engine has so much oil that the oil level gets above the cross-hatched area that shows the proper operating range, the engine could be damaged. You should drain out the excess oil or limit driving of the vehicle and seek a service professional to remove the excess amount of oil.**

See *Engine Compartment Overview on page 10-6* for the location of the engine oil fill cap.

Add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back in when through.

Selecting the Right Engine Oil

Selecting the right engine oil depends on both the proper oil specification and viscosity grade. See *Recommended Fluids and Lubricants on page 11-11*.

Specification

Use and ask for licensed engine oils with the dexos1™ approved certification mark. Engine oils meeting the requirements for the vehicle should have the dexos1 approved certification mark. This certification mark indicates that the oil has been approved to the dexos1 specification.

Notice: **Failure to use the recommended engine oil or equivalent can result in engine damage not covered by the vehicle warranty. Check with your dealer or service provider on whether the oil is approved to the dexos1 specification.**

Viscosity Grade

SAE 5W-30 is the best viscosity grade for the vehicle. Do not use other viscosity grade oils such as SAE 10W-30, 10W-40, or 20W-50.

If in an area of extreme cold, where the temperature falls below −20°F (−29°C), an SAE 0W-30 oil should be used. An oil of this viscosity grade will provide easier cold starting for the engine at extremely low temperatures. When selecting an oil of the appropriate viscosity grade, always select an oil that meets the dexos1 specification or equivalent. See “Specification” for more information.

Engine Oil Additives/Engine Oil Flushes

Do not add anything to the oil. The recommended oils with the dexos specification and displaying the dexos certification mark are all that is needed for good performance and engine protection.

Engine oil system flushes are not recommended and could cause engine damage not covered by the vehicle warranty.

What to Do with Used Oil

Used engine oil contains certain elements that can be unhealthy for your skin and could even cause cancer. Do not let used oil stay on your skin for very long. Clean your skin and nails with soap and water, or a good hand cleaner. Wash or properly dispose of clothing or rags containing used engine oil. See the manufacturer's warnings about the use and disposal of oil products.

Used oil can be a threat to the environment. If you change your own oil, be sure to drain all the oil from the filter before disposal. Never dispose of oil by putting it in the trash or pouring it on the ground, into sewers, or into streams or bodies of water. Recycle it by taking it to a place that collects used oil.

Engine Oil Life System

When to Change Engine Oil

This vehicle has a computer system that indicates when to change the engine oil and filter. This is based on a combination of factors which include engine revolutions, engine temperature, and miles driven. Based on driving conditions, the mileage at which an oil change is indicated can vary considerably. For the oil life system to work properly, the system must be reset every time the oil is changed.

When the system has calculated that oil life has been diminished, it indicates that an oil change is necessary. A CHANGE ENGINE OIL SOON message comes on. See *Engine Oil Messages on page 5-30*. Change the oil as soon as possible within the next 1 000 km (600 mi). It is possible that, if driving under the best conditions, the oil life system might indicate that an oil change is not necessary for up to a year. The engine oil and filter must be changed at least once a year and, at this time, the system must be reset. Your dealer has trained service people who will perform this work and reset the system. It is also important to check the oil regularly over the course of an oil drain interval and keep it at the proper level.

If the system is ever reset accidentally, the oil must be changed at 5 000 km (3,000 mi) since the last oil change. Remember to reset the oil life system whenever the oil is changed.

How to Reset the Engine Oil Life System

Reset the system whenever the engine oil is changed so that the system can calculate the next engine oil change. Always reset the engine oil life to 100% after every oil change. It will not reset itself. To reset the system:

1. Display OIL LIFE REMAINING on the DIC.
2. Press and hold the SET/RESET button on the DIC for more than five seconds. 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.

Automatic Transmission Fluid

How to Check Automatic Transmission Fluid

It is not necessary to check the transmission fluid level.
A transmission fluid leak is the only reason for fluid loss. If a leak occurs, take the vehicle to your dealer and have it repaired as soon as possible.

There is a special procedure for checking and changing the transmission fluid. Because this procedure is difficult, you should have this done at your dealer.

Contact your dealer for additional information or the procedure can be found in the service manual. To purchase a service manual, see *Service Publications Ordering Information on page 13-11*

Change the fluid and filter at the intervals listed in *Maintenance Schedule on page 11-3*, and be sure to use the fluid listed in *Recommended Fluids and Lubricants on page 11-11*.

Engine Air Cleaner/Filter

The engine air cleaner/filter is located in the engine compartment on the driver side of the vehicle. See *Engine Compartment Overview on page 10-6* for more information on location.

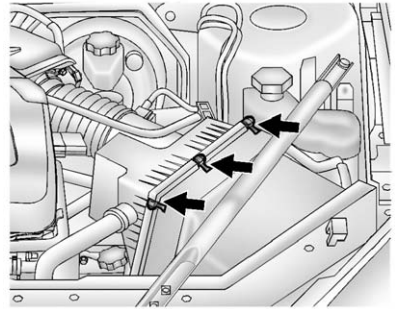
When to Inspect the Engine Air Cleaner/Filter

Inspect the air cleaner/filter at the scheduled maintenance intervals and replace it at the first oil change after each (80 000 km (50,000 mi) interval. See *Maintenance Schedule on page 11-3* for more information. If driving in dusty/dirty conditions, inspect the filter at each engine oil change.

How to Inspect the Engine Air Cleaner/Filter

To inspect the air cleaner/filter, remove the filter from the vehicle and lightly shake the filter to release loose dust and dirt. If the filter remains covered with dirt, a new filter is required.

To inspect or replace the engine air cleaner/filter:



1. Unfasten the clips on top of the engine air cleaner/filter housing.
2. Lift the filter cover housing away from the engine.
3. Pull out the filter.
4. Inspect or replace the engine air cleaner/filter.
5. Lower the filter cover housing toward the engine.

6. Fasten the clips on the top of the housing to lock the cover in place.

⚠ WARNING

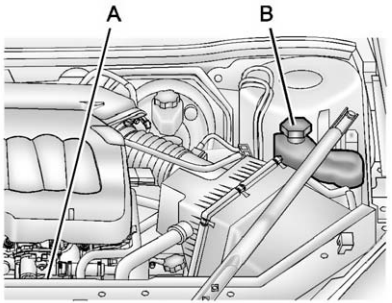
Operating the engine with the air cleaner/filter off can cause you or others to be burned. The air cleaner not only cleans the air; it helps to stop flames if the engine backfires. Use caution when working on the engine and do not drive with the air cleaner/filter off.

Notice: **If the air cleaner/filter is off, dirt can easily get into the engine, which could damage it. Always have the air cleaner/filter in place when you are driving.**

Cooling System

The cooling system allows the engine to maintain the correct working temperature.

When it is safe to lift the hood:



A. Engine Cooling Fans (Out of View)

B. Coolant Surge Tank and Pressure Cap

⚠ WARNING

An electric engine cooling fan under the hood can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fan.

⚠ WARNING

Heater and radiator hoses, and other engine parts, can be very hot. Do not touch them. If you do, you can be burned.

Do not run the engine if there is a leak. If you run the engine, it could lose all coolant. That could cause an engine fire, and you could be burned. Get any leak fixed before you drive the vehicle.

Notice: **Using coolant other than DEX-COOL® can cause premature engine, heater core, or radiator corrosion. In addition, the engine coolant could require changing sooner. Any repairs would not be covered by the vehicle warranty. Always use DEX-COOL (silicate-free) coolant in the vehicle.**

Engine Coolant

The cooling system in the vehicle is filled with DEX-COOL® engine coolant mixture. See *Recommended Fluids and Lubricants on page 11-11* and *Maintenance Schedule on page 11-3* for more information.

The following explains the cooling system and how to check and add coolant when it is low. If there is a problem with engine overheating, see *Engine Overheating on page 10-15*.

What to Use

⚠ WARNING

Adding only plain water or some other liquid to the cooling system can be dangerous. Plain water and other liquids, can boil before the proper coolant mixture will. The coolant warning system is set for the proper coolant mixture.

(Continued)

WARNING (Continued)

With plain water or the wrong mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Depending on the engine, use a 50/50 mixture of deionized water or clean, drinkable water and DEX-COOL coolant.

Use a 50/50 mixture of deionized water or clean, drinkable water and DEX-COOL coolant. If using this mixture, nothing else needs to be added.

This mixture:

- Gives freezing protection down to −37°C (−34°F), outside temperature.
- Gives boiling protection up to 129°C (265°F), engine temperature.
- Protects against rust and corrosion.
- Will not damage aluminum parts.
- Helps keep the proper engine temperature.

Notice: **If an improper coolant mixture is used, the engine could overheat and be badly damaged. The repair cost would not be covered by the vehicle warranty. Too much deionized water or clean, drinkable water in the mixture can freeze and crack the engine, radiator, heater core, and other parts.**

Never dispose of engine coolant by putting it in the trash, pouring it on the ground, or into sewers, streams, or bodies of water. Have the coolant changed by an authorized service center, familiar with legal requirements regarding used coolant disposal. This will help protect the environment and your health.

Checking Coolant

The vehicle must be on a level surface when checking the coolant level.

Check to see if coolant is visible in the coolant surge tank. If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down.

If coolant is visible but the coolant level is not at or above the mark pointed to, add a 50/50 mixture of deionized water or clean drinkable water and DEX-COOL coolant.

Be sure the cooling system is cool before this is done.

If no coolant is visible in the coolant surge tank, add coolant as follows:

How to Add Coolant to the Coolant Surge Tank

⚠ WARNING

You can be burned if you spill coolant on hot engine parts. Coolant contains ethylene glycol and it will burn if the engine parts are hot enough. Do not spill coolant on a hot engine.

Notice: **This vehicle has a specific coolant fill procedure. Failure to follow this procedure could cause the engine to overheat and be severely damaged.**

⚠ WARNING

An electric engine cooling fan under the hood can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fan.

⚠ WARNING

Steam and scalding liquids from a hot cooling system can blow out and burn you badly. They are under pressure, and if you turn the surge tank pressure cap — even a little — they can come out at high speed. Never turn the cap when the cooling system, including the surge tank pressure cap, is hot. Wait for the cooling system and surge tank pressure cap to cool if you ever have to turn the pressure cap.

The coolant surge tank pressure cap can be removed when the cooling system, including the surge tank pressure cap and upper radiator hose, is no longer hot.

1. Turn the pressure cap slowly counterclockwise. If a hiss is heard, wait for that to stop. A hiss means there is still some pressure left.
2. Keep turning the cap and remove it.
3. Fill the coolant surge tank with the proper mixture to the mark pointed to on the front of the coolant surge tank.
4. With the coolant surge tank cap off, start the engine and let it run until the upper radiator hose starts getting hot. Watch out for the engine cooling fans. By this time, the coolant level inside the coolant surge tank may be lower. If the level is lower, add more of the proper mixture to the coolant surge tank until the level reaches the mark pointed to on the front of the coolant surge tank.
5. Replace the cap. Be sure the cap is hand–tight and fully seated.

Notice: **If the pressure cap is not tightly installed, coolant loss and possible engine damage may occur. Be sure the cap is properly and tightly secured.**

Engine Overheating

There is a coolant temperature gauge and a engine coolant temperature warning light on the instrument panel cluster that indicate an overheated engine condition. See *Engine Coolant Temperature Gauge on page 5-12* and *Engine Coolant Temperature Warning Light on page 5-20* for more information.

If the decision is made not to lift the hood when this warning appears, get service help right away. See *Roadside Assistance Program on page 13-5*.

If the decision is made to lift the hood, make sure the vehicle is parked on a level surface.

Then check to see if the engine cooling fans are running. If the engine is overheating, the fans should be running. If not, do not continue to run the engine and have the vehicle serviced.

Notice: **Engine damage from running the engine without coolant is not covered by the warranty.**

If Steam Is Coming from the Engine Compartment

See *Overheated Engine Protection Operating Mode on page 10-16* for information on driving to a safe place in an emergency.

If No Steam Is Coming from the Engine Compartment

If an engine overheat warning is displayed but no steam can be seen or heard, the problem might not be too serious. Sometimes the engine can get a little too hot when the vehicle:

- Climbs a long hill on a hot day.
- Stops after high-speed driving.
- Idles for long periods in traffic.
- Tows a trailer.

If the overheat warning displays with no sign of steam:

1. Turn the air conditioning off.
2. Turn the heater on to the highest temperature and to the highest fan speed. Open the windows as necessary.
3. In heavy traffic, let the engine idle in N (Neutral) while stopped. If it is safe to do so, pull off the road, shift to P (Park) or N (Neutral), and let the engine idle.

If the temperature overheat gauge is no longer in the overheat zone or an engine coolant temperature warning light no longer displays, the vehicle can be driven. Continue to drive the vehicle slowly for about 10 minutes. Keep a safe vehicle distance from the vehicle in front. If the warning does not come back on, continue to drive normally.

If the warning continues, pull over, stop, and park the vehicle right away.

If there is no sign of steam, idle the engine for three minutes while parked. If the warning is still displayed, turn off the engine until it cools down. Also, see *Overheated Engine Protection Operating Mode on page 10-16*.

Overheated Engine Protection Operating Mode

This emergency operating mode allows the vehicle to be driven to a safe place in an emergency situation. If an overheated engine condition exists, an overheat protection mode which alternates firing groups of cylinders helps prevent engine damage. In this mode, there is significant loss in power and engine performance.

The engine coolant temperature warning light comes on the instrument panel, to indicate the vehicle has entered overheated engine protection operating mode.

The temperature gauge also indicates an overheat condition exists. Driving extended km (miles) and/or towing a trailer in the overheat protection mode should be avoided.

Power Steering Fluid

See *Engine Compartment Overview on page 10-6* for information on the location of the power steering fluid reservoir.

When to Check Power Steering Fluid

It is not necessary to regularly check power steering fluid unless a leak is suspected in the system or an unusual noise is heard. A fluid loss in this system could indicate a problem. Have the system inspected and repaired.

How to Check Power Steering Fluid

Notice: **Extremely small amounts of contamination can cause steering system damage and cause it to not work properly. Do not allow contaminants to contact the fluid side of the reservoir cap/ dipstick or to enter the reservoir.**

Check the level after the vehicle has been driven for at least 20 minutes so the fluid is warm.

To check the power steering fluid:

1. Turn the ignition to LOCK/OFF and let the engine compartment cool down.
2. Wipe the cap and the top of the reservoir clean.
3. Unscrew the cap and pull it straight up.
4. Wipe the dipstick with a clean rag.
5. Replace the cap and completely tighten it.
6. Remove the cap again and look at the fluid level on the dipstick.

When the engine is hot, the level should be at the hot MAX level. When the engine is cold, the fluid level should be between MIN and MAX on the dipstick.

What to Use

To determine what kind of fluid to use, see *Recommended Fluids and Lubricants on page 11-11*. Always use the proper fluid.

Washer Fluid

What to Use

When the vehicle needs windshield washer fluid, be sure to read the manufacturer's instructions before use. If operating the vehicle in an area where the temperature may fall below freezing, use a fluid that has sufficient protection against freezing.

Adding Washer Fluid

A WASHER FLUID LOW ADD FLUID message will be displayed on the Driver Information Center (DIC) when windshield washer fluid needs to be added to the vehicle. See *Washer Fluid Messages on page 5-35* for more information.

Open the cap with the washer symbol on it. Add washer fluid until the tank is full.

See *Engine Compartment Overview on page 10-6* for more information on location.

Notice

- **When using concentrated washer fluid, follow the manufacturer's instructions for adding water.**
- **Do not mix water with ready-to-use washer fluid. Water can cause the solution to freeze and damage the washer fluid tank and other parts of the washer system. Also, water does not clean as well as washer fluid.**
- **Fill the washer fluid tank only three-quarters full when it is very cold. This allows for fluid expansion if freezing occurs, which could damage the tank if it is completely full.**
- **Do not use engine coolant (antifreeze) in the windshield washer. It can damage the windshield washer system and paint.**

Brakes

This vehicle has disc brakes. Disc brake pads have built-in wear indicators that make a high-pitched warning sound when the brake pads are worn and new pads are needed. The sound can come and go or be heard all the time the vehicle is moving, except when applying the brake pedal firmly.

⚠ WARNING

The brake wear warning sound means that soon the brakes will not work well. That could lead to a crash. When the brake wear warning sound is heard, have the vehicle serviced.

Notice: **Continuing to drive with worn-out brake pads could result in costly brake repair.**

Some driving conditions or climates can cause a brake squeal when the brakes are first applied or lightly applied. This does not mean something is wrong with the brakes.

Properly torqued wheel nuts are necessary to help prevent brake pulsation. When tires are rotated, inspect brake pads for wear and evenly tighten wheel nuts in the proper sequence to torque specifications in *Capacities and Specifications on page 12-2*.

Brake linings should always be replaced as complete axle sets.

Brake Pedal Travel

See your dealer if the brake pedal does not return to normal height, or if there is a rapid increase in pedal travel. This could be a sign that brake service might be required.

Brake Adjustment

Every time the brakes are applied, with or without the vehicle moving, the brakes adjust for wear.

Replacing Brake System Parts

The braking system on a vehicle is complex. Its many parts have to be of top quality and work well together if the vehicle is to have really good braking. The vehicle was designed and tested with top-quality brake parts. When parts of the braking system are replaced, be sure to get new, approved replacement parts.

If this is not done, the brakes might not work properly. For example, installing disc brake pads that are wrong for the vehicle, can change the balance between the front and rear brakes — for the worse. The braking performance expected can change in many other ways if the wrong replacement brake parts are installed.

Brake Fluid

The brake master cylinder reservoir is filled with DOT 3 brake fluid as indicated on the reservoir cap. See *Engine Compartment Overview on page 10-6* for the location of the reservoir.

There are only two reasons why the brake fluid level in the reservoir might go down:

- The brake fluid level goes down because of normal brake lining wear. When new linings are installed, the fluid level goes back up.
- A fluid leak in the brake hydraulic system can also cause a low fluid level. Have the brake hydraulic system fixed, since a leak means that sooner or later the brakes will not work well.

Do not top off the brake fluid. Adding fluid does not correct a leak. If fluid is added when the linings are worn, there will be too much fluid when new brake linings are installed. Add or remove brake fluid, as necessary, only when work is done on the brake hydraulic system.

⚠ WARNING

If too much brake fluid is added, it can spill on the engine and burn, if the engine is hot enough. You or others could be burned, and the vehicle could be damaged. Add brake fluid only when work is done on the brake hydraulic system.

When the brake fluid falls to a low level, the brake warning light comes on. See *Brake System Warning Light on page 5-18*.

What to Add

Use only new DOT 3 brake fluid from a sealed container. See *Recommended Fluids and Lubricants on page 11-11*.

Always clean the brake fluid reservoir cap and the area around the cap before removing it. This helps keep dirt from entering the reservoir.

⚠ WARNING

With the wrong kind of fluid in the brake hydraulic system, the brakes might not work well. This could cause a crash. Always use the proper brake fluid.

Notice

- **Using the wrong fluid can badly damage brake hydraulic system parts. For example, just a few drops of mineral-based oil, such as engine oil, in the brake hydraulic system can damage brake hydraulic system parts so badly that they will have to be replaced. Do not let someone put in the wrong kind of fluid.**

- **If brake fluid is spilled on the vehicle's painted surfaces, the paint finish can be damaged. Be careful not to spill brake fluid on the vehicle. If you do, wash it off immediately.**

Battery

Refer to the replacement number shown on the original battery label when a new battery is needed. See *Engine Compartment Overview on page 10-6* for battery location.

