

*Cadillac*

**ESCALADE**

**ESCALADE**

**ESV**

Owner Manual

# 2014 Cadillac Escalade Owner Manual

<b>In Brief</b> .....	1-1	<b>Storage</b> .....	4-1	<b>Climate Controls</b> .....	8-1
Instrument Panel .....	1-2	Storage Compartments .....	4-1	Climate Control Systems .....	8-1
Initial Drive Information .....	1-4	Roof Rack System .....	4-3	Air Vents .....	8-7
Vehicle Features .....	1-15	<b>Instruments and Controls</b> .....	5-1	<b>Driving and Operating</b> .....	9-1
Performance and		Controls .....	5-2	Driving Information .....	9-2
Maintenance .....	1-18	Warning Lights, Gauges, and		Starting and Operating .....	9-17
		Indicators .....	5-9	Engine Exhaust .....	9-24
<b>Keys, Doors, and</b>		Information Displays .....	5-22	Automatic Transmission .....	9-25
<b>Windows</b> .....	2-1	Vehicle Messages .....	5-27	Drive Systems .....	9-29
Keys and Locks .....	2-1	Vehicle Personalisation .....	5-36	Brakes .....	9-29
Doors .....	2-8	<b>Lighting</b> .....	6-1	Ride Control Systems .....	9-32
Vehicle Security .....	2-12	Exterior Lighting .....	6-1	Cruise Control .....	9-36
Exterior Mirrors .....	2-15	Interior Lighting .....	6-6	Object Detection Systems .....	9-39
Interior Mirrors .....	2-16	Lighting Features .....	6-7	Fuel .....	9-45
Windows .....	2-17	<b>Infotainment System</b> .....	7-1	Towing .....	9-48
Roof .....	2-19	Introduction .....	7-1	Conversions and Add-Ons .....	9-58
<b>Seats and Restraints</b> .....	3-1	Radio .....	7-8	<b>Vehicle Care</b> .....	10-1
Head Restraints .....	3-2	Audio Players .....	7-16	General Information .....	10-2
Front Seats .....	3-3	Rear Seat Infotainment .....	7-29	Vehicle Checks .....	10-3
Rear Seats .....	3-8	Navigation .....	7-31	Headlamp Aiming .....	10-30
Safety Belts .....	3-15			Bulb Replacement .....	10-30
Airbag System .....	3-23			Electrical System .....	10-32
Child Restraints .....	3-37			Wheels and Tyres .....	10-40
				Jump Starting .....	10-69

# 2014 Cadillac Escalade Owner Manual

---

Towing .....	10-74
Appearance Care .....	10-74
<b>Service and Maintenance</b> ...	11-1
General Information .....	11-1
Scheduled Maintenance .....	11-1
Recommended Fluids, Lubricants, and Parts .....	11-5
<b>Technical Data</b> .....	12-1
Vehicle Identification .....	12-1
Vehicle Data .....	12-2
<b>Customer Information</b> .....	13-1
Customer Information .....	13-1
Vehicle Data Recording and Privacy .....	13-1
<b>Index</b> .....	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, CADILLAC, the CADILLAC Crest and Wreath, and ESCALADE 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.

Keep this manual in the vehicle for quick reference.

## 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."

## iv Introduction

---

### 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.

 : Adjustable Pedals

 : Airbag Readiness Light

 : Air Conditioning

 : Antilock Brake System (ABS)

 : Audio Steering Wheel Controls

 : Brake System Warning Light

 : Charging System

 : Cruise Control

 : Engine Coolant Temperature

 : Exterior Lamps

 : Fog Lamps

 : Fuel Gauge

 : Fuses

 : Headlamp Main/Dipped-Beam Changer

 : Heated Steering Wheel

 : LATCH System Child Restraints

 : Malfunction Indicator Lamp

 : Oil Pressure

 : Outside Power Foldaway Mirrors

 : Power

 : Remote Vehicle Start

 : Safety Belt Reminders

 : Tyre Pressure Monitor

 : Tow/Haul Mode

 : Traction Control/StabiliTrak®

 : Windscreen Washer Fluid

## In Brief

### Instrument Panel

Instrument Panel ..... 1-2

### Initial Drive Information

Initial Drive Information ..... 1-4

Remote Keyless Entry (RKE)

System ..... 1-4

Remote Vehicle Start ..... 1-4

Door Locks ..... 1-5

Tailgate ..... 1-6

Windows ..... 1-7

Seat Adjustment ..... 1-7

Memory Features ..... 1-8

Second Row Seats ..... 1-8

Third Row Seats ..... 1-8

Heated and Ventilated

Seats ..... 1-9

Head Restraint Adjustment .... 1-9

Safety Belts ..... 1-10

Mirror Adjustment ..... 1-10

Steering Wheel

Adjustment ..... 1-11

Throttle and Brake Pedal

Adjustment ..... 1-11

Interior Lighting ..... 1-12

Exterior Lighting ..... 1-12

Windscreen Wiper/Washer ... 1-13

Climate Controls ..... 1-14

Transmission ..... 1-14

### Vehicle Features

Cruise Control ..... 1-15

Driver Information

Center (DIC) ..... 1-15

Side Blind Zone

Alert (SBZA) ..... 1-16

Rear Vision

Camera (RVC) ..... 1-17

Ultrasonic Parking Assist .... 1-17

Power Outlets ..... 1-17

Sunroof ..... 1-17

### Performance and Maintenance

StabiliTrak<sup>®</sup> System ..... 1-18

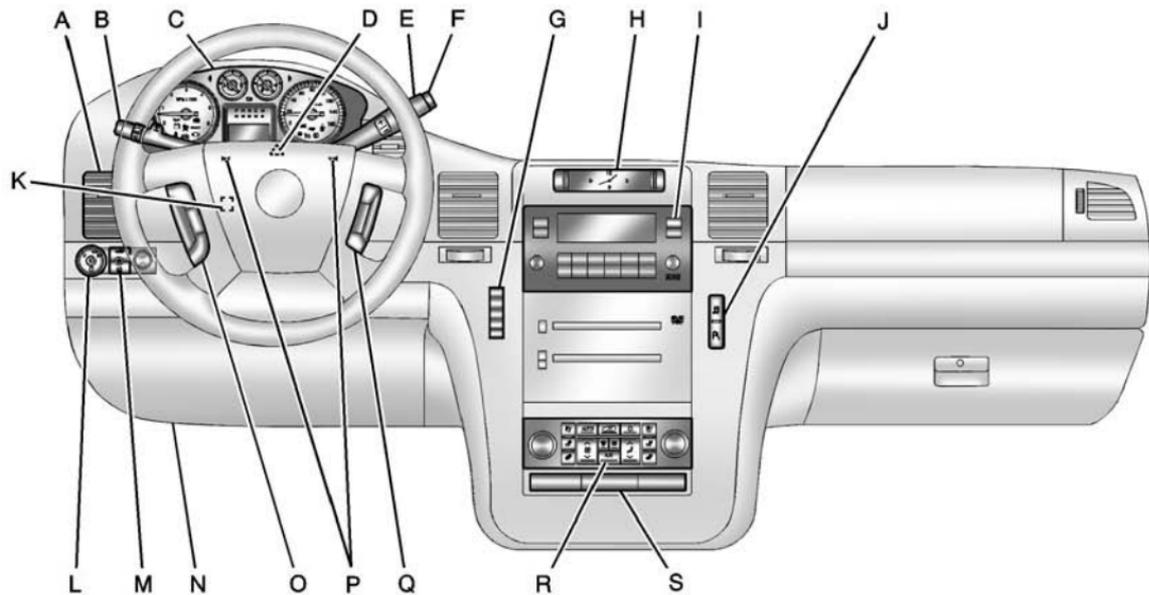
Tyre Pressure Monitor ..... 1-19

Engine Oil Life System ..... 1-19

Driving for Better Fuel

Economy ..... 1-19

## Instrument Panel



- A. *Air Vents on page 8-7.*
- B. *Indicator Lever. See Indicator and Lane-Change Signals on page 6-4.*  
*Windscreen Wiper/Washer on page 5-4.*
- C. *Instrument Cluster on page 5-10.*
- D. *Hazard Warning Flashers on page 6-4.*
- E. *Shift Lever and Range Selection Mode. See Automatic Transmission on page 9-25.*
- F. *Tow/Haul Mode on page 9-28.*
- G. *Driver Information Centre (DIC) Buttons. See Driver Information Centre (DIC) on page 5-22.*
- H. *Clock on page 5-7.*
- I. *Infotainment. See Overview on page 7-3.*
- J. *StabiliTrak® System on page 9-32.*  
*Rear Park Aid Disable Button. See Ultrasonic Parking Assist on page 9-39.*
- K. *Steering Wheel Adjustment on page 5-2.*
- L. *Exterior Lamp Controls on page 6-1.*  
*Rear Fog Lamps on page 6-5.*
- M. *Dome Lamp Override. See Dome Lamps on page 6-6.*  
*Instrument Panel Illumination Control on page 6-6.*  
*Front Fog Lamps on page 6-5.*
- N. *Data Link Connector (DLC) (Out of View). See Malfunction Indicator Lamp on page 5-15.*
- O. *Cruise Control on page 9-36.*  
*Heated Steering Wheel on page 5-3 (If Equipped).*
- P. *Horn on page 5-3.*
- Q. *Steering Wheel Controls on page 5-2.*
- R. *Dual Automatic Climate Control System on page 8-1.*
- S. *Pedal Adjust Button. See Adjustable Throttle and Brake Pedal on page 9-18.*  
*Power Assist Steps on page 2-11 (If Equipped).*

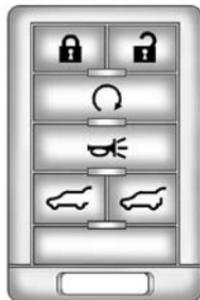
### Initial Drive Information

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

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

### Remote Keyless Entry (RKE) System

The 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 three seconds to unlock all remaining doors.

Press to lock all doors.

Lock and unlock feedback can be personalised. See *Vehicle Personalisation* on page 5-36.

Press and hold to open or close the tailgate.

Press and hold to open the liftglass.

Press and release to locate the vehicle.

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

Press again to cancel the panic alarm.

See *Keys on page 2-1* and *Remote Keyless Entry (RKE) System Operation on page 2-2*.

### Remote Vehicle Start

If equipped, 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, press and hold for at least four seconds or until the indicator 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.

### Cancelling a Remote Start

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

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

See *Remote Vehicle Start* on page 2-4.

## Door Locks

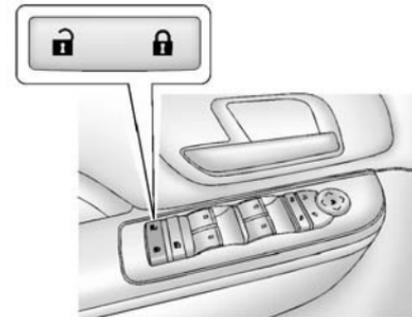
There are several ways to lock and unlock the vehicle.

From outside, use the Remote Keyless Entry (RKE) transmitter or the key in the driver door.

From inside, use the power door locks or the manual door locks. To lock or unlock the door with the manual locks, push down or pull up on the manual lock knob.

### Power Door Locks

Press  or  on the RKE transmitter. See *Remote Keyless Entry (RKE) System Operation* on page 2-2.



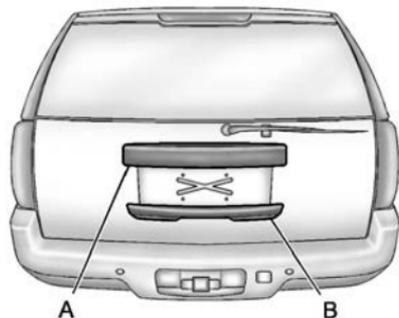
Premium Trim Shown, Uplevel Similar

 : Press to lock the doors.

 : Press to unlock the doors.

See *Door Locks* on page 2-6.

### Tailgate



A. Number Plate Applique

B. Tailgate Handle

The liftglass or tailgate cannot be opened if the rear wiper is in motion. Attempting to open the liftglass or tailgate while the rear wiper is in motion will cause the release of the liftglass or tailgate to delay until the wipers are parked off the liftglass.

### Manual Tailgate Operation

To unlock the tailgate, press  on the power door lock switch or press  on the Remote Keyless Entry (RKE) transmitter twice. See *Remote Keyless Entry (RKE) System Operation on page 2-2*.

Press the touch pad on the underside of the tailgate handle (B) and lift up.

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

### Power Tailgate Operation

On vehicles with a power tailgate, the switch is on the overhead console.

The vehicle must be in P (Park) to use the power feature. The tail lamps will flash and a chime will sound when the power tailgate moves.

There are several ways to open and close the power tailgate:

- Press and hold  on the RKE transmitter until the tailgate starts moving.
- Press  on the overhead console.
- Press  on the bottom of the tailgate next to the latch to close.

Pressing a second time while the tailgate is moving reverses the direction.

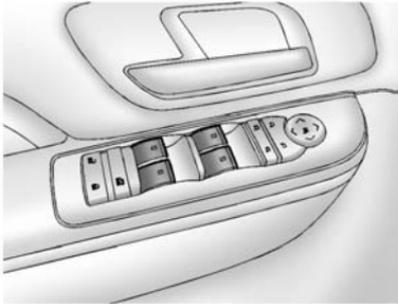
To disable the power tailgate function, press OFF on the tailgate switch. See *Tailgate on page 2-8*.

### Liftglass

If equipped, there are two ways to open the liftglass:

- Press the button on the underside of the number plate applique (A).
- Press  on the RKE transmitter.

## Windows



### Premium Trim Shown, Uplevel Similar

The driver door has switches that control all windows. Each passenger door switch only controls that window. The power windows work when the ignition is in ON/RUN or ACC/ACCESSORY, or in Retained Accessory Power (RAP). See *Retained Accessory Power (RAP)* on page 9-21.

Press the switch to lower the window. Pull the switch up to raise it. See *Windows* on page 2-17 and *Power Windows* on page 2-17.

## Seat Adjustment



To adjust the seat:

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

- Raise or lower the entire seat by moving the entire control up or down.

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

## Lumbar Adjustment



To adjust the lumbar support:

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

## 1-8 In Brief

---

See *Lumbar Adjustment* on page 3-4.

### Reclining Seat Backrests

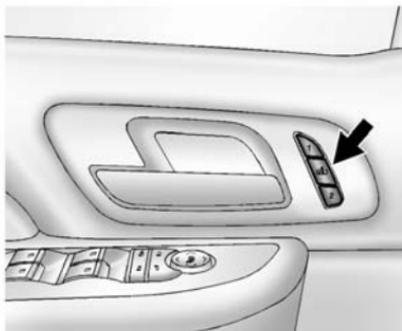


To adjust the seat back:

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

See *Reclining Seat backrests* on page 3-4.

### Memory Features



The controls on the driver door are used to program and recall memory settings for the driver seat, outside mirrors, power steering column, and the adjustable throttle and brake pedals.

See *Memory Seats* on page 3-5 and *Vehicle Personalisation* on page 5-36.

### Second Row Seats

On vehicles with a 60/40 split bench or bucket seats, the seat backs can be folded for additional cargo space, or the seats can be folded and tumbled for easy entry/exit to the third row seats. On vehicles with bucket seats, the seat backs also recline.

See *Second Row Seats* on page 3-8.

### Third Row Seats

The third row seat backs can be folded, and the entire seat can be tumbled or removed from the vehicle.

For detailed instructions, see *Third Row Seats* on page 3-12.

## Heated and Ventilated Seats



The buttons are on the climate control panel.

: Press to cool the seat.

: Press to heat the seat back only.

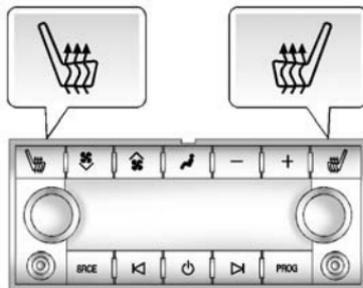
: Press to heat the seat and seat back.

Press the desired button once for the highest setting. With each press of the button, the seat will change to the next lower setting, and then to the off setting. Indicator bars next to the symbol on the climate control

display show the selected setting: three for high, two for medium, and one for low.

See *Heated and Ventilated Front Seats* on page 3-7.

## Heated Rear Seats



The buttons are on the Rear Seat Audio (RSA) panel on the rear of the centre console.

Press or to heat the left outboard or right outboard seat cushion and to cycle through the temperature settings.

See *Heated Rear Seats* 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 *Power Seat Adjustment* on page 3-3.

## Safety Belts

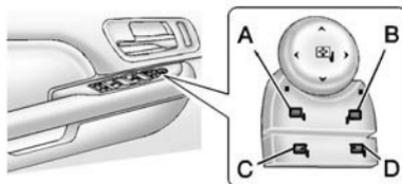


Refer to the following sections for important information on how to use safety belts properly:

- *Safety Belts on page 3-15.*
- *How to Wear Safety Belts Properly on page 3-17.*
- *Lap-Shoulder Belt on page 3-18.*
- *ISOFIX Child Restraint Systems on page 3-48*

## Mirror Adjustment

### Exterior Mirrors



**Premium Trim Shown, Uplevel Similar**

### Mirror Adjustment

1. Press (A) or (B) to select the driver or passenger side mirror.
2. Press the arrows on the control pad to move the mirror up, down, right, or left.
3. Press the opposite side to get the control pad to a neutral position.

## Power Folding Mirrors

To fold the mirrors:

1. Press (C) to fold the mirrors out to the driving position.
2. Press (D) to fold the mirrors in to the folded position.

See *Power Mirrors on page 2-15.*

## Automatic Dimming Mirror

The vehicle has an automatic dimming mirror. The driver outside mirror automatically adjusts for the glare of the headlamps from behind. This feature comes on when the vehicle is started. See *Automatic Dimming Mirror on page 2-16.*

## Heated Mirrors

The heated outside rearview mirrors turn on when the rear window demister is on.

Press  to heat the mirrors.

See *Heated Mirrors on page 2-16.*

### Park Tilt Mirrors

If the vehicle has the memory package, the driver and/or passenger mirror tilt to a preselected position when the vehicle is in R (Reverse). This feature lets the driver view the curb when parallel parking. The mirrors return to the original position when the vehicle is shifted out of R (Reverse), or the ignition is turned off or to OFF/LOCK.

This feature can be programmed. See *Vehicle Personalisation on page 5-36*.

### Interior Mirror

#### Adjustment

Hold the mirror in the centre and move it to view the area behind the vehicle.

### Automatic Dimming Rearview Mirror

The mirror will automatically reduce the glare from the headlamps from behind. The dimming feature comes on each time the vehicle is started.

See *Automatic Dimming Rearview Mirror on page 2-16*.

### Steering Wheel Adjustment



Push the control up or down to tilt the steering wheel up or down.

To set the memory position, see *Vehicle Personalisation on page 5-36*.

### Throttle and Brake Pedal Adjustment

The vehicle has adjustable throttle and brake pedals that allow you to change their positions.



The switch used to adjust the pedals is located on the centre console below the climate control system.

Press the right and left arrows to move the pedals either closer or further from your body.

See *Adjustable Throttle and Brake Pedal on page 9-18*.

### Interior Lighting

#### Dome Lamps

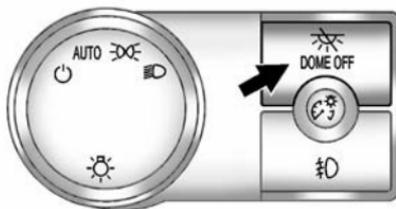
The dome lamps are located in the overhead console.

They come on when any door is opened and turn off after all the doors are closed.

Turn the instrument panel brightness knob located below the dome lamp override button, clockwise to the farthest position to manually turn on the dome lamps. The dome lamps remain on until the knob is turned anticlockwise.

#### Dome Lamp Override

The dome lamp override button is located next to the exterior lamps control.



 **DOME OFF** : Press the button in and the dome lamps remain off when a door is opened. Press the button again to return it to the extended position so that the dome lamps come on when a door is opened.

#### Reading Lamps

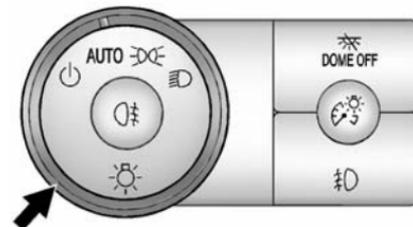
For vehicles with reading lamps in the overhead console, press the button located next to the lamp to turn it on or off.

The vehicle may also have reading lamps in other locations. The lamps are fixed and cannot be adjusted.

For more information about interior lamps, see:

- *Dome Lamps on page 6-6.*
- *Reading Lamps on page 6-6.*
- *Instrument Panel Illumination Control on page 6-6.*

### Exterior Lighting



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

 : Turns off the automatic headlamps. Turning the headlamp control to the off position again will turn the automatic headlamps back on.

**AUTO:** Automatically turns on the headlamps at normal brightness, along with the parking lamps, instrument panel lights, number plate lamps, and tail lamps.

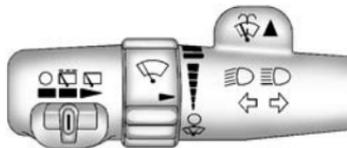
 : Turns on the parking lamps, along with the instrument panel lights, number plate lamps, and tail lamps.

 : Turns on the headlamps, parking lamps, instrument panel lights, number plate lamps, and tail lamps.

See:

- *Exterior Lamp Controls on page 6-1*
- *Front Fog Lamps on page 6-5*
- *Rear Fog Lamps on page 6-5*

## Windscreen Wiper/Washer



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

 : For a single wipe, turn to , then release. For several wipes, hold the band on  longer.

 : Turns the windscreen wipers off.

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

 : Slow wipes.

 : Fast wipes.

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

## Rear Wiper Window Wiper/Washer

To turn the rear wiper on, slide the lever to a wiper position.

 : Turns the wiper off.

 : Turns on the rear wiper delay.