⚠ WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Vehicle Storage

⚠ WARNING

Batteries have acid that can burn you and gas that can explode. You can be badly hurt if you are not careful. See *Jump Starting on page 10-62* for tips on working around a battery without getting hurt.

Infrequent Usage: Remove the black, negative (−) cable from the battery to keep the battery from running down.

Extended Storage: Remove the black, negative (−) cable from the battery or use a battery trickle charger.

Starter Switch Check

⚠ WARNING

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle.
2. Firmly apply both the parking brake and the regular brake. See *Parking Brake on page 9-27*.

   Do not use the accelerator pedal, and be ready to turn off the engine immediately if it starts.
3. Try to start the engine in each gear. The vehicle should start only in P (Park) or N (Neutral).

If the vehicle starts in any other position, contact your dealer for service.

Automatic Transmission Shift Lock Control Function Check

⚠ WARNING

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle. It should be parked on a level surface.
2. Firmly apply the parking brake. See *Parking Brake on page 9-27*.

   Be ready to apply the regular brake immediately if the vehicle begins to move.
3. With the engine off, turn the ignition on, but do not start the engine. Without applying the regular brake, try to move the shift lever out of P (Park) with normal effort. If the shift lever moves out of P (Park), contact your dealer for service.

Ignition Transmission Lock Check

While parked, and with the parking brake set, try to turn the ignition to LOCK/OFF in each shift lever position.

- The ignition should turn to LOCK/OFF only when the shift lever is in P (Park).
- The ignition key should come out only in LOCK/OFF.

Contact your dealer if service is required.

Park Brake and P (Park) Mechanism Check

⚠ WARNING

When you are doing this check, the vehicle could begin to move. You or others could be injured and property could be damaged. Make sure there is room in front of the vehicle in case it begins to roll. Be ready to apply the regular brake at once should the vehicle begin to move.

Park on a fairly steep hill, with the vehicle facing downhill. Keeping your foot on the regular brake, set the parking brake.

- To check the parking brake's holding ability: With the engine running and the transmission in N (Neutral), slowly remove foot pressure from the regular brake pedal. Do this until the vehicle is held by the parking brake only.

- To check the P (Park) mechanism's holding ability: With the engine running, shift to P (Park). Then release the parking brake followed by the regular brake.

Contact your dealer if service is required.

Wiper Blade Replacement

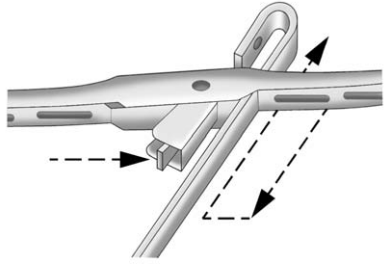
Windshield wiper blades should be inspected for wear or cracking. See *Maintenance Schedule on page 11-3* for more information.

Replacement blades come in different types and are removed in different ways. For proper windshield wiper blade length and type, see *Maintenance Replacement Parts on page 11-12*.

Notice: **Allowing the wiper arm to touch the windshield when no wiper blade is installed could damage the windshield. Any damage that occurs would not be covered by your warranty. Do not allow the wiper arm to touch the windshield.**

To replace the windshield wiper blade:

1. Pull the wiper assembly away from the windshield.



2. Lift up on the plastic 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 to touch the windshield.
5. Reverse Steps 1 through 3 for wiper blade replacement.

Headlamp Aiming

Headlamp aim has been preset at the factory and should need no further adjustment.

However, if the vehicle is damaged in a crash, the headlamp aim may be affected. Aim adjustment to the low-beam headlamps may be necessary if oncoming drivers flash their high-beam headlamps at you (for vertical aim).

If the headlamps need to be re-aimed, it is recommended that the vehicle be taken to the dealer for service.

Bulb Replacement

For the proper type of replacement bulbs, see *Replacement Bulbs on page 10-28*.

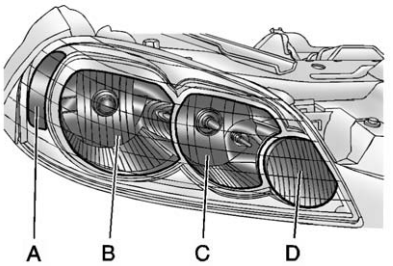
For any bulb-changing procedure not listed in this section, contact your dealer.

Halogen Bulbs

⚠ WARNING

Halogen bulbs have pressurized gas inside and can burst if you drop or scratch the bulb. You or others could be injured. Be sure to read and follow the instructions on the bulb package.

Headlamps, Front Turn Signal, Sidemarker, and Parking Lamps



A. Sidemarker

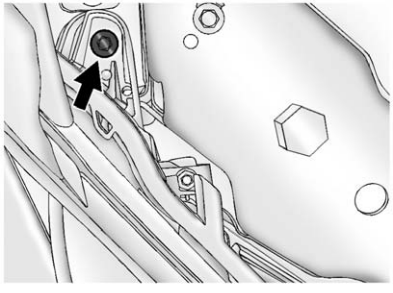
B. Low-Beam Headlamp

C. High-Beam Headlamp

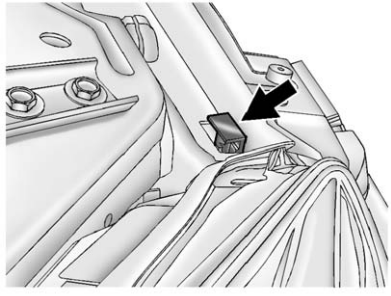
D. Parking/Turn Signal Lamp

To replace one of these bulbs:

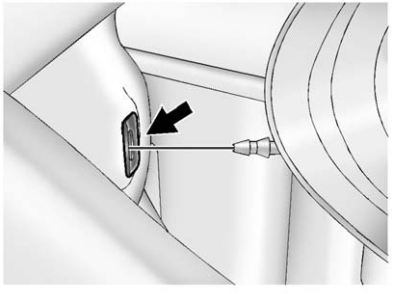
1. Open the hood. See *Hood on page 10-5*.



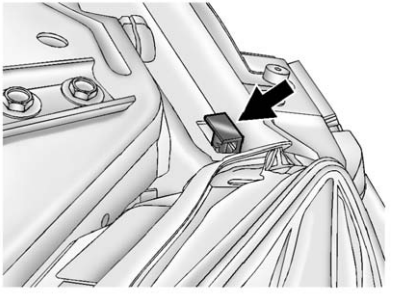
2. Remove the screw from the headlamp assembly.



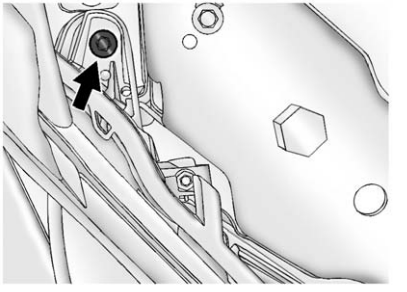
3. Pull up on the plastic headlamp retainer and remove it.
4. Pull the headlamp assembly away from the vehicle and remove the electrical connector.
5. Remove the round dust caps to gain access to the bulbs.
6. Turn the old bulb counterclockwise and remove it from the retaining ring by pulling it away from the headlamp.
7. Remove the electrical connector from the bulb by raising the lock tab and pulling the connector away from the bulb's base.
8. Install the electrical connector to the bulb.
9. Install the new bulb by inserting the smallest tab on the bulb base into the matching notch in the retaining ring. Turn the bulb a quarter-turn clockwise until it stops.
10. Reinstall the dust caps.



11. Push the headlamp assembly toward the vehicle.

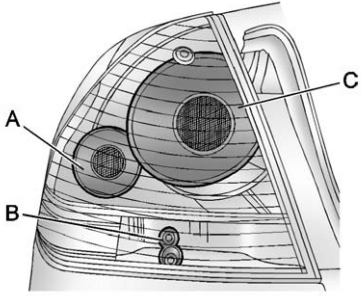


12. Push down on the plastic headlamp retainer to reinstall it.



13. Reinstall the screw from the headlamp assembly.

Taillamps, Turn Signal, Sidemarker, Stoplamps, and Back-Up Lamps



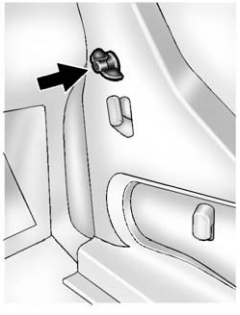
A. Rear Sidemarker Lamp

B. Back-up Lamp

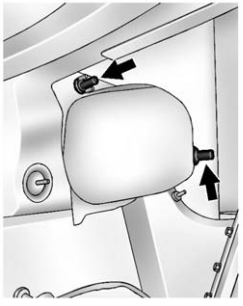
C. Stoplamp/Taillamp/Turn Signal

To replace one of these bulbs:

1. Open the trunk. See *Trunk on page 2-9*.
2. Remove the convenience net (if equipped). Unhook the net from the upper wing nut.



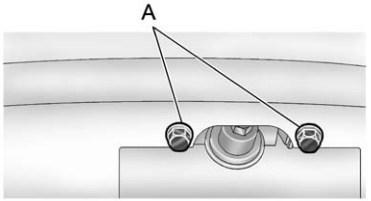
3. Turn the upper wing nut counterclockwise and remove it.
4. Pull the carpet away from the rear of the vehicle.



5. Turn the two hex nuts counterclockwise to remove them.
6. Pull out the taillamp assembly and disconnect the wiring harness.
7. Turn the bulb socket counterclockwise to remove it.
8. Pull the old bulb straight out to remove it.
9. Push the new bulb straight in until it clicks to install it.
10. Reverse steps 1 through 7 to reinstall.

License Plate Lamp

To replace one of these bulbs:



1. Remove the two screws (A) from the license plate lamp assembly.
2. Pull the lamp assembly down and turn the bulb socket counterclockwise and out of the lamp assembly.
3. Pull the old bulb straight out of the socket.
4. Install the new bulb.
5. Reverse Steps 1 through 3 to reinstall the license plate lamp assembly.

Replacement Bulbs

Exterior Lamp	Bulb Number
Back-Up	921LL
Front Parking/Turn Signal	3157NAK
License Plate Lamp	194LL
Headlamps	
High-Beam	H9
Low-Beam	H11
Sidemarker	194LL
Stoplamp, Taillamp, and Turn Signal	3057

For replacement bulbs not listed here, contact your dealer.

Electrical System

Electrical System Overload

The vehicle has fuses and circuit breakers to protect against an electrical system overload.

When the current electrical load is too heavy, the circuit breaker opens and closes, protecting the circuit until the current load returns to normal or the problem is fixed. This greatly reduces the chance of circuit overload and fire caused by electrical problems.

Fuses and circuit breakers protect power devices in the vehicle.

Replace a bad fuse with a new one of the identical size and rating.

If there is a problem on the road and a fuse needs to be replaced, the same amperage fuse can be borrowed. Choose some feature of the vehicle that is not needed to use and replace it as soon as possible.

Headlamp Wiring

An electrical overload may cause the lamps to go on and off, or in some cases to remain off. Have the headlamp wiring checked right away if the lamps go on and off or remain off.

Windshield Wipers

If the wiper motor overheats due to heavy snow or ice, the windshield wipers will stop until the motor cools and will then restart.

Although the circuit is protected from electrical overload, overload due to heavy snow or ice may cause wiper linkage damage. Always clear ice and heavy snow from the windshield before using the windshield wipers.

If the overload is caused by an electrical problem and not snow or ice, be sure to get it fixed.

Fuses and Circuit Breakers

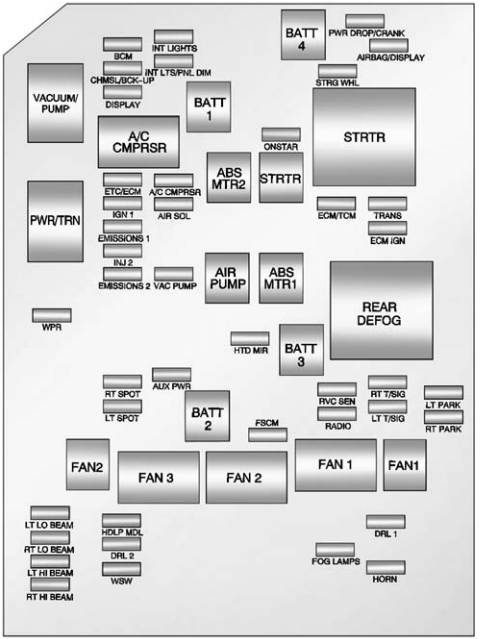
The wiring circuits in the vehicle are protected from short circuits by a combination of fuses and circuit breakers. This greatly reduces the chance of fires caused by electrical problems.

Look at the silver-colored band inside the fuse. If the band is broken or melted, replace the fuse. Be sure you replace a bad fuse with a new one of the identical size and rating.

Engine Compartment Fuse Block

The engine compartment fuse block is located on the passenger side of the engine compartment, by the battery. See *Engine Compartment Overview on page 10-6* for more information on location.

Notice: **Spilling liquid on any electrical component on the vehicle may damage it. Always keep the covers on any electrical component.**



The vehicle may not have all of the fuses, relays, and features shown.

Fuses	Usage
A/C CMPRSR	Air Conditioning Compressor
ABS MTR 1	Antilock Brake System (ABS) Motor 1
ABS MTR 2	ABS Motor 2
AIR PUMP	Air Pump
AIR SOL	Air Injection Reactor Solenoid
AIRBAG/ DISPLAY	Airbag, Display
AUX PWR	Auxiliary Power
BATT 1	Battery 1
BATT 2	Battery 2
BATT 3	Battery 3
BATT 4	Battery 4
BCM	Body Control Module (BCM)

Fuses	Usage
CHMSL/ BCK-UP	Center High-Mounted Stoplamp, Back-up Lamp
DISPLAY	Display
DRL 1	Daytime Running Lamps 1
DRL 2	Daytime Running Lamps 2
ECM IGN	Engine Control Module (ECM), Ignition
ECM/TCM	ECM, Transmission Control Module (TCM)
EMISSIONS 1	Emissions 1
EMISSIONS 2	Emissions 2
ETC/ECM	Electronic Throttle Control, ECM

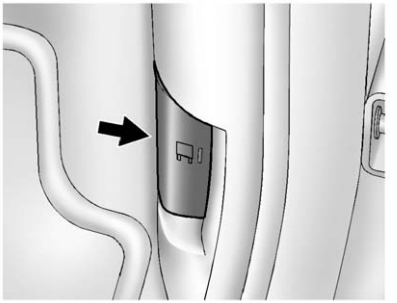
Fuses	Usage
FAN 1	Cooling Fan 1
FAN 2	Cooling Fan 2
FOG LAMPS	Fog Lamps (If Equipped)
FSCM	Fuel System Control Module
HDLP MDL	Headlamp Module
HORN	Horn
HTD MIR	Heated Mirror
IGN 1	Ignition 1
INJ 2	Injector 2
INT LIGHTS	Interior Lamps
INT LTS/ PNL DIM	Interior Lamps, Instrument Panel Dimmer
LT HI BEAM	Driver Side High-Beam Headlamp

Fuses	Usage
LT LO BEAM	Driver Side Low-Beam Headlamp
LT PARK	Driver Side Parking Lamp
LT SPOT	Left Spot
LT T/SIG	Driver Side Turn Signal Lamp
ONSTAR	OnStar
PWR DROP/ CRANK	Power Drop, Crank
RADIO	Audio System
RT HI BEAM	Passenger Side High-Beam Headlamp
RT LO BEAM	Passenger Side Low-Beam Headlamp

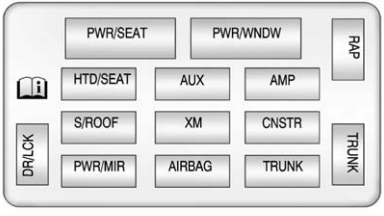
Fuses	Usage
RT PARK	Passenger Side Parking Lamp
RT SPOT	Right Spot
RT T/SIG	Passenger Side Turn Signal Lamp
RVC SEN	Regulated Voltage Control Sensor
STRG WHL	Steering Wheel
STRTR	Starter
TRANS	Transmission
VACUUM/ PUMP	Vacuum Pump
WPR	Wiper
WSW	Windshield Wiper

Relay	Usage
A/C CMPRSR	Air Conditioning Compressor
FAN 1	Cooling Fan 1
FAN 2	Cooling Fan 2
FAN 3	Cooling Fan 3
VAC/PUMP	Vacuum Pump
PWR/TRN	Powertrain
REAR DEFOG	Rear Defogger
STRTR	Starter

Instrument Panel Fuse Block



The fuse block is on the passenger side of the vehicle in the carpet molding. Remove the fuse block door to access the fuses.



The vehicle may not be equipped with all of the fuses, relays, and features shown.

Fuses	Usage
AIRBAG	Airbags
AMP	Amplifier
AUX	Auxiliary Outlets
CNSTR	Canister
DR/LCK	Door Locks
HTD/SEAT	Heated Seats
PWR/MIR	Power Mirrors
PWR/SEAT	Power Seats
PWR/WNDW	Power Window
RAP	Retained Accessory Power
S/ROOF	Sunroof
TRUNK	Trunk
TRUNK	Trunk Relay
XM	XM™ Radio

Wheels and Tires

Tires

Every new GM vehicle has high-quality tires made by a leading tire manufacturer. See the warranty manual for information regarding the tire warranty and where to get service. For additional information refer to the tire manufacturer.

⚠ WARNING

- Poorly maintained and improperly used tires are dangerous.
- Overloading the tires can cause overheating as a result of too much flexing. There could be a blowout and a serious crash. See *Vehicle Load Limits on page 9-10*.
- 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

(Continued)

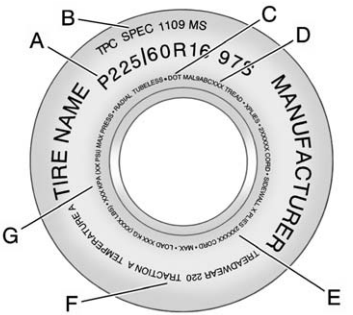
WARNING (Continued)

impact— such as when hitting a pothole. Keep tires at the recommended pressure.

- Worn or old tires can cause a crash. If the tread is badly worn, replace them.
- Replace any tires that have been damaged by impacts with potholes, curbs, etc.
- Improperly repaired tires can cause a crash. Only 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.

Tire Sidewall Labeling

Useful information about a tire is molded into its sidewall. The examples show a typical passenger vehicle tire and a compact spare tire sidewall.



Passenger (P-Metric) Tire Example

(A) Tire Size: The tire size is a combination of letters and numbers used to define a particular tire's width, height, aspect ratio, construction type,

and service description. See the “Tire Size” illustration later in this section for more detail.

(B) TPC Spec (Tire Performance Criteria Specification): Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

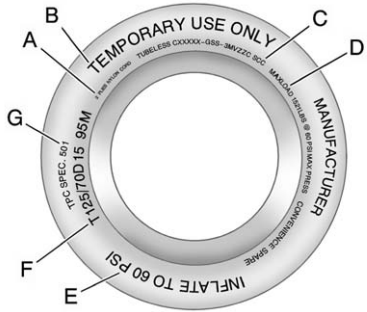
(C) DOT (Department of Transportation): The Department of Transportation (DOT) code indicates that the tire is in compliance with the U.S. Department of Transportation Motor Vehicle Safety Standards.

(D) Tire Identification Number (TIN): The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

(E) Tire Ply Material: The type of cord and number of plies in the sidewall and under the tread.

(F) Uniform Tire Quality Grading (UTQG): Tire manufacturers are required to grade tires based on three performance factors: treadwear, traction, and temperature resistance. For more information see *Uniform Tire Quality Grading on page 10-49*.

(G) Maximum Cold Inflation Load Limit: Maximum load that can be carried and the maximum pressure needed to support that load.



Compact Spare Tire Example

(A) Tire Ply Material: The type of cord and number of plies in the sidewall and under the tread.

(B) Temporary Use Only: The compact spare tire or temporary use tire has a tread life of approximately 5 000 km (3,000 mi) and should not be driven at speeds over 105 km/h (65 mph). The compact spare tire is for emergency use when a regular road tire has lost air and

gone flat. If the vehicle has a compact spare tire, see *Compact Spare Tire on page 10-61* and *If a Tire Goes Flat on page 10-53*.

(C) Tire Identification Number (TIN): The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

(D) Maximum Cold Inflation Load Limit: Maximum load that can be carried and the maximum pressure needed to support that load.

(E) Tire Inflation: The temporary use tire or compact spare tire should be inflated to 420 kPa (60 psi). For more information on tire pressure and inflation see *Tire Pressure on page 10-40*.

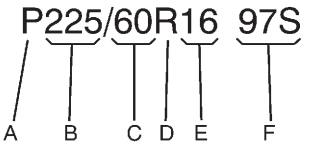
(F) Tire Size: A combination of letters and numbers define a tire's width, height, aspect ratio, construction type, and service description. The letter T as the first character in the tire size means the tire is for temporary use only.

(G) TPC Spec (Tire Performance Criteria Specification): Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

Tire Designations

Tire Size

The following is an example of a typical passenger vehicle tire size.



(A) Passenger (P-Metric) Tire: The United States version of a metric tire sizing system. The letter P as the first character in the tire size means a passenger vehicle tire engineered to standards set by the U.S. Tire and Rim Association.

(B) Tire Width: The three-digit number indicates the tire section width in millimeters from sidewall to sidewall.

(C) Aspect Ratio: A two-digit number that indicates the tire height-to-width measurements. For example, if the tire size aspect ratio is 60, as shown in item C of the illustration, it would mean that the tire's sidewall is 60 percent as high as it is wide.

(D) Construction Code: A letter code is used to indicate the type of ply construction in the tire. The letter R means radial ply construction; the letter D means diagonal or bias ply construction; and the letter B means belted-bias ply construction.

(E) Rim Diameter: Diameter of the wheel in inches.

(F) Service Description: These characters represent the load index and speed rating of the tire. The load index represents the load carrying capacity a tire is certified to carry. The speed rating is the maximum speed a tire is certified to carry a load.

Tire Terminology and Definitions

Air Pressure: The amount of air inside the tire pressing outward on each square inch of the tire. Air pressure is expressed in kPa (kilopascal) or psi (pounds per square inch).

Accessory Weight: The combined weight of optional accessories. Some examples of optional accessories are automatic transmission, power steering, power brakes, power windows, power seats, and air conditioning.

Aspect Ratio: The relationship of a tire's height to its width.

Belt: A rubber coated layer of cords that is located between the plies and the tread. Cords may be made from steel or other reinforcing materials.

Bead: The tire bead contains steel wires wrapped by steel cords that hold the tire onto the rim.

Bias Ply Tire: A pneumatic tire in which the plies are laid at alternate angles less than 90 degrees to the centerline of the tread.

Cold Tire Pressure: The amount of air pressure in a tire, measured in kPa (kilopascal) or psi (pounds per square inch) before a tire has built up heat from driving. See *Tire Pressure on page 10-40*.

Curb Weight: The weight of a motor vehicle with standard and optional equipment including the maximum capacity of fuel, oil, and coolant, but without passengers and cargo.

DOT Markings: A code molded into the sidewall of a tire signifying that the tire is in compliance with the U.S. Department of Transportation (DOT) Motor Vehicle Safety Standards. The DOT code includes the Tire Identification Number (TIN), an alphanumeric designator which can also identify the tire manufacturer, production plant, brand, and date of production.

GVWR: Gross Vehicle Weight Rating. See *Vehicle Load Limits on page 9-10*.

GAWR FRT: Gross Axle Weight Rating for the front axle. See *Vehicle Load Limits on page 9-10*.

GAWR RR: Gross Axle Weight Rating for the rear axle. See *Vehicle Load Limits on page 9-10*.

Intended Outboard Sidewall: The side of an asymmetrical tire, that must always face outward when mounted on a vehicle.

Kilopascal (kPa): The metric unit for air pressure.

Light Truck (LT-Metric) Tire: A tire used on light duty trucks and some multipurpose passenger vehicles.

Load Index: An assigned number ranging from 1 to 279 that corresponds to the load carrying capacity of a tire.

Maximum Inflation Pressure: The maximum air pressure to which a cold tire can be inflated. The maximum air pressure is molded onto the sidewall.

Maximum Load Rating: The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum Loaded Vehicle Weight: The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Normal Occupant Weight: The number of occupants a vehicle is designed to seat multiplied by 68 kg (150 lbs). See *Vehicle Load Limits on page 9-10*.

Occupant Distribution: Designated seating positions.

Outward Facing Sidewall: The side of an asymmetrical tire that has a particular side that faces

outward when mounted on a vehicle. The side of the tire that contains a whitewall, bears white lettering, or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same moldings on the other sidewall of the tire.

Passenger (P-Metric) Tire: A tire used on passenger cars and some light duty trucks and multipurpose vehicles.

Recommended Inflation Pressure: Vehicle manufacturer's recommended tire inflation pressure as shown on the tire placard. See *Tire Pressure on page 10-40* and *Vehicle Load Limits on page 9-10*.

Radial Ply Tire: A pneumatic tire in which the ply cords that extend to the beads are laid at 90 degrees to the centerline of the tread.

Rim: A metal support for a tire and upon which the tire beads are seated.

Sidewall: The portion of a tire between the tread and the bead.

Speed Rating: An alphanumeric code assigned to a tire indicating the maximum speed at which a tire can operate.

Traction: The friction between the tire and the road surface. The amount of grip provided.

Tread: The portion of a tire that comes into contact with the road.

Treadwear Indicators: Narrow bands, sometimes called wear bars, that show across the tread of a tire when only 1.6 mm (1/16 in) of tread remains. See *When It Is Time for New Tires on page 10-47*.

UTQGS (Uniform Tire Quality Grading Standards): A tire information system that provides consumers with ratings for a tire's traction, temperature, and treadwear. Ratings are determined by tire manufacturers using government testing procedures. The ratings are molded into the sidewall of the tire. See *Uniform Tire Quality Grading on page 10-49*.

Vehicle Capacity Weight: The number of designated seating positions multiplied by 68 kg (150 lbs) plus the rated cargo load. See *Vehicle Load Limits on page 9-10*.

Vehicle Maximum Load on the Tire: Load on an individual tire due to curb weight, accessory weight, occupant weight, and cargo weight.

Vehicle Placard: A label permanently attached to a vehicle showing the vehicle capacity weight and the original equipment tire size and recommended inflation pressure. See “Tire and Loading Information Label” under *Vehicle Load Limits on page 9-10*.

Tire Pressure

Tires need the correct amount of air pressure to operate effectively.

Notice: **Neither tire underinflation nor overinflation is good. Underinflated tires, or tires that do not have enough air, can result in:**

- **Tire overloading and overheating which could lead to a blowout.**
- **Premature or irregular wear.**
- **Poor handling.**
- **Reduced fuel economy.**

Overinflated tires, or tires that have too much air, can result in:

- **Unusual wear.**
- **Poor handling.**
- **Rough ride.**
- **Needless damage from road hazards.**

The Tire and Loading Information label on the vehicle indicates the original equipment tires and the correct cold tire inflation pressures. The recommended pressure is the minimum air pressure needed to support the vehicle's maximum load carrying capacity.

For additional information regarding how much weight the vehicle can carry, and an example of the Tire and Loading Information label, see *Vehicle Load Limits on page 9-10*. How the vehicle is loaded affects vehicle handling and ride comfort. Never load the vehicle with more weight than it was designed to carry.

When to Check

Check the tires once a month or more. Do not forget the compact spare tire, if the vehicle has one. The cold compact spare should be at 420 kPa (60 psi). For additional information regarding the compact spare tire, see *Compact Spare Tire on page 10-61*.

How to Check

Use a good quality pocket-type gauge to check tire pressure. Proper tire inflation cannot be determined by looking at the tire. Check the tire inflation pressure when the tires are cold, meaning the vehicle has not been driven for at least three hours or no more than 1.6 km (1 mi).

Remove the valve cap from the tire valve stem. Press the tire gauge firmly onto the valve to get a pressure measurement. If the cold tire inflation pressure matches the recommended pressure on the Tire and Loading Information label, no further adjustment is necessary. If the inflation pressure is low, add air until the recommended pressure is reached. If the inflation pressure is high, press on the metal stem in the center of the tire valve to release air.

Recheck the tire pressure with the tire gauge.

Return the valve caps on the valve stems to prevent leaks and keep out dirt and moisture.

Tire Pressure Monitor System

The Tire Pressure Monitor System (TPMS) uses radio and sensor technology to check tire pressure levels. The TPMS sensors monitor the air pressure in your tires and transmit tire pressure readings to a receiver located in the vehicle.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.

Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

See *Tire Pressure Monitor Operation on page 10-43* for additional information.

Federal Communications Commission (FCC) Rules and with Industry Canada Standards

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

Tire Pressure Monitor Operation

This vehicle may have a Tire Pressure Monitor System (TPMS). The TPMS is designed to warn the driver when a low tire pressure condition exists. TPMS sensors are mounted onto each tire and wheel assembly, excluding the spare tire and wheel assembly. The TPMS sensors monitor the air pressure in the tires and transmit the tire pressure readings to a receiver located in the vehicle.

When a low tire pressure condition is detected, the TPMS illuminates the low tire pressure warning light located on the instrument cluster.

If the warning light comes on, stop as soon as possible and inflate the tires to the recommended pressure shown on the Tire and Loading Information label. See *Vehicle Load Limits on page 9-10*.

A message to check the pressure in a specific tire displays in the Driver Information Center (DIC). The low tire pressure warning light and the DIC warning message come on at each ignition cycle until the tires are inflated to the correct inflation pressure. Using the DIC, tire pressure levels can be viewed. For additional information and details about the DIC operation and displays, see *Driver Information Center (DIC) on page 5-23* and *Tire Messages on page 5-33*.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This could be an early indicator that the air pressure is getting low and needs to be inflated to the proper pressure.

A Tire and Loading Information label shows the size of the original equipment tires and the correct inflation pressure for the tires when they are cold. See *Vehicle Load Limits on page 9-10*, for an example of the Tire and Loading Information label and its location. Also see *Tire Pressure on page 10-40*.

The TPMS can warn about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection on page 10-45*, *Tire Rotation on page 10-46*, and *Tires on page 10-33*.

Notice: **Tire sealant materials are not all the same. A non-approved tire sealant could damage the TPMS sensors. TPMS sensor damage caused by using an incorrect tire sealant is not covered by the vehicle warranty. Always use only the GM-approved tire sealant available through your dealer or included in the vehicle.**

TPMS Malfunction Light and Message

The TPMS will not function properly if one or more of the TPMS sensors are missing or inoperable. When the system detects a malfunction, the low tire pressure warning light flashes for about one minute and then stays on for the remainder of the ignition cycle. A DIC warning message also displays. The malfunction light and DIC warning message come on at each ignition cycle until the problem is corrected. Some of the conditions that can cause these to come on are:

- One of the road tires has been replaced with the spare tire. The spare tire does not have a TPMS sensor. The malfunction light and the DIC message should go off after the road tire is replaced and the sensor matching process is performed successfully. See “TPMS Sensor Matching Process” later in this section.
- The TPMS sensor matching process was not done or not completed successfully after rotating the tires. The malfunction light and the DIC message should go off after successfully completing the sensor matching process. See “TPMS Sensor Matching Process” later in this section.
- One or more TPMS sensors are missing or damaged. The malfunction light and the DIC message should go off when the TPMS sensors are installed and the sensor matching process is performed successfully. See your dealer for service.
- Replacement tires or wheels do not match the original equipment tires or wheels. Tires and wheels other than those recommended could prevent the TPMS from functioning properly. See *Buying New Tires on page 10-48*.
- Operating electronic devices or being near facilities using radio wave frequencies similar to the TPMS could cause the TPMS sensors to malfunction.

If the TPMS is not functioning properly, it cannot detect or signal a low tire condition. See your dealer for service if the TPMS malfunction light and DIC message come on and stay on.

TPMS Sensor Matching Process

Each TPMS sensor has a unique identification code. The identification code needs to be matched to a new tire/wheel position after rotating the vehicle’s tires or replacing one or more of the TPMS sensors. Also, the TPMS sensor matching process should be performed after replacing a spare tire with a road tire containing the TPMS sensor. The malfunction light and the DIC message should go off at the next ignition cycle. The sensors are matched to the tire/wheel positions,

using a TPMS relearn tool, in the following order: driver side front tire, passenger side front tire, passenger side rear tire, and driver side rear. See your dealer for service or to purchase a relearn tool.

There are two minutes to match the first tire/wheel position, and five minutes overall to match all four tire/wheel positions. If it takes longer, the matching process stops and must be restarted.

The TPMS sensor matching process is:

1. Set the parking brake.
2. Turn the ignition to ON/RUN with the engine off.
3. Press the Remote Keyless Entry (RKE) transmitter's 🔒 and 🔓 buttons at the same time for approximately five seconds. The horn sounds twice to signal the receiver is in relearn mode and the TIRE LEARNING ACTIVE message displays on the DIC screen.
4. Start with the driver side front tire.
5. Place the relearn tool against the tire sidewall, near the valve stem. Then press the button to activate the TPMS sensor. A horn chirp confirms that the sensor identification code has been matched to this tire and wheel position.
6. Proceed to the passenger side front tire, and repeat the procedure in Step 5.
7. Proceed to the passenger side rear tire, and repeat the procedure in Step 5.
8. Proceed to the driver side rear tire, and repeat the procedure in Step 5. The horn sounds two times to indicate the sensor identification code has been matched to the driver side rear tire, and the TPMS sensor matching process is no longer active. The TIRE LEARNING ACTIVE message on the DIC display screen goes off.
9. Turn the ignition to LOCK/OFF.
10. Set all four tires to the recommended air pressure level as indicated on the Tire and Loading Information label.

Tire Inspection

We recommend that the tires, including the spare tire, if the vehicle has one, be inspected for signs of wear or damage at least once a month.

Replace the tire if:

- The indicators at three or more places around the tire can be seen.
- There is cord or fabric showing through the tire's rubber.
- The tread or sidewall is cracked, cut, or snagged deep enough to show cord or fabric.

- The tire has a bump, bulge, or split.
- The tire has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

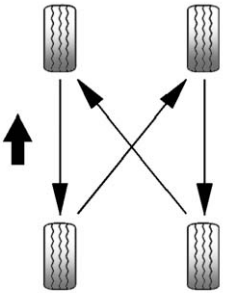
Tire Rotation

Tires should be rotated every 12 000 km (7,500 mi). See *Maintenance Schedule on page 11-3*.

Tires are rotated to achieve a uniform wear for all tires. The first rotation is the most important.

Any time unusual wear is noticed, rotate the tires as soon as possible and check the wheel alignment. Also check for damaged tires or wheels.

See *When It Is Time for New Tires on page 10-47* and *Wheel Replacement on page 10-51*.



Use this rotation pattern when rotating the tires.

Do not include the compact spare tire in the tire rotation.

Adjust the front and rear tires to the recommended inflation pressure on the Tire and Loading Information label after the tires have been rotated.

See *Tire Pressure on page 10-40* and *Vehicle Load Limits on page 9-10*.

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation on page 10-43*.

Check that all wheel nuts are properly tightened. See “Wheel Nut Torque” under *Capacities and Specifications on page 12-2*.

⚠ WARNING

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle.

(Continued)

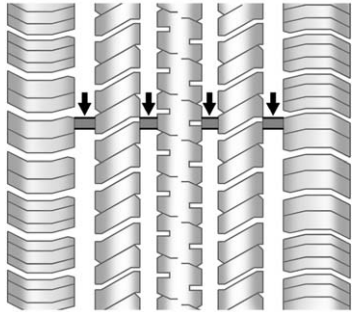
WARNING (Continued)

In an emergency, a cloth or a paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.

Lightly coat the center of the wheel hub with wheel bearing grease after a wheel change or tire rotation to prevent corrosion or rust build-up. Do not get grease on the flat wheel mounting surface or on the wheel nuts or bolts.

When It Is Time for New Tires

Factors such as maintenance, temperatures, driving speeds, vehicle loading, and road conditions affect the wear rate of the tires.



Treadwear indicators are one way to tell when it is time for new tires. Treadwear indicators appear when the tires have only 1.6 mm (1/16 in) or less of tread remaining. See *Tire Inspection on page 10-45* and *Tire Rotation on page 10-46* for more information.

The rubber in tires ages over time. This also applies for the spare tire, if the vehicle has one, even if it is never used. Multiple conditions including temperatures, loading conditions, and inflation pressure maintenance affect how fast aging takes place. Tires will typically need to be replaced due to wear before they may need to be replaced due to age. Consult the tire manufacturer for more information on when tires should be replaced.

Vehicle Storage

Tires age when stored normally mounted on a parked vehicle. Park a vehicle that will be stored for at least a month in a cool, dry, clean area away from direct sunlight to slow aging. This area should be free of grease, gasoline, or other substances that can deteriorate rubber.

Parking for an extended period can cause flat spots on the tires that may result in vibrations while driving. When storing a vehicle for at least a month, remove the tires or raise the vehicle to reduce the weight from the tires.

Buying New Tires

GM has developed and matched specific tires for the vehicle. The original equipment tires installed were designed to meet General Motors Tire Performance Criteria Specification (TPC Spec) system rating. When replacement tires are needed, GM strongly recommends buying tires with the same TPC Spec rating.

GM's exclusive TPC Spec system considers over a dozen critical specifications that impact the overall performance of the vehicle, including brake system performance, ride and handling, traction control, and tire pressure monitoring performance. GM's TPC Spec number is molded onto the tire's sidewall near the tire size.

If the tires have an all-season tread design, the TPC Spec number will be followed by MS for mud and snow. See *Tire Sidewall Labeling on page 10-34* for additional information.

GM recommends replacing all the tires at the same time. Uniform tread depth on all tires will help to maintain the performance of the vehicle. Braking and handling performance may be adversely affected if all the tires are not replaced at the same time. See *Tire Inspection on page 10-45* and *Tire Rotation on page 10-46* for information on proper tire rotation.

⚠ WARNING

Tires could explode during improper service. Attempting to mount or dismount a tire could cause injury or death. Only your dealer or authorized tire service center should mount or dismount the tires.

⚠ WARNING

Mixing tires of different sizes, brands, or types may cause loss of control of the vehicle, resulting in a crash or other vehicle damage. Use the correct size, brand, and type of tires on all wheels.

⚠ WARNING

Using bias-ply tires on the vehicle may cause the wheel rim flanges to develop cracks after many miles of driving. A tire and/or wheel could fail suddenly and cause a crash. Use only radial-ply tires with the wheels on the vehicle.

If the vehicle tires must be replaced with a tire that does not have a TPC Spec number, make sure they are the same size, load range, speed rating, and construction (radial) as the original tires.

Vehicles that have a tire pressure monitoring system could give an inaccurate low-pressure warning if non-TPC Spec rated tires are installed. See *Tire Pressure Monitor System on page 10-41*.

The Tire and Loading Information label indicates the original equipment tires on the vehicle. See *Vehicle Load Limits on page 9-10* for the label location and more information about the Tire and Loading Information label.