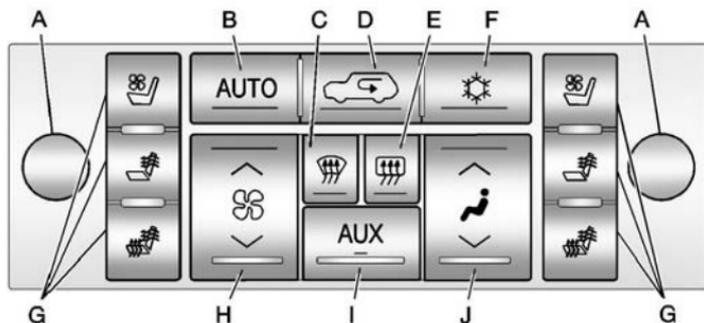
 : Turns on the rear wiper.

 : Press the button on the end of the lever to spray washer fluid on the rear window.

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

### Climate Controls

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



**Climate Control with Cooled and Heated Seats shown**

- A. Driver and Passenger Temperature Controls
- B. AUTO (Automatic Operation)
- C. Defrost
- D. Air Recirculation
- E. Rear Window Demister
- F. Air Conditioning

- G. Heated and Cooled Seats
- H. Fan Control
- I. AUX (Auxiliary Control)
- J. Air Delivery Mode Control

See *Dual Automatic Climate Control System* on page 8-1 and *Rear Climate Control System* on page 8-6 (If Equipped).

### Transmission

#### Driver Shift Control (DSC)



The DSC switch is located on the shift lever.

To enable the DSC feature:

1. Move the column shift lever to the M (Manual) position.
2. The Driver Information Centre (DIC) display will show the message **MANUAL SHIFT** on the first line and the current gear will be displayed on the second line. This is the highest attainable range with all lower gears accessible. As an example, when 5 (Fifth) gear is selected, 1 (First) through 5 (Fifth) gears are available.

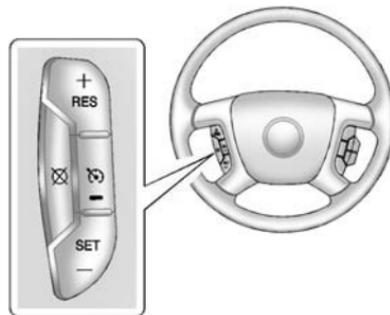
- Press the plus/minus buttons, located on the steering column shift lever, to select the desired range of gears for current driving conditions. See *Manual Mode* on page 9-27.

While using DSC, cruise control and the tow/haul mode can be used.

Grade Braking is not available when DSC is active. See *Tow/Haul Mode* on page 9-28.

## Vehicle Features

### Cruise Control



: Press to turn the system on or off. The indicator light is on when cruise control is on and turns off when cruise control is off.

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

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

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

See *Cruise Control* on page 9-36.

### Driver Information Center (DIC)

The DIC display is located in the centre of the instrument cluster. It shows the status of many vehicle systems and enables access to the personalisation menu.



The DIC buttons are located on the instrument panel, next to the steering wheel.

 : Press to display the odometer, trip odometer, fuel range, average economy, fuel used, timer, transmission temperature, instantaneous economy, and average vehicle speed. The compass and outside air temperature will also be shown in the display. The temperature will be shown in °C or °F depending on the units selected.

 : Press to display the oil life, units, side blind zone system on/off, tyre pressure readings for vehicles with the Tyre Pressure Monitor System (TPMS), compass zone setting, and compass recalibration.

 : Press to customise the feature settings on your vehicle. See *Vehicle Personalisation on page 5-36* for more information.

 : Press to set or reset certain functions and to turn off or acknowledge messages on the DIC.

For more information, see *Driver Information Centre (DIC) on page 5-22*.

### Vehicle Customisation

Some vehicle features can be programmed by using the DIC buttons next to the steering wheel. These features include:

- Language
- Door Lock and Unlock Settings
- RKE Lock and Unlock Feedback

- Lighting
- Chime Volume
- Memory Features
- Digital Speedometer Display

See *Vehicle Personalisation on page 5-36*.

### Side Blind Zone Alert (SBZA)

If equipped, SBZA will detect vehicles in the next lane over in the vehicle's side blind zone area. When this happens, the SBZA display will light up in the corresponding outside side mirror and will flash if the indicator is on.

See *Side Blind Zone Alert (SBZA) on page 9-40*.

## Rear Vision Camera (RVC)

If available, the RVC displays a view of the area behind the vehicle on the navigation screen when the vehicle is shifted into R (Reverse). Once shifted out of R (Reverse), the navigation screen will go back to the last screen that had been displayed, after a delay.

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

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

## Ultrasonic Parking Assist

If available, this system uses sensors on the rear bumper to assist with parking and avoiding objects while in R (Reverse). It operates at speeds less than 8 km/h (5 mph). URPA uses audible beeps to provide distance and system information.

Keep the sensors on the vehicle's rear bumper clean to ensure proper operation.

See *Ultrasonic Parking Assist* on page 9-39.

## Power Outlets

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

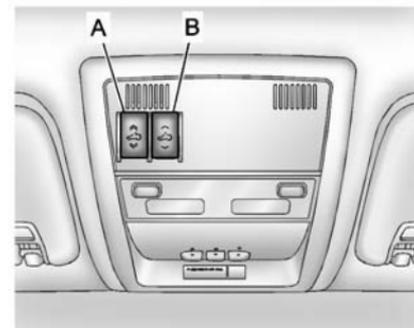
The vehicle has three accessory power outlets:

- Inside the floor console storage bin.
- On the rear of the floor console.
- In the rear cargo area on the passenger side.

The accessory power outlets are powered, even when the ignition is in LOCK/OFF. Continuing to use power outlets while the ignition is in LOCK/OFF may cause the vehicle's battery to run down.

See *Power Outlets* on page 5-7.

## Sunroof



A. Open or Close

B. Vent

On vehicles with a sunroof, the sunroof only operates when the ignition is in ACC/ACCESSORY or ON/RUN, or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP)* on page 9-21.

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

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

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

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

The sunroof also has a sunshade which can be pulled forward to block sun rays. The sunshade must be opened and closed manually.

If an object is in the path of the sunroof while it is closing, the anti-pinch feature will detect the object and stop the sunroof.

See *Sunroof* on page 2-19.

## Performance and Maintenance

### StabiliTrak<sup>®</sup> System

The vehicle has a traction control system that limits wheel spin and the StabiliTrak system that assists with directional control of the vehicle in difficult driving conditions. Both systems turn on automatically every time the vehicle is started.

- To turn off traction control, press and release  on the instrument panel. The appropriate DIC message displays. See *Ride Control System Messages* on page 5-33.
- To turn off both traction control and StabiliTrak, press and hold  until  illuminates and the appropriate DIC message displays. See *Ride Control System Messages* on page 5-33.
- Press and release  again to turn on both systems.

For more information, see *StabiliTrak® System on page 9-32.*

## Tyre Pressure Monitor

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



The low tyre pressure warning light alerts to a significant loss in pressure of one of the vehicle's tyres. If the warning light comes on, stop as soon as possible and inflate the tyres to the recommended pressure shown on the Tyre and Loading Information label. See *Vehicle Load Limits on page 9-14.* The warning light will remain on until the tyre pressure is corrected.

The low tyre pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This may be an early indicator that the tyre pressures are getting low and the tyres need to be inflated to the proper pressure.

The TPMS does not replace normal monthly tyre maintenance. Maintain the correct tyre pressures.

See *Tyre Pressure Monitor System on page 10-44.*

## Engine Oil Life System

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

## Resetting the Oil Life System

After you change the oil, the oil life system will need to be reset. See your dealer for service.

See *Engine Oil Life System on page 10-9.*

## 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.

## 1-20 In Brief

---

- Always follow posted speed limits or drive more slowly when conditions require.
- Keep vehicle tyres properly inflated.
- Combine several trips into a single trip.
- Replace the vehicle's tyres with the same TPC Spec number moulded into the tyre's sidewall near the size.
- Follow recommended scheduled maintenance.

# Keys, Doors, and Windows

## Keys and Locks

- Keys ..... 2-1
- Remote Keyless Entry (RKE) System ..... 2-2
- Remote Keyless Entry (RKE) System Operation ..... 2-2
- Remote Vehicle Start ..... 2-4
- Door Locks ..... 2-6
- Power Door Locks ..... 2-7
- Delayed Locking ..... 2-7
- Automatic Door Locks ..... 2-7
- Lockout Protection ..... 2-7
- Safety Locks ..... 2-7

## Doors

- Tailgate ..... 2-8
- Power Assist Steps ..... 2-11

## Vehicle Security

- Vehicle Security ..... 2-12
- Vehicle Alarm System ..... 2-12
- Immobiliser ..... 2-13
- Immobiliser Operation ..... 2-13

## Exterior Mirrors

- Convex Mirrors ..... 2-15
- Power Mirrors ..... 2-15
- Heated Mirrors ..... 2-16
- Automatic Dimming Mirror ... 2-16
- Park Tilt Mirrors ..... 2-16

## Interior Mirrors

- Automatic Dimming Rearview Mirror ..... 2-16

## Windows

- Windows ..... 2-17
- Power Windows ..... 2-17
- Sun Visors ..... 2-19

## Roof

- Sunroof ..... 2-19

# Keys and Locks

## Keys

 **Warning**

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

## 2-2 Keys, Doors, and Windows



The key can be used for the ignition and door locks.

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

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

### Remote Keyless Entry (RKE) System

See *Declaration of Conformity on page 13-1*.

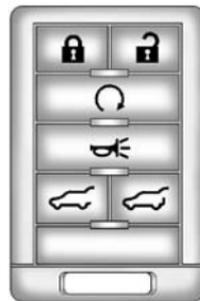
If there is a decrease in the RKE operating range:

- 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 and Power Tailgate and Liftglass (Without Remote Start Similar)**

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

If enabled through the Driver Information Centre (DIC), the indicators flash once to indicate locking has occurred. If enabled through the DIC, the horn chirps when  is pressed again within three seconds. See *Vehicle Personalisation on page 5-36* for additional information.

Pressing  arms the content theft-deterrent system. See *Vehicle Alarm System on page 2-12*.

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

If enabled through the DIC, the indicators flash twice to indicate unlocking has occurred. See *Vehicle Personalisation on page 5-36*.

If enabled through the DIC, the exterior lights turn on briefly if it is

dark enough outside. See “Approach Lighting” under *Vehicle Personalisation on page 5-36*.

Pressing  on the RKE transmitter disarms the content theft-deterrent system. See *Vehicle Alarm System on page 2-12*.

 **(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 2-4* for additional information.

 **(Power Tailgate):** Press and hold to open and close the tailgate. The tail lamps flash and a chime sounds to indicate when the tailgate is opening and closing.

 **(Liftglass):** Press and hold to open the liftglass.

 **(Vehicle Locator/Panic Alarm):** Press and release to locate the vehicle. The indicators flash and the horn sounds three times.

Press and hold  for more than three seconds to activate the panic alarm. The indicators flash and the horn sounds repeatedly for 30 seconds. The alarm turns off when the ignition is moved to ON/RUN or  is pressed again. The ignition must be in LOCK/OFF for the panic alarm to work.

The vehicle comes with two transmitters. Each transmitter will have a number on top of it, “1” or “2”. These numbers correspond to the driver of the vehicle. For example, the memory seat position for driver 1 will be recalled when using the transmitter labelled “1”, if enabled through the DIC. See *Memory Seats on page 3-5* for more information.

## 2-4 Keys, Doors, and Windows

### Programming Transmitters to the Vehicle

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

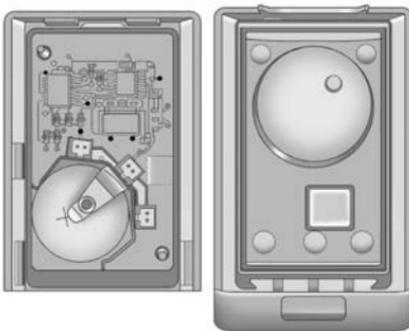
### Battery Replacement

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.

#### Warning

Make sure that you dispose of old batteries in accordance with environmental protection regulations to help protect the environment and your health.

**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 inserted into the notch, located above the metal base.
2. Remove the old battery. Do not use a metal object.
3. Insert the new battery, positive side facing up. Replace with a CR2032 or equivalent battery.
4. Snap the transmitter back together.

### Remote Vehicle Start

This feature allows you to start the engine from outside of the vehicle. It may also start up the vehicle's heating or air conditioning systems and rear window demister. Normal operation of the system will return after the key is turned to the ON/RUN position.

During a remote start, the climate control system will default to a heating or cooling mode depending on the outside temperatures.

During a remote start, if the vehicle has an automatic climate control system and heated seats, the heated seats will turn on during colder outside temperatures and will shut off when the key is turned to ON/RUN. If the vehicle does not have an automatic climate control system, during remote start, you will need to manually turn the heated seats on and off. See *Heated and Ventilated Front Seats* on page 3-7 for additional information.

Laws in some communities may restrict the use of remote starters. For example, some laws may require a person using the 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 the vehicle is low on fuel. The vehicle may run out of fuel.

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

Other conditions 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 .
3. Immediately press and hold  until the indicators flash. If you cannot see the vehicle's lamps, press and hold  for at least four seconds.

When the vehicle starts, the parking lamps will turn on and remain on while the vehicle 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.

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

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

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

The vehicle can be remote started two separate times between driving sequences. The engine will run for 10 minutes after each remote start.

Or, you can extend the engine run time by another 10 minutes within the first 10 minute remote start time frame, and before the engine stops.

## 2-6 Keys, Doors, and Windows

For example, if  and then  are pressed again after the vehicle has been running for five minutes, 10 minutes are added, allowing the engine to run for 15 minutes.

The additional 10 minutes are considered a second remote vehicle start.

After the vehicle's engine has been started two times using , or a single remote start with one time extension, the vehicle must be started with the key.

After the key is removed from the ignition, the vehicle can be remote started again.

The vehicle cannot be remote started if the key is in the ignition, the bonnet is not closed, or if there is an emission control system malfunction and the malfunction indicator lamp is on.

Also, the engine will turn off during a remote vehicle start if the coolant temperature gets too high or if the oil pressure gets low.

### 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.

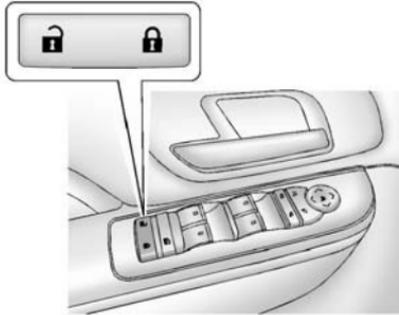
There are several ways to lock and unlock the vehicle.

From outside, use the Remote Keyless Entry (RKE) transmitter or the key in the driver door.

From inside, use the power door locks or manual door locks. To lock or unlock the door with the manual locks, push down or pull up on the manual lock knob.

## Power Door Locks

Press  or  on the Remote Keyless Entry (RKE) transmitter. See *Remote Keyless Entry (RKE) System Operation* on page 2-2.



**Premium Trim Shown, Up-Level Similar**

 (Lock): Press to lock the doors.

 (Unlock): Press to unlock the doors.

## Delayed Locking

When locking the doors with the power lock switch and a door or the tailgate is open, the doors will lock five seconds after the last door is closed. You will hear three chimes to signal that the delayed locking feature is in use.

Pressing the power lock switch twice will override the delayed locking feature and immediately lock all the doors.

This feature will not operate if the key is in the ignition.

This feature can be programmed using the Driver Information Centre (DIC). See “Delayed Door Lock” under *Vehicle Personalisation* on page 5-36.

## Automatic Door Locks

The vehicle may have an automatic lock/unlock feature. This feature can be programmed using the Driver Information Centre (DIC). See *Vehicle Personalisation* on page 5-36.

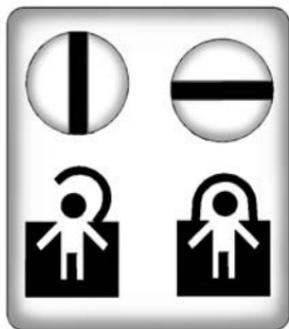
## Lockout Protection

If the driver side power door lock switch is pressed when the driver door is open and the key is in the ignition, all of the doors will lock and then the driver door will unlock.

If the passenger side power door lock switch is pressed when the front passenger door is open and the key is in the ignition, all of the doors will lock and then the front passenger door will unlock.

## Safety Locks

The vehicle has rear door security locks to prevent passengers from opening the rear doors from the inside.



Open the rear doors to access the security locks on the inside edge of each door.

To set the locks, insert a key into the slot and turn it to the horizontal position. The door can only be opened from the outside with the door unlocked. To return the door to normal operation, turn the slot to the vertical position.

## Doors

### Tailgate

#### Warning

Exhaust gases can enter the vehicle if it is driven with the tailgate or boot/hatch open, or with any objects that pass through the seal between the body and the boot/hatch or tailgate. 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 tailgate or boot/hatch open:

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

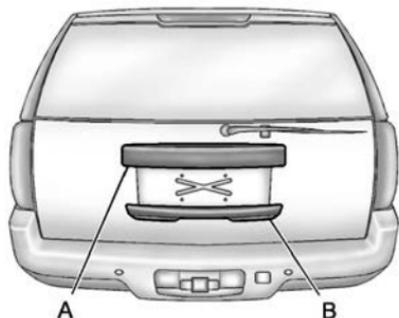
(Continued)

#### Warning (Continued)

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

See *Engine Exhaust* on page 9-24.

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



- A. Number Plate Applique  
 B. Tailgate Handle

The liftglass or tailgate cannot be opened if the rear wiper is in motion. Attempting to open the liftglass or tailgate while the rear wiper is in motion will cause the release of the liftglass or tailgate to delay until the wipers are parked off the liftglass.

### Manual Tailgate Operation

To unlock the tailgate, press  on the power door lock switch or press  on the Remote Keyless Entry (RKE) transmitter twice. See *Remote Keyless Entry (RKE) System Operation* on page 2-2.

Press the touch pad on the underside of the tailgate handle (B) and lift up.

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

### Power Tailgate Operation

On vehicles with a power tailgate, the switch is on the overhead console.

The vehicle must be in P (Park) to use the power feature. The tail lamps will flash and a chime will sound when the power tailgate moves.

### Warning

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

There are several ways to open and close the power tailgate:

- Press and hold  on the RKE transmitter until the tailgate starts moving.
- Press  on the overhead console.
- Press  on the bottom of the tailgate next to the latch to close.

Pressing a second time while the tailgate is moving reverses the direction.

To disable the power tailgate function, press OFF on the tailgate switch.

## 2-10 Keys, Doors, and Windows

---

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

If the transmission is shifted out of P (Park) while the power function is in progress, the tailgate power function will continue to completion. If the transmission is shifted out of P (Park) and the vehicle accelerates before the power tailgate latches closed, the tailgate may reverse to the open position. Cargo could fall out of the vehicle. Always make sure the power tailgate is closed and latched before driving away.

If the tailgate is opened using power operation and the tailgate support struts have lost pressure, the indicators flash and a chime will sound. The tailgate stays open temporarily, and then slowly closes. See a dealer for service before using the tailgate.

### Obstacle Detection Features

If the tailgate encounters an obstacle during a power open or close cycle, a warning chime will sound and the tailgate will automatically reverse direction to the full closed or open position. After removing the obstruction, the power tailgate operation can be used again. If the tailgate encounters multiple obstacles on the same power cycle, the power function will deactivate and a message will display in the Driver Information Centre (DIC). See *Object Detection System Messages on page 5-31*. After removing the obstructions, the tailgate will resume normal power operation.

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

### Manual Operation of Power Tailgate

To change the tailgate to manual operation, press OFF on the tailgate switch.

With the power tailgate disabled and all of the doors unlocked, the tailgate can be manually opened and closed.

To open the tailgate, press the touch pad on the handle (B) and lift up. Use the pull cup to lower and close the tailgate. Do not press the touch pad while closing the tailgate. This will cause the tailgate to be unlatched. The tailgate latch will power close. Always close the tailgate before driving.

If  on the RKE transmitter or  on the tailgate is pressed while power operation is disabled, the lamps will flash three times, but the tailgate will not move.

It is not recommended to drive with the tailgate open, however, when driving with the tailgate open; the tailgate should be set to manual operation by pressing OFF on the tailgate switch on the centre console.

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

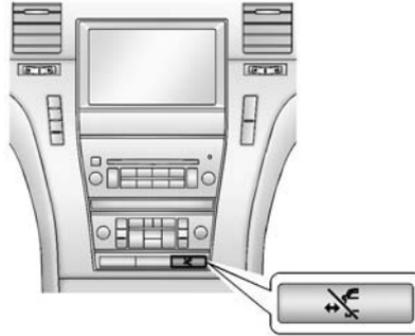
If the battery is properly connected with adequate voltage, the switch is not disabled, and the tailgate still will not function, see a dealer for service.

### Liftglass

If equipped, there are two ways to open the liftglass:

- Press the button on the underside of the number plate applique (A).
- Press  on the RKE transmitter.

### Power Assist Steps



The vehicle may have power assist steps. To enable or disable the power assist steps press .

The power assist steps automatically extend from beneath the vehicle on the side in which the door has been opened. Once the door is closed, the assist steps automatically move back under the vehicle after a brief delay. The vehicle must not be moving for the assist steps to extend or retract.

The assist steps cannot be disabled in the extended position.

### Vehicle Security

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

### Vehicle Alarm System

Your vehicle has a content theft-deterrent alarm system.



This is the security light.

To arm the theft-deterrent system:

1. Open the door.

2. Lock the door with the Remote Keyless Entry (RKE) transmitter or the power door lock switch. The security light will come on to inform the driver the system is arming. If a door is open when the doors are locked, the security light will flash.

If the delayed locking feature is turned on, the theft-deterrent system will not start the arming process until the last door is closed and the delay timer has expired. See *Delayed Locking on page 2-7*.