Different Size Tires and Wheels

If wheels or tires are installed that are a different size than the original equipment wheels and tires, vehicle performance, including its braking, ride and handling characteristics, stability, and resistance to rollover may be affected. If the vehicle has electronic systems such as antilock brakes, rollover airbags, traction control, and electronic stability control, the performance of these systems can also be affected.

⚠ WARNING

If different sized wheels are used, there may not be an acceptable level of performance and safety if tires not recommended for those wheels are selected. This increases the chance of a crash and serious injury. Only use GM specific wheel and tire systems developed for the vehicle, and have them properly installed by a GM certified technician.

See *Buying New Tires on page 10-48* and *Accessories and Modifications on page 10-3* for additional information.

Uniform Tire Quality Grading

Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width.

For example:

Treadwear 200 Traction AA Temperature A

The following information relates to the system developed by the United States National Highway Traffic Safety Administration (NHTSA), which grades tires by treadwear, traction, and temperature performance. This applies only to vehicles sold in the United States. The grades are molded on the sidewalls of most passenger car tires. The Uniform Tire Quality Grading (UTQG) system does not apply to deep tread, winter-type snow tires, space-saver, or temporary use spare tires, tires with nominal rim diameters of 10 to 12 inches (25 to 30 cm), or to some limited-production tires.

While the tires available on General Motors passenger cars and light trucks may vary with respect to these grades, they must also conform to federal safety requirements and additional General Motors Tire Performance Criteria (TPC) standards.

All Passenger Car Tires Must Conform to Federal Safety Requirements In Addition To These Grades.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and a half (1½) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices and differences in road characteristics and climate.

Traction – AA, A, B, C

The traction grades, from highest to lowest, are AA, A, B, and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance. Warning: The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning, or peak traction characteristics.

Temperature – A, B, C

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

Warning: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

Wheel Alignment and Tire Balance

The tires and wheels were aligned and balanced at the factory to provide the longest tire life and best overall performance. Adjustments to wheel alignment and tire balancing will not be necessary on a regular basis. However, check the alignment if there is unusual tire wear or if the vehicle is pulling to one side or the other. If the vehicle vibrates when driving on a smooth road, the tires and wheels might need to be rebalanced. See your dealer for proper diagnosis.

Wheel Replacement

Replace any wheel that is bent, cracked, or badly rusted or corroded. If wheel nuts keep coming loose, the wheel, wheel bolts, and wheel nuts should be replaced. If the wheel leaks air, replace it. Some aluminum wheels can be repaired. See your dealer if any of these conditions exist.

Your dealer will know the kind of wheel that is needed.

Each new wheel should have the same load-carrying capacity, diameter, width, offset, and be mounted the same way as the one it replaces.

Replace wheels, wheel bolts, wheel nuts, or Tire Pressure Monitor System (TPMS) sensors with new GM original equipment parts.

⚠ WARNING

Using the wrong replacement wheels, wheel bolts, or wheel nuts can be dangerous. It could affect the braking and handling of the vehicle. Tires can lose air, and cause loss of control, causing a crash. Always use the correct wheel, wheel bolts, and wheel nuts for replacement.

Notice: **The wrong wheel can also cause problems with bearing life, brake cooling, speedometer or odometer calibration, headlamp aim, bumper height, vehicle ground clearance, and tire or tire chain clearance to the body and chassis.**

See *If a Tire Goes Flat on page 10-53* for more information.

Used Replacement Wheels

⚠ WARNING

Replacing a wheel with a used one is dangerous. How it has been used or how far it has been driven may be unknown. It could fail suddenly and cause a crash. When replacing wheels, use a new GM original equipment wheel.

Tire Chains

⚠ WARNING

Do not use tire chains. There is not enough clearance. Tire chains used on a vehicle without the proper amount of clearance can cause damage to the brakes,

(Continued)

WARNING (Continued)

suspension, or other vehicle parts. The area damaged by the tire chains could cause loss of control and a crash.

Use another type of traction device only if its manufacturer recommends it for the vehicle's tire size combination and road conditions. Follow that manufacturer's instructions. To avoid vehicle damage, drive slow and readjust or remove the traction device if it contacts the vehicle. Do not spin the wheels. If traction devices are used, install them on the front tires.

If a Tire Goes Flat

It is unusual for a tire to blow out while driving, especially if the tires are maintained properly. If air goes out of a tire, it is much more likely to leak out slowly. But if there ever is a blowout, here are a few tips about what to expect and what to do:

If a front tire fails, the flat tire creates a drag that pulls the vehicle toward that side. Take your foot off the accelerator pedal and grip the steering wheel firmly. Steer to maintain lane position, and then gently brake to a stop, well off the road, if possible.

A rear blowout, particularly on a curve, acts much like a skid and may require the same correction as used in a skid. Stop pressing the accelerator pedal and steer to straighten the vehicle. It may be very bumpy and noisy. Gently brake to a stop, well off the road, if possible.

⚠ WARNING

Driving on a flat tire will cause permanent damage to the tire. Re-inflating a tire after it has been driven on while severely underinflated or flat may cause a blowout and a serious crash. Never attempt to re-inflate a tire that has been driven on while severely underinflated or flat. Have your dealer or an authorized tire service center repair or replace the flat tire as soon as possible.

⚠ WARNING

Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

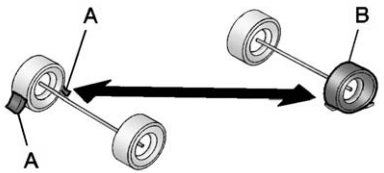
If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place, well off the road, if possible. Turn on the hazard warning flashers. See *Hazard Warning Flashers on page 6-3*.

⚠ WARNING

Changing a tire can be dangerous. The vehicle can slip off the jack and roll over or fall causing injury or death. Find a level place to change the tire. To help prevent the vehicle from moving:

1. Set the parking brake firmly.
2. Put an automatic transmission in P (Park) or a manual transmission in 1 (First) or R (Reverse).
3. Turn off the engine and do not restart while the vehicle is raised.
4. Do not allow passengers to remain in the vehicle.
5. Place wheel blocks on both sides of the tire at the opposite corner of the tire being changed.

When the vehicle has a flat tire (B), use the following example as a guide to assist in the placement of the wheel blocks (A).



A. Wheel Block

B. Flat Tire

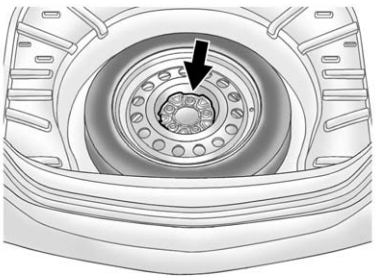
The following information explains how to repair or change a tire.

Tire Changing

Removing the Spare Tire and Tools

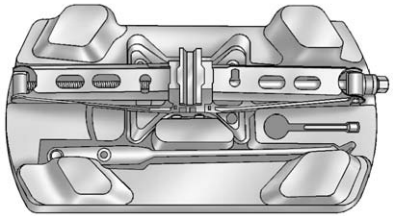
The equipment you will need is located in the trunk.

1. Open the trunk. See *Trunk on page 2-9*.
2. Remove the convenience net if the vehicle has one.
3. Remove the spare tire cover.

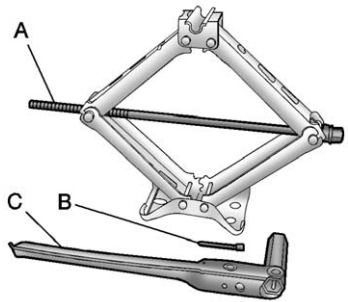


4. Turn the wing nut counterclockwise and remove it.

5. Remove the compact spare tire.



6. Turn the nut holding the jack counterclockwise and remove it. Then remove the jack and wrench.



A. Jack

B. Extension and Protection Guide

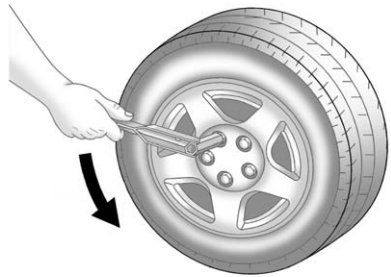
C. Wheel Wrench

The tools you will need to change a tire include the jack (A), extension and protection guide (B), and wheel wrench (C).

Removing the Flat Tire and Installing the Spare Tire

This vehicle may have aluminum wheels with exposed wheel nuts. Use the wheel wrench to loosen all the wheel nuts. Do not remove them yet.

Or, this vehicle may have steel wheels with plastic covers.



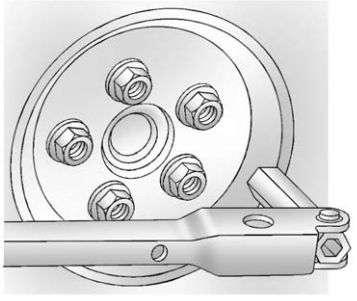
To remove the plastic covers and wheel nut caps, loosen the plastic nut caps with the wheel wrench in a counterclockwise direction.

If needed, finish loosening them with your fingers. The plastic nut caps will not come off.

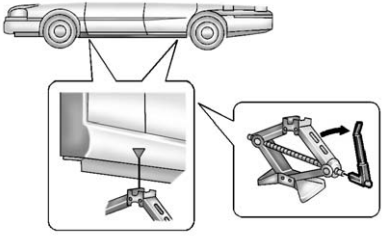
If needed, use the flat end of the wheel wrench and pry along the edge of the cover until it comes off. The edge of the wheel cover could be sharp, so do not try to remove it with your bare hands. Do not drop the cover or lay it face down, as it could become scratched or damaged. Store the wheel cover in the trunk until the flat tire is repaired or replaced.

Once you have removed the wheel cover, use the following procedure to remove the flat tire and install the spare tire.

1. Do a safety check before proceeding. See *If a Tire Goes Flat on page 10-53*.



2. Turn the wheel wrench counterclockwise once on each wheel nut to loosen it. Do not remove them yet.



3. For all wheel types, find the jacking location using the diagram above and the corresponding jacking notches located on the bottom side of the plastic molding. The notches in the plastic molding are marked with a triangle shape to help you find them.

   The front location is about 17.7 cm (7.0 in) from the rear edge of the front wheel well. The rear location is about 11.4 cm (4.5 in) from the front edge of the rear wheel well.

4. Put the compact spare tire near you.

⚠ WARNING

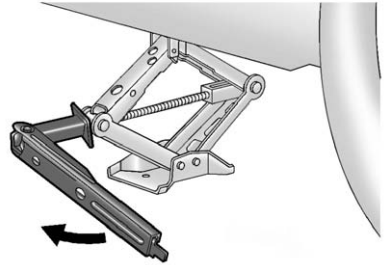
Getting under a vehicle when it is jacked up is dangerous. If the vehicle slips off the jack you could be badly injured or killed. Never get under a vehicle when it is supported only by a jack.

⚠ WARNING

Raising the vehicle with the jack improperly positioned can damage the vehicle and even make the vehicle fall. To help avoid personal injury and vehicle damage, be sure to fit the jack lift head into the proper location before raising the vehicle.

⚠ WARNING

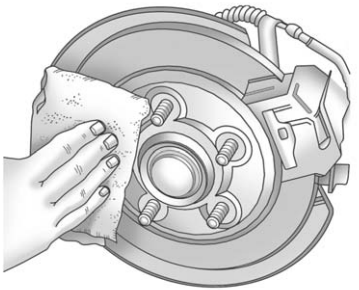
Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.



5. Raise the vehicle by turning the jack handle clockwise. Raise the vehicle far enough off the ground to install the compact spare tire.
6. Remove all wheel nuts and the flat tire.

⚠ WARNING

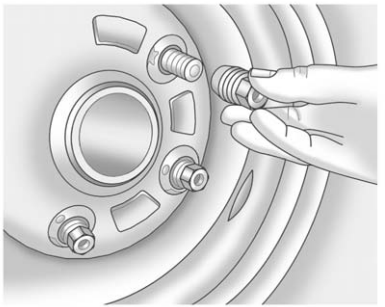
Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.



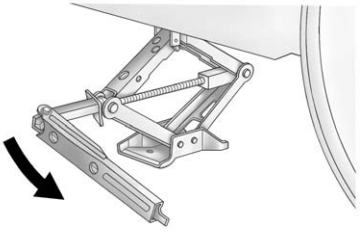
7. Remove any rust or dirt from the wheel bolts, mounting surfaces, and spare wheel.
8. Install the compact spare tire.

⚠ WARNING

Never use oil or grease on bolts or nuts because the nuts might come loose. The vehicle's wheel could fall off, causing a crash.



9. Reinstall the wheel nuts with the rounded end of the nuts toward the wheel. Tighten each nut clockwise by hand until the wheel is held against the hub.

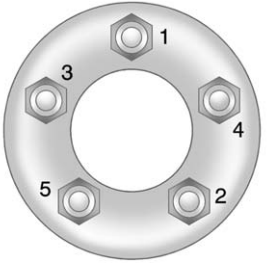


10. Lower the vehicle by turning the jack handle counterclockwise. Lower the jack completely.

⚠ WARNING

Wheel nuts that are improperly or incorrectly tightened can cause the wheels to become loose or come off. The wheel nuts should be tightened with a torque wrench to the proper torque specification after replacing. Follow the torque specification supplied by the aftermarket manufacturer when using accessory locking wheel nuts. See *Capacities and Specifications on page 12-2* for original equipment wheel nut torque specifications.

Notice: **Improperly tightened wheel nuts can lead to brake pulsation and rotor damage. To avoid expensive brake repairs, evenly tighten the wheel nuts in the proper sequence and to the proper torque specification. See *Capacities and Specifications on page 12-2* for the wheel nut torque specification.**



11. Tighten the wheel nuts firmly in a crisscross sequence as shown.

Notice: **Wheel covers will not fit on the vehicle's compact spare. If you try to put a wheel cover on the compact spare, the cover or the spare could be damaged.**

Storing a Flat or Spare Tire and Tools

⚠ WARNING

Storing a jack, a tire, or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store all these in the proper place.

After the compact spare tire has been installed on the vehicle, store the flat tire in the trunk.

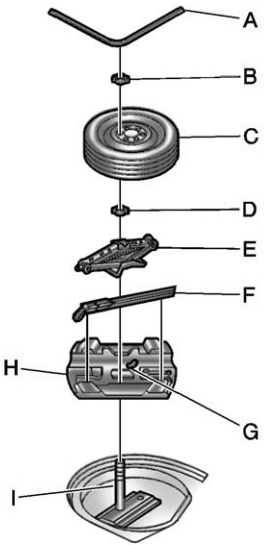
When storing a full-size tire, use the extension with the extension protector, located in the foam holder, to help avoid wheel surface damage.

To store a full-size tire:

1. Install the tools in their original location in the trunk area and secure.
2. Place the tire valve stem facing down and the protector/guide placed through a wheel bolt hole and threaded onto the bolt screw.
3. Remove the protector and attach the retainer securely
4. Store the cover as far forward as possible.

When storing a compact spare tire in the trunk, put the protector back in the foam holder.

The compact spare is for temporary use only. Replace the compact spare tire with a full-size tire as soon as you can. See *Compact Spare Tire on page 10-61*. Use this as a guide for storing the compact spare tire and tools.

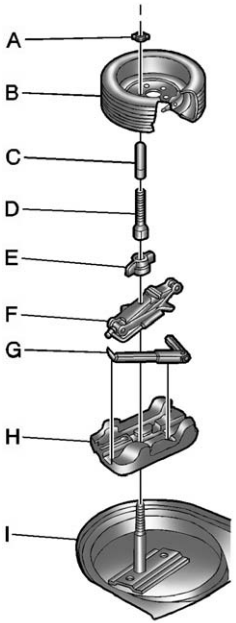


Compact Spare Tire

A. Cover

B. Retainer

C. Compact Spare Tire
D. Wing Nut
E. Jack
F. Wheel Wrench
G. Extension Protector
H. Foam Holder
I. Bolt Screw



Full-Size Flat Tire

A. Retainer
B. Full-Size Flat Tire
C. Protective Guide
D. Extension Bolt Screw
E. Wing Nut
F. Jack
G. Wheel Wrench
H. Foam Holder
I. Bolt Screw

Compact Spare Tire

If this is a police vehicle, see “Compact Spare Tire” in the Impala Police Package Supplement for compact spare tire information.

⚠ WARNING

Driving with more than one compact spare tire at a time could result in loss of braking and handling. This could lead to a crash and you or others could be injured. Use only one compact spare tire at a time.

Although the compact spare tire was fully inflated when the vehicle was new, it can lose air after a time. Check the inflation pressure regularly. It should be 420 kPa (60 psi).

After installing the compact spare on the vehicle, you should stop as soon as possible and make sure the spare tire is correctly inflated. The compact spare is made to perform well at speeds up to 105 km/h (65 mph) for distances up to 5 000 km (3,000 mi), so you can finish your trip and have the full-size tire repaired or replaced where you want. You must calibrate the tire inflation monitor system after installing or removing the compact spare. See *Tire Pressure Monitor System on page 10-41*. The system may not work correctly when the compact spare is installed on the vehicle. Of course, it's best to replace the spare with a full-size tire as soon as you can. The spare will last longer and be in good shape in case you need it again.

Notice: **When the compact spare is installed, do not take the vehicle through an automatic car wash with guide rails. The compact spare can get caught on the rails which can damage the tire, wheel, and other parts of the vehicle.**

Do not use the compact spare on other vehicles.

And do not mix the compact spare tire or wheel with other wheels or tires. They will not fit. Keep the spare tire and its wheel together.

Notice: **Tire chains will not fit the compact spare. Using them can damage the vehicle and can damage the chains too. Do not use tire chains on the compact spare.**

Jump Starting

For more information about the vehicle battery, see *Battery on page 10-21*.

If the battery has run down, try to use another vehicle and some jumper cables to start your vehicle. Be sure to use the following steps to do it safely.

⚠ WARNING

Batteries can hurt you. They can be dangerous because:

- They contain acid that can burn you.
- They contain gas that can explode or ignite.
- They contain enough electricity to burn you.

If you do not follow these steps exactly, some or all of these things can hurt you.

Notice: **Ignoring these steps could result in costly damage to the vehicle that would not be covered by the warranty.**

Trying to start the vehicle by pushing or pulling it will not work, and it could damage the vehicle.

The jump start positive is located in the engine compartment under the engine compartment fuse block cover on the passenger side of the vehicle.

The jump start negative grounding point is the engine block or an engine mounting bolt. Connect to a spot as far away from the discharged battery as possible.

These locations are used instead of a direct connection to the battery.

1. Check the other vehicle. It must have a 12-volt battery with a negative ground system.

Notice: **Only use a vehicle that has a 12-volt system with a negative ground for jump starting. If the other vehicle does not have a 12-volt system with a negative ground, both vehicles can be damaged.**

2. Position the two vehicles so that they are not touching.
3. Set the parking brake firmly and put the shift lever in P (Park). See *Shifting Into Park on page 9-19*.

Notice: **If any accessories are left on or plugged in during the jump starting procedure, they could be damaged. The repairs would not be covered by the vehicle warranty. Whenever possible, turn off or unplug all accessories on either vehicle when jump starting the vehicle.**

4. Turn the ignition to LOCK/OFF and switch off all lights and accessories in both vehicles, except the hazard warning flashers if needed.

⚠ WARNING

An electric fan can start up even when the engine is not running and can injure you. Keep hands, clothing and tools away from any underhood electric fan.