3. Close all doors. The security light should go off after about 30 seconds. The alarm is not armed until the security light goes off.

If a locked driver door is opened without using the RKE transmitter, a 10-second pre-alarm will occur. The horn will chirp and the lights will flash. If the key is not placed in the ignition and turned to START or the door is not unlocked by pressing the

unlock button on the RKE transmitter during the 10-second pre-alarm, the alarm will go off. Your vehicle's headlamps will flash and the horn will sound for about 30 seconds, then will turn off to save the battery power.

The theft-deterrent system will not activate if the doors are locked with the vehicle's key or the manual door lock. It activates only if you use the power door lock switch with the door open or the RKE transmitter. You should also remember that you can start your vehicle with the correct ignition key if the alarm has been set off.

To avoid setting off the alarm by accident:

- If you do not want to activate the theft-deterrent system, the vehicle should be locked with the door key after the doors are closed.

- Always unlock the doors with the RKE transmitter. Unlocking a door any other way will set off the alarm if it is armed.

If you set off the alarm by accident, press unlock on the RKE transmitter or place the key in the ignition and turn it to START to turn off the alarm. The alarm will not stop if you try to unlock a door any other way.

### Testing the Alarm

To test the alarm:

1. From inside the vehicle, lower the driver window and open the driver door.
2. Activate the system by locking the doors with the power door lock switch while the door is open, or with the RKE transmitter.
3. Get out of the vehicle, close the door and wait for the security light to go out.

4. Then reach in through the window, unlock the door with the manual door lock and open the door. This should set off the alarm.

While the alarm is set, the power door unlock switch will not work.

If the alarm does not sound when it should but the headlamps flash, check to see if the horn works. The horn fuse may be blown. To replace the fuse, see *Fuses and Circuit Breakers on page 10-33*.

If the alarm does not sound or the headlamps do not flash, the vehicle should be serviced by your dealer.

### Immobiliser

See *Declaration of Conformity on page 13-1*.

### Immobiliser Operation

This vehicle has PASS-Key® III+ (Personalised 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

## 2-14 Keys, Doors, and Windows

---

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 10-33*. 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

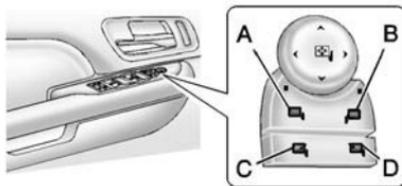
### Convex Mirrors

#### 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



Premium Trim Shown, Up-Level Similar

#### Mirror Adjustment

1. Press (A) or (B) to select the driver or passenger side mirror.
2. Press the arrows on the control pad to move the mirror up, down, right, or left.
3. Press the opposite side to get the control pad to a neutral position.

### Power Folding Mirrors

1. Press (C) to fold the mirrors out to the driving position.
2. Press (D) to fold the mirrors into the folded position.

#### Resetting the Power Folding Mirrors

Reset the power foldaway mirrors if:

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

Fold and unfold the mirrors one time using the mirror controls to reset them to their normal position.

A popping noise may be heard during the resetting of the power foldaway mirrors. This sound is normal after a manual folding operation.

See *Power Mirrors on page 2-15*.

### Heated Mirrors

The heated outside rearview mirrors turn on when the rear window demister is on.

 **(Rear Window Demister):** This button is on the climate control panel. Press to heat the mirror.

See “Rear Window Demister” under *Dual Automatic Climate Control System on page 8-1*.

### Automatic Dimming Mirror

The vehicle has an automatic dimming mirror. The driver outside mirror automatically adjusts for the glare of the headlamps from behind. This feature comes on when the vehicle is started.

### Park Tilt Mirrors

If the vehicle has the memory package, the driver and/or passenger mirror tilt to a preselected position when the vehicle is in R (Reverse). This feature lets the driver view the curb when parallel parking. The mirrors return to the original position when the vehicle is shifted out of R (Reverse), or the ignition is turned off or to OFF/LOCK. This feature can be programmed. See *Vehicle Personalisation on page 5-36*.

### Interior Mirrors

#### Automatic Dimming Rearview Mirror

##### Adjustment

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

##### Operation

The mirror will automatically reduce the glare of the headlamps from behind. The dimming feature comes on when the vehicle is started.

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

##### Cleaning the Mirror

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

## Windows

### Warning

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

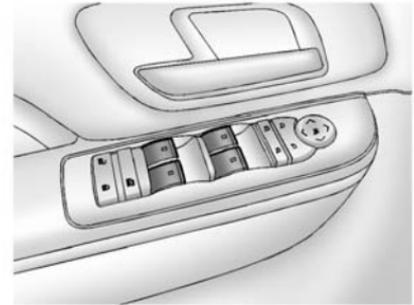


The vehicle aerodynamics are designed to improve fuel economy performance. This may result in a pulsing sound when either rear window is down and the front windows are up. To reduce the sound, open either a front window or the sunroof, if equipped.

## Power Windows

### Warning

Children could be seriously injured or killed if caught in the path of a closing window. Never leave keys in a vehicle with children. When there are children in the rear seat, use the window lockout button to prevent operation of the windows. See *Keys on page 2-1*.



### Premium Trim Shown, Up-Level Similar

The driver door has switches that control all windows. Each passenger door switch only controls that window. The power windows work when the ignition is in ON/RUN or ACC/ACCESSORY, or in Retained Accessory Power (RAP). See *Retained Accessory Power (RAP) on page 9-21*.

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

### Express-Down/Up Windows

Windows with the express feature allow the windows to be raised and lowered all the way without holding the switch.

Press or pull the switch fully and release it to activate the express feature.

The express mode can be cancelled at any time by briefly pressing or pulling the switch.

### Express Window Anti-Pinch Feature

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

### Express Window Anti-Pinch Override



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

In an emergency, the anti-pinch feature can be overridden in a supervised mode. Hold the window switch all the way up to the second position. The window will rise for as long as the switch is held. Once the switch is released, the express mode is re-activated.

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

### Programming the Power Windows

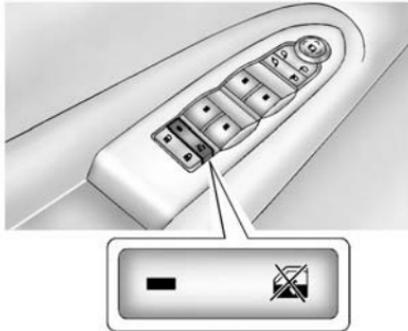
If the battery on the vehicle has been recharged, disconnected, or is not working, you will need to reprogramme each front power window for the express-up feature to work. Before reprogramming, replace or recharge the vehicle's battery.

To program each front window, follow these steps:

1. With the ignition in ACC/ACCESSORY, ON/RUN, or when RAP is active, close all doors.
2. Press and hold the power window switch until the window is fully open.
3. Pull the power window switch up until the window is fully closed.
4. Continue holding the switch up for approximately two seconds after the window is completely closed.

The window is now reprogrammed. Repeat the process for the other windows.

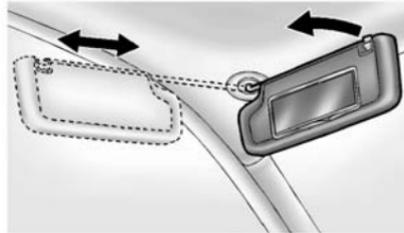
### Window Lockout



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

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

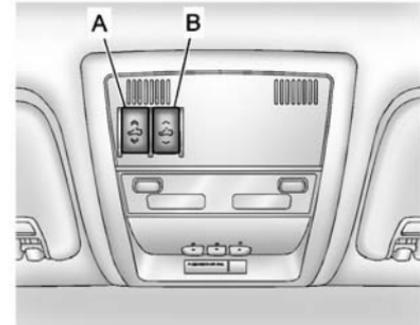
### Sun Visors



Pull the sun visor down to block glare. If equipped, detach the sun visor from the centre mount to pivot to the side window or to extend along the rod.

### Roof

#### Sunroof



- A. Open or Close
- B. Vent

On vehicles with a sunroof, the sunroof only operates when the ignition is in ACC/ACCESSORY or ON/RUN, or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP)* on page 9-21.

## 2-20 Keys, Doors, and Windows

---

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

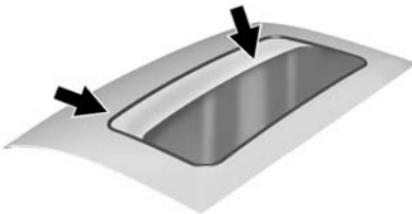
**Open/Close:** To open the sunroof, press and hold switch (A) until the sunroof reaches the desired position. Press and hold the front of switch (A) to close it.

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

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

The sunroof also has a sunshade which can be pulled forward to block sun rays. The sunshade must be opened and closed manually.

If an object is in the path of the sunroof while it is closing, the anti-pinch feature will detect the object and stop the sunroof.



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

## Seats and Restraints

### Head Restraints

Head Restraints ..... 3-2

### Front Seats

Power Seat Adjustment ..... 3-3

Lumbar Adjustment ..... 3-4

Reclining Seat Backrests ..... 3-4

Memory Seats ..... 3-5

Heated and Ventilated Front

Seats ..... 3-7

### Rear Seats

Heated Rear Seats ..... 3-8

Second Row Seats ..... 3-8

Third Row Seats ..... 3-12

### Safety Belts

Safety Belts ..... 3-15

How to Wear Safety Belts

Properly ..... 3-17

Lap-Shoulder Belt ..... 3-18

Safety Belt Use During

Pregnancy ..... 3-21

Safety System Check ..... 3-22

Safety Belt Care ..... 3-22

Replacing Safety Belt System

Parts after a Crash ..... 3-22

### Airbag System

Airbag System ..... 3-23

Where Are the Airbags? .... 3-25

When Should an Airbag

Inflate? ..... 3-27

What Makes an Airbag

Inflate? ..... 3-28

How Does an Airbag

Restrain? ..... 3-29

What Will You See after an

Airbag Inflates? ..... 3-29

Passenger Sensing

System ..... 3-31

Servicing the Airbag-Equipped

Vehicle ..... 3-35

Adding Equipment to the

Airbag-Equipped Vehicle ... 3-35

Airbag System Check ..... 3-36

Replacing Airbag System

Parts after a Crash ..... 3-37

### Child Restraints

Older Children ..... 3-37

Infants and Young

Children ..... 3-39

Child Restraint Systems .... 3-41

Where to Put the Restraint ... 3-43

ISOFIX Child Restraint

Systems ..... 3-48

Securing Child Restraints

(Rear Seat) ..... 3-50

Securing Child Restraints

(Front Passenger

Position) ..... 3-52

### Head Restraints

#### Warning

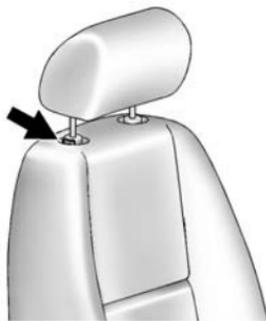
With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.



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 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 the top of the seat backrest, 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 second- and third-row seats have head restraints in the outboard seating positions that cannot be adjusted.

The second-row head restraints are not designed to be removed.

#### Removing Third Row Head Restraints

The third row head restraints must be removed before tumbling the third row seat.

Remove the head restraint by pressing the button on the side of each head restraint post and pulling it up and out from the seatback.

Store the head restraints in the stowage guides on the seat.

See *Third Row Seats on page 3-12* for more information.

## Front Seats

### Power Seat Adjustment

 **Warning**

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



To adjust a power seat:

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

To adjust the seatback, see *Reclining Seatbacks on page 3-4*.

## 3-4 Seats and Restraints

### Lumbar Adjustment



To adjust the lumbar support:

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

### Reclining Seat Backrests Power Reclining Seatbacks



To adjust the seatback:

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

#### **Warning**

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

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

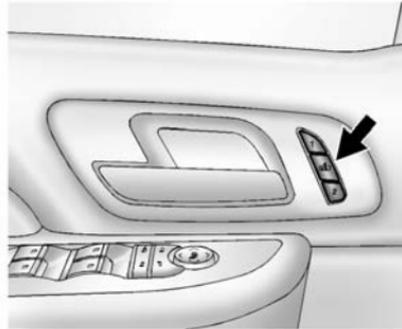
The lap belt could go up over your abdomen. The belt forces would be there, not at your pelvic bones. This could cause serious internal injuries.

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



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

## Memory Seats



The controls on the driver door are used to program and recall memory settings for the driver seat, outside mirrors, power steering column, and the adjustable throttle and brake pedals.

## Storing Memory Positions

To save into memory:

1. Adjust the driver seat, including the seatback recliner and lumbar, both outside mirrors, power steering column, and the throttle and brake pedals.

See *Power Mirrors on page 2-15*, *Steering Wheel Adjustment on page 5-2*, and *Adjustable Throttle and Brake Pedal on page 9-18*.

Not all mirrors and adjustable throttles and brake pedals will have the ability to save and recall their positions.

2. Press and hold "1" until two beeps sound.
3. Repeat for a second driver position using "2."

To recall, press and release "1" or "2." The vehicle must be in P (Park). A single beep will sound. The seat, outside mirrors, power steering column, and adjustable throttle and

## 3-6 Seats and Restraints

---

brake pedals will move to the positions previously stored for the identified driver.

### Memory Remote Recall

The memory feature can recall the driver seat, outside mirrors, power steering column, and pedals to stored positions when entering the vehicle.

To activate, unlock the driver door with the Remote Keyless Entry (RKE) transmitter. The driver seat, outside mirrors, power steering column, and adjustable pedals will move to the memory positions associated with the transmitter used to unlock the vehicle.

This feature can be turned on or off using the vehicle personalisation menu. See *Vehicle Personalisation on page 5-36*.

To stop recall movement, press one of the power seat controls, memory or power mirror buttons, power steering column control, or the adjustable pedal switch.

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

### Easy Exit Positions

This feature can move the driver seat rearward and the power steering column up and forward to allow extra room to exit the vehicle.

 **(Easy Exit Positions):** Press to recall the easy exit positions. The vehicle must be in P (Park).

If the easy exit feature is programmed on in the vehicle personalisation menu, automatic driver seat and power steering column movement occur when the ignition key is removed.

A single beep sounds. The driver seat moves back approximately 8 cm (3 in) and the power steering column moves up and forward. To move the seat back farther, press  again until the seat is all the way back.

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

See *Vehicle Personalisation on page 5-36*.

## Heated and Ventilated Front Seats

### Warning

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



The buttons are on the climate control panel.

 **(Cooled Seat):** Press to cool the seat.

 **(Heated Seatback):** Press to heat the seatback.

 **(Heated Seat and Seatback):** Press to heat the seat and seatback.

Press the desired button once for the highest setting. With each press of the button, the seat will change to the next lower setting, and then to the off setting. Indicator bars next to the symbol on the climate control display show the selected setting: three for high, two for medium, and one for low.

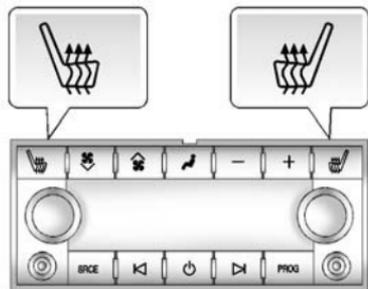
The heated and cooled seats are cancelled when the ignition is turned off. To use this feature after restarting the vehicle, press the desired button again.

### Rear Seats

#### Heated Rear Seats

##### Warning

If you cannot feel temperature change or pain to the skin, the seat heater may cause burns. See the Warning under *Heated and Ventilated Front Seats* on page 3-7.



The buttons are on the Rear Seat Audio (RSA) panel on the rear of the centre console.

Press  or  to heat the left outboard or right outboard seat cushion. An indicator on the RSA display appears when this feature is on.

Press the button once for the highest setting. With each press of the button, the heated seat changes to the next lower setting, and then the off setting. Indicator bars next to the symbol show the setting: three for high, two for medium, and one for low.

The heated seats are cancelled ten seconds after the ignition is turned off. To use this feature after the vehicle is restarted, press the desired button.

#### Second Row Seats

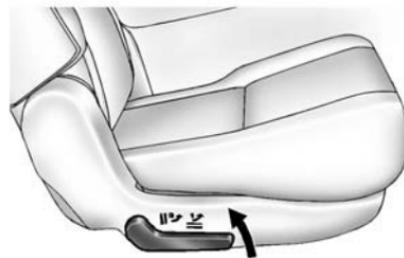
The second row seats can be folded for additional cargo space or folded and tumbled for easy entry and exit

to the third row seat. The seat has either the manual fold and tumble feature or the automatic seat release fold and tumble feature.

#### Reclining Seatbacks (Bucket Seats Only)

On vehicles with second row bucket seats, the seatbacks can be reclined.

To recline the seat backrest:



1. Lift the lever on the outboard side of the seat.

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

To return the seat backrest to the upright position:

1. Lift the lever fully without applying pressure to the seatback, and the seatback will return to the upright position.

**Warning**

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

2. Push and pull on the backrest to make sure it is locked.

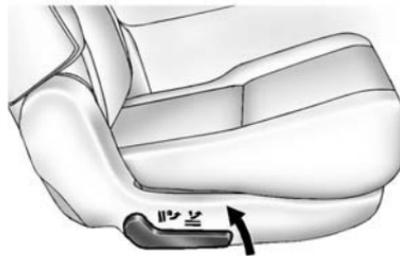
**Manual Fold and Tumble Feature**

**Folding and Tumbling the Seat**

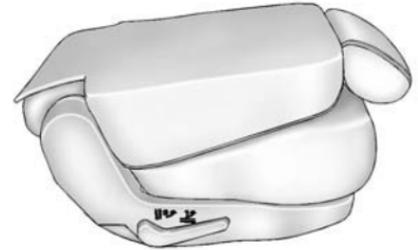
To fold and tumble the seat:

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

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



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



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

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

## 3-10 Seats and Restraints



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

### Folding and Tumbling the Seat from the Third Row Seat

#### Warning

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

(Continued)

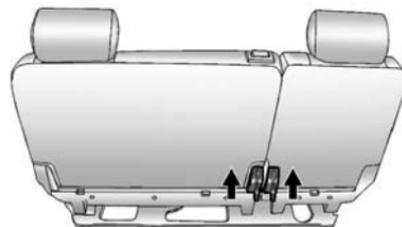
#### Warning (Continued)

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

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

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

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



### 60/40 Split-Bench Seat Shown, Bucket Seat Similar

2. Lift the lever, on the bottom rear of the second row seat on the inboard side, to release the seatback. The seatback will fold forward.
3. Lift the same lever again to release the rear of the seat from the floor. The seat will tumble forward.

### Automatic Fold and Tumble Feature

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

#### Warning

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

### Folding and Tumbling the Second Row Seat from the Third Row Seat or Outside the Vehicle

#### Warning

Using the third row seating position while the second row is folded, or folded and tumbled, could cause injury in a sudden

(Continued)

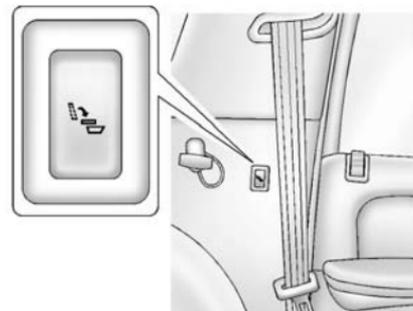
#### Warning (Continued)

stop or crash. Be sure to return the seat to the passenger seating position. Push and pull on the seat to make sure it is locked into place.

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

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

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



#### Driver Side Rear Panel Button Shown

2. Press the automatic seat release button on the panel behind the rear doors.

The seatback automatically folds flat and the seat tumbles forward. There will be a slight delay between the folding of the seatback and the tumbling of the seat.

## 3-12 Seats and Restraints

### Returning the Seat to the Sitting Position

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

1. Pull the seat down until it latches to the floor. The seatback cannot be raised if the seat is not latched to the floor.

#### **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.

2. Lift the seatback and push it rearward. Push and pull on the backrest to make sure it is locked.

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

### Third Row Seats

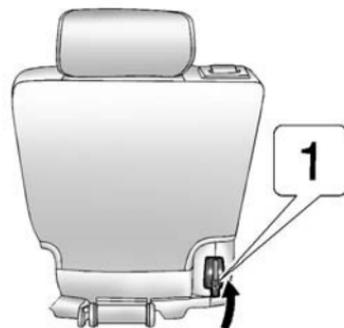
On vehicles with a third row seat, the seatback(s) can be folded, and the entire seat can be tumbled or removed from the vehicle.

#### Folding the Seatback(s)

To fold the seatback:

1. Open the tailgate to access the controls for the seat.
2. Remove all items on the seat cushion.

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



3. Lift the release lever "1," located on the bottom rear of the seatback on the outboard side of the seat, and the seatback will fold forward.

#### Returning the Seatback(s) to the Upright Position

To return the seat backrest to the upright position:

1. Open the tailgate to access the controls for the seat.
2. Pull up on the seatback until it locks into the upright position.

**Warning**

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

3. Push and pull on the backrest to make sure it is locked.

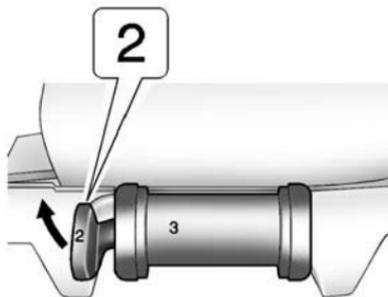
**Tumbling the Third Row Seat**

The seat can be tumbled forward for additional cargo space.

To tumble the seat:

1. Make sure there is nothing under or in front of the seat. Clear all items off the seat.
2. Open the tailgate to access the controls for the seat.
3. Remove the head restraints. See *Head Restraints on page 3-2* for more information.

4. Fold the seatbacks forward using lever "1" and the instructions listed previously under "Folding the Seatbacks." The seat cannot be unlatched from the floor unless the seatback is folded.



5. Unlatch the seat from the floor by lifting lever "2" next to the carrying handle on the rear of the seat, near the bottom.
6. Lift the rear of the seat up from the floor.

7. Tilt the seat fully forward to lock it into place.
8. Push and pull on the seat to make sure it is locked.
9. Store the head restraints in the stowage guides located on the seat.

Put the seat in this position only when necessary for additional cargo space.

**Returning the Third Row Seat from a Tumbled Position**

To return the seat to the normal seating position:

1. Open the tailgate to access the controls for the seat.
2. Remove the head restraints from the stowage guides on the seat.
3. Make sure there is nothing that could become trapped under the seat.

## 3-14 Seats and Restraints

4. Release the seat from the tumbled position by lifting lever "2" next to the carrying handle at the bottom rear of the seat.
5. Pull the seat down until it latches to the floor. The seatback cannot be raised to the upright position unless the seat is latched to the floor.
6. Pull up on the seatback until it locks into the upright position.
7. Make sure the head restraint is installed on the seatback and adjusted properly before driving. See *Head Restraints on page 3-2* for more information.

### **Warning**

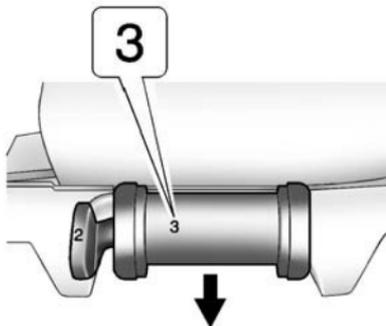
If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.

8. Push and pull on the backrest to make sure it is locked.

### Removing the Third Row Seat

To remove the seat:

1. Open the tailgate to access the controls for the seat.
2. Fold the seatbacks forward using lever "1" and the instructions listed previously under "Folding the Seatbacks." The seat cannot be unlatched from the floor unless the seatback is folded.



3. Unlatch the seat from the floor by pulling the handle at the rear of the seat "3 Removal Only" toward the rear of the vehicle.
4. Roll the seat out of the vehicle. There is a track in the floor to guide the seat wheels out of the vehicle.

### Installing the Third Row Seat

To install the seat:

1. Open the tailgate to access the rear of the vehicle.
2. Slide the front outboard seat wheels into the track on the floor and roll the seat forward. The front latches should lock into place. If the latches do not lock, try tilting the rear of the seat upward slightly.
3. Lower the rear of the seat and push down on the seat to engage the rear floor latches.

 **Warning**

A seat that is not locked into place properly can move around in a collision or sudden stop. Vehicle occupants could be injured. Be sure to lock the seat into place properly when installing it.

4. Push and pull on the seat to make sure it is locked into place. The seatback cannot be raised to the upright position unless the seat is latched to the floor.
5. Pull up on the seatback until it locks into the upright position.

 **Warning**

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there.

(Continued)

**Warning (Continued)**

Always push and pull on the seatbacks to be sure they are locked.

6. Push and pull on the backrest to make sure it is locked.

 **Warning**

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

7. Make sure the safety belts are returned to the original position over the seatbacks.

## Safety Belts

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

 **Warning**

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

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, passengers riding in these areas

(Continued)

### Warning (Continued)

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 5-12.

### 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 windscreen, 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 chances of being conscious during and after a crash, so you *can* unbuckle and get out, are *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 regions, the law requires wearing safety belts.

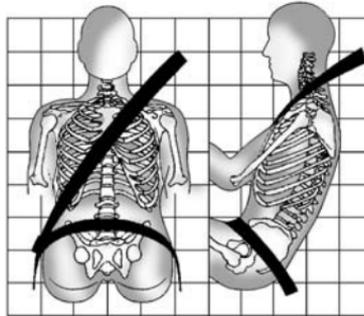
## How to Wear Safety Belts Properly

This section is only for people of adult size.

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

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

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



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

would apply force on your abdomen. This could cause serious or even fatal injuries.

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

### **Warning**

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

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

## 3-18 Seats and Restraints

### Lap-Shoulder Belt

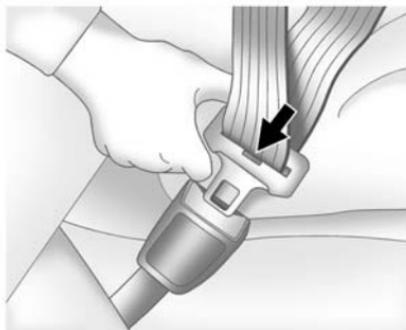
All seating positions in the vehicle have a lap-shoulder belt.

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

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

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

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



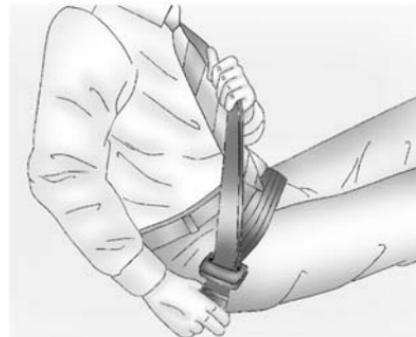
3. Push the latch plate into the buckle until it clicks. If you find that the latch plate will not go fully into the buckle, see if you are using the correct buckle.

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

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

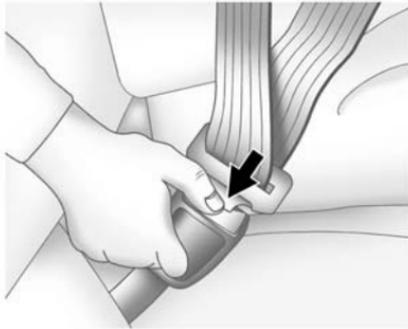
4. If equipped with a shoulder belt height adjuster, move it to the height that is right for you. See “Shoulder Belt Height Adjuster”

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.



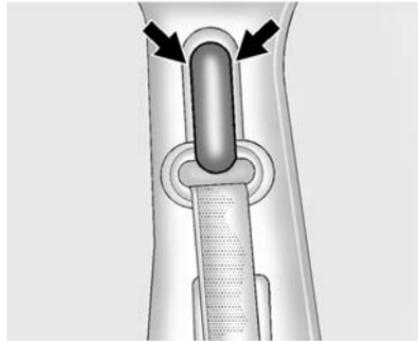
To unlatch the belt, push the button on the buckle. The belt should return to its stowed position.

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

### Shoulder Belt Height Adjuster

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

Adjust the height so the shoulder portion of the belt is on the shoulder and not falling off 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 3-17.



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

The adjuster can be moved 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, near frontal, or rear 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 or a rollover event.

## 3-20 Seats and Restraints

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

### Rear Safety Belt Comfort Guides

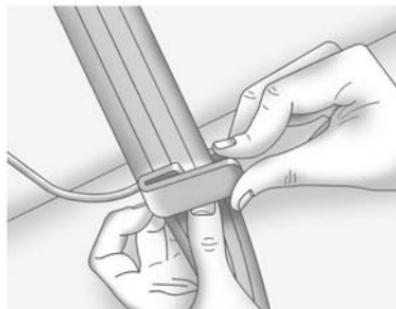
This vehicle may have rear shoulder belt comfort guides. If not, they are available through your dealer. The guides may provide added safety belt comfort for older children who have outgrown booster seats and for some adults. When installed and properly adjusted, the comfort guide positions the belt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

There is one guide, if equipped, for each outside passenger position in the second row seat.

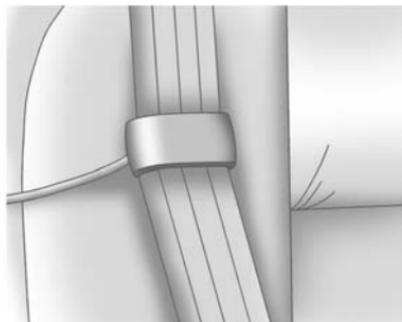


Here is how to install a comfort guide to the safety belt:

1. Remove the guide from its storage clip on the interior body.



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

(Continued)

**Warning (Continued)**

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 onto its storage clip on the interior body.

**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.



## 3-22 Seats and Restraints

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

### Safety 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 5-12*.

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

### Safety Belt Care

Keep belts clean and dry.

#### Warning

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

### Replacing Safety Belt System Parts after a Crash

#### Warning

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

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

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

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

Have the safety belt pretensioners checked if the vehicle has been in a crash, or if the airbag readiness light stays on after you start the vehicle or while you are driving. See *Airbag Readiness Light* on page 5-13.

 **Warning**

Safety procedures must always be observed when disposing of the vehicle or vehicle parts. Disposal should only be performed by an authorised service centre, to help protect the environment and your health.

## Airbag System

The vehicle has the following airbags:

- A frontal airbag for the driver.
- A frontal airbag for the front passenger.
- A seat-mounted side impact airbag for the driver.
- A seat-mounted side impact airbag for the front passenger.
- A roof-rail airbag for the driver and passenger directly behind the driver.
- A roof-rail airbag for the front passenger and the person seated directly behind that passenger.
- If the vehicle has a third row seat, it will have a third row roof-rail airbag.

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 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.

## 3-24 Seats and Restraints

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 3-27.

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 3-37 or *Infants and Young Children* on page 3-39.



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

The system checks the airbag electrical system for malfunctions. The light tells you if there is an electrical problem. See *Airbag Readiness Light* on page 5-13 for more information.

### Where Are the Airbags?



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



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

## 3-26 Seats and Restraints



**Driver Side Shown, Passenger Side Similar**

If the vehicle has seat-mounted side impact airbags for the driver and front outboard passenger, they are in the side of the seatbacks closest to the door.



**Driver Side Shown, Passenger Side Similar**

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



**Driver Side Shown, Passenger Side Similar**

If the vehicle has a third row passenger seat, the roof-rail airbags are located in the ceiling above the rear windows for the outboard passenger positions in the third row.

**⚠ Warning**

If something is between an occupant and an airbag, the airbag might not inflate properly or it might force the object into

(Continued)

**Warning (Continued)**

that person causing severe injury or even death. The path of an inflating airbag must be kept clear. Do not put anything between an occupant and an airbag, and do not attach or put anything on the steering wheel hub or on or near any other airbag covering.

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

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

**When Should an Airbag Inflate?**

Frontal airbags are designed to inflate in moderate to severe frontal or near-frontal crashes to help reduce the potential for severe injuries mainly to the driver's or front 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 the vehicle is travelling. It depends largely on what you hit, the direction of the impact, and how quickly the 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.

## 3-28 Seats and Restraints

---

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 a seat position sensor. Vehicles with dual stage airbags also have seat position sensors which enable the sensing system to monitor the position of the driver seat and front passenger seat.

The seat position sensor provides information that is used to determine if the airbags should deploy at a reduced level or at full deployment.

The vehicle may or may not have seat-mounted side impact airbags. The vehicle has roof-rail airbags. See *Airbag System on page 3-23*. Seat-mounted side impact airbags and roof-rail airbags are intended to inflate in moderate to severe side crashes. In addition, these roof-rail airbags are intended to inflate during a rollover or in a severe frontal impact. Seat-mounted side impact airbags 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 rear impacts.

A seat-mounted side impact airbag is intended to deploy on the side of the vehicle that is struck. Both roof-rail airbags will deploy when either side of the vehicle is struck or if the sensing system predicts that the vehicle is about to roll over, or in a severe frontal impact.

In any particular crash, no one can say whether an airbag should have inflated simply because of the 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. In a rollover event, roof-rail airbag deployment is determined by the direction of the roll.

### **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.

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

But airbags would not help in many types of collisions, primarily because the occupant's motion is not toward those airbags. See *When Should an Airbag Inflate?* on page 3-27 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 realise 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 3-28.

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 windscreen or being able to steer the vehicle, nor does it prevent people from leaving the vehicle.

## 3-30 Seats and Restraints

### 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 may have 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 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 13-1*.

- 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

If the vehicle has the passenger airbag status indicator pictured in the following illustration, then the vehicle has a passenger sensing system for the front passenger position. The passenger airbag status indicator, if equipped, is visible on the overhead console when the vehicle is started.

In addition, if the vehicle has a passenger sensing system for the right front passenger position, the label on the vehicle's sun visors refers to "ADVANCED AIRBAGS".



The symbol for on and off is visible during the system check. If you are using remote start, if equipped, to start the vehicle from a distance, you may not see the system check. When the system check is complete, either 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 front passenger frontal airbag under certain conditions. The driver airbag, seat-mounted side impact airbags and the roof-rail airbags are not affected by the passenger sensing system.

The passenger sensing system works with sensors that are part of the front passenger seat and safety belt. The sensors are designed to

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

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

(Continued)

### Warning (Continued)

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the 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 front passenger frontal airbag if:

- The front passenger seat is unoccupied.
- The system determines an infant is present in a child restraint.
- A 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 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 front passenger frontal airbag anytime the system senses that a person of adult size is sitting properly in the 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 front passenger frontal airbag, depending upon the person's seating posture and body build. Everyone in your 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 5-13* 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 (Rear Seat) on page 3-50* or *Securing Child Restraints (Front Passenger Position) on page 3-52*.
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.

## 3-34 Seats and Restraints

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



If a person of adult-size is sitting in the 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 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, centred on the seat cushion, with legs comfortably extended.
5. Restart the vehicle and have the person remain in this position for two to three minutes after the on indicator is lit.

#### **Warning**

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

(Continued)

#### **Warning (Continued)**

ride in the front outboard passenger seat, if the passenger airbag off indicator is lit.

#### **Additional Factors Affecting System Operation**

Safety belts help keep the passenger in position on the seat during vehicle manoeuvres 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.

If the shoulder portion of the belt is pulled out all the way, the child restraint locking feature will be engaged. This may unintentionally cause the passenger sensing system to turn the airbag off for

some adult size occupants. If this happens, let the belt go back all the way and start again.

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

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.

 **Warning**

For up to 10 seconds after the vehicle is turned off and the battery is disconnected, an airbag  
(Continued)

**Warning (Continued)**

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, overhead console, 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 front passenger position, which includes sensors that are part of the passenger seat. The passenger sensing system may not operate properly if the original seat trim is replaced with non-GM covers, upholstery or trim, or with GM covers, upholstery or trim designed for a different vehicle. Any object, such as an aftermarket seat heater or a comfort enhancing pad or device, installed under or on top of the seat fabric, could also interfere with the operation of the passenger sensing system. This could either prevent proper deployment of

the passenger airbag(s) or prevent the passenger sensing system from properly turning off the passenger airbag(s). See *Passenger Sensing System on page 3-31*.

If the vehicle has rollover roof-rail airbags, see *Different Size Tyres and Wheels on page 10-53* for additional important information.

- 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:** 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 5-13*.

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

## Replacing Airbag System Parts after a Crash

### Warning

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

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

If the airbag readiness light stays on after the vehicle is started or comes on when you are driving, the airbag system may not work properly. Have the vehicle serviced right away. See *Airbag Readiness Light on page 5-13* for more information.

### Warning

Safety procedures must always be observed when disposing of the vehicle or vehicle parts. Disposal should only be performed by an authorised service centre, to help protect the environment and your health.

## Child Restraints

### Older Children



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

## 3-38 Seats and Restraints

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

- Sit all the way back on the seat. Do the knees bend at the seat edge? If yes, continue. If no, return to the booster seat.
- Fasten the lap-shoulder belt. Does the shoulder belt rest on the shoulder? If yes, continue. If not, try using the rear safety belt comfort guide. See “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt on page 3-18*. 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 3-18*.

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

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

 **Warning**

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



**⚠ Warning**

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

(Continued)

**Warning (Continued)**

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 travelled nor the age and size of the traveller changes the need, for everyone, to use safety restraints.

**⚠ 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

## 3-40 Seats and Restraints

time infants and young children ride in vehicles, they should have the protection provided by appropriate child restraints.

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

### Warning

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



### Warning

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

(Continued)

### Warning (Continued)

seat, always move the front passenger seat as far back as it will go.



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.

The restraint manufacturer's instructions should state the weight and height limitations for a particular child restraint.

#### **Warning**

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

#### **Warning**

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

## Child Restraint Systems



### **Rear-Facing Infant Seat**

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

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

## 3-42 Seats and Restraints



### Forward-Facing Child Seat

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



### Booster Seats

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

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

### Warning

A child can be seriously injured or killed in a crash if the child restraint is not properly secured in the vehicle. Secure the child restraint properly in the vehicle using the vehicle safety belt or ISOFIX 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 ISOFIX system. See *ISOFIX Child Restraint Systems* on page 3-48 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.

### 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.

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

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

See *Securing Child Restraints (Rear Seat)* on page 3-50 or *Securing Child Restraints (Front Passenger Position)* on page 3-52 for more information, including important safety information.



DO NOT place rear-facing child seat on this seat. DEATH OR SERIOUS INJURY can occur. This is because the risk to the rear-facing child is so great, if the airbag deploys.

## 3-44 Seats and Restraints

### Warning

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

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

(Continued)

### Warning (Continued)

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the 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 3-31* for additional information.

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

Child restraints and booster seats vary considerably in size, and some may fit in certain seating positions better than others. 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 ISOFIX 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 the vehicle - even when no child is in it, or remove it from the vehicle.

### Configurations for Use of Child Restraints

Use the following chart to determine which seats in the vehicle are suitable for the carriage of child restraint systems.

Mass Group		Seating Positions				
		Front Passenger	Second Row Outboard	Second Row Centre	Third Row Outboard	Third Row Centre
Group 0	Up to 10 kg (0-9 months)	X	*	*	†	X
Group 0 +	Up to 13 kg (0-24 months)	X	*	*	†	X
Group I	9 to 18 kg (9-48 Months)	X	*	*	†	X
Group II & III	15 to 36 kg (4-12 years)	X	*	*	†	X

\*: Suitable for “universal” category restraints approved for use in this mass group.

†: Suitable for all forward-facing “universal” category restraints approved for use in this mass group.

X: Seat position not suitable for children in this mass group.

## 3-46 Seats and Restraints

### ISOFIX Child Restraint Systems Installation Suitability for Various Seating Positions

Use the following chart to determine which seats in the vehicle are suitable for the ISOFIX child restraint systems.

Mass Group	Class Size	Fixture	Vehicle ISOFIX Positions				
			Front Passenger	Second Row Left Side Outboard (2*)	Second Row Centre (1*)	Second Row Right Side Outboard (1*) (2*)	Third Row Left or Right Side Outboard and Centre
Infant Carbed Carrycot	F	ISO/L1	X	X	X	X	X
	G	ISO/L2	X	X	X	X	X
0 (up to 10 kg)	E	ISO/R1	X	IUF	IUF	IUF	X
0+ (up to 13 kg)	E	ISO/R1	X	IUF	IUF	IUF	X
	D	ISO/R2	X	IUF	IUF	IUF	X
	C	ISO/R3	X	IUF	IUF	IUF	X

Mass Group	Class Size	Fixture	Vehicle ISOFIX Positions				
			Front Passenger	Second Row Left Side Outboard (2*)	Second Row Centre (1*)	Second Row Right Side Outboard (1*) (2*)	Third Row Left or Right Side Outboard and Centre
I (9 to 18 kg)	D	ISO/R2	X	IUF	IUF	IUF	X
	C	ISO/R3	X	IUF	IUF	IUF	X
	B	ISO/F2	X	IUF	IUF	IUF	X
	B1	ISO/F2X	X	IUF	IUF	IUF	X
	A	ISO/F3	X	IUF	IUF	IUF	X
II (15 to 25 kg)			X	IUF	IUF	IUF	X
III (22 to 36 kg)			X	IUF	IUF	IUF	X

1\*: Second row split bench seat - ISOFIX anchors on the right-hand outboard and centre seating positions.

2\*: Second row bucket seats - ISOFIX anchors on the left-hand outboard and right-hand outboard seating positions.

IUF: Suitable for ISOFIX forward child restraint systems of universal category approved for use in this mass group.

X: ISOFIX position not suitable for ISOFIX child restraint systems in this mass group and/or this size class.

## 3-48 Seats and Restraints

### Child Restraint System Size Classes and Fixtures

**A - ISO/F3:** Full-height forward-facing toddler child restraint system.

**B - ISO/F2:** Reduced-height forward-facing toddler child restraint system.

**B1 - ISO/F2X:** Reduced-height forward-facing toddler child restraint system.

**C - ISO/R3:** Full-size rear-facing toddler child restraint system.

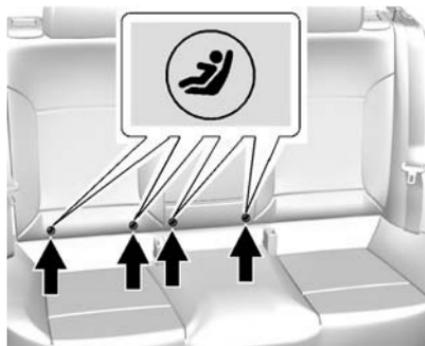
**D - ISO/R2:** Reduced-size rear-facing toddler child restraint system.

**E - ISO/R1:** Rear-facing infant child restraint system.

**F - ISO/L1:** Left side-facing position carrycot.

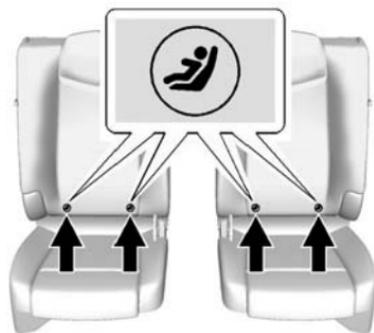
**G - ISO/L2:** Right side-facing position carrycot.

### ISOFIX Child Restraint Systems



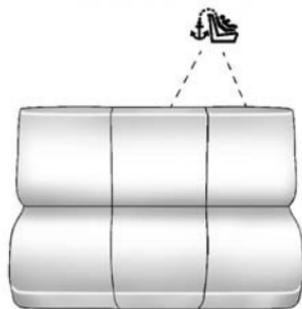
**Second Row - 60/40**

For models with 60/40 second row seating, the right rear and centre seating positions have exposed metal anchors in the crease between the seatback and the seat cushion.



**Second Row - Bucket**

For models with second row bucket seats, both rear seating positions have exposed metal anchors in the crease between the seatback and the seat cushion.