⚠ WARNING

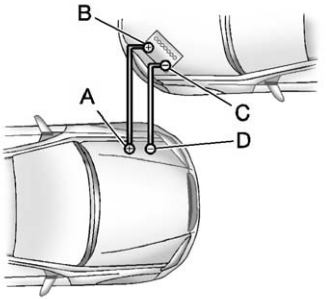
Using a match near a battery can cause battery gas to explode. People have been hurt doing this, and some have been blinded. Use a flashlight if you need more light.

Be sure the battery has enough water. You do not need to add water to the battery installed in your new vehicle. But if a battery has filler caps, be sure the right amount of fluid is there. If it is low, add water to take care of that first. If you do not, explosive gas could be present.

Battery fluid contains acid that can burn you. Do not get it on you. If you accidentally get it in your eyes or on your skin, flush the place with water and get medical help immediately.

⚠ WARNING

Fans or other moving engine parts can injure you badly. Keep your hands away from moving parts once the engine is running.

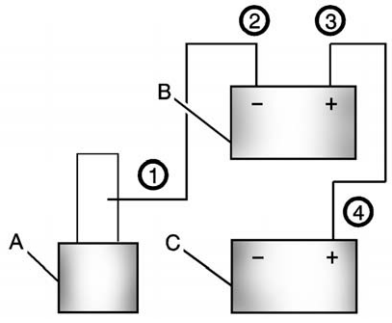


5. Connect one end of the red positive (+) cable to the jump start positive (+) post (A). Use a remote positive (+) terminal if the vehicle has one.
6. Do not let the other end of the red positive (+) cable touch metal. Connect it to the positive (+) terminal of the good battery (B). Use a remote positive (+) terminal if the vehicle has one.
7. Connect one end of the black negative (–) cable to the negative (–) terminal of the good battery (C). Use a remote negative (−) terminal if the vehicle has one.

   Do not let the other end touch anything until the next step. The other end of the negative (–) cable does not go to the dead battery. It goes to a heavy, unpainted metal engine part or to a remote negative (–) terminal on the vehicle with the dead battery.

8. Connect the other end of the black negative (–) cable to an unpainted heavy metal engine part (D) away from the dead battery, but not near engine parts that move.
9. Start the engine in the vehicle with the good battery and run the engine at idle speed for at least four minutes.
10. Try to start the vehicle that had the dead battery. If it will not start after a few tries, it probably needs service.

Notice: **If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by the vehicle warranty. Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.**



Jumper Cable Removal

A. Heavy, Unpainted Metal Engine Part or Remote Negative (–) Terminal
B. Good Battery or Remote Positive (+) and Remote Negative (–) Terminals
C. Dead Battery or Remote Positive (+) Terminal

To disconnect the jumper cables from both vehicles:

1. Disconnect the black negative (−) cable from the vehicle that had the dead battery.
2. Disconnect the black negative (−) cable from the vehicle with the good battery.
3. Disconnect the red positive (+) cable from the vehicle with the good battery.
4. Disconnect the red positive (+) cable from the other vehicle.
5. Return the caps over the positive (+) and negative (–) terminals to their original positions.

Towing

Towing the Vehicle

Notice: **To avoid damage, the disabled vehicle should be towed with all four wheels off the ground. Care must be taken with vehicles that have low ground clearance and/or special equipment. Always flatbed on a car carrier.**

Consult your dealer or a professional towing service if the disabled vehicle must be towed. See *Roadside Assistance Program on page 13-5*.

To tow the vehicle behind another vehicle for recreational purposes, such as behind a motor home, see “Recreational Vehicle Towing” in this section.

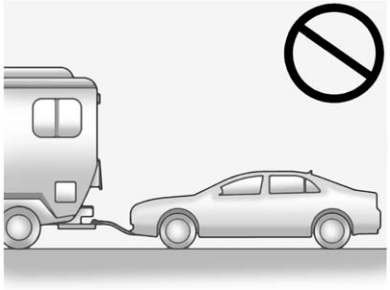
Recreational Vehicle Towing

Recreational vehicle towing means towing the vehicle behind another vehicle such as a motor home. The two most common types of recreational vehicle towing are known as dinghy towing and dolly towing. Dinghy towing is towing the vehicle with all four wheels on the ground. Dolly towing is towing the vehicle with two wheels on the ground and two wheels up on a device known as a dolly.

Here are some important things to consider before recreational vehicle towing:

- What is the towing capacity of the towing vehicle? Be sure to read the tow vehicle manufacturer's recommendations.
- What is the distance that will be travelled? Some vehicles have restrictions on how far and how long they can tow.
- Is the proper towing equipment going to be used? See your dealer or trailering professional for additional advice and equipment recommendations.
- Is the vehicle ready to be towed? Just as preparing the vehicle for a long trip, make sure the vehicle is prepared to be towed.

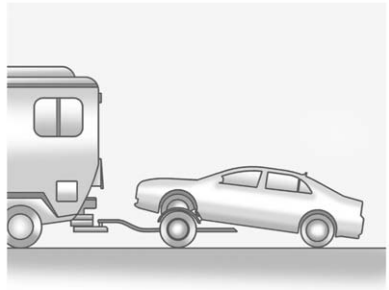
Dinghy Towing



Notice: **If the vehicle is towed with all four wheels on the ground, the drivetrain components could be damaged. The repairs would not be covered by the vehicle warranty. Do not tow the vehicle with all four wheels on the ground.**

The vehicle was not designed to be towed with all four wheels on the ground. If the vehicle must be towed, a dolly should be used. See “Dolly Towing” that follows for more information.

Dolly Towing



Use the following procedure to dolly tow the vehicle from the front:

1. Attach the dolly to the tow vehicle following the dolly manufacturer's instructions.
2. Drive the front wheels onto the dolly.
3. Shift the transmission to P (Park).
4. Firmly set the parking brake.
5. Use an adequate clamping device designed for towing to ensure that the front wheels are locked into the straight position.
6. Secure the vehicle to the dolly following the manufacturer's instructions.
7. Release the parking brake only after the vehicle being towed is firmly attached to the towing vehicle.
8. Turn the ignition to LOCK/OFF and remove the key.

Appearance Care

Exterior Care

Washing the Vehicle

To preserve the vehicle's finish, wash it often and out of direct sunlight.

Notice: **Do not use petroleum based, acidic, or abrasive cleaning agents as they can damage the vehicle's paint, metal, or plastic parts. If damage occurs, it would not be covered by the vehicle's warranty. Approved cleaning products can be obtained from your dealer. Follow all manufacturer directions regarding correct product usage, necessary safety precautions, and appropriate disposal of any vehicle care product.**

Notice: **Avoid using high pressure washes closer than 30 cm (12 in) to the surface of the vehicle. Use of power washers exceeding 8,274 kPa (1,200 psi) can result in damage or removal of paint and decals.**

Rinse the vehicle well, before washing and after, to remove all cleaning agents completely. If they are allowed to dry on the surface, they could stain.

Dry the finish with a soft, clean chamois or an all-cotton towel to avoid surface scratches and water spotting.

Finish Care

Application of aftermarket clearcoat sealant/wax materials is not recommended. If painted surfaces are damaged, see your dealer to have the damage assessed and repaired. Foreign materials such as calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, etc., can damage the vehicle's finish if they remain on painted surfaces. Wash the vehicle as soon as possible. If necessary, use non-abrasive cleaners that are marked safe for painted surfaces to remove foreign matter.

Occasional hand waxing or mild polishing should be done to remove residue from the paint finish. See your dealer for approved cleaning products.

Notice: **Machine compounding or aggressive polishing on a basecoat/clearcoat paint finish may damage it. Use only non-abrasive waxes and polishes that are made for a basecoat/clearcoat paint finish on the vehicle.**

To keep the paint finish looking new, keep the vehicle garaged or covered whenever possible.

Protecting Exterior Bright Metal Parts

Regularly clean bright metal parts with water or chrome polish on chrome or stainless steel trim, if necessary.

For aluminum, never use auto or chrome polish, steam, or caustic soap to clean. A coating of wax, rubbed to high polish, is recommended for all bright metal parts.

Cleaning Exterior Lamps/ Lenses and Emblems

Use only lukewarm or cold water, a soft cloth, and a car washing soap to clean exterior lamps and lenses. Follow instructions under "Washing the Vehicle" later in this section.

Windshield and Wiper Blades

Clean the outside of the windshield with glass cleaner.

Clean rubber blades using lint-free cloth or paper towel soaked with windshield washer fluid or a mild detergent. Wash the windshield thoroughly when cleaning the blades. Bugs, road grime, sap, and a buildup of vehicle wash/wax treatments may cause wiper streaking.

Replace the wiper blades if they are worn or damaged. Damage can be caused by extreme dusty conditions, sand, salt, heat, sun, snow, and ice.

Weatherstrips

Apply silicone grease on weatherstrips to make them last longer, seal better, and not stick or squeak. See *Recommended Fluids and Lubricants on page 11-11*

Tires

Use a stiff brush with tire cleaner to clean the tires.

Notice: **Using petroleum-based tire dressing products on the vehicle may damage the paint finish and/or tires. When applying a tire dressing, always wipe off any overspray from all painted surfaces on the vehicle.**

Wheels and Trim — Aluminum or Chrome

Use a soft, clean cloth with mild soap and water to clean the wheels. After rinsing thoroughly with clean water, dry with a soft, clean towel. A wax may then be applied.

Keep the wheels clean using a soft, clean cloth with mild soap and water. Rinse with clean water. After rinsing thoroughly, dry with a soft, clean towel. A wax may then be applied.

Notice: **Chrome wheels and other chrome trim may be damaged if the vehicle is not washed after driving on roads that have been sprayed with magnesium, calcium, or sodium chloride. These chlorides are used on roads for conditions such as ice and dust. Always wash the chrome with soap and water after exposure.**

Notice: **To avoid surface damage, do not use strong soaps, chemicals, abrasive polishes, cleaners, brushes, or cleaners that contain acid on aluminum or chrome-plated wheels. Use only approved cleaners. Also, never drive a vehicle with aluminum or chrome-plated wheels through an automatic car wash that uses silicone carbide tire cleaning brushes. Damage could occur and the repairs would not be covered by the vehicle warranty.**

Steering, Suspension, and Chassis Components

Visually inspect front and rear suspension and steering system for damaged, loose, or missing parts or signs of wear. Inspect the power steering for proper hook-up, binding, leaks, cracks, chafing, etc. Visually check constant velocity joints, rubber boots, and axle seals for leaks.

Body Component Lubrication

Lubricate all key lock cylinders, hood hinges, liftgate hinges, and the steel fuel door hinge unless the components are plastic. Applying silicone grease on weatherstrips with a clean cloth will make them last longer, seal better, and not stick or squeak.

Underbody Maintenance

Use plain water to flush dirt and debris from the vehicle's underbody. Your dealer or an underbody car washing system can do this. If not removed, rust and corrosion can develop.

Sheet Metal Damage

If the vehicle is damaged and requires sheet metal repair or replacement, make sure the body repair shop applies anti-corrosion material to parts repaired or replaced to restore corrosion protection.

Original manufacturer replacement parts will provide the corrosion protection while maintaining the vehicle warranty.

Finish Damage

Quickly repair minor chips and scratches with touch-up materials available from your dealer to avoid corrosion. Larger areas of finish damage can be corrected in your dealer's body and paint shop.

Chemical Paint Spotting

Airborne pollutants can fall upon and attack painted vehicle surfaces causing blotchy, ring-shaped discolorations, and small, irregular dark spots etched into the paint surface.

Interior Care

To prevent dirt particle abrasions, regularly clean the vehicle's interior. Immediately remove any soils. Note that newspapers or dark garments that can transfer color to home

furnishings can also permanently transfer color to the vehicle's interior.

Use a soft bristle brush to remove dust from knobs and crevices on the instrument cluster. Using a mild soap solution, immediately remove hand lotions, sunscreen, and insect repellant from all interior surfaces or permanent damage may result.

Your dealer may have products for cleaning the interior. Use cleaners specifically designed for the surfaces being cleaned to prevent permanent damage. To prevent overspray, apply all cleaners directly to the cleaning cloth. Cleaners should be removed quickly. Never allow cleaners to remain on the surface being cleaned for extended periods of time.

Cleaners may contain solvents that can become concentrated in the interior. Before using cleaners, read and adhere to all safety instructions on the label. While cleaning the interior, maintain adequate ventilation by opening the doors and windows.

To prevent damage, do not clean the interior using the following cleaners or techniques:

- Never use a razor or any other sharp object to remove a soil from any interior surface.
- Never use a brush with stiff bristles.
- Never rub any surface aggressively or with excessive pressure.
- Do not use laundry detergents or dishwashing soaps with degreasers. For liquid cleaners, use approximately 20 drops per 3.78L (1 gal) of water. A concentrated soap solution will leave a residue that creates streaks and attracts dirt. Do not use solutions that contain strong or caustic soap.
- Do not heavily saturate the upholstery when cleaning.
- Do not use solvents or cleaners containing solvents.

Interior Glass

To clean, use a terry cloth fabric dampened with water. Wipe droplets left behind with a clean dry cloth. Commercial glass cleaners may be used, if necessary, after cleaning the interior glass with plain water.

Notice: **To prevent scratching, never use abrasive cleaners on automotive glass. Abrasive cleaners or aggressive cleaning may damage the rear window defogger.**

Notice: **Cleaning the windshield with water during the first three to six months of ownership will reduce tendency to fog.**

Fabric/Carpet

Start by vacuuming the surface using a soft brush attachment. If a rotating brush attachment is being used during vacuuming, only use it on the floor carpet. Before cleaning, gently remove as much of the soil as possible using one of the following techniques:

- Gently blot liquids with a paper towel. Continue blotting until no more soil can be removed.
- For solid soils, remove as much as possible prior to vacuuming.

To clean:

1. Saturate a clean lint-free colorfast cloth with water or club soda. Microfiber cloth is recommended to prevent lint transfer to the fabric or carpet.
2. Remove excess moisture by gently wringing until water does not drip from the cleaning cloth.
3. Start on the outside edge of the soil and gently rub toward the center. Rotate the cleaning cloth to a clean area frequently to prevent forcing the soil in to the fabric.
4. Continue gently rubbing the soiled area until there is no longer any color transfer from the soil to the cleaning cloth.
5. If the soil is not completely removed, use a mild soap solution followed only by club soda or plain water.

If the soil is not completely removed, it may be necessary to use a commercial upholstery cleaner or spot lifter. Test a small hidden area for colorfastness before using a commercial upholstery cleaner or spot lifter. If ring formation occurs, clean the entire fabric or carpet.

Following the cleaning process, a paper towel can be used to blot excess moisture.

Instrument Panel, Leather, Vinyl, & Other Plastic Surfaces

Use a soft microfiber cloth dampened with water to remove dust and loose dirt. For a more thorough cleaning, use a soft microfiber cloth dampened with a mild soap solution.

Notice: **Soaking or saturating leather, especially perforated leather, as well as other interior surfaces, may cause permanent damage. Wipe excess moisture from these surfaces after cleaning and allow them to dry naturally. Never use heat, steam, spot lifters or spot removers. Do not use cleaners that contain silicone or wax-based products. Cleaners containing these solvents can permanently change the appearance and feel of leather or soft trim and are not recommended.**

Do not use cleaners that increase gloss, especially on the instrument panel. Reflected glare can decrease visibility through the windshield under certain conditions.

Notice: **Use of air fresheners may cause permanent damage to plastics and painted surfaces. If an air freshener comes in contact with any plastic or painted surface in the vehicle, blot immediately and clean with a soft cloth dampened with a mild soap solution. Damage caused by air fresheners would not be covered by the vehicle warranty.**

Care of Safety Belts

Keep belts clean and dry.

⚠ WARNING

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

Floor Mats

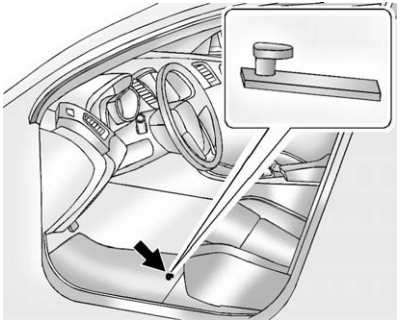
⚠ WARNING

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.
- Use the floor mat with the correct side up. Do not turn it over.
- Do not place anything on top of the driver side floor mat.
- Use only a single floor mat on the driver side.
- Do not place one floor mat on top of another.

Removing and Replacing the Floor Mat



The driver side floor mat is held in place by one hook-type retainer.

1. Pull up on the rear of the mat to remove it from the hooks.
2. Reinstall the floor mat by lining up the openings on the floor mat over the hooks and push it down into position.
3. Make sure the floor mat is properly secured and verify that it does not interfere with the pedals.

Service and Maintenance

General Information
General Information 11-1

Maintenance Schedule
Maintenance Schedule 11-3

Special Application Services
Special Application Services 11-8

Additional Maintenance and Care
Additional Maintenance and Care 11-8

Recommended Fluids, Lubricants, and Parts
Recommended Fluids and Lubricants 11-11
Maintenance Replacement Parts 11-12

Maintenance Records
Maintenance Records 11-13

General Information

Your vehicle is an important investment. This section describes the required maintenance for the vehicle. Follow this schedule to help protect against major repair expenses resulting from neglect or inadequate maintenance. It may also help to maintain the value of the vehicle if it is sold. It is the responsibility of the owner to have all required maintenance performed.

Your dealer has trained technicians who can perform required maintenance using genuine replacement parts. They have up-to-date tools and equipment for fast and accurate diagnostics. Many dealers have extended evening and Saturday hours, courtesy transportation, and online scheduling to assist with service needs.

Your dealer recognizes the importance of providing competitively priced maintenance and repair services. With trained technicians, the dealer is the place for routine maintenance such as oil changes and tire rotations and additional maintenance items like tires, brakes, batteries, and wiper blades.

Notice: **Damage caused by improper maintenance can lead to costly repairs and may not be covered by the vehicle warranty. Maintenance intervals, checks, inspections, recommended fluids, and lubricants are important to keep the vehicle in good working condition.**

The Tire Rotation and Required Services are the responsibility of the vehicle owner. It is recommended to have your dealer perform these services every 12 000 km/7,500 mi.

Proper vehicle maintenance helps to keep the vehicle in good working condition, improves fuel economy, and reduces vehicle emissions.

Because of the way people use vehicles, maintenance needs vary. There may need to be more frequent checks and services. The Additional Required Services - Normal are for vehicles that:

- Carry passengers and cargo within recommended limits on the Tire and Loading Information label. See *Vehicle Load Limits on page 9-10*.
- Are driven on reasonable road surfaces within legal driving limits.
- Use the recommended fuel. See *Recommended Fuel on page 9-33*.

Refer to the information in the Maintenance Schedule Additional Required Services - Normal chart.

The Additional Required Services - Severe are for vehicles that are:

- Mainly driven in heavy city traffic in hot weather.
- Mainly driven in hilly or mountainous terrain.
- Frequently towing a trailer.
- Used for high speed or competitive driving.
- Used for taxi, police, or delivery service.

Refer to the information in the Maintenance Schedule Additional Required Services - Severe chart.

⚠ WARNING

Performing maintenance work can be dangerous and can cause serious injury. Perform maintenance work only if the required information, proper tools, and equipment are available. If they are not, see your dealer to have a trained technician do the work. See *Doing Your Own Service Work on page 10-4*.

Maintenance Schedule

Owner Checks and Services

At Each Fuel Stop

- Check the engine oil level. See *Engine Oil on page 10-7*.

Once a Month

- Check the tire inflation pressures. See *Tire Pressure on page 10-40*.
- Inspect the tires for wear. See *Tire Inspection on page 10-45*.
- Check the windshield washer fluid level. See *Washer Fluid on page 10-18*.