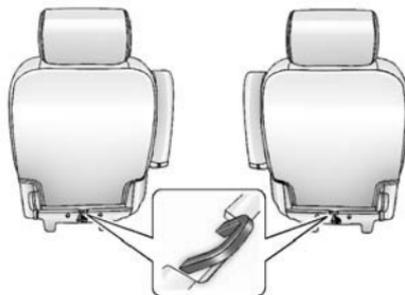
**Third Row Seat**

For the third row seat, see the information following for installing a child restraint with a top tether in the third row. Never install two top tethers using the same top tether anchor.

Fasten vehicle-approved ISOFIX child restraint systems to the ISOFIX mounting brackets.

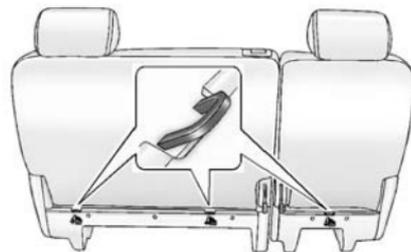
Specific vehicle ISOFIX restraint system positions are marked in the "ISOFIX Child Restraint Systems Suitability" table. See *Where to Put the Restraint on page 3-43*.

**Top-Tether Fastening Eyes**



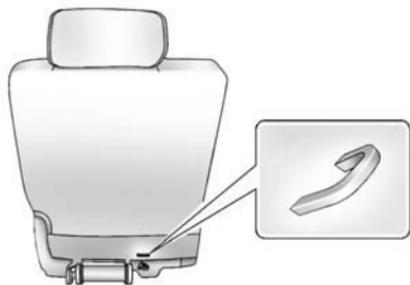
**Second Row Seat - Bucket**

For models with bucket second row seating, the top tether anchors are at the bottom rear of the seat cushion for each seating position in the second row. Be sure to use an anchor on the same side of the vehicle as the seating position where the child restraint will be placed.



**Second Row Seat - 60/40**

For models with 60/40 second row seating, the top tether anchors are at the bottom rear of the seat cushion for each seating position in the second row. Be sure to use an anchor on the same side of the vehicle as the seating position where the child restraint will be placed.



### Third Row Seat

For vehicles with third row seating, the top tether anchors are at the bottom rear of the seat cushion that can be used for either the third row centre or driver side seating position. Never install two top tethers using the same top tether anchor.

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.

Top tether fastening eyes are marked with a  for a child seat.

ISOFIX child restraint systems of universal category positions are marked in the "ISOFIX Child Restraint Systems Suitability" table by IUF. See *Where to Put the Restraint on page 3-43*.

### 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 ISOFIX system, see *ISOFIX Child Restraint Systems on page 3-48* for how and where to install the child restraint using ISOFIX. If a child restraint is secured in the vehicle using a safety belt and it uses a top tether, see *ISOFIX Child Restraint Systems on page 3-48* for top tether anchor locations.

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

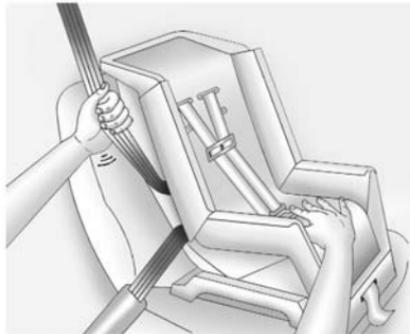
If the child restraint does not have the ISOFIX system, you will be using the safety belt to secure the child restraint in this position. Be sure to follow the instructions that came with the child restraint. Secure the child in the child restraint when and as the instructions say.

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 3-43.

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



3. Push the latch plate into the buckle until it clicks.  
Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.



4. 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.

5. If the child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *ISOFIX Child Restraint Systems* on page 3-48 for more information.
6. Before placing a child in the child restraint, make sure it is securely held in place. Refer to your child restraint manufacturer instructions.

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

### Securing Child Restraints (Front Passenger 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 3-43*.

In addition, the vehicle may have a passenger sensing system which is designed to turn off the front passenger frontal airbag under certain conditions. See *Passenger Sensing System on page 3-31* and *Passenger Airbag Status Indicator on page 5-14* for more information, including important safety information.

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

#### Warning

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

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

Even if the passenger sensing system, if equipped, has turned off the front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag

(Continued)

#### Warning (Continued)

will not deploy under some unusual circumstance, even though it is turned off.

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

See *Passenger Sensing System on page 3-31* for additional information.

#### Warning

When using a child restraint system on the front passenger seat, the airbag system for the front passenger seat must be

(Continued)

**Warning (Continued)**

deactivated. If not, the triggering of the airbags poses a risk of fatal injury to the child. This is especially the case if rear-facing child restraint systems are used on the front passenger seat.

**Warning**

"Do not use a rearward facing child restraint on a seat protected by an airbag in front of it!"

If the child restraint has the ISOFIX system, see *ISOFIX Child Restraint Systems on page 3-48* for how and where to install the child restraint using ISOFIX. If a child restraint is secured using a safety belt and it uses a top tether, see *ISOFIX Child Restraint Systems on page 3-48* 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.

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.
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.

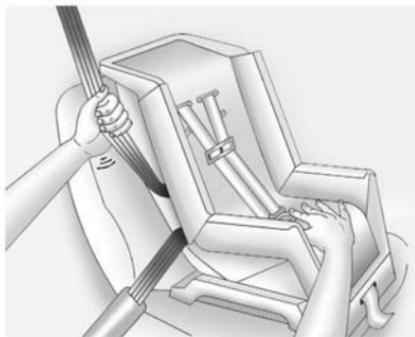


4. Push the latch plate into the buckle until it clicks.

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

## 3-54 Seats and Restraints

---



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.
6. Before placing a child in the child restraint, make sure it is securely held in place. Refer to your child restraint manufacturer instructions.

If the vehicle is equipped with the passenger sensing system, and when the passenger sensing system has turned off the front passenger frontal airbag, the off indicator in the passenger airbag status indicator should light and stay lit when you start the vehicle. See *Passenger Airbag Status Indicator on page 5-14*.

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 3-31* for more information.

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

## Storage

### Storage Compartments

Glove Box .....	4-1
Cupholders .....	4-1
Armrest Storage .....	4-2
Rear Storage .....	4-2
Centre Console Storage .....	4-2

### Roof Rack System

Roof Rack System .....	4-3
------------------------	-----

## Storage Compartments

### Glove Box

Pull the bottom of the glove box handle upward to open it. Use the key to lock and unlock the glove box.

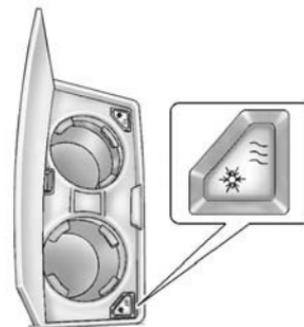
### Cupholders

Cupholders are in the centre console for the front passengers. Press down on the access door release to open and use the front cupholders. Push the door back down to close it. Push down and then back on the front cupholder to remove it for cleaning.

### Heated and Cooled Cupholders

For vehicles with heated and cooled cupholders, these are located in the front centre console.

Press down on the access door release button to open the cupholder door.



To set to cool mode, press and release the button; the ❄️ shows blue. Press and release again to turn it off.

To set to heat mode, press and release the button; the 🌊 shows red. Press and release again to turn it off.

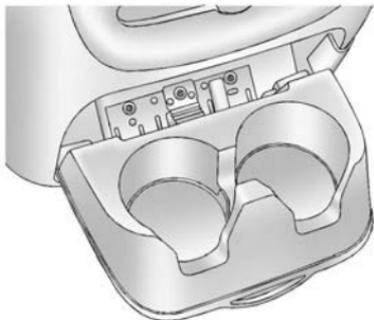
## 4-2 Storage

---

Insulated containers will not work properly. Use only non-insulated containers.

**Notice:** When the cupholder is turned on, the inside receptacles are hot or cold. Temperature variations in the cupholders may cause condensation. To avoid damage, do not store electronic devices or other items here.

### Rear Passenger Cupholders



Pull down on the lid to access the cupholders in the rear floor console.

Vehicles with the rear seat armrest may also contain cupholders. Pull down the armrest to use the cupholders.

### Armrest Storage

For vehicle with an armrest/storage compartment located by the second row seat, pull the loop at the top of the armrest out to lower the armrest.

Push the button on the front of the armrest and pull the top up to open the compartment.

### Rear Storage

For vehicles with a rear storage area, it is located in the rear cargo area of the vehicle on the driver side.

Turn the knobs and pull the storage door to access. The door can be removed.

### Centre Console Storage

A console compartment is located between the bucket seats.

The console has both an upper and lower storage bin accessed by lifting up on the latches located at the front of the console lid.

The console may have an accessory power outlet inside. See *Power Outlets on page 5-7*.

The rear of the console also has a cupholder that swings down for the rear seat passengers to use.

## Roof Rack System

### Warning

If something is carried on top of the vehicle that is longer or wider than the roof rack - like panelling, plywood, or a mattress - the wind can catch it while the vehicle is being driven. The item being carried could be violently torn off, and this could cause a collision and damage the vehicle. Never carry something longer or wider than the roof rack on top of the vehicle unless using a GM certified accessory carrier.

For vehicles with a roof rack, the rack can be used to load items. For roof racks that do not have crossrails included, GM Certified crossrails can be purchased as an accessory. See your dealer for additional information.

For vehicles with crossrails, they can be moved back and forth to help secure cargo. To adjust them, turn the knob located at each end of the crossrail anticlockwise until the crossrail can move freely. To secure the crossrail, turn the knob located at each end of the crossrail clockwise until tightened. Tie the load to the siderails or siderail supports.

**Notice:** Loading cargo on the roof rack that weighs more than 91 kg (200 lb) or hangs over the rear or sides of the vehicle may damage the vehicle. Load cargo so that it rests evenly between the crossrails, making sure to fasten cargo securely.

To prevent damage or loss of cargo when driving, check to make sure crossrails and cargo are securely fastened. Loading cargo on the roof rack will make the vehicle's centre of gravity higher. Avoid high speeds, sudden starts, sharp turns, sudden braking or abrupt manoeuvres, otherwise it may result in loss of

control. If driving for a long distance, on rough roads, or at high speeds, occasionally stop the vehicle to make sure the cargo remains in its place.

Do not exceed the maximum vehicle capacity when loading the vehicle. For more information on vehicle capacity and loading, see *Vehicle Load Limits on page 9-14*.

To prevent damage or loss of cargo, check now and then to make sure the luggage and cargo are still securely fastened.

Be sure the cargo is properly loaded.

- If small heavy objects are placed on the roof, place the load in the area over the rear wheels. If needed, cut a piece of 3/8 inch plywood to fit inside the crossrails and siderails to spread the load. If plywood is used, tie it to the siderail supports.

## 4-4 Storage

---

- Tie the load to the crossrails or the siderail supports. Use the crossrails only to keep the load from sliding. To move the crossrails, pull out on the latch release handle at each end. Slide the crossrail to the desired position balancing the force side to side. Push the release handle back into the latched position and slide the crossrail back and forth slightly to be sure the latch snaps securely into place.
- If needed to carry long items, move the crossrails as far apart as they will go. Tie the load to the crossrails and the siderails or siderail supports. Also tie the load to the bumpers. Do not tie the load so tightly that the crossrails or siderails are damaged.
- After moving a crossrail, be sure it is securely locked into the siderail.

A Centre High-Mounted Brakelamp (CHMSL) is located above the glass or above the rear load doors.

If items are loaded on the roof of the vehicle, care should be taken not to block or damage the CHMSL unit.

# Instruments and Controls

## Controls

Steering Wheel Adjustment ...	5-2
Steering Wheel Controls .....	5-2
Heated Steering Wheel .....	5-3
Horn .....	5-3
Windscreen Wiper/Washer ....	5-4
Rear Window Wiper/ Washer .....	5-4
Compass .....	5-5
Clock .....	5-7
Power Sockets .....	5-7
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
Mileometer .....	5-11
Trip Odometer .....	5-11
Rev Counter .....	5-11
Fuel Gauge .....	5-11

Engine Coolant Temperature Gauge .....	5-12
Seat Belt Reminders .....	5-12
Airbag Readiness Light .....	5-13
Passenger Airbag Status Indicator .....	5-14
Charging System Light .....	5-15
Malfunction Indicator Lamp .....	5-15
Brake System Warning Light .....	5-17
Antilock Brake System (ABS) Warning Light .....	5-18
Tow/Haul Mode Light .....	5-19
StabiliTrak <sup>®</sup> OFF Light .....	5-19
Traction Control System (TCS)/StabiliTrak <sup>®</sup> Light ....	5-19
Tyre Pressure Light .....	5-20
Engine Oil Pressure Light ....	5-20
Security Light .....	5-21
Main-Beam On Light .....	5-21
Front Fog Lamp Light .....	5-21
Rear Fog Lamp Light .....	5-21
Lamps On Reminder .....	5-22
Cruise Control Light .....	5-22

## Information Displays

Driver Information Centre (DIC) .....	5-22
--	------

## Vehicle Messages

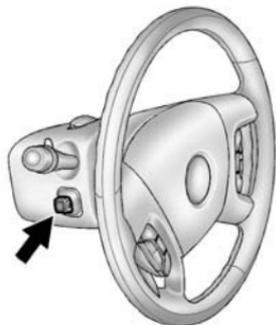
Vehicle Messages .....	5-27
Battery Voltage and Charging Messages .....	5-28
Brake System Messages ....	5-28
Door Ajar Messages .....	5-28
Engine Cooling System Messages .....	5-29
Engine Oil Messages .....	5-30
Engine Power Messages ....	5-30
Fuel System Messages .....	5-31
Key and Lock Messages ....	5-31
Lamp Messages .....	5-31
Object Detection System Messages .....	5-31
Ride Control System Messages .....	5-33
Airbag System Messages ....	5-34
Security Messages .....	5-34
Tyre Messages .....	5-34
Transmission Messages ....	5-35
Vehicle Reminder Messages .....	5-36
Washer Fluid Messages ....	5-36

## Vehicle Personalisation

Vehicle Personalisation .....	5-36
-------------------------------	------

### Controls

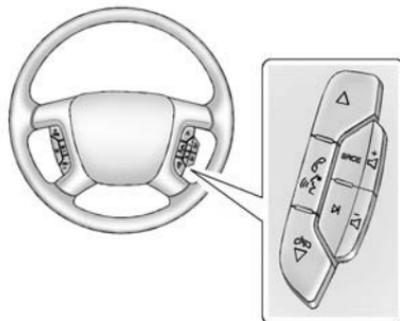
#### Steering Wheel Adjustment



Push the control up or down to tilt the steering wheel up or down.

To set the memory position, see *Vehicle Personalisation* on page 5-36.

#### Steering Wheel Controls



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

**△ (Next):** Press to go to the next preset or favourite radio station, the next track on a CD/DVD, or navigate an iPod® or USB device.

**⏮ / ▽ (Previous):** Press to go to the previous preset or favourite radio station, track on a CD/DVD,

or folder on an iPod® or USB device. Press to reject an incoming call, or to end a call.

#### Radio

To select preset or favourite radio stations:

Press and release △ or ⏮ / ▽ to go to the next or previous radio station stored as a preset or favourite.

#### CD/DVD

To select tracks on a CD/DVD:

Press and release △ or ⏮ / ▽ to go to the next or previous track.

#### Navigating an iPod or USB Device on the Main Audio Screen

1. Press and release △ or ⏮ / ▽ to select the next or previous track within the selected category.
2. Press and hold △ or ⏮ / ▽ to move quickly through the tracks.

3. Press and release  to move up one track within the selected category.

### Navigating an iPod or USB Device on the Music Navigator Screen

1. Press and release  or  /  to select the next or previous track within the selected category.
2. Press and hold  or  to move quickly through the tracks within the selected category.
3. Press and release  to move up one track within the selected category.

 /  (**Mute/Push to Talk**): Press to silence the vehicle speakers only. Press again to turn the sound on.

**SRCE (Source/Voice Recognition)**: Press to switch between the radio and CD, and for equipped vehicles, the DVD, front auxiliary, and rear auxiliary.

Press and hold this button for longer than one second to initiate voice recognition for the navigation system.

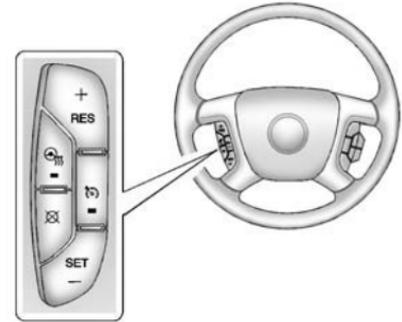
 (**Seek**): Press to seek the next radio station, the next track or chapter while sourced to the CD or DVD slot, or to select tracks and folders on an iPod or USB device.

1. Press and hold  until a beep is heard, to place the radio into SCAN mode. A station will play for five seconds before moving to the next station.
2. To stop the SCAN function, press  again.

While listening to a CD/DVD, press and hold  to quickly move forward through the tracks. Release to stop on the desired track.

**+  or -  (Volume)**: Press to increase or to decrease the volume.

## Heated Steering Wheel



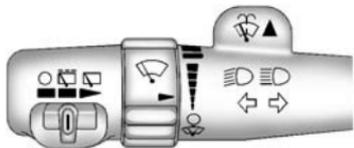
 (**Heated Steering Wheel**): If equipped with a heated steering wheel, press to turn it on or off. A light on the button displays when the feature is turned on.

The steering wheel takes about three minutes to start heating.

## Horn

To sound the horn, press the centre pad on the steering wheel.

### Windscreen Wiper/Washer



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

 **(Mist):** For a single wipe, turn to , then release. For several wipes, hold the band on  longer.

 **(Off):** Turns the windscreen 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 windscreen, carefully loosen or thaw them. Damaged wiper blades should be replaced. See *Wiper Blade Replacement on page 10-28*.

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

### Windscreen Washer

#### Warning

In freezing weather, do not use the washer until the windscreen is warmed. Otherwise the washer fluid can form ice on the windscreen, blocking your vision.

 **(Washer Fluid):** Push the paddle at the top of the indicator lever, to spray washer fluid on the windscreen. The wipers clear the window and then either stop or return to the preset speed.

### Rear Window Wiper/Washer

The rear wiper control is on the indicator lever.

To turn the rear wiper on, slide the stalk to a wiper position.

 **(Off):** Turns the wiper off.

 **(Rear Wiper Delay):** Turns on the rear wiper delay.

 **(Rear Wiper):** Turns on the rear wiper.

 **(Rear Wiper Wash):** Press this button on the end of the stalk to spray washer fluid on the rear window. The wipers will clear the rear window and either stop or return to your preset speed. For more washer cycles, press and hold the button.

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

## Compass

The vehicle may have a compass in the Driver Information Centre (DIC).

### Compass Zone

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

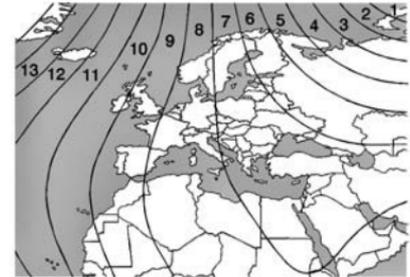
Compass variance is the difference between the earth's magnetic north and true geographic north. If the compass is not set to the zone where you live, the compass may give false readings. The compass must be set to the variance zone in which the vehicle is travelling.

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 the vehicle information button until PRESS ✓ TO CHANGE COMPASS ZONE displays. Or, if the vehicle does not have DIC buttons, press the trip odometer reset stem until CHANGE COMPASS ZONE displays.



2. Find the vehicle's current location and variance zone number on the map.
3. Press the set/reset button to scroll through and select the appropriate variance zone.
4. Press the trip/fuel button until the vehicle heading, for example, N for North, is displayed in the DIC. Or, if the vehicle does not have DIC buttons, press and hold the trip odometer reset stem for two seconds to select the next

## 5-6 Instruments and Controls

---

available variance zone. Repeat this step until the appropriate variance zone is displayed.

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 mobile 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, sunroof, climate controls, or seats during the calibration procedure.

2. Press the vehicle information button until PRESS ✓ TO CALIBRATE COMPASS displays. Or, if the vehicle does not have DIC buttons, press the trip odometer reset stem until CALIBRATE COMPASS displays.
3. Press the set/reset button to start the compass calibration. Or, if the vehicle does not have DIC buttons, press and hold the trip odometer reset stem for two seconds 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 the previous menu.

## Clock

The analog clock is not connected with any other vehicle system and runs by itself.

To adjust the clock, do the following:

1. Locate the adjustment button, near the lower left corner of the clock.
2. Push and hold the adjustment button to advance the clock hands. Holding the button down will cause the clock to advance faster. Release the button before you get to the desired time.
3. Push and release the button to increase the time by one minute increments until the desired time is reached.

## Power Sockets

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

The vehicle has three accessory power outlets located:

- Inside the floor console storage bin.
- On the rear of the floor console.
- In the rear cargo area on the passenger side.

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

The accessory power outlets are powered, even when the ignition is in LOCK/OFF. Continuing to use power outlets while the ignition is in LOCK/OFF may cause the vehicle's battery to run down.

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

When adding electrical equipment, ensure that you follow the proper installation instructions included with the equipment. Do not use equipment exceeding the maximum amperage rating of 20 amperes. See *Add-On Electrical Equipment* on page 9-58.

**Notice:** Hanging heavy equipment from the power outlet can cause damage not covered by the vehicle warranty. The

## 5-8 Instruments and Controls

---

power outlets are designed for accessory power plugs only, such as mobile phone charge cords.

### Power Outlet 110 Volt Alternative Current

The vehicle may have a power outlet that can be used to plug in electrical equipment that uses a maximum limit of 150 watts.



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

An indicator light on the outlet turns on to show it is in use. The light comes on when the ignition is in ON/RUN and equipment requiring less than 150 watts is plugged into the outlet, and no system fault is detected.