Engine Oil Change

When the CHANGE ENGINE OIL SOON message displays, have the engine oil and filter changed within the next 1 000 km/600 mi. If driven under the best conditions, the engine oil life system might not indicate the need for vehicle service for more than a year. The engine oil and filter must be changed at least once a year and the oil life system must be reset. Your trained dealer technician can perform this work. If the engine oil life system is reset accidentally, service the vehicle within 5 000 km/3,000 mi since the last service. Reset the oil life system when the oil is changed. See *Engine Oil Life System on page 10-10*.

Tire Rotation and Required Services Every 12 000 km/7,500 mi

Rotate the tires, if recommended for the vehicle, and perform the following services. See *Tire Rotation on page 10-46*.

- Check engine oil level and oil life percentage. If needed, change engine oil and filter, and reset oil life system. See *Engine Oil on page 10-7* and *Engine Oil Life System on page 10-10*.
- Check engine coolant level. See *Engine Coolant on page 10-13*.
- Check windshield washer fluid level. See *Washer Fluid on page 10-18*.
- Visually inspect windshield wiper blades for wear, cracking, or contamination. See *Exterior Care on page 10-68*. Replace worn or damaged wiper blades. See *Wiper Blade Replacement on page 10-23*.

- Check tire inflation pressures. See *Tire Pressure on page 10-40*.
- Inspect tire wear. See *Tire Inspection on page 10-45*.
- Visually check for fluid leaks.
- Inspect engine air cleaner filter. See *Engine Air Cleaner/Filter on page 10-11*.
- Inspect brake system.
- Visually inspect steering, suspension, and chassis components for damaged, loose, or missing parts or signs of wear. See *Exterior Care on page 10-68*.
- Check restraint system components. See *Safety System Check on page 3-18*.
- Visually inspect fuel system for damage or leaks.
- Visually inspect exhaust system and nearby heat shields for loose or damaged parts.
- Lubricate body components. See *Exterior Care on page 10-68*.
- Check starter switch. See *Starter Switch Check on page 10-21*.
- Check automatic transmission shift lock control function. See *Automatic Transmission Shift Lock Control Function Check on page 10-22*.
- Check ignition transmission lock. See *Ignition Transmission Lock Check on page 10-22*.
- Check parking brake and automatic transmission park mechanism. See *Park Brake and P (Park) Mechanism Check on page 10-22*.
- Check accelerator pedal for damage, high effort, or binding. Replace if needed.
- Visually inspect gas strut for signs of wear, cracks, or other damage. Check the hold open ability of the strut. See your dealer if service is required.
- Inspect sunroof track and seal, if equipped. See *Sunroof on page 2-17*.

Maintenance Schedule Additional Required Services – Normal	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter, if equipped. (a)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (b)						✓						✓						✓		
Replace engine air cleaner filter. (c)						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires.													✓							
Change automatic transmission fluid, if equipped. If filter is serviceable, change filter.													✓							
Drain, flush, and fill engine cooling system. (d)																				✓
Visually inspect engine drive belts. (e)																				✓

Footnotes — Maintenance Schedule Additional Required Services — Normal

a) Or every two years, whichever comes first. More frequent replacement may be needed if the vehicle is driven in areas with heavy traffic, areas with poor air quality, or areas with high dust levels. Replacement may also be needed if there is a reduction in air flow, excessive window fogging, or odors.

b) Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition. Check that the purge valve, if the vehicle has one, works properly. Replace as needed.

c) Or every four years, whichever comes first.

d) Or every five years, whichever comes first. See *Cooling System on page 10-12*.

e) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

Maintenance Schedule Additional Required Services – Severe	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter, if equipped. (a)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (b)						✓						✓						✓		
Replace engine air cleaner filter. (c)						✓						✓						✓		
Change automatic transmission fluid, if equipped. If filter is serviceable, change filter.						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires.													✓							
Drain, flush, and fill engine cooling system. (d)																				✓
Visually inspect accessory drive belts. (e)																				✓

Footnotes — Maintenance Schedule Additional Required Services — Severe

a) Or every two years, whichever comes first.

b) Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition. Check that the purge valve, if the vehicle has one, works properly. Replace as needed.

c) Or every four years, whichever comes first.

d) Or every five years, whichever comes first. See *Cooling System on page 10-12*.

e) Or every 10 years, whichever comes first. Inspect for fraying, excessive cracking, or damage; replace, if needed.

Special Application Services

- Severe Commercial Use Vehicles Only: Lubricate chassis components every 5 000 km/ 3,000 mi.
- Have underbody flushing service performed once a year.

Additional Maintenance and Care

Your vehicle is an important investment and caring for it properly may help to avoid future costly repairs. To maintain vehicle performance, additional maintenance services may be required. It is recommended that your dealer perform these services — their trained dealer technicians know your vehicle best. Your dealer can also perform a thorough assessment with a multi-point inspection to recommend when your vehicle may need attention. The following list is intended to explain the services and conditions to look for that may indicate services are required.

Battery

The battery supplies power to start the engine and operate any additional electrical accessories.

- To avoid break-down or failure to start the vehicle, maintain a battery with full cranking power.
- Trained dealer technicians have the diagnostic equipment to test the battery and ensure that the connections and cables are corrosion-free.

Belts

- Belts may need replacing if they squeak or show signs of cracking or splitting.
- Trained dealer technicians can inspect the belts and recommend replacement when necessary.

Brakes

Brakes stop the vehicle and are crucial to safe driving.

- Signs of brake wear may include chirping, grinding, or squealing noises, or difficulty stopping.
- Trained dealer technicians have access to tools and equipment to inspect the brakes and recommend quality parts engineered for the vehicle.

Fluids

Proper fluid levels and approved fluids protect the vehicle's systems and components. See *Recommended Fluids and Lubricants on page 11-11* for GM approved fluids.

- Engine oil and windshield washer fluid levels should be checked at every fuel fill.
- Instrument cluster lights may come on to indicate that fluids may be low and need to be filled.

Hoses

Hoses transport fluids and should be regularly inspected to ensure that there are no cracks or leaks. With a multi-point inspection, your dealer can inspect the hoses and advise if replacement is needed.

Lamps

Properly working headlamps, taillamps, and brake lamps are important to see and be seen on the road.

- Signs that the headlamps need attention include dimming, failure to light, cracking, or damage. The brake lamps need to be checked periodically to ensure that they light when braking.
- With a multi-point inspection, your dealer can check the lamps and note any concerns.

Shocks and Struts

Shocks and struts help aid in control for a smoother ride.

- Signs of wear may include steering wheel vibration, bounce/sway while braking, longer stopping distance, or uneven tire wear.

- As part of the multi-point inspection, trained dealer technicians can visually inspect the shocks and struts for signs of leaking, blown seals, or damage, and can advise when service is needed.

Tires

Tires need to be properly inflated, rotated, and balanced. Maintaining the tires can save money, fuel, and can reduce the risk of tire failure.

- Signs that the tires need to be replaced include three or more visible treadwear indicators; cord or fabric showing through the rubber; cracks or cuts in the tread or sidewall; or a bulge or split in the tire.
- Trained dealer technicians can inspect and recommend the right tires. Your dealer can also provide tire/wheel balancing services to ensure smooth vehicle operation at all speeds. Your dealer sells and services name brand tires.

Vehicle Care

To help keep the vehicle looking like new, vehicle care products are available from your dealer. For information on how to clean and protect the vehicle's interior and exterior, see *Interior Care on page 10-70* and *Exterior Care on page 10-68*.

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, part number, or specification can be obtained from your dealer.

Usage	Fluid/Lubricant
Engine Oil	Use only engine oil licensed to the dexos1 specfication, or equivalent, of the proper SAE viscosity grade. ACDelco dexos1 Synthetic Blend is recommended. See *Engine Oil on page 10-7*.
Engine Coolant	50/50 mixture of clean, drinkable water and use only DEX-COOL Coolant. See *Engine Coolant on page 10-13*.
Hydraulic Brake System	DOT 3 Hydraulic Brake Fluid (GM Part No. 12377967, in Canada 89021320).
Windshield Washer	Optikleen® Washer Solvent.
Power Steering System	GM Power Steering Fluid (GM Part No. 89021184, in Canada 89021186).
Automatic Transmission	DEXRON®-VI Automatic Transmission Fluid.
Key Lock Cylinders	Multi-Purpose Lubricant, Superlube (GM Part No. 12346241, in Canada 10953474).
Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor, and Release Pawl	Lubriplate Lubricant Aerosol (GM Part No. 12346293, in Canada 992723) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.

Usage	Fluid/Lubricant
Hood and Door Hinges	Multi-Purpose Lubricant, Superlube (GM Part No. 12346241, in Canada 10953474).
Weatherstrip Conditioning	Weatherstrip Lubricant (GM Part No. 3634770, in Canada 10953518) or Dielectric Silicone Grease (GM Part No. 12345579, in Canada 992887).

Maintenance Replacement Parts

Replacement parts identified below by name, part number, or specification can be obtained from your dealer.

Maintenance Replacement Parts

Part	GM Part Number	ACDelco Part Number
Engine Air Cleaner/Filter	10350737	A2962C
Engine Oil Filter	89017525	PF63
Passenger Compartment Air Filter	15284938	CF132
Spark Plugs	12622561	41-109
Wiper Blades		
Driver Side - 55.0 cm (21.7 in)	15941731	—
Passenger Side - 55.0 cm (21.7 in)	15941732	—

Maintenance Records

After the scheduled services are performed, record the date, odometer reading, who performed the service, and the type of services performed in the boxes provided. Retain all maintenance receipts.

Date	Odometer Reading	Serviced By	Services Performed

Date	Odometer Reading	Serviced By	Services Performed

Date	Odometer Reading	Serviced By	Services Performed

Date	Odometer Reading	Serviced By	Services Performed

Technical Data

Vehicle Identification
Vehicle Identification Number (VIN) 12-1
Service Parts Identification Label 12-1

Vehicle Data
Capacities and Specifications 12-2
Engine Drive Belt Routing . . . 12-3

Vehicle Identification

Vehicle Identification Number (VIN)

This legal identifier is in the front corner of the instrument panel, on the left side of the vehicle. It can be seen through the windshield from outside. The VIN also appears on the Vehicle Certification and Service Parts labels and certificates of title and registration.

Engine Identification

The eighth character in the VIN is the engine code. This code identifies the vehicle's engine, specifications, and replacement parts. See “Engine Specifications” under *Capacities and Specifications on page 12-2* for the vehicle's engine code.

Service Parts Identification Label

This label, in the trunk, has the following information:

- Vehicle Identification Number (VIN).
- Model designation.
- Paint information.
- Production options and special equipment.

Do not remove this label from the vehicle.

Vehicle Data

Capacities and Specifications

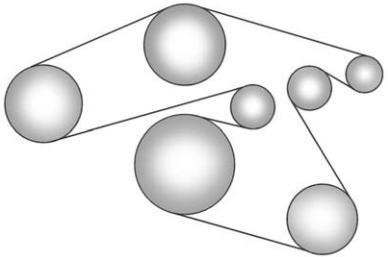
The following approximate capacities are given in metric and English conversions. See *Recommended Fluids and Lubricants on page 11-11* for more information.

Application	Capacities	
	Metric	English
Air Conditioning Refrigerant R134a	For the air conditioning system refrigerant charge amount, see the refrigerant label located under the hood. See your dealer for more information.	
Automatic Transmission	5.0 L	5.3 qt
Cooling System Including Reservoir	8.7 L	9.1 qt
Engine Oil with Filter	5.7 L	6.0 qt
Fuel Tank (RPO FHO)	65.5 L	17.3 gal
Fuel Tank (RPO FHS)	66.3 L	17.5 gal
Wheel Nut Torque	140 N•m	100 lb ft
All capacities are approximate. When adding, be sure to fill to the approximate level, as recommended in this manual. Recheck fluid level after filling.		

Engine Specifications

Engine	VIN Code	Transmission	Spark Plug Gap
3.6L V6	3	Automatic	1.10 mm (0.043 in)

Engine Drive Belt Routing



✍ NOTES

Customer Information

Customer Information
Customer Satisfaction Procedure 13-1
Customer Assistance Offices 13-3
Customer Assistance for Text Telephone (TTY) Users 13-4
Online Owner Center 13-4
GM Mobility Reimbursement Program 13-5
Roadside Assistance Program 13-5
Scheduling Service Appointments 13-7
Courtesy Transportation Program 13-8
Collision Damage Repair 13-9
Service Publications Ordering Information 13-11

Reporting Safety Defects
Reporting Safety Defects to the United States Government 13-12
Reporting Safety Defects to the Canadian Government 13-13
Reporting Safety Defects to General Motors 13-13

Vehicle Data Recording and Privacy
Vehicle Data Recording and Privacy 13-14
Event Data Recorders 13-14
OnStar® 13-15
Radio Frequency Identification (RFID) 13-15
Radio Frequency Statement 13-15

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 the new vehicle. However, if you continue to remain unsatisfied after following the procedure outlined in Steps One and Two, you can file with the Better Business Bureau (BBB) Auto Line® Program to enforce your rights.

The BBB Auto Line Program is an out-of-court program administered by the Council of Better Business Bureaus to settle automotive disputes regarding vehicle repairs or the interpretation of the New Vehicle Limited Warranty. Although you may be required to resort to this informal dispute resolution program prior to filing a court action, use of the program is free of charge and your case will generally be heard within 40 days. If you do not agree with the decision given in your case, you may reject it and proceed with any other venue for relief available to you.

You may contact the BBB Auto Line Program using the toll-free telephone number or write them at the following address:

BBB Auto Line Program
Council of Better Business Bureaus, Inc.
4200 Wilson Boulevard
Suite 800
Arlington, VA 22203-1838

Telephone: 1-800-955-5100
www.dr.bbb.org/goauto

This program is available in all 50 states and the District of Columbia. Eligibility is limited by vehicle age, mileage, and other factors. General Motors reserves the right to change eligibility limitations and/or discontinue its participation in this program.

STEP THREE — Canadian Owners: In the event that you do not feel your concerns have been addressed after following the procedure outlined in Steps One and Two, General Motors of Canada Limited wants you to be aware of its participation in a no-charge Mediation/Arbitration Program. General Motors of Canada Limited has committed to binding arbitration of owner disputes involving factory-related vehicle service claims. The program provides for the review of the facts involved by an impartial third party arbiter, and may include an informal hearing before the arbiter. The program is designed so that the entire dispute settlement process, from the time you file your complaint to the final decision, should be completed in 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 Limited
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

The inquiry should be accompanied by the Vehicle Identification Number (VIN).

Customer 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

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 Puerto Rico:

1-800-496-9992 (English)
1-800-496-9993 (Spanish)

From U.S. Virgin Islands:

1-800-496-9994

Canada

General Motors of Canada Limited
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.

Mexico, Central America, and Caribbean Islands/Countries (Except Puerto Rico and U.S. Virgin Islands)

General Motors de Mexico,
S. de R.L. de C.V.
Customer Assistance Center
Av. Ejercito Nacional #843
Col. Granada
C.P. 11520, Mexico, D.F.

01-800-466-0800
Long Distance: 011-52-53 29 0800

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

Manage your vehicle (U.S.) at chevrolet.com. Click on “Owners,” then “Manage My Chevrolet/Owners Login.”

Information and services customized for your specific vehicle — all in one convenient place.

- Digital owner manual, warranty information, and more.
- Storage for online service and maintenance records.
- Chevrolet dealer locator for service nationwide.
- Exclusive privileges and offers.
- Recall notices for your specific vehicle.
- OnStar and GM Cardmember Services Earnings summaries.

Other Helpful Links

Chevrolet — www.chevrolet.com

Chevrolet Merchandise — www.chevymall.com

Help Center — www.chevrolet.com/pages/mds/helpcenter/faq.do

- FAQ
- Contact Us

Chevrolet Owner Centre (Canada) chevroletowner.ca

Take a trip to the Chevrolet Owner Centre:

- Chat live with online help representatives.
- Use the Vehicle Tools section.
- Access third party enthusiast sites and social media networks.
- Locate owner resources such as lease-end, financing, and warranty information.
- Retrieve your favorite articles, quizzes, tips and multimedia galleries organized into the Features and Auto Care Sections.
- Download the owner manual for your vehicle, quickly and easily.
- Find the Chevrolet-recommended maintenance services for your vehicle.

GM Mobility Reimbursement Program

This program is available to qualified applicants for cost reimbursement of eligible aftermarket adaptive equipment required for the vehicle, such as hand controls or a wheelchair/scooter lift for the vehicle.

For more information on the limited offer, visit www.gmmobility.com or call the GM Mobility Assistance Center at 1-800-323-9935. Text Telephone (TTY) users, call 1-800-833-9935.

General Motors of Canada also has a Mobility Program. Call 1-800-GM-DRIVE (463-7483) for details. TTY users call 1-800-263-3830.

Roadside 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 up to 5 years/160 000 km (100,000 mi), whichever comes first.

In the U.S., anyone driving the vehicle is covered. In Canada, a person driving the vehicle without permission from the owner is not covered.

Roadside Assistance is not a part of the New Vehicle Limited Warranty. Chevrolet and General Motors of Canada Limited reserve the right to make any changes or discontinue the Roadside Assistance program at any time without notification.

Chevrolet and General Motors of Canada Limited reserve the right to limit services or payment to an owner or driver if they decide the claims are made too often, or the same type of claim is made many times.

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 also 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.

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.

- Towing or services for vehicles driven on a non-public road or highway.

Services Specific to Canadian-Purchased Vehicles

- **Fuel Delivery:** Reimbursement is approximately $5 Canadian. Diesel fuel delivery may be restricted. Propane and other fuels are not provided through this service.
- **Lock-Out Service:** Vehicle registration is required.
- **Trip Routing Service:** Detailed maps of North America are provided when requested either with the most direct route or the most scenic route. There is a limit of six requests per year. Additional travel information is also available. Allow three weeks for delivery.
- **Trip Interruption Benefits and Assistance:** Must be over 250 kilometers from where your trip was started to qualify. General Motors of Canada Limited requires pre-authorization, original detailed receipts, and a copy of the repair orders. 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 booklet entitled “Warranty and Owner Assistance Information” furnished with each new vehicle provides detailed warranty coverage information.

Transportation Options

Warranty service can generally be completed while you wait. However, if you are unable to wait, GM helps to minimize inconvenience by providing several transportation options. Depending on the circumstances, your dealer can offer one of the following:

Shuttle Service

Shuttle service is the preferred means of offering Courtesy Transportation. Dealers may provide shuttle service to get you to your destination with minimal interruption of your daily schedule. This includes one-way or round-trip shuttle service within reasonable time and distance parameters of your dealer's area.

Public Transportation or Fuel Reimbursement

If the vehicle requires overnight warranty repairs, and public transportation is used instead of your dealer's shuttle service, the expense must be supported by original receipts and can only be up to the maximum amount allowed by GM for shuttle service. In addition, for U.S. customers, should you arrange transportation through a friend or relative, limited reimbursement for reasonable fuel expenses may be available. Claim amounts should reflect actual costs and be supported by original receipts. See your dealer for information regarding the allowance amounts for reimbursement of fuel or other transportation costs.

Courtesy Rental Vehicle

Your dealer may arrange to provide you with a courtesy rental vehicle or reimburse you for a rental vehicle that you obtain if the vehicle is kept for an overnight warranty repair. Rental reimbursement will be limited and must be supported by original receipts. This requires that you sign and complete a rental agreement and meet state/provincial, local, and rental vehicle provider requirements. Requirements vary and may include minimum age requirements,

insurance coverage, credit card, etc. You are responsible for fuel usage charges and may also be responsible for taxes, levies, usage fees, excessive mileage, or rental usage beyond the completion of the repair.

It may not be possible to provide a like vehicle as a courtesy rental.

Additional Program Information

All program options, such as shuttle service, may not be available at every dealer. Please contact your dealer for specific information about availability. All Courtesy Transportation arrangements will be administered by appropriate dealer personnel.

General Motors reserves the right to unilaterally modify, change, or discontinue Courtesy Transportation at any time and to resolve all questions of claim eligibility pursuant to the terms and conditions described herein at its sole discretion.

Collision Damage Repair

If the vehicle is involved in a collision and it is damaged, have the damage repaired by a qualified technician using the proper equipment and quality replacement parts. Poorly performed collision repairs diminish the vehicle resale value, and safety performance can be compromised in subsequent collisions.

Collision Parts

Genuine GM Collision parts are new parts made with the same materials and construction methods as the parts with which the vehicle was originally built. Genuine GM Collision parts are the best choice to ensure that the vehicle's designed appearance, durability, and safety are preserved. The use of Genuine GM parts can help maintain the GM New Vehicle Limited Warranty.

Recycled original equipment parts may also be used for repair. These parts are typically removed from vehicles that were total losses in prior crashes. In most cases, the parts being recycled are from undamaged sections of the vehicle. A recycled original equipment GM part may be an acceptable choice to maintain the vehicle's originally designed appearance and safety performance; however, the history of these parts is not known. Such parts are not covered by the GM New Vehicle Limited Warranty, and any related failures are not covered by that warranty.

Aftermarket collision parts are also available. These are made by companies other than GM and may not have been tested for the vehicle. As a result, these parts may fit poorly, exhibit premature durability/corrosion problems, and may not perform properly in subsequent collisions. Aftermarket parts are not covered by the GM New Vehicle Limited Warranty, and any vehicle failure related to such parts is not covered by that warranty.

Repair Facility

GM also recommends that you choose a collision repair facility that meets your needs before you ever need collision repairs. Your dealer may have a collision repair center with GM-trained technicians and state-of-the-art equipment, or be able to recommend a collision repair center that has GM-trained technicians and comparable equipment.

Insuring the Vehicle

Protect your investment in the GM vehicle with comprehensive and collision insurance coverage. There are significant differences in the quality of coverage afforded by various insurance policy terms. Many insurance policies provide reduced protection to the GM vehicle by limiting compensation for damage repairs by using aftermarket collision parts. Some insurance companies will not specify aftermarket collision parts.

When purchasing insurance, we recommend that you ensure that the vehicle will be repaired with GM original equipment collision parts. If such insurance coverage is not available from your current insurance carrier, consider switching to another insurance carrier.

If the vehicle is leased, the leasing company may require you to have insurance that ensures repairs with Genuine GM Original Equipment Manufacturer (OEM) parts or Genuine Manufacturer replacement parts. Read the lease carefully, as you may be charged at the end of the lease for poor quality repairs.

If a Crash Occurs

If there has been an injury, call emergency services for help. Do not leave the scene of a crash until all matters have been taken care of. Move the vehicle only if its position puts you in danger, or you are instructed to move it by a police officer.

Give only the necessary information to police and other parties involved in the crash.

For emergency towing see *Roadside Assistance Program on page 13-5*.

Gather the following information:

- Driver name, address, and telephone number.
- Driver license number.
- Owner name, address, and telephone number.
- Vehicle license plate number.
- Vehicle make, model, and model year.
- Vehicle Identification Number (VIN).
- Insurance company and policy number.
- General description of the damage to the other vehicle.

Choose a reputable repair facility that uses quality replacement parts. See “Collision Parts” earlier in this section.

If the airbag has inflated, see *What Will You See after an Airbag Inflates? on page 3-25*.

Managing the Vehicle Damage Repair Process

In the event that the vehicle requires damage repairs, GM recommends that you take an active role in its repair. If you have a pre-determined repair facility of choice, take the vehicle there, or have it towed there. Specify to the facility that any required replacement collision parts be original equipment parts, either new Genuine GM parts or recycled original GM parts. Remember, recycled parts will not be covered by the GM vehicle warranty.

Insurance pays the bill for the repair, but you must live with the repair. Depending on your policy limits, your insurance company may initially value the repair using aftermarket parts. Discuss this with the repair professional, and insist on Genuine GM parts. Remember, if the vehicle is leased, you may be obligated to have the vehicle repaired with Genuine GM parts, even if your insurance coverage does not pay the full cost.

If another party's insurance company is paying for the repairs, you are not obligated to accept a repair valuation based on that insurance company's collision policy repair limits, as you have no contractual limits with that company. In such cases, you can have control of the repair and parts choices as long as the cost stays within reasonable limits.

Service Publications Ordering Information

Service Manuals

Service Manuals have the diagnosis and repair information on the engines, transmission, axle, suspension, brakes, electrical, steering, body, etc.

Service Bulletins

Service Bulletins give additional technical service information needed to knowledgeably service General Motors cars and trucks. Each bulletin contains instructions to assist in the diagnosis and service of the vehicle.

Owner Information

Owner publications are written specifically for owners and intended to provide basic operational information about the vehicle. The Owner Manual includes the Maintenance Schedule for all models.

In-Portfolio: Includes a Portfolio, Owner Manual, and Warranty Booklet.

RETAIL SELL PRICE:
$35.00 (U.S.) plus handling and shipping fees.

Without Portfolio: Owner Manual only.

RETAIL SELL PRICE:
$25.00 (U.S.) plus handling and shipping fees.

Current and Past Models

Technical Service Bulletins and Manuals are available for current and past model GM vehicles.

ORDER TOLL FREE:
1-800-551-4123 Monday – Friday
8:00 AM – 6:00 PM Eastern Time

For Credit Card Orders Only (VISA-MasterCard-Discover), visit Helm, Inc. at: www.helminc.com.

Or write to:

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

Prices are subject to change without notice and without incurring obligation. Allow ample time for delivery.

All listed prices are quoted in U.S. funds. Make checks payable in U.S. funds.

Reporting Safety Defects

Reporting Safety Defects to the United States Government

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying General Motors.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign.

However, NHTSA cannot become involved in individual problems between you, your dealer, or General Motors.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to *http://www.safercar.gov;* or write to:

Administrator, NHTSA
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from *http://www.safercar.gov*.

Reporting Safety Defects to the Canadian Government

If you live in Canada, and you believe that the vehicle has a safety defect, notify Transport Canada immediately, and notify General Motors of Canada Limited. Call Transport Canada at 1-800-333-0510 or write to:

Transport Canada
Road Safety Branch
80 rue Noel
Gatineau, QC J8Z 0A1

Reporting Safety Defects to General Motors

In addition to notifying NHTSA (or Transport Canada) in a situation like this, notify General Motors.

Call 1-800-222-1020, 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 Limited
Customer Care Centre,
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Vehicle Data Recording and Privacy

This GM vehicle has a number of sophisticated computers that record information about the vehicle's performance and how it is driven. For example, the vehicle uses computer modules to monitor and control engine and transmission performance, to monitor the conditions for airbag deployment and deploy airbags in a crash, and, if so equipped, to provide antilock braking to help the driver control the vehicle. These modules may store data to help your dealer technician service the vehicle. Some modules may also store data about how you operate the vehicle, such as rate of fuel consumption or average speed. These modules may also retain the owner's personal preferences, such as radio presets, seat positions, and temperature settings.

Event Data Recorders

This vehicle has an Event Data Recorder (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an airbag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in the vehicle were operating.
- Whether or not the driver and passenger safety belts were buckled/fastened.
- How far, if at all, the driver was pressing the accelerator and/or brake pedal.
- How fast the vehicle was traveling.

This data can help provide a better understanding of the circumstances in which crashes and injuries occur.

Important: EDR data is recorded by the vehicle only if a non-trivial crash situation occurs; no data is recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) is recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

GM will not access this data or share it with others except: with the consent of the vehicle owner or, if the vehicle is leased, with the consent of the lessee; in response to an official request by police or similar government office; as part of GM's defense of litigation through the discovery process; or, as required by law. Data that GM collects or receives may also be used for GM research needs or may be made available to others for research purposes, where a need is shown and the data is not tied to a specific vehicle or vehicle owner.

OnStar®

If the vehicle is equipped with an active OnStar system, that system may also record data in crash or near crash-like situations. The OnStar Terms and Conditions provides information on data collection and use and is available at www.onstar.com (U.S.) or www.onstar.ca (Canada), or by pressing the button and speaking to an advisor. See *OnStar Overview on page 14-1*.

Radio Frequency Identification (RFID)

RFID technology is used in some vehicles for functions such as tire pressure monitoring and ignition system security, as well as in connection with conveniences such as key fobs for remote door locking/unlocking and starting, and in-vehicle transmitters for garage door openers. RFID technology in GM vehicles does not use or record personal information or link with any other GM system containing personal information.

Radio Frequency Statement

This vehicle has systems that operate on a radio frequency that comply with Part 15 of the Federal Communications Commission (FCC) rules and with Industry Canada Standards RSS-GEN/210/220/310.

Operation is subject to the following two conditions:

1. The device may not cause harmful interference.
2. The device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to any of these systems by other than an authorized service facility could void authorization to use this equipment.

✍ NOTES

OnStar

OnStar Overview
OnStar Overview 14-1

OnStar Services
Emergency 14-2
Security 14-2
Navigation 14-2
Connections 14-4
Diagnostics 14-5

OnStar Additional Information
OnStar Additional Information 14-5

OnStar Overview

If equipped, this vehicle has a comprehensive, in-vehicle system that can connect to a live Advisor for Emergency, Security, Navigation, Connection, and Diagnostic Services.

The OnStar system status light is next to the OnStar buttons. If the status light is:

- Solid Green: System is ready.
- Flashing Green: On a call.
- Red: Indicates a problem.

Push or call 1-888-4-ONSTAR (1-888-466-7827) to speak to an Advisor.

Push to:

- Make a call, end a call, or answer an incoming call.
- Give OnStar Hands-Free Calling voice commands.
- Give OnStar Turn-by-Turn Navigation voice commands. Requires the available Directions and Connections service plan.

Push to connect to a live Advisor to:

- Verify account information or update contact information.
- Get driving directions. Requires the available Directions and Connections service plan.
- Receive On-Demand Diagnostics for a check on the vehicle's key operating systems.
- Receive Roadside Assistance.

Push ✚ to get a priority connection to an Emergency Advisor available 24/7 to:

- Get help for an emergency.
- Be a Good Samaritan or respond to an AMBER Alert.
- Get crisis assistance and evacuation routes.

OnStar Services

Emergency

With Automatic Crash Response, the built-in system can automatically connect to help in a crash even if you cannot ask for it.

Push ✚ to connect to an Emergency Advisor. GPS technology is used to identify the vehicle location and can provide critical information to emergency personnel. The Advisor is also trained to offer critical assistance in emergency situations.

Security

OnStar provides services like Stolen Vehicle Assistance, Remote Ignition Block, and Roadside Assistance, if the vehicle is equipped with these services. OnStar can unlock the vehicle doors remotely, if it is equipped with automatic door locks, and can help police locate the vehicle if it is stolen.

Navigation

OnStar navigation requires the Directions and Connections service plan.

Push OnStar to receive directions or have them sent to the vehicle navigation screen. Destinations can also be forwarded to the vehicle from Google Maps™ or MapQuest.com. The OnStar mapping database is continuously updated. Visit www.onstar.com for coverage maps.

Turn-by-Turn Navigation

1. Push OnStar to connect to a live Advisor.
2. Request directions.
3. Directions are downloaded to the vehicle.
4. Follow the voice-guided commands.

Using Voice Commands During a Planned Route

Cancel Route

1. Push . System responds: “OnStar ready,” then a tone. Say “Cancel route.” System responds: “Would you like to cancel route directions to your destination?”
2. Say “Yes.” System responds: “OK, route canceled.”
3. Say “Goodbye.” Exits voice commands.

Route Preview

1. Push . System responds: “OnStar ready,” then a tone.
2. Say “Route Preview.” System responds with the next three maneuvers.
3. Say “Goodbye.” Exits voice commands.

Repeat

1. Push . System responds: “OnStar ready,” then a tone.
2. Say “Repeat.” System responds with the last direction given, then responds with “OnStar ready,” then a tone.
3. Say “Goodbye.” Exits voice commands.

Get My Destination

1. Push . System responds: “OnStar ready,” then a tone.
2. Say “Get my destination.” System responds with miles to the destination, then responds with “OnStar ready,” then a tone.
3. Say “Goodbye.” Exits voice commands.

Other Navigation Services Available from OnStar

OnStar eNav: Allows subscribers to send destinations from Google Maps™ and MapQuest.com to their Turn-by-Turn Navigation or screen-based navigation system. When ready, the directions will be downloaded to the vehicle.

Destination Download: Push , then request the Advisor to download directions to the navigation system in the vehicle. After the call ends, push the “Go” button on the navigation screen to begin driving directions.

Destinations can also be downloaded on the go. For information about eNav, Destination Download, and coverage maps visit www.onstar.com.

Connections

OnStar Hands-Free Calling allows calls to be made and received from the vehicle. The vehicle can also be controlled from a cell phone through the OnStar mobile app. See www.onstar.com for coverage maps.

Hands-Free Calling

1. Push . System responds: “OnStar ready.”
2. Say “Dial.” System responds: “Please say the name or number to call.”
3. Say the entire number without pausing, including a “1” and the area code. System responds: “OK calling.”

Retrieve My Number

1. Push . System responds: “OnStar ready.”
2. Say “My Number.” System responds: “Your OnStar Hands-Free Calling number is.”

End a Call

Push . System responds: “Call ended.”

Store a Name Tag for Speed Dialing

1. Push . System responds: “OnStar ready.”
2. Say “Store.” System responds: “Please say the number you would like to store.”
3. Say the entire number without pausing. System responds: “Please say the name tag.”
4. Pick a name tag. “System responds: ”About to store <name tag>. Does that sound OK?”
5. Say “Yes” or “No” to try again. System responds: “OK, storing <name tag>.”

Place a Call Using a Stored Number

1. Push . System responds: “OnStar ready.”
2. Say “Call <name tag>.” System responds: “OK, calling <name tag>.”

Verify Minutes and Expiration

Push and say “minutes” then “verify” to check how many minutes remain and their expiration date.

OnStar Mobile App

With an iPhone® or Android™-based mobile device, an OnStar mobile app can be downloaded. The vehicle can be remote started, if equipped, or the doors can be unlocked from anywhere there is cell phone service. It can also check the fuel level, tire pressure, and oil life. It can connect to an OnStar Advisor anytime. For OnStar mobile app compatibility or further information, see www.onstar.com.

Diagnostics

OnStar Vehicle Diagnostics will perform a vehicle check every month. It will check the engine, transmission, antilock brakes, and major vehicle systems. It also checks the tire pressures, if the vehicle is equipped with the Tire Pressure Monitoring System. If a diagnostics check is needed between e-mails, push , and an Advisor can run a check.

OnStar Additional Information

Transferring Service

Push to request account transfer eligibility information. The Advisor can assist in canceling or removing account information. If OnStar receives information that vehicle ownership has changed, OnStar may send a voice message to the vehicle, requesting updated account information.

Reactivation for Subsequent Owners

Push and follow the prompts to speak to an Advisor as soon as possible after acquiring the vehicle. The Advisor will update vehicle records and will explain the OnStar service offers and options available.

How OnStar Service Works

Automatic Crash Response, Emergency Services, Crisis Assist, Stolen Vehicle Assistance, Vehicle Diagnostics, Remote Door Unlock, Roadside Assistance, Turn-by-Turn Navigation, and Hands-Free Calling are available on most vehicles. Not all OnStar services are available everywhere or on all vehicles. For more information, a full description of OnStar services, system limitations, and OnStar terms and conditions, see www.onstar.com (U.S.) or www.onstar.ca (Canada); contact OnStar at 1-888-4-ONSTAR (1-888-466-7827) or TTY 1-877-248-2080; or push to speak with an Advisor. OnStar services require a vehicle electrical system, wireless service, and GPS satellite technologies to be available and operating for features to function properly. These systems may not operate if the battery is discharged or disconnected.

OnStar service cannot work unless your vehicle is in a place where OnStar has an agreement with a wireless service provider for service in that area, and the wireless service provider has coverage, network capacity, reception, and technology compatible with OnStar's service. Service involving location information about the vehicle cannot work unless GPS signals are available, unobstructed, and compatible with the OnStar hardware. OnStar service may not work if the OnStar equipment is not properly installed or it has not been properly maintained. If equipment or software is added, connected, or modified, OnStar service may not work. Other problems beyond OnStar's control may prevent service such as hills, tall buildings, tunnels, weather, electrical system design and architecture of the vehicle, damage to the vehicle in a crash, or wireless phone network congestion or jamming.

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

Services for People with Disabilities

Advisors provide services to help subscribers with physical disabilities and medical conditions.

Push for help with:

- Locating a gas station with an attendant to pump gas.
- Finding a hotel, restaurant, etc., that meets accessibility needs.
- Providing directions to the closest hospital or pharmacy in urgent situations.

TTY Users

OnStar has the ability to communicate to the deaf, hard-of-hearing, or speech-impaired customers while in the vehicle. The available dealer-installed TTY system can provide in-vehicle access to all of the OnStar services, except Virtual Advisor and OnStar Turn-by-Turn Navigation.

Onstar.com

The website provides access to account information, manages the OnStar subscription, and allows viewing of videos of each service. Get subscription plan pricing and sign up for OnStar Vehicle Diagnostics. Click on the "My Account" tab on the home page.

OnStar Personal Identification Number (PIN)

A PIN is needed to access some of the OnStar services, like Remote Door Unlock and Stolen Vehicle Assistance. You will be prompted to change the PIN the first time when speaking with an Advisor. To change the OnStar PIN, call OnStar and provide the Advisor with the current number.

Warranty

OnStar equipment may be warranted as part of the new-vehicle limited warranty. The manufacturer of the vehicle furnishes detailed warranty information.

Languages

The vehicle can be programmed to respond in French or Spanish. Push and ask an Advisor. Advisors can speak French or Spanish.

Potential Issues

Some OnStar services are disabled after five days. OnStar cannot perform Remote Door Unlock or Stolen Vehicle Assistance after the vehicle has been off continuously for five days. After five days, OnStar can contact Roadside Assistance and a locksmith to help gain access to the vehicle.

Global Positioning System (GPS)

- Obstruction of the GPS can occur in a large city with tall buildings; in parking garages; around airports; in tunnels, underpasses, or parking garages; or in an area with very dense trees. If GPS signals are not available, the OnStar system should still operate to call OnStar. However, OnStar could have difficulty identifying the exact location.
- In emergency situations, OnStar can use the last stored GPS location to send to emergency responders.
- A temporary loss of GPS can cause loss of the ability to send a Turn-by-Turn Navigation route. The Advisor may give a verbal route or may ask for a call back after the vehicle is driven into an open area.

Cellular and GPS Antennas

Avoid placing items over or near the antenna to prevent blocking cellular and GPS signal reception. Cellular reception is required for OnStar to send remote signals to the vehicle.

Unable to Connect to OnStar Message

If there is limited cellular coverage or the cellular network has reached maximum capacity, this message may come on. Push to try the call again or try again after driving a few miles into another cellular area.

Vehicle and Power Issues

OnStar services require a vehicle electrical system, wireless service, and GPS satellite technologies to be available and operating for features to function properly. These systems may not operate if the battery is discharged or disconnected.

Add-on Electrical Equipment

The OnStar system is integrated into the electrical architecture of the vehicle. Do not add any electrical equipment. See *Add-On Electrical Equipment on page 9-45*. Added electrical equipment may interfere with the operation of the OnStar system and cause it to not operate.