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

If equipment is connected using more than 150 watts or a system fault is detected, a protection circuit shuts off the power supply and the indicator light turns off. To reset the circuit, unplug the item and plug it back in or turn the Retained Accessory Power (RAP) off and then back on. See *Retained Accessory Power (RAP)* on page 9-21

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

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

### Cigarette Lighter

For vehicles with a cigarette lighter, it is located in the centre console near the cup holders. Press on the access door to open it and use the lighter.

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

**Notice:** Holding a cigarette lighter in while it is heating does not let the lighter back away from the

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

## Ashtrays

For vehicles with an ashtray, it is located in the centre console near the cup holders. Press on the access door to open it and use the ashtray.

**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.

To remove the ashtray, pull it from the centre console. Slide it back in and push down to be sure it is secure.

## Warning Lights, Gauges, and Indicators

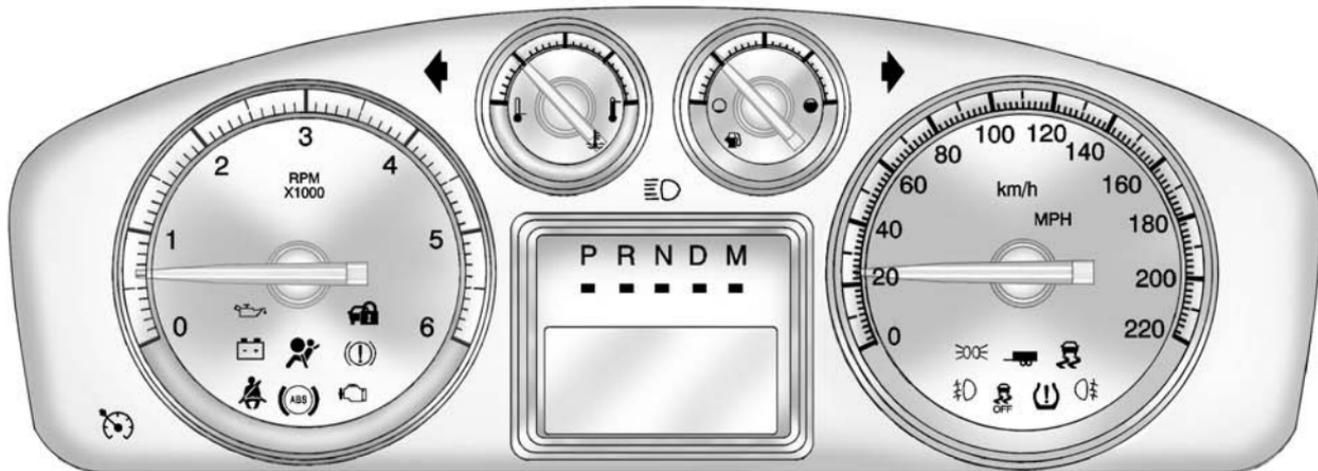
Warning lights and gauges can signal that something is wrong before it becomes serious enough to cause an expensive repair or replacement. Paying attention to the warning lights and gauges could prevent injury.

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



## Speedometer

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

## Mileometer

The vehicle's odometer works together with the Driver Information Centre (DIC). The Trip odometer can be set. See "Trip Odometer" under *Driver Information Centre (DIC)* on page 5-22 for more information.

To check the odometer mileage while the vehicle is not running, press the trip stem on the instrument panel cluster.

If the vehicle ever needs a new odometer installed, the new one will be set to the correct mileage total of the old odometer.

## Trip Odometer

The trip odometer can show how far the vehicle has been driven since the trip odometer was last set to zero.

For more information see "Trip Odometer" under *Driver Information Centre (DIC)* on page 5-22.

## Rev Counter

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

## Fuel Gauge



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

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

The gauge will first indicate empty before the vehicle is out of fuel, but the vehicle's fuel tank should be filled soon.

## 5-12 Instruments and Controls

---

Here are some situations owners may experience with the fuel gauge. None of these indicate a problem with the fuel gauge.

- At the gas station, the fuel pump shuts off before the gauge reads full.
- It takes a little more or less fuel to fill up than the fuel gauge indicated. For example, the gauge may have indicated the tank was half full, but it actually took a little more or less than half the tank's capacity to fill the tank.
- The gauge goes back to empty when the ignition is turned off.

### Engine Coolant Temperature Gauge



This gauge shows the engine coolant temperature.

If the indicator on the gauge moves towards the shaded area on the thermostat, 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 10-17.

### Seat Belt Reminders

#### Driver Safety Belt Reminder Light

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



When the vehicle is started, this light flashes and a chime may come on to remind the driver to fasten their safety belt. Then the light stays on solid until the belt is buckled. This cycle may continue several times if the driver remains or becomes unbuckled while the vehicle is moving.

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

### Passenger Seat Belt Reminder Light

There is a passenger safety belt reminder light near the passenger airbag status indicator. See *Passenger Sensing System* on page 3-31.



When the vehicle is started, this light flashes and a chime may come on to remind passengers to fasten their safety belt. Then the light stays on solid until the belt is buckled. This cycle continues several times if the passenger remains or becomes unbuckled while the vehicle is moving.

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

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

### Airbag Readiness Light

This light shows if there is an electrical problem with the airbag system. The system check includes the airbag sensor(s), passenger sensing system (if equipped), the pretensioners, the airbag modules, the wiring, and the crash sensing and diagnostic module. For more information on the airbag system, see *Airbag System* on page 3-23.



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

## 5-14 Instruments and Controls

If there is a problem with the airbag system, a Driver Information Centre (DIC) message may also come on. See *Airbag System Messages on page 5-34*.

### Passenger Airbag Status Indicator

If the vehicle has the airbag status indicator pictured in the following illustration, then the vehicle has a passenger sensing system for the front passenger position. The passenger airbag status indicator is on the overhead console. See *Passenger Sensing System on page 3-31* for important safety information.

In addition, if the vehicle has a passenger sensing system for the right front passenger position, the label on the vehicle's sun visors refers to "ADVANCED AIRBAGS."



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

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

If the off symbol is lit on the airbag status indicator, it means that the passenger sensing system has turned off the 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 retailer 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 5-13* 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 Centre (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 alternator drive belt, or that there is an electrical problem. Have it

checked immediately. 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, helping to maintain a clean environment. The malfunction indicator lamp 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 9-18.



If the malfunction indicator lamp comes on while the engine is running, this indicates that the OBD II system has detected a problem and diagnosis and service might be 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 also 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

## 5-16 Instruments and Controls

---

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 tyres with other than those of the same Tyre 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 10-2*.

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, find a safe place to 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 control system malfunction:

- Check that the fuel cap is fully installed. See *Filling the Tank on page 9-46*. 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.

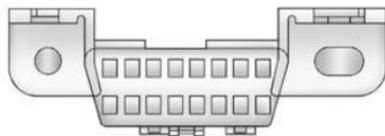
If one or more of these conditions occurs, change the fuel brand used. It may require at least one full tank of the proper fuel to turn the light off.

See *Recommended Fuel* on page 9-45.

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

Depending on where you live, your vehicle may be required to participate in an emission control system inspection and maintenance program. For the inspection, the emission system test equipment will likely connect to the vehicle's Data Link Connector (DLC).



The DLC is under the instrument panel to the left of the steering wheel. 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

With the ignition on, the brake system warning light comes on when the parking brake is set. If the vehicle is driven with the parking brake engaged, a chime sounds when the vehicle speed is greater than 5 km/h (3 mph).

## 5-18 Instruments and Controls

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 and a chime sounds there could be a brake problem. Have the brake system inspected by your dealer.

This light can also come on due to low brake fluid. See *Brake Fluid* on page 10-22 for more information.



This light comes on briefly when the ignition is turned to ON/RUN. If it does not, have it fixed so it will be ready to warn if there is a problem.

If the light comes on while driving, pull off the road and stop carefully. The pedal could be harder to push or could go closer to the floor. It can take longer to stop. If the light is still on, have the vehicle towed for service. See *Towing the Vehicle* on page 10-74.

### 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



For vehicles with the Antilock Brake System (ABS), this light comes on briefly when the engine is started.

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 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. 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 anti-lock brakes and there is a problem with the regular brakes. See *Brake System Warning Light* on page 5-17.

For vehicles with a Driver Information Centre (DIC), see *Brake System Messages* on page 5-28 for all brake related DIC messages.

## Tow/Haul Mode Light



For vehicles with the Tow/Haul Mode feature, this light comes on when the Tow/Haul Mode has been activated.

See *Tow/Haul Mode* on page 9-28.

## StabiliTrak® 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 Traction Control System (TCS)/StabiliTrak button to turn off TCS, and a message displays in the DIC.

Press and briefly hold the TCS/StabiliTrak button to turn off the StabiliTrak system; the StabiliTrak Off light comes on and a message appears in the Driver Information Centre (DIC).

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

See *StabiliTrak® System* on page 9-32, and *Ride Control System Messages* on page 5-33 for more information.

## Traction Control System (TCS)/StabiliTrak® Light



The TCS/StabiliTrak 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 Centre (DIC), have the vehicle serviced by the dealer. See *Ride Control System Messages on page 5-33* for more information.

If the light flashes while driving, this means that StabiliTrak or TCS is assisting in controlling the vehicle. See *StabiliTrak® System on page 9-32* for more information.

### Tyre Pressure Light



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

#### When the Light Is On Steady

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

A Driver Information Centre (DIC) tyre pressure message may also display. See *Tyre Messages on page 5-34*. Stop as soon as possible, and inflate the tyres to the pressure value shown on the Tyre and Loading Information label. See *Tyre Pressure on page 10-43*.

#### 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 *Tyre Pressure Monitor Operation on page 10-45*.

### Engine Oil Pressure Light



**Notice:** Lack of proper engine oil maintenance can damage the engine. Driving with the engine oil low can also damage the engine. The repairs would not be covered by the vehicle warranty. Check the oil level as soon as possible. Add oil if required, but if the oil level is within the operating range and the oil pressure is still low, have the vehicle serviced. Always follow the maintenance schedule for changing engine oil.

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 *Vehicle Alarm System* on page 2-12.

## Main-Beam On Light



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

See *Headlamp Main/Dipped-Beam Changer* on page 6-2 for more information.

## Front Fog Lamp Light



For vehicles with front fog lamps, this light comes on when the fog lamps are in use.

The light goes out when the fog lamps are turned off. See *Front Fog Lamps* on page 6-5 for more information.

## Rear Fog Lamp Light



For vehicles with rear fog lamps, this light comes on when they are in use.

For more information see *Rear Fog Lamps* on page 6-5.

### Lamps On Reminder



This light comes on whenever the parking lamps are on.

See *Exterior Lamp Controls* on page 6-1 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 9-36 for more information.

### Information Displays

#### Driver Information Centre (DIC)

Your vehicle has a Driver Information Centre (DIC).

The DIC displays information about your vehicle. It also displays warning messages if a system problem is detected. The DIC also allows some features to be customised. See *Vehicle Personalisation* on page 5-36 for more information.

All messages will appear in the DIC display located in the centre 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.

## Operation and Displays

The DIC has different displays which can be accessed by pressing the DIC buttons located on the instrument panel, next to the steering wheel.

The DIC displays trip, fuel, and vehicle system information, and warning messages if a system problem is detected. A digital speedometer also appears at the bottom of the DIC display. The digital speedometer can be enabled or disabled. See “DISPLAY DIGITAL SPEED” under *Vehicle Personalisation* on page 5-36 for more information.

## DIC Buttons



The buttons are the trip/fuel, vehicle information, customisation, and set/reset buttons. The button functions are detailed in the following pages.

**☂ (Trip/Fuel):** Press this button to display the odometer, trip odometer, fuel range, average economy, fuel used, timer, transmission temperature, instantaneous economy, and average vehicle speed. The compass and outside air temperature will also be shown in

the display. The temperature will be shown in °C or °F depending on the units selected.

**🚗 i (Vehicle Information):** Press this button to display the oil life, units, side blind zone system on/off, tyre pressure readings for vehicles with the Tyre Pressure Monitor System (TPMS), compass zone setting, and compass recalibration.

**☑ (Customisation):** Press this button to customise the feature settings on your vehicle. See *Vehicle Personalisation* on page 5-36 for more information.

**✓ (Set/Reset):** Press this button to set or reset certain functions and to turn off or acknowledge messages on the DIC.

## 5-24 Instruments and Controls

---

### Trip/Fuel Menu Items

 (Trip/Fuel): Press this button to scroll through the following menu items:

#### Mileometer

Press the trip/fuel button until ODOMETER displays. This display shows the distance the vehicle has been driven in either kilometres (km) or miles (mi).

To switch between English and metric measurements, see “Units” later in this section.

#### Trip Odometer

Press the trip/fuel button until TRIP displays. This display shows the current distance travelled in either kilometres (km) or miles (mi) since the last reset for the trip odometer.

The trip odometer can be reset to zero by pressing the set/reset button while the trip odometer is displayed.

### Fuel Range

Press the trip/fuel button until FUEL RANGE displays. This display shows the approximate number of remaining kilometres (km) or miles (mi) the vehicle can be driven without refuelling. The display will show LOW if the fuel level is low.

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 motorway, 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, motorway driving produces better fuel economy than city driving. Fuel range cannot be reset.

### Average Economy

Press the trip/fuel button until AVERAGE ECONOMY displays. This display shows the approximate average litres per 100 kilometres (L/100 km) or miles per gallon (mpg). This number is calculated based on the number of L/100 km (mpg) recorded since the last time this menu item was reset. To reset AVERAGE ECONOMY, press and hold the set/reset button.

### Fuel Used

Press the trip/fuel button until FUEL USED displays. This display shows the number of litres (L) or gallons (gal) of fuel used since the last reset of this menu item. To reset the fuel used information, press and hold the set/reset button while FUEL USED is displayed.

### Timer

Press the trip/fuel button until **TIMER** displays. This display can be used as a timer.

To start the timer, press the set/reset button while **TIMER** is displayed. The display will show the amount of time that has passed since the timer was last reset, not including time the ignition is off. Time will continue to be counted as long as the ignition is on, even if another display is being shown on the DIC. The timer will record up to 99 hours, 59 minutes and 59 seconds (99:59:59) after which the display will return to zero.

To stop the timer, press the set/reset button briefly while **TIMER** is displayed.

To reset the timer to zero, press and hold the set/reset button while **TIMER** is displayed.

### Transmission Temperature

Press the trip/fuel button until **TRANS TEMP** displays. This display shows the temperature of the automatic transmission fluid in either degrees Celsius (°C) or degrees Fahrenheit (°F).

### Instantaneous Economy

If your vehicle has this display, press the trip/fuel button until **INST ECON** 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 litres per 100 kilometres (L/100 km) or miles per gallon (mpg). Unlike average economy, this screen cannot be reset.

The display may also show if the vehicle is currently in V4, V6 or V8 mode.

### Average Vehicle Speed

Press the trip/fuel button until **AVERAGE SPEED** displays. This display shows the average speed in kilometres per hour (km/h) or miles per hour (MPH).

### 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 "CHANGE ENGINE OIL SOON" under *Engine Oil Messages on page 5-30*. You should change the oil as soon as you can. See *Engine Oil on page 10-6*. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended in the Maintenance Schedule. See *Scheduled Maintenance on page 11-1*.

Remember, you must reset the OIL LIFE display yourself after each oil change. It will not reset itself. Also, be careful not to reset the OIL LIFE display accidentally at any time other than when the oil has just been changed. It cannot be reset accurately until the next oil change. To reset the engine oil life system, see *Engine Oil Life System on page 10-9*.

### Side Blind Zone Alert

If your vehicle has the Side Blind Zone Alert (SBZA) system, this display allows the system to be turned on or off. Once in this display, press the set/reset button to select between ON or OFF. If you choose ON, the system will be turned on. If you choose OFF, the system will be turned off. When the SBZA system is turned off, the DIC will display the SIDE BLIND ZONE ALERT SYSTEM OFF message as a reminder that the system has been turned off. See *Object Detection System Messages on page 5-31* and *Side Blind Zone Alert (SBZA) on page 9-40* for more information.

### Units

Press the vehicle information button until UNITS displays. This display allows you to select between metric or English units of measurement. Once in this display, press the set/reset button to select between METRIC or ENGLISH units. All of

the vehicle information will then be displayed in the unit of measurement selected.

### Tyre Pressure

On vehicles with the Tyre Pressure Monitor System (TPMS), the pressure for each tyre can be viewed in the DIC. The tyre pressure will be shown in either kilopascals (kPa) or pounds per square inch (psi). Press the vehicle information button until the DIC displays FRONT TYRES kPa (PSI) LEFT ## RIGHT ##. Press the vehicle information button again until the DIC displays REAR TYRES kPa (PSI) LEFT ## RIGHT ##.

If a low tyre pressure condition is detected by the system while driving, a message advising you to add air to a specific tyre will appear in the display. See *Tyre Pressure on page 10-43* and *Tyre Messages on page 5-34* for more information.

If the tyre 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.

### **Battery Voltage**

This display shows the current battery voltage. If the voltage is in the normal range, the value will display. For example, the display may read BATTERY VOLTAGE 13 VOLTS. If the voltage is low, the display will show LOW. If the voltage is high, the display will show HIGH. Your vehicle's charging system regulates voltage based on the state of the battery. The battery voltage may fluctuate when viewing this information on the DIC. This is normal. See *Charging System Light on page 5-15* for more information. If there is a problem with the battery charging system, the DIC will display a message. See *Battery Voltage and Charging Messages on page 5-28*.

### **Oil Pressure**

This display will show the oil pressure in either kilopascals (kPa) or pounds per square inch (psi).

### **Compass Zone Setting**

This display allows for setting the compass zone. See *Compass on page 5-5* for more information.

### **Compass Recalibration**

This display allows for calibrating the compass. See *Compass on page 5-5* for more information.

### **Blank Display**

This display shows no information.

## **Vehicle Messages**

Messages displayed on the DIC indicate the status of the vehicle or some action may be needed to correct a condition. Multiple messages may appear one after another.

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

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

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

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

## Battery Voltage and Charging Messages

### BATTERY LOW START VEHICLE

When the vehicle's battery is severely discharged, this message will display and four chimes will sound. Start the vehicle immediately. If the vehicle is not started and the battery continues to discharge, the climate controls, heated seats, and audio systems will shut off and the vehicle may require a jump start. These systems will function again after the vehicle is started.

### SERVICE BATTERY CHARGING SYSTEM

On some vehicles, this message displays if there is a problem with the battery charging system. Under certain conditions, the charging system light may also turn on in the instrument cluster. See *Charging System Light* on page 5-15. Driving with this problem could drain the

battery. Turn off all unnecessary accessories. Have the electrical system checked as soon as possible. See your dealer.

## Brake System Messages

### SERVICE BRAKE SYSTEM

This message displays along with the brake system warning light if there is a problem with the brake system. See *Brake System Warning Light* on page 5-17. If this message appears, stop as soon as possible and turn off the vehicle. Restart the vehicle and check for the message on the DIC display. If the message is still displayed or appears again when you begin driving, the brake system needs service as soon as possible. See your dealer.

### SERVICE BRAKES SOON

This message displays if there is a problem with the brake system. If this message appears, stop as soon as possible and turn off the vehicle. Restart the vehicle and

check for the message on the DIC display. If the message is still displayed or appears again when you begin driving, the brake system needs service. See your dealer.

## Door Ajar Messages

### DRIVER DOOR OPEN

This message displays and a chime sounds if the driver door is not fully closed and the vehicle is shifted out of P (Park). Stop and turn off the vehicle, check the door for obstructions, and close the door again. Check to see if the message still appears on the DIC.

### HOOD OPEN

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

### LEFT REAR DOOR OPEN

This message displays and a chime sounds if the driver side rear door is not fully closed and the vehicle is shifted out of P (Park). Stop and turn off the vehicle, check the door for obstructions, and close the door again. Check to see if the message still appears on the DIC.

### PASSENGER DOOR OPEN

This message displays and a chime sounds if the front passenger door is not fully closed and the vehicle is shifted out of P (Park). Stop and turn off the vehicle, check the door for obstructions, and close the door again. Check to see if the message still appears on the DIC.

### REAR ACCESS OPEN

This message displays and a chime sounds if the tailgate or liftglass is open while the ignition is in ON/RUN. Turn off the vehicle and check the tailgate and liftglass. Restart the vehicle and check for the message on the DIC display.

### RIGHT REAR DOOR OPEN

This message displays and a chime sounds if the passenger side rear door is not fully closed and the vehicle is shifted out of P (Park). Stop and turn off the vehicle, check the door for obstructions, and close the door again. Check to see if the message still appears on the DIC.

### Engine Cooling System Messages

**Notice:** If you drive the vehicle while the engine is overheating, severe engine damage may occur. If an overheat warning appears on the instrument cluster and/or DIC, stop the vehicle as soon as possible. See *Engine Overheating on page 10-17*.

### ENGINE HOT A/C (Air Conditioning) TURNED OFF

This message displays when the engine coolant becomes hotter than the normal operating temperature. See *Engine Coolant Temperature Gauge on page 5-12*. To avoid added strain on a hot engine, the air conditioning compressor automatically turns off. When the coolant temperature returns to normal, the air conditioning compressor turns back on. You can continue to drive your vehicle.

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

### ENGINE OVERHEATED IDLE ENGINE

This message displays when the engine coolant temperature is too hot. Stop and allow the vehicle to idle until it cools down. See *Engine Coolant Temperature Gauge on page 5-12*.

See *Overheated Engine Protection Operating Mode on page 10-19* for information on driving to a safe place in an emergency.

### ENGINE OVERHEATED STOP ENGINE

This message displays and a chime sounds if the engine cooling system reaches unsafe temperatures for operation. Stop and turn off the vehicle as soon as it is safe to do so to avoid severe damage. This message clears when the engine has cooled to a safe operating temperature.

### Engine Oil Messages

#### CHANGE ENGINE OIL SOON

This message displays when the engine oil needs to be changed. When you change the engine oil, be sure to reset the CHANGE ENGINE OIL SOON message. See *Engine Oil Life System on page 10-9* for information on how to reset the

message. See *Engine Oil on page 10-6* and *Scheduled Maintenance on page 11-1* for more information.