Privacy

The complete OnStar Privacy Statement may be found at www.onstar.com. Privacy-sensitive users of wireless communications are cautioned that the privacy of any information sent via wireless cellular communications cannot be assured. Third parties may unlawfully intercept or access transmissions and private communications without consent.

A

Accessories and Modifications 10-3
Accessory Power 9-18
Add-On Electrical Equipment 9-45
Additional Information, OnStar® 14-5
Adjustments
  Lumbar, Front Seats 3-4
Air Cleaner/Filter, Engine 10-11
Air Filter, Passenger Compartment 8-5
Air Vents 8-4
Airbag System
  Check 3-32
  How Does an Airbag Restrain? 3-24
  Passenger Sensing System 3-26
  What Makes an Airbag Inflate? 3-24
Airbag System (cont'd)
  What Will You See after an Airbag Inflates? 3-25
  When Should an Airbag Inflate? 3-23
  Where Are the Airbags? 3-21
Airbags
  Adding Equipment to the Vehicle 3-31
  Passenger Status Indicator . . . 5-14
  Readiness Light 5-14
  Servicing Airbag-Equipped Vehicles 3-31
  System Check 3-19
Alarm System
  Anti-theft 2-11
AM-FM Radio 7-6
Antenna
  Satellite Radio 7-13
Anti-theft
  Alarm System 2-11
  Alarm System Messages 5-32
Antilock Brake System (ABS) 9-26
  Warning Light 5-19
Appearance Care
  Exterior 10-67
  Interior 10-70
Armrest Storage 4-1
Ashtrays 5-9
Assistance Program, Roadside 13-5
Audio Players 7-13
  CD 7-13
Audio System
  Backglass Antenna 7-12
  Radio Reception 7-11
  Theft-Deterrent Feature 7-2
Automatic
  Door Locks 2-8
  Transmission 9-22
  Transmission Fluid 10-10
Automatic Transmission
  Manual Mode 9-25
  Shift Lock Control Function Check 10-22
Auxiliary Devices 7-18

B

Battery 10-21
Jump Starting 10-62
Load Management 6-7
Power Protection 6-8
Voltage and Charging Messages 5-28
Blade Replacement, Wiper . . . 10-23
Bluetooth 7-19
Brake System Warning Light 5-18
Brakes 10-18
Antilock 9-26
Fluid 10-19
Parking 9-27
System Messages 5-28
Braking 9-3
Break-In, New Vehicle 9-14
Bulb Replacement 10-28
Fog Lamps 6-4
Halogen Bulbs 10-24
Headlamp Aiming 10-24
Headlamps 10-24
Bulb Replacement (cont'd)
Headlamps, Front Turn Signal, Sidemarker, and Parking Lamps 10-24
License Plate Lamps 10-28
Taillamps, Turn Signal, Sidemarker, Stoplamps, and Backup Lamps 10-27
Buying New Tires 10-47

C

Calibration 5-5
California
Fuel Requirements 9-34
Perchlorate Materials Requirements 10-3
Warning 10-3
Canadian Vehicle Owners iii
Capacities and Specifications 12-2
Carbon Monoxide
Engine Exhaust 9-21
Trunk 2-9
Winter Driving 9-7
Cautions, Danger, and Warnings iv
CD Player 7-13
Center Console Storage 4-2
Center Seat 3-4
Chains, Tire 10-52
Charging System Light 5-15
Check
Engine Light 5-16
Ignition Transmission Lock 10-22
Child Restraints
Infants and Young Children 3-35
Lower Anchors and Tethers for Children 3-41
Older Children 3-33
Securing 3-47, 3-49
Systems 3-38
Cigarette Lighter 5-8
Circuit Breakers 10-29
Cleaning
Exterior Care 10-67
Interior Care 10-70

Climate Control Systems 8-1
Air Conditioning 8-1
Heating 8-1
Clock 5-6
Cluster, Instrument 5-10
Collision Damage Repair 13-9
Compact Spare Tire 10-61
Compass 5-5
Connections, OnStar® 14-4
Control of a Vehicle 9-3
Convenience Net 4-2
Convex Mirrors 2-13
Coolant
Engine 10-13
Engine Temperature
Gauge 5-12
Engine Temperature
Warning Light 5-20
Cooling System 10-12
Engine Messages 5-29
Courtesy Lamps 6-5
Courtesy Transportation
Program 13-8
Cruise Control 9-30
Light 5-23
Cupholders 4-1
Customer Assistance 13-4
Offices 13-3
Text Telephone (TTY)
Users 13-4
Customer Information
Service Publications
Ordering Information 13-11
Customer Satisfaction
Procedure 13-1

D

Damage Repair, Collision 13-9
Danger, Warnings, and
Cautions iv
Data Recorders, Event 13-14
Daytime Running Lamps/
Automatic Headlamp
System 6-3
Defensive Driving 9-3
Delayed Entry Lighting 6-7
Delayed Exit Lighting 6-7
Delayed Locking 2-7
Devices, Auxiliary 7-18
Diagnostics, OnStar® 14-5
Distracted Driving 9-2
Dome Lamps 6-6
Door
Ajar Messages 5-28
Delayed Locking 2-7
Locks 2-6
Power Locks 2-7
Drive Belt Routing, Engine 12-3
Driver Information
Center (DIC) 5-23
Driving
Characteristics and
Towing Tips 9-39
Defensive 9-3
Drunk 9-3
For Better Fuel Economy 1-18
Highway Hypnosis 9-6
Hill and Mountain Roads 9-7
If the Vehicle is Stuck 9-9
Loss of Control 9-5
Off-Road Recovery 9-4
Vehicle Load Limits 9-10
Wet Roads 9-6
Winter 9-7

E

E85 Fuel 9-36
Electrical Equipment,
Add-On 9-45
Electrical System
Engine Compartment
Fuse Block 10-29
Fuses and Circuit
Breakers 10-29
Instrument Panel Fuse
Block 10-32
Overload 10-28
Electronic Stability Control 9-29
Electronic Stability Control
(ESC) Off Light 5-19
Electronic Stability Control
(ESC)/Traction Control
System (TCS) Indicator
Warning Light 5-20
Emergency, OnStar® 14-2
Engine
Air Cleaner/Filter 10-11
Check and Service Engine
Soon Light 5-16
Compartment Overview 10-6
Coolant 10-13
Engine (cont'd)
Coolant Temperature
Gauge 5-12
Coolant Temperature
Warning Light 5-20
Cooling System 10-12
Cooling System Messages . . .5-29
Drive Belt Routing 12-3
Exhaust 9-21
Heater 9-18
Oil Life System 10-10
Oil Messages 5-30
Overheated Protection
Operating Mode 10-16
Overheating 10-15
Power Messages 5-30
Pressure Light 5-22
Running While Parked 9-22
Starting 9-16
Entry Lighting 6-6
Equipment, Towing 9-44
Event Data Recorders 13-14
Extender, Safety Belt 3-17
Exterior Lamp Controls 6-1

F

Filter,
Engine Air Cleaner 10-11
Flash-to-Pass 6-2
Flashers, Hazard Warning 6-3
Flat Tire 10-52
Changing 10-54
Floor Mats 10-73
Fluid
Automatic Transmission 10-10
Brakes 10-19
Power Steering 10-17
Washer 10-18
Fog Lamps
Bulb Replacement 6-4
Front Fog Lamp
Light 5-23
Front Seats
Adjustment 3-3
Heated 3-7
Fuel 9-33
Additives 9-35
E85 (85% Ethanol) 9-36
Economy Driving 1-18
Filling a Portable Fuel
Container 9-38

Fuel (cont'd)
Filling the Tank 9-37
Foreign Countries 9-34
Gasoline Specifications 9-34
Gauge 5-11
Recommended 9-33
Requirements, California 9-34
System Messages 5-30
Fuses
Engine Compartment
Fuse Block 10-29
Fuses and Circuit
Breakers 10-29
Instrument Panel Fuse
Block 10-32

G

Garage Door Opener 5-40
Programming 5-40
Gasoline
Specifications 9-34
Gauges
Engine Coolant
Temperature 5-12
Fuel 5-11
Odometer 5-11
Gauges (cont'd)
Speedometer 5-11
Tachometer 5-11
Warning Lights and
Indicators 5-9
General Information
Service and Maintenance 11-1
Towing 9-39
Vehicle Care 10-2
Glove Box 4-1
GM Mobility Reimbursement
Program 13-5

H

Halogen Bulbs 10-24
Hazard Warning Flashers 6-3
Head Restraints 3-2
Headlamps
Aiming 10-24
Bulb Replacement 10-24
Daytime Running Lamps/
Automatic Headlamp
System 6-3
Flash-to-Pass 6-2
Headlamps (cont'd)
Headlamps, Front Turn
Signal, Sidemarker, and
Parking Lamps 10-24
High-Beam On Light 5-23
High/Low Beam Changer 6-2
Heated Front Seats 3-7
Heated Mirrors 2-14
Heater
Engine 9-18
Heating and Air Conditioning ... 8-1
High-Beam On Light 5-23
Highway Hypnosis 9-6
Hill and Mountain Roads 9-7
Hood 10-5
Horn 5-3
How to Wear Safety Belts
Properly 3-11

I

Ignition Positions 9-15
Ignition Transmission Lock
Check 10-22
Immobilizer 2-12

Infants and Young Children, Restraints 3-35
Infotainment 7-1
Instrument Cluster 5-10
Introduction iii

J

Jump Starting 10-62

K

Key and Lock Messages 5-31
Keyless Entry
Remote (RKE) System 2-3
Keys 2-2

L

Labeling, Tire Sidewall 10-34
Lamps
Courtesy 6-5
Dome 6-6
Exterior Controls 6-1
License Plate 10-28
Lamps (cont'd)
Malfunction Indicator 5-16
Messages 5-31
Reading 6-6
Lap Belt 3-17
Lap-Shoulder Belt 3-12
LATCH System
Replacing Parts after a Crash 3-47
LATCH, Lower Anchors and Tethers for Children 3-41
Light
Electronic Stability Control (ESC), Off 5-19
Electronic Stability Control (ESC)/Traction Control System (TCS) Indicator Warning 5-20
Lighter, Cigarette 5-8
Lighting
Delayed Entry 6-7
Delayed Exit 6-7
Entry 6-6
Illumination Control 6-5
Parade Dimming 6-7
Lights
Airbag Readiness 5-14
Antilock Brake System (ABS) Warning 5-19
Brake System Warning 5-18
Charging System 5-15
Cruise Control 5-23
Engine Coolant Temperature Warning 5-20
Engine Oil Pressure 5-22
Flash-to-Pass 6-2
Front Fog Lamp 5-23
High-Beam On 5-23
High/Low Beam Changer 6-2
Safety Belt Reminders 5-13
Security 5-22
Tire Pressure 5-21
Locks
Automatic Door 2-8
Delayed Locking 2-7
Door 2-6
Lockout Protection 2-8
Power Door 2-7
Safety 2-8
Loss of Control 9-5

Lower Anchors and Tethers for Children (LATCH System) 3-41
Lumbar Adjustment 3-4
Front Seats 3-4

M

Maintenance Records 11-13
Maintenance Schedule
Recommended Fluids and Lubricants 11-11
Malfunction Indicator Lamp 5-16
Manual Mode 9-25
Messages
Airbag System 5-32
Anti-theft Alarm System 5-32
Battery Voltage and Charging 5-28
Brake System 5-28
Door Ajar 5-28
Engine Cooling System 5-29
Engine Oil 5-30
Engine Power 5-30
Fuel System 5-30
Key and Lock 5-31
Messages (cont'd)
Lamp 5-31
Ride Control System 5-31
Service Vehicle 5-33
Tire 5-33
Transmission 5-34
Vehicle 5-27
Vehicle Reminder 5-35
Washer Fluid 5-35
Mirrors
Automatic Dimming Rearview 2-15
Convex 2-13
Heated 2-14
Manual Rearview 2-14
Power 2-14
Monitor System, Tire Pressure 10-41

N

Navigation
OnStar® 14-2
Net, Convenience 4-2
New Vehicle Break-In 9-14

O

Odometer 5-11
Off-Road Recovery 9-4
Oil
Engine 10-7
Engine Oil Life System 10-10
Messages 5-30
Pressure Light 5-22
Older Children, Restraints 3-33
Online Owner Center 13-4
OnStar®
Additional Information 14-5
Connections 14-4
Diagnostics 14-5
Emergency 14-2
Navigation 14-2
Overview 14-1
Security 14-2
System, In Brief 1-19
Operation, Infotainment System 7-2
Ordering Service Publications 13-11
Outlets
Power 5-8

Overheated Engine
Protection
Operating Mode 10-16
Overheating, Engine 10-15
Overview, OnStar® 14-1

P

Parade Dimming 6-7
Park
Shifting Into 9-19
Shifting Out of 9-20
Parking
Brake 9-27
Brake and P (Park)
Mechanism Check 10-22
Over Things That Burn 9-21
Passenger Airbag Status
Indicator 5-14
Passenger Compartment Air
Filter 8-5
Passenger Sensing System . . . 3-26
Perchlorate Materials
Requirements, California 10-3
Personalization
Vehicle 5-35
Phone
Bluetooth 7-19
Power
Door Locks 2-7
Mirrors 2-14
Outlets 5-8
Protection, Battery 6-8
Retained Accessory (RAP) . . . 9-18
Seat Adjustment 3-4
Steering Fluid 10-17
Windows 2-16
Pregnancy, Using Safety
Belts 3-16
Privacy
Radio Frequency
Identification (RFID) 13-15
Program
Courtesy Transportation 13-8
Proposition 65 Warning,
California 10-3

R

Radio Frequency
Identification (RFID) 13-15
Statement 13-15
Radios
AM-FM Radio 7-6
Reception 7-11
Satellite 7-8
Reading Lamps 6-6
Rear Seats 3-8
Rear Storage 4-2
Rearview Mirrors 2-14
Automatic Dimming 2-15
Reclining Seatbacks 3-5
Recommended
Fuel 9-33
Recommended Fluids and
Lubricants 11-11
Records
Maintenance 11-13
Recreational Vehicle
Towing 10-66
Reimbursement Program,
GM Mobility 13-5

Remote Keyless Entry
(RKE) System 2-2, 2-3
Remote Vehicle Start 2-5
Replacement Bulbs 10-28
Replacement Parts
Airbags 3-33
Maintenance 11-12
Replacing Airbag System 3-33
Replacing LATCH System
Parts after a Crash 3-47
Replacing Safety Belt
System Parts after a Crash . . . 3-18
Reporting Safety Defects
Canadian Government 13-13
General Motors 13-13
U.S. Government 13-12
Restraints
Where to Put 3-40
Retained Accessory
Power (RAP) 9-18
Ride Control Systems 9-29
Electronic Stability (ESC) 9-29
Messages 5-31
Roads
Driving, Wet 9-6
Roadside Assistance
Program 13-5
Roof
Sunroof 2-17
Rotation, Tires 10-45
Routing, Engine Drive Belt 12-3
Running the Vehicle While
Parked 9-22

S

Safety Belts 3-10
Care 3-18
Extender 3-17
How to Wear Safety Belts
Properly 3-11
Lap Belt 3-17
Lap-Shoulder Belt 3-12
Reminders 5-13
Replacing after a Crash 3-18
Use During Pregnancy 3-16
Safety Defects Reporting
Canadian Government 13-13
General Motors 13-13
U.S. Government 13-12
Safety Locks 2-8
Safety System Check 3-18
Satellite Radio 7-8
Scheduling Appointments 13-7
Seats
Adjustment, Front 3-3
Center Seat 3-4
Head Restraints 3-2
Heated Front 3-7
Lumbar Adjustment, Front 3-4
Power Adjustment, Front 3-4
Rear 3-8
Reclining Seatbacks 3-5
Securing Child
Restraints 3-47, 3-49
Security
Light 5-22
OnStar® 14-2
Vehicle 2-11
Service
Accessories and
Modifications 10-3
Doing Your Own Work 10-4
Engine Soon Light 5-16
Maintenance Records 11-13

Service (cont'd)
Maintenance, General Information 11-1
Parts Identification Label 12-1
Publications Ordering Information 13-11
Scheduling Appointments 13-7
Vehicle Messages 5-33
Servicing the Airbag 3-31
Shift Lock Control Function Check, Automatic Transmission 10-22
Shifting
Into Park 9-19
Out of Park 9-20
Sidemarker
Bulb Replacement 10-27
Signals, Turn and Lane-Change 6-4
Spare Tire
Compact 10-61
Specifications and Capacities 12-2
Speedometer 5-11
Start Vehicle, Remote 2-5
Starter Switch Check 10-21
Starting the Engine 9-16
Steering 9-4
Fluid, Power 10-17
Wheel Adjustment 5-2
Wheel Controls 5-3
Stoplamps and Back-Up Lamps
Bulb Replacement 10-27
Storage
Rear 4-2
Storage Areas
Armrest 4-1
Center Console 4-2
Convenience Net 4-2
Glove Box 4-1
Sunglasses 4-1
Stuck Vehicle 9-9
Sun Visors 2-17
Sunglass Storage 4-1
Sunroof 2-17
Symbols iv
System
Infotainment 7-1

T

Tachometer 5-11
Taillamps
Bulb Replacement 10-27
Text Telephone (TTY) Users . . . 13-4
Theft-Deterrent Systems 2-12
Immobilizer 2-12
Time 5-6
Tires
Buying New Tires 10-47
Chains 10-52
Changing 10-54
Compact Spare 10-61
Designations 10-36
Different Size 10-49
If a Tire Goes Flat 10-52
Inflation Monitor System 10-42
Inspection 10-45
Messages 5-33
Pressure Light 5-21
Pressure Monitor System . . . 10-41
Rotation 10-45
Sidewall Labeling 10-34
Terminology and Definitions 10-37

Tires (cont'd)
Uniform Tire Quality Grading 10-49
Wheel Alignment and Tire Balance 10-51
Wheel Replacement 10-51
When It Is Time for New Tires 10-46
Towing
Driving Characteristics 9-39
Equipment 9-44
General Information 9-39
Recreational Vehicle 10-66
Trailer 9-42
Vehicle 10-65
Traction
Control System (TCS) 9-27
Trailer
Towing 9-42
Transmission
Automatic 9-22
Fluid, Automatic 10-10
Messages 5-34
Transportation Program, Courtesy 13-8
Trunk 2-9
Turn and Lane-Change Signals 6-4
Turn Signal
Bulb Replacement 10-27

U

Uniform Tire Quality Grading 10-49
Universal Remote System 5-40
Operation 5-46
Programming 5-40
Using This Manual iv

V

Vehicle
Canadian Owners iii
Control 9-3
Identification Number (VIN) 12-1
Vehicle (cont'd)
Load Limits 9-10
Messages 5-27
Personalization 5-35
Reminder Messages 5-35
Remote Start 2-5
Security 2-11
Towing 10-65
Vehicle Care
Tire Pressure 10-40
Ventilation, Air 8-4
Visors 2-17

W

Warning
Brake System Light 5-18
Warning Lights, Gauges, and Indicators 5-9
Warnings iv
Cautions and Danger iv
Hazard Flashers 6-3
Washer Fluid 10-18
Messages 5-35

Wheels
Alignment and Tire
Balance 10-51
Different Size 10-49
Replacement 10-51
When It Is Time for New
Tires 10-46
Where to Put the Restraint 3-40
Windows 2-15
Power 2-16
Windshield
Wiper/Washer 5-4
Winter
Driving 9-7
Wiper Blade Replacement 10-23