### ENGINE OIL HOT IDLE ENGINE

This message displays when the engine oil becomes hotter than the normal operating temperature. Stop and allow the vehicle to idle until it cools down. See *Engine Coolant Temperature Gauge on page 5-12*.

### 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 Centre (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 10-6* for more information.

This message displays if low oil pressure levels occur. Stop the vehicle as soon as safely possible and do not operate it until the cause of the low oil pressure has been corrected. Check the oil as soon as possible and have the vehicle serviced by your dealer. See *Engine Oil on page 10-6*.

### Engine Power Messages

#### ENGINE POWER IS REDUCED

This message displays and a chime sounds when the cooling system temperature gets too hot and the engine further enters the engine coolant protection mode. See *Engine Overheating on page 10-17* for further information.

This message also displays when the 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 and a chime sounds if the fuel level is low. Refuel as soon as possible. See *Fuel Gauge on page 5-11* and *Fuel on page 9-45* for more information.

### TIGHTEN GAS CAP

This message may display along with the check engine light on the instrument cluster if the fuel cap is not tightened properly. See *Malfunction Indicator Lamp on page 5-15*. Reinstall the fuel cap fully. See *Filling the Tank on page 9-46*. 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 this light and message off.

## Key and Lock Messages

### REPLACE BATTERY IN REMOTE KEY

This message displays if a Remote Keyless Entry (RKE) transmitter battery is low. The battery needs to be replaced in the transmitter. See "Battery Replacement" under *Remote Keyless Entry (RKE) System Operation on page 2-2*.

## Lamp Messages

### SERVICE LEFT HEADLAMP ASSEMBLY

On some models, this message will be displayed when the left headlamp is out and needs to be serviced. See *LED Lighting on page 10-30*.

### SERVICE RIGHT HEADLAMP ASSEMBLY

On some models, this message will be displayed when the right headlamp is out and needs to be serviced. See *LED Lighting on page 10-30*.

### TURN SIGNAL ON

This message displays and a chime sounds if an indicator is left on for 1.2 km (0.75 mi). Move the indicator lever to the off position.

## Object Detection System Messages

### PARKING ASSIST BLOCKED SEE OWNERS MANUAL

This message displays if there is something interfering with the park assist system. See *Ultrasonic Parking Assist on page 9-39* for more information.

### **PARKING ASSIST OFF**

After the vehicle has been started, this message displays to remind the driver that the Ultrasonic Rear Parking Assist (URPA) system has been turned off. Press the set/reset button to acknowledge this message and clear it from the DIC display. To turn the URPA system back on, see *Ultrasonic Parking Assist* on page 9-39.

### **SERVICE PARKING ASSIST**

This message displays if there is a problem with the Ultrasonic Rear Parking Assist (URPA) system. Do not use this system to help you park. See *Ultrasonic Parking Assist* on page 9-39 for more information. See your retailer for service.

### **SERVICE SIDE BLIND ZONE ALERT SYSTEM**

If your vehicle has the Side Blind Zone Alert (SBZA) system and this message displays, the system needs service. See your dealer. See *Side Blind Zone Alert (SBZA)* on page 9-40 for more information.

### **SIDE BLIND ZONE ALERT SYSTEM OFF**

If your vehicle has the Side Blind Zone Alert (SBZA) system, this message displays when the SBZA system has been turned off. See *Side Blind Zone Alert (SBZA)* on page 9-40 and *Driver Information Centre (DIC)* on page 5-22 for more information.

### **SIDE BLIND ZONE SYSTEM UNAVAILABLE**

If your vehicle has the Side Blind Zone Alert (SBZA) system, this message displays when the SBZA system is disabled because the sensor is blocked and cannot detect vehicles in your blind zone. The sensor may be blocked by mud, dirt, snow, ice, or slush. This message may also display during heavy rain or due to road spray. It may also come on when driving in isolated areas with no guardrails, trees, or road signs and light traffic. Your vehicle does not need service. For cleaning instructions, see "Washing Your Vehicle" in *Exterior Care* on page 10-74. See *Side Blind Zone Alert (SBZA)* on page 9-40 for more information.

## Ride Control System Messages

### SERVICE STABILITRAK

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

### SERVICE SUSPENSION SYSTEM

This message displays when the Road Sensing Suspension (RSS) system is not operating properly. Have your vehicle serviced by your dealer.

### SERVICE TRACTION CONTROL

If your vehicle has StabiliTrak, this message displays when there is a problem with the Traction Control System (TCS). When this message displays, the system will not limit wheel spin. Adjust your driving accordingly. See your retailer for service. See *StabiliTrak® System on page 9-32* for more information.

### STABILITRAK INITIALISING

If the vehicle has StabiliTrak, this message may come on if the StabiliTrak system has not fully initialised because of road conditions or the incorrect tyre size. When the StabiliTrak system is fully initialised, the message will turn off. See *StabiliTrak® System on page 9-32* for more information. If this message continues to be displayed for multiple ignition cycles and on different road surfaces, see your dealer for service.

### TRACTION XX STABILITRAK XX

This message displays when the traction control and/or StabiliTrak systems have been turned on or off. Adjust your driving accordingly. To limit wheel spin and realise the full benefits of the stability enhancement system, you should normally leave StabiliTrak on. However, you should turn StabiliTrak off if the vehicle gets stuck in sand, mud, ice, or snow and you want to rock the vehicle to attempt to free it, or if you are driving in extreme off-road conditions and require more wheel spin. See *If the Vehicle Is Stuck on page 9-13*. To turn the StabiliTrak system on or off, see *StabiliTrak® System on page 9-32*.

STABILITRAK OFF may also display when the stability control has been automatically disabled. There are several conditions that can cause this message to appear.

- One condition is overheating, which could occur if StabiliTrak activates continuously for an extended period of time.
- The message also displays if the brake system warning light is on. See *Brake System Warning Light on page 5-17*.
- The message could display if the stability system takes longer than usual to complete its diagnostic checks due to driving conditions.
- The message displays if an engine or vehicle related problem has been detected and the vehicle needs service. See your dealer.

The message turns off as soon as the conditions that caused the message to be displayed are no longer present.

### Airbag System Messages

#### SERVICE AIR BAG

This message displays if there is a problem with the airbag system. Have your dealer inspect the system for problems. See *Airbag Readiness Light on page 5-13* and *Airbag System on page 3-23* for more information.

### Security Messages

#### SERVICE THEFT DETERRENT SYSTEM

This message displays when there is a problem with the theft-deterrent system. The vehicle may or may not restart so you may want to take the vehicle to your dealer before turning off the engine. See *Immobiliser Operation on page 2-13* for more information.

### Tyre Messages

#### SERVICE TIRE MONITOR SYSTEM

On vehicles with the Tyre Pressure Monitor System (TPMS), this message displays if a part on the TPMS is not working properly. The tyre pressure light also flashes and then remains on during the same ignition cycle. See *Tyre Pressure Light on page 5-20*. Several conditions may cause this message to appear. See *Tyre Pressure Monitor Operation on page 10-45* 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 Tyre Pressure Monitor System (TPMS), this message displays when the TPMS is re-learning the tyre positions on your vehicle. The tyre positions must be re-learned after rotating the tyres or after replacing a tyre or sensor. See *Tyre Inspection on page 10-48*, *Tyre Rotation on page 10-49*, *Tyre Pressure Monitor System on page 10-44*, and *Tyre Pressure on page 10-43* for more information.

## TYRE LOW ADD AIR TO TYRE

On vehicles with the Tyre Pressure Monitor System (TPMS), this message displays when the pressure in one or more of the vehicle's tyres needs to be checked. 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 tyre. The low tyre pressure warning light will also

come on. See *Tyre Pressure Light on page 5-20*. You can receive more than one tyre pressure message at a time. To read the other messages that may have been sent at the same time, press the set/reset button or the trip odometer reset stem. If a tyre pressure message appears on the DIC, stop as soon as you can. Have the tyre pressures checked and set to those shown on the Tyre Loading Information label. See *Tyres on page 10-40*, *Vehicle Load Limits on page 9-14*, and *Tyre Pressure on page 10-43*. The DIC also shows the tyre pressure values. See *Driver Information Centre (DIC) on page 5-22*.

## Transmission Messages

### GRADE BRAKING DISABLED

This message displays when the grade braking has been disabled with the tow/haul mode button on

the end of the shift lever. See *Tow/Haul Mode on page 9-28*, *Automatic Transmission on page 9-25*, and *Cruise Control on page 9-36*.

### GRADE BRAKING ENABLED

This message displays when the grade braking has been enabled with the tow/haul mode button on the end of the shift lever. See *Tow/Haul Mode on page 9-28*, *Automatic Transmission on page 9-25*, and *Cruise Control on page 9-36*.

### GRADE BRAKING ON

This message displays when the grade braking has been activated while driving on downhill grades. This message will only appear the first time the feature is activated in an ignition cycle. See *Tow/Haul Mode on page 9-28*, *Automatic Transmission on page 9-25*, and *Cruise Control on page 9-36*.

### MANUAL SHIFT

This message displays when the automatic transmission is in manual mode. See *Manual Mode on page 9-27* for more information.

### TRANSMISSION HOT IDLE ENGINE

**Notice:** Do not drive the vehicle while the transmission fluid is overheating and the transmission temperature warning is displayed on the instrument cluster and/or DIC, or the transmission can be damaged. This could lead to costly repairs that would not be covered by the warranty.

This message displays along with four chimes if the transmission fluid in the vehicle gets hot. Driving with the transmission fluid temperature high can cause damage to the vehicle. Stop the vehicle and let it idle to allow the transmission to cool. This message clears and the chime stops when the fluid temperature reaches a safe level.

### Vehicle Reminder Messages

#### ICE POSSIBLE DRIVE WITH CARE

This message displays when ice conditions are possible.

### Washer Fluid Messages

#### WASHER FLUID LOW ADD FLUID

This message displays when the windscreen washer fluid is low. Fill the windscreen washer fluid reservoir as soon as possible. See *Engine Compartment Overview on page 10-5* for the location of the windscreen washer fluid reservoir. Also, see *Washer Fluid on page 10-20* for more information.

### Vehicle Personalisation

Your vehicle may have customisation capabilities that allow you to program certain features to one preferred setting. Customisation 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 customisation options may not be available on your vehicle. Only the options available will be displayed on the DIC.

The default settings for the customisation features were set when your vehicle left the factory, but may have been changed from their default state since then.

The customisation preferences are automatically recalled.

To change customisation 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 customisation button to scroll through the available customisable options.

## Feature Settings Menu Items

The following are customisation 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 customisation 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 customisation 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 customisation button to scroll through the following settings:

**ENGLISH (default):** All messages will appear in English.

**DEUTSCH:** All messages will appear in German.

**ITALIANO:** All messages will appear in Italian.

**FRANCAIS:** All messages will appear in French.

**ESPANOL:** All messages will appear in Spanish.

**ARABIC:** All messages will appear in Arabic.

**CHINESE:** All messages will appear in Chinese.

**RUSSIAN:** All messages will appear in Russian.

**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 LOCK

This feature allows you to select when the vehicle's doors will automatically lock. See *Automatic Door Locks on page 2-7* for more information.

Press the customisation button until AUTO DOOR LOCK appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customisation button to scroll through the following settings:

**SHIFT OUT OF PARK (default):**

The doors will automatically lock when the vehicle is shifted out of P (Park).

**AT VEHICLE SPEED:** The doors will automatically lock when the vehicle speed is above 13 km/h (8 mph) for three seconds.

**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 *Automatic Door Locks on page 2-7* for more information.

Press the customisation 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 customisation 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 the doors are open. See *Remote Keyless Entry (RKE) System Operation on page 2-2* for more information.

Press the customisation 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 customisation button to scroll through the following settings:

**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 (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 2-2* for more information.

Press the customisation 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 customisation 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.

### DELAY DOOR LOCK

This feature allows you to select whether or not the locking of the vehicle's doors and tailgate will be delayed. When locking the doors and tailgate with the power door lock switch and a door or the tailgate is open, this feature will delay locking the doors and tailgate until five seconds after the last door is closed. You will hear three chimes to signal that the delayed locking feature is in use. The key must be out of the ignition for this feature to work. You can temporarily override delayed locking by pressing the

## 5-40 Instruments and Controls

---

power door lock switch twice. See *Delayed Locking on page 2-7* for more information.

Press the customisation button until DELAY DOOR LOCK appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customisation button to scroll through the following settings:

**OFF:** There will be no delayed locking of the vehicle's doors.

**ON (default):** The doors will not lock until five seconds after the last door or the tailgate is closed.

**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 customisation 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 customisation 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 1 minute.

**2 MINUTES:** The exterior lamps will stay on for 2 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 lamps turn on briefly during low light periods after unlocking the vehicle using the Remote Keyless Entry (RKE) transmitter.

Press the customisation 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 customisation button to scroll through the following settings:

**OFF:** The exterior lamps will not turn on when you unlock the vehicle with the RKE transmitter.

**ON (default):** If it is dark enough outside, the exterior lamps will turn on briefly when you unlock the vehicle with the RKE transmitter.

The lamps 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 2-2 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 customisation 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 customisation 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.

### PARK TILT MIRRORS

This feature allows you to select whether or not the outside mirror(s) will automatically tilt down when the vehicle is shifted into R (Reverse). See *Park Tilt Mirrors* on page 2-16 for more information.

Press the customisation button until PARK TILT MIRRORS appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customisation button to scroll through the following settings:

**OFF (default):** Neither outside mirror will be tilted down when the vehicle is shifted into R (Reverse).

**DRIVER MIRROR:** The driver outside mirror will be tilted down when the vehicle is shifted into R (Reverse).

**PASSENGER MIRROR:** The passenger outside mirror will be tilted down when the vehicle is shifted into R (Reverse).

**BOTH MIRRORS:** The driver and passenger outside mirrors will be tilted down when the vehicle is shifted into R (Reverse).

**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.

### **EASY EXIT RECALL**

If your vehicle has this feature, it allows you to select your preference for the automatic easy exit seat feature. See *Memory Seats on page 3-5* for more information.

Press the customisation button until EASY EXIT RECALL appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customisation button to scroll through the following settings:

**DOOR BUTTON ONLY:** No automatic seat exit recall will occur. The recall will only occur after pressing the easy exit seat button.

### **BUTTON AND KEY OUT**

**(default):** If the features are enabled through the EASY EXIT SETUP menu, the driver seat will move back, and if the vehicle has the power tilt wheel feature, the

power steering column will move up when the key is removed from the ignition or after pressing the easy exit seat button.

The automatic easy exit seat movement will only occur one time after the key is removed from the ignition. If the automatic movement has already occurred, and you put the key back in the ignition and remove it again, the seat and steering column will stay in the original exit position, unless a memory recall took place prior to removing the key again.

**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.

### **EASY EXIT SETUP**

If your vehicle has this feature, it allows you to select which areas will recall with the automatic easy exit seat feature. It also allows you to

turn off the automatic easy exit feature. See *Memory Seats on page 3-5* and “EASY EXIT RECALL” earlier for more information.

Press the customisation button until EASY EXIT SETUP appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the menu up/down button to scroll through the following settings:

**OFF:** No automatic seat exit will recall.

**SEAT ONLY:** The driver seat will recall.

**TILT ONLY:** The steering wheel tilt feature will recall.

**SEAT & TILT (default):** The driver seat and the steering wheel tilt feature will recall.

**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.

**MEMORY SEAT RECALL**

This feature allows you to select your preference for the remote memory seat recall feature. See *Memory Seats on page 3-5* for more information.

Press the customisation button until MEMORY SEAT RECALL appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customisation button to scroll through the following settings:

**OFF (default):** No remote memory seat recall will occur.

**ON:** The driver seat, and on some vehicles, the outside mirrors will automatically move to the stored driving position when the unlock button on the Remote Keyless Entry (RKE) transmitter is pressed. On some vehicles with the adjustable throttle and brake pedal feature, the pedals will also automatically move.

**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 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 2-4* for more information.

Press the customisation 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 customisation 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.

**DISPLAY DIGITAL SPEED**

This feature allows you to enable or disable the digital speedometer on the DIC.

Press the customisation button until DISPLAY DIGITAL SPEED appears on the DIC display. Press the set/reset button once to access the settings for this feature. Then press the customisation button to scroll through the following settings:

**OFF:** The digital speedometer will be disabled.

**ON (default):** The digital speedometer 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 customisation features back to their factory default settings.

Press the customisation 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 customisation button to scroll through the following settings:

**RESTORE ALL (default):** The customisation features will be set to their factory default settings.

**DO NOT RESTORE:** The customisation 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 customisation button until **PRESS ✓ TO EXIT FEATURE SETTINGS** appears in the DIC display. Press the set/reset button once to exit the menu.

If you do not exit, pressing the customisation 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 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.

## Lighting

### Exterior Lighting

Exterior Lamp Controls .....	6-1
Exterior Lamps Off Reminder .....	6-2
Headlamp Main/Dipped-Beam Changer .....	6-2
Flash-to-Pass .....	6-2
Automatic Headlamp System .....	6-3
Hazard Lights .....	6-4
Turn and Lane-Change Signals .....	6-4
Front Fog Lamps .....	6-5
Rear Fog Lamps .....	6-5

### Interior Lighting

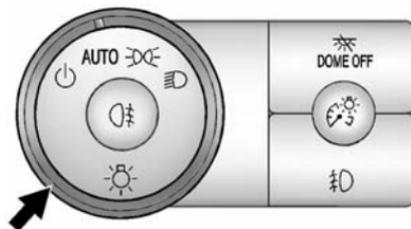
Instrument Panel Illumination Control .....	6-6
Dome Lamps .....	6-6
Reading Lamps .....	6-6

### Lighting Features

Entry Lighting .....	6-7
Exit Lighting .....	6-7
Battery Load Management ....	6-7
Battery Power Protection .....	6-8

## Exterior Lighting

### Exterior Lamp Controls



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

There are four positions:

**⏻ (Off):** Turns off the automatic headlamps. Turning the headlamp control to the off position again will turn the automatic headlamps back on.

**AUTO (Automatic):** Automatically turns on the headlamps at normal brightness, together with the following:

- Position 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.

- Position Lamps
- Instrument Panel Lights
- Taillamps
- License Plate Lamps

## 6-2 Lighting

---

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 exterior lamp control to off and then back to the on position to make the headlamps stay on for an additional 10 minutes.

### Exterior Lamps Off Reminder

If a door is open, a reminder chime sounds when the headlamps or parking lamps are manually turned on and the key is out of the ignition. To turn off the chime, turn the exterior lamp control to off or AUTO and then back on, or close and re-open the door. In the AUTO mode, the headlamps turn off once the ignition is in LOCK/OFF or remains on until the headlamp delay

ends (if enabled in the DIC). See “Exit Lighting” under *Vehicle Personalisation* on page 5-36.

### Headlamp Main/Dipped-Beam Changer

 (Headlamp Main/Dipped Beam Changer): To change the headlamps from dipped to main beam, push the indicator lever toward the instrument panel. To return to dipped beam headlamps, pull the lever toward you. Then release it.



When the main beams are on, this indicator light on the instrument cluster will also be on.

### Flash-to-Pass

This feature lets you use the main-beam headlamps to signal a driver in front of you that you want to pass. It works even if the headlamps are in the automatic position.

To use it, pull the indicator stalk toward you, then release it.

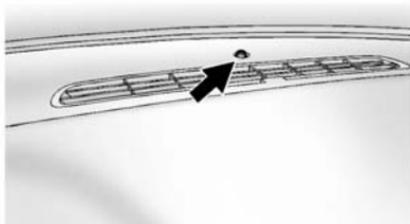
If the headlamps are in the automatic position or on dipped beam, the main-beam headlamps will turn on. They will stay on as long as you hold the stalk toward you. The main-beam indicator on the instrument cluster will come on. Release the stalk to return to normal operation.

The dipped-beam headlamps must be on for the flash-to-pass feature to work.

## Automatic Headlamp System

When it is dark enough outside, the automatic headlamp system turns on the headlamps at the normal brightness, along with the tail lamps, sidemarker, parking lamps, and the instrument panel lights. The radio lights will also be dim.

To turn off the automatic headlamp system, turn the exterior lamps control to  and then release it.



The vehicle has a light sensor on the top of the instrument panel that controls the automatic headlamp

system. Do not cover the sensor, otherwise the headlamps may come on when they are not needed.

The system may also turn on the headlamps when driving through a parking garage, heavy overcast weather, or a tunnel. This is normal.

There is a delay in the transition between the daytime and nighttime operation of the automatic headlamp system so that driving under bridges or bright overhead street lights does not affect the system. The automatic headlamp system is only affected when the light sensor detects a change in lighting lasting longer than the delay.

If the vehicle is started in a dark garage, the automatic headlamp system will come on immediately. Once the vehicle leaves the garage, it takes approximately one minute for the automatic headlamp system to change if it is bright enough outside. During that delay, the instrument cluster may not be as

bright as usual. Make sure the instrument panel brightness control is in the full bright position. See *Instrument Panel Illumination Control* on page 6-6.

To idle the vehicle with the automatic headlamp system off, turn the control to the off position.

The headlamps will also stay on after you exit the vehicle. This feature can be programmed using the Driver Information Centre (DIC). See *Vehicle Personalisation* on page 5-36.

The regular headlamp system can be turned on when needed.

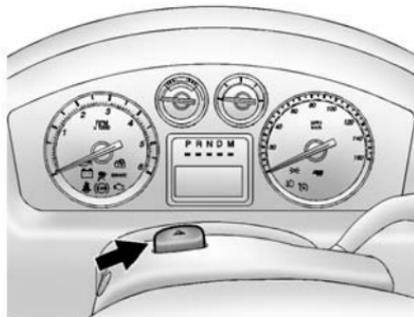
### Lights On with Wipers

If the windscreen wipers are activated in daylight with the engine on, and the exterior lamp control is in AUTO, the headlamps, parking lamps, and other exterior lamps come on. The transition time for the lamps coming on varies based on wiper speed. When the wipers are

## 6-4 Lighting

not operating, these lamps turn off. Move the exterior lamp control to  or  to disable this feature.

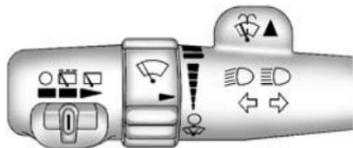
### Hazard Lights



 **(Hazard Warning Indicators):** Press this button to make the front and rear indicator lamps flash on and off. Press again to turn the flashers off.

When the hazard warning indicators are on, the vehicle's indicators will not work.

### Turn and Lane-Change Signals



Move the indicator stalk all the way up or down to signal a turn.

An arrow on the instrument cluster flashes in the direction of the turn or lane change.

Raise or lower the stalk for less than one second until the arrow starts to flash to signal a lane change. This causes the indicators to automatically flash three times. It will flash six times if tow-haul mode is active. Holding the indicator stalk for more than one second will cause the indicators to flash until you release the stalk.

The stalk returns to its starting position whenever it is released.

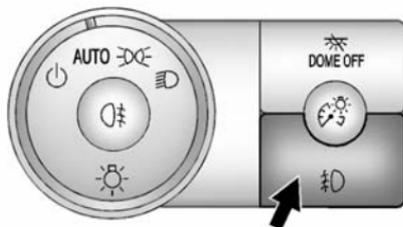
If after signalling a turn or a lane change the arrows flash rapidly or do not come on, a signal bulb may have burned out.

Have any burned out bulbs replaced. If a bulb is not burned out, check the fuse. See *Fuses and Circuit Breakers* on page 10-33.

#### Indicator On Chime

If the indicator is left on for more than 1.2 km (0.75 mi), a chime will sound at each flash of the indicator and the message INDICATOR ON will also appear in the Driver Information Control (DIC). To turn the chime and message off, move the indicator stalk to the off position.

## Front Fog Lamps



For vehicles with fog lamps, the control is next to the exterior lamp control on the instrument panel to the left of the steering column.

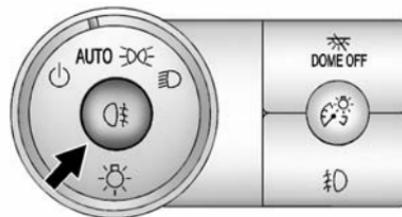
**☾ (Fog Lamps):** Press the button to turn the fog lamps on or off. A indicator light comes on in the instrument cluster. The ignition must be in the ON/RUN position for the fog lamps to come on.

When the fog lamps are turned on, the headlamps automatically turn on.

When the headlamps are changed to main-beam, the fog lamps also go off. When the main-beam headlamps go off, the fog lamps will come on again.

Some localities have laws that require the headlamps to be on along with the fog lamps.

## Rear Fog Lamps



**☾ (Fog Lamps):** Press the button on the exterior lamp control to turn the rear fog lamps on or off.

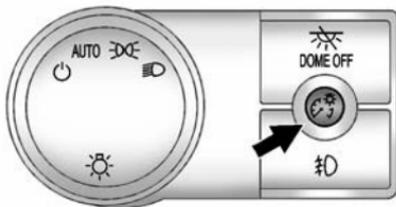
The rear fog lamps only operate if the headlamps and/or the front fog lamps are on.

When the rear fog lamps are on, the indicator light will also be on.

The rear fog lamps may not turn on when a trailer is connected to the vehicle. The trailer's rear fog lamps will be on instead (if equipped).

### Interior Lighting

#### Instrument Panel Illumination Control



 **(Instrument Panel Brightness):** This feature controls the brightness of the instrument panel lights and is located next to the exterior lamps control.

Push the knob to extend out and then it can be turned.

Turn the knob clockwise or anticlockwise to brighten or dim the instrument panel lights. Turning the knob to the farthest clockwise position turns on the dome lamps.

#### Dome Lamps

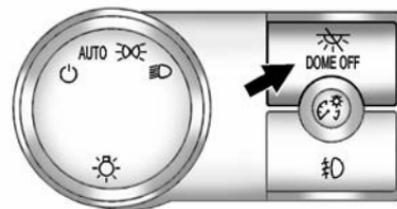
The dome lamps are located in the overhead console.

They come on when any door is opened and turn off after all the doors are closed.

Turn the instrument panel brightness knob located below the dome lamp override button, clockwise to the farthest position to manually turn on the dome lamps. The dome lamps remain on until the knob is turned anticlockwise.

#### Dome Lamp Override

The dome lamp override button is located next to the exterior lamps control.



 **(Dome Off):** Press the button in and the dome lamps remain off when a door is opened. Press the button again to return it to the extended position so that the dome lamps come on when a door is opened.

#### Reading Lamps

For vehicles with front reading lamps in the overhead console, press the button located next to the lamp to turn it on or off.

The vehicle may also have reading lamps in other locations. The lamps cannot be adjusted.

## Lighting Features

### Entry Lighting

The vehicle has an illuminated entry feature.

When the doors are opened, the dome lamps will come on if the dome override button is in the extended position. If the dome override button is pressed in, the lamps will not come on.

### Exit Lighting

The interior lamps come on when the key is removed from the ignition. They turn off automatically in 20 seconds. The lights do not come on if the dome override button is pressed in.

### 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 Centre (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 Centre (DIC) message might be

## 6-8 Lighting

---

displayed, such as BATTERY LOW START VEHICLE. If this message displays, it is recommended that the driver reduce the electrical loads as much as possible and restart the vehicle. See *Battery Voltage and Charging Messages on page 5-28*.

### **Battery Power Protection**

This feature shuts off the dome lamps if they are left on for more than 10 minutes when the ignition is in LOCK/OFF. This helps to prevent the battery from running down.

# Infotainment System

## Introduction

Introduction .....	7-1
Theft-Deterrent Feature .....	7-3
Overview .....	7-3

## Radio

AM-FM Radio .....	7-8
Radio Reception .....	7-15
Rear Side Window Aerial ....	7-15

## Audio Players

CD/DVD Player .....	7-16
MP3 .....	7-25
Auxiliary Devices .....	7-28

## Rear Seat Infotainment

Rear Seat Audio (RSA) System .....	7-29
---------------------------------------	------

## Navigation

Using the Navigation System .....	7-31
Maps .....	7-32
Navigation Symbols .....	7-34
Destination .....	7-39

Configure Menu .....	7-51
Global Positioning System (GPS) .....	7-56
Vehicle Positioning .....	7-57
Problems with Route Guidance .....	7-57
If the System Needs Service .....	7-58
Map Data Updates .....	7-58
Database Coverage Explanations .....	7-58

## Introduction

Read this manual thoroughly to become familiar with how the navigation system operates.

The navigation system includes navigation and audio functions.

Keeping your eyes on the road and your mind on the drive is important for safe driving. The navigation system has built-in features intended to help with this by disabling some features when driving. A greyed-out function is not available when the vehicle is moving.

All functions are available when the vehicle is parked. Do the following before driving:

- Become familiar with the navigation system operation, buttons on the faceplate and touch-sensitive screen buttons.

## 7-2 Infotainment System

---

- Set up the audio by presetting favourite stations, setting the tone, and adjusting the speakers.
- Set up the navigation features, such as entering an address or a preset destination.
- Set up phone numbers in advance so they can be called easily by pressing a single button or a single voice command for navigation systems equipped with phone capability.

### **Warning**

Taking your eyes off the road too long or too often while using the navigation system could cause a crash and you or others could be injured or killed. Focus your attention on driving and limit glances at the moving map on the navigation screen. Use voice guidance directions whenever possible.

Use the navigation system to:

- Plan a route.
- Select a destination using various methods and choices.
- Follow turn-by-turn route and map guidance with voice prompts, only if permitted by traffic laws, controls, and conditions.
- Receive RDS broadcast announcements.

Always be alert and obey traffic and roadway laws and instructions, regardless of the guidance from the navigation system. Because the navigation system uses street map information that does not include all traffic restrictions or the latest road changes, it may suggest using a road that is now closed for construction or a turn that is prohibited by signs at a crossroads. Always evaluate whether following the system's directions are safe and legal for the current conditions.

When the navigation system is turned on, a screen may appear with information that must be read and acknowledged before accessing some navigation features.

After acknowledging the start-up information, the NAV (Navigation) and DEST (Destination) functions are accessible. Information can now be entered or deleted, and other functions accessed. See instructions later in this section.

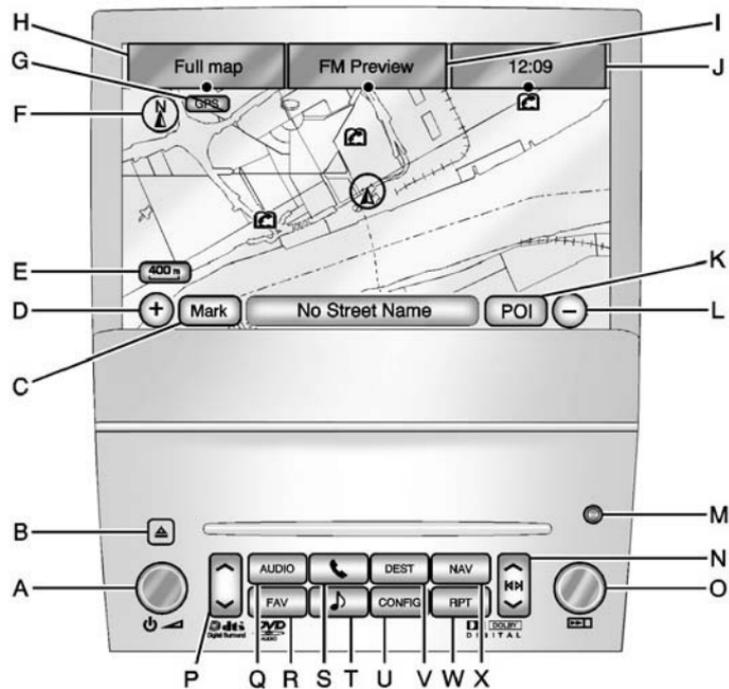
Every 50 times the vehicle is started and the navigation system is turned on, the Caution screen appears. After reading the caution, select OK to load the map information. If OK is not selected, all control buttons except for NAV (Navigation) and DEST (Destination) can be accessed.

When getting started, set your preferences or delete information in the navigation system using various options.

## Theft-Deterrent Feature

TheftLock<sup>®</sup> 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.

## Overview



## 7-4 Infotainment System

---

- A.  (Power/Volume)
- B.  (Eject)
- C. Mark Touch Screen Button
- D.  (Zoom In) Touch Screen Button
- E. Map Scale
- F. North Up/Heading Up Symbol
- G. No GPS Symbol
- H. Full Map Touch Screen Button
- I. Source (AM, FM, CD, etc.)
- J. Clock Touch Screen Button
- K. POI (Point of Interest) Touch Screen Button
- L.  (Zoom Out) Touch Screen Button
- M. Auxiliary Jack
- N.  /  or  /  (Seek) Key (Previous/Next)
- O.  (Tuning) Knob
- P.  /  (Scan Up/Down)

- Q. AUDIO
- R. FAV (Favourite)
- S.  (Phone)
- T.  (Sound)
- U. CONFIG (Configure)
- V. DEST (Destination)
- W. RPT (Repeat)
- X. NAV (Navigation)

### Language - English/Metric

To change the language of the navigation screens or to change the navigation screens from English or metric, see *Driver Information Centre (DIC)* on page 5-22 for more information.

### Deleting Personal Information

This navigation system can record and store personal information such as names and addresses. Delete this information when selling your vehicle or returning a leased vehicle. See "Edit Address Book -

Edit/View" under *Configure Menu* on page 7-51 for deleting information from the address book.

### Limit Features While Driving

The navigation system may have this feature.

Touch the Limit Features While Driving screen button to turn the ability to limit functions on and off while driving. When this screen button is highlighted, the following functions are limited while driving:

- Music Navigator Scrolling.
- Radio Category Scrolling.
- Navigation Menu Scrolling and some functions.

See "Category" under *AM-FM Radio* on page 7-8 for more information.

See "From Map" under *Destination* on page 7-39 for more information.

Some functions will remain limited regardless of the setting.

## Storing Radio Station Presets

To set preset radio stations, do the following:

1. Press  /  to turn the system on.
2. Press the AUDIO control button and select the desired band (AM or FM).
3. Use the  (Tuning) knob,  / , or  /  (Seek) arrows to tune to the desired station.
4. Press and hold one of the five preset screen buttons, at the bottom of the screen, until a beep is heard or if the station displays on the selected preset button.
5. Repeat the steps for each preset.

See "Storing Radio Station Presets" under *AM-FM Radio on page 7-8* for more information.

## Setting the Clock

The navigation system digital time and the analogue clock operate independently. Changing the time through the navigation system does not change the time on the analogue clock. See *Clock on page 5-7* to change the analogue clock time.

To set the time for the navigation system:

1. Press CONFIG to enter the configure menu options, then press CONFIG again, repeatedly until the time is selected or press the time screen button.
2. Press the Hours and Minutes - and + signs to decrease or to increase the time.

See "Setting the Clock" under *Configure Menu on page 7-51* for more information.

## Entering an Address and Point of Interest, and Storing Preset Destinations

### Entering an Address

Enter a destination by inputting the city name first:

1. Press  /  to turn the system on.
2. A caution may appear. Press the OK screen button to proceed.
3. Press DEST.
4. Press the  Address Entry screen button.
5. Select the country screen button, if needed, to change the current country. A list of all of the available countries appear. Select the country.
6. Once a country has been selected, the City name category is automatically selected for entry.

## 7-6 Infotainment System

---

If five or fewer names are available, a list displays. If more than five are available, the List screen button displays a number. This number represents the number of available cities. Select this button to view the list and select a city.

7. Once a city has been selected the Street name category is automatically selected for entry.

If five or fewer streets are available for the selected city, the system displays the list of streets. If more than five streets are available the system displays the alpha keyboard. Start entering the street name. If five or fewer names are available, a list displays. If more than five are available, the List screen button displays a number. This button represents the number of available streets. Select this button to view the list and select a street.

8. Once a street has been selected, select the House # screen button to enter the house number. The system displays the house number range that is available for the street.
9. Select the GO screen button. A map screen, with the destination marked appears.
10. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
11. Select the Start Guidance screen button. You are now ready to start your route.

See "Address Entry" under *Destination on page 7-39* for more information.

### Entering a Point of Interest (POI)

To set a destination by entering a Point of Interest (POI), do the following:

1. Press  /  to turn the system on.

2. A caution may appear. Press the OK screen button to proceed.
3. Press DEST.
4. Press the  Point of Interest screen button.
5. Select the country button, if needed, to change the current country. A list of all of the available countries appear. Select the country.
6. Enter the specific title of the POI in the POI name space.

If five or fewer names are available, a list displays. If more than five are available, the List screen button displays a number. This button represents the number of available POIs. Select this button to view the list.

7. Select the GO screen button next to the POI. A map screen, with the destination marked appears.

8. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
9. Select the Start Guidance screen button. The route is now ready to be started.

See "Point of Interest (POI)" under *Destination on page 7-39* for more information.

### Storing Preset Destinations

1. Press  /  to turn the system on.
2. A caution may appear. Press the OK screen button to proceed.
3. Press DEST.  
Enter a destination. See *Destination on page 7-39* for more information on how to enter a destination.
4. Press the DEST control button, the Route screen displays. Press the Final Destination or Stopover screen button. The information screen displays for

that location. Press the Add to Address Book screen button. The address book screen appears.

5. Select the Name screen button. An alpha-keyboard displays. Enter the name. Select the Back screen button.
6. Press and hold one of the screen buttons at the bottom of the screen until the name appears in the screen button on the display.

The name appears in that preset destination screen button and is now available to select from the Destination Entry screen. See "Using the Stored Preset Destinations" next in this section to select it as a destination.

See *Destination on page 7-39* for more information on how to add or change preset destinations.

### Using Your Stored Preset Destinations

These destinations are available for selection while driving.

1. Press  /  to turn the system on.
2. A caution may appear. Touch the OK screen button to proceed.
3. Press DEST.
4. Select one of the available preset destination screen buttons. A map screen, with the destination marked appears.
5. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
6. Select the Start Guidance screen button. The route is now ready to be started.

See "Preset Destination" under *Destination on page 7-39* for more information.

## 7-8 Infotainment System

---

### Canceling Guidance

Guidance is cancelled once the final destination is reached. To cancel guidance prior to arrival at the final destination:

1. Press DEST.
2. Press the Cancel Guidance screen button.
3. Press OK to confirm.

### Guidance Volume

Adjust the volume of voice guidance prompts:

1. Press CONFIG to enter the menu options, then press CONFIG again, repeatedly until Nav is selected or press the Nav screen button.
2. Press the Voice Prompt screen button.

3. Press + or - screen buttons to increase or to decrease the volume of the voice prompts. The system responds with the adjusted voice level.

See "Voice Prompt " under *Configure Menu on page 7-51* for more information.

### Cleaning the Display Screen

Use a soft clean cotton cloth dampened with clean water.

## Radio

### AM-FM Radio

**Notice:** Before adding any sound equipment to the vehicle, such as an audio system, CD player, CB radio, mobile telephone, or two-way radio, make sure that it can be added by checking with your dealer. If sound equipment can be added, it is very important to do it properly. Added sound equipment can interfere with the operation of the vehicle's engine, radio, or other systems, and even damage them. The vehicle's systems can interfere with the operation of sound equipment that has been added.

**Notice:** The chime signals related to safety belts, parking brake, and other functions of the vehicle operate through the navigation system. If that equipment is replaced or additional equipment is added to the vehicle, the chimes may not work. Make sure

that replacement or additional equipment is compatible with the vehicle before installing it. See "Accessories and Modifications" in the vehicle's owner manual.

## Playing the Radio

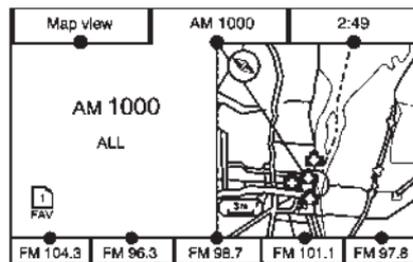
 (Power/Volume):

1. Press to turn the audio system on and off.
2. Turn to increase or to decrease the volume.
3. Press and hold for more than two seconds to turn off the navigation system, the Rear Seat Entertainment (RSE) video screen, and Rear Seat Audio (RSA). If the vehicle has not been turned off, press this knob to turn RSE and RSA back on and to continue playback of the last active source.

 (Tuning Knob): Turn to go to the next or previous frequency or disc track or chapter. See *CD/DVD Player on page 7-16* or *MP3 on page 7-25* for more information.

**AUDIO:** Press to display the audio screen. Press to switch between AM, FM, DISC, or AUX (Auxiliary), or press the screen button. See *CD/DVD Player on page 7-16*, *MP3 on page 7-25*, and *Auxiliary Devices on page 7-28* for more information.

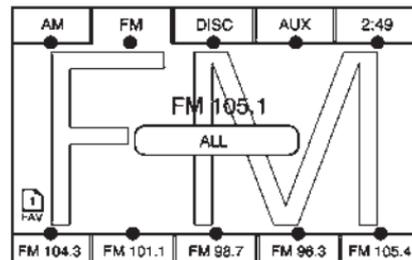
## Finding a Station



## AM Source Shown, Other Sources Similar

If viewing a map screen, press the source screen (AM, FM, CD, etc.) button. The display splits between the audio screen and the map

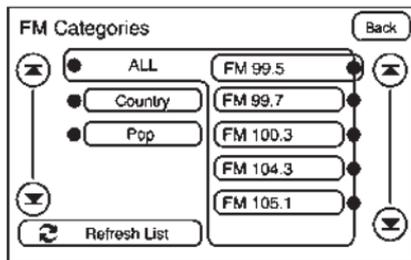
screen. All station-changing functions can be performed from this screen.



## FM Source Shown, Other Sources Similar

If you do not want to view a split screen or you are not on a map screen, press AUDIO.

**AM/FM:** Press the source (AM or FM) screen button or press the AUDIO control button repeatedly until the desired source is highlighted.



### FM Source Shown, Other Sources Similar

**Category:** Press the screen button, located in the middle of the screen, to receive a list of all of the selected band stations in the area. Use the up and down arrows to scroll the frequencies. Press the desired frequency.

FM lists may also contain a category to select if stations in the broadcast area support Radio Data Systems (RDS).

**Refresh List:** Press to refresh the list of AM or FM stations.

When viewing a map screen, the name of the station or channel displays.

### ^ / K or D / V (Seek/Scan):

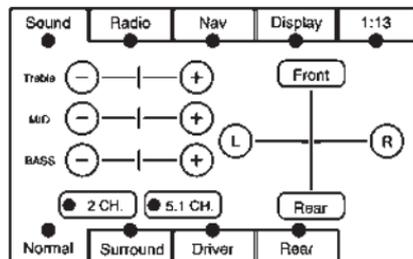
- To seek stations, press the up or down arrows to go to the next or previous station.
- To scan stations, press and hold either arrow for more than two seconds. The radio goes to a station, plays for a few seconds, then goes to the next station.
- To stop scanning, press either arrow again.

### Storing Radio Station Presets

This feature stores a mix of up to 30 AM or FM preset stations. To store presets:

1. Press  /  to turn the system on.
2. If viewing a map screen, press the source screen button, press AUDIO or FAV (favourite).
3. Select the band.
4.  / ,  / , or tune to the desired station, to select the station.
5. Press and hold one of the preset screen buttons for more than two seconds or until a beep is heard.
6. Repeat the steps for each preset.

## Sound Menu



**(Sound):** Press this button or press CONFIG to access the Sound menu to adjust the treble, midrange, bass, fade, balance, and Digital Signal Processing (DSP). The system automatically stores audio adjustment settings as changes are made for each audio source including AM, FM, CD, and AUX.

## Setting the Tone

**TREBLE:** Press + or - to increase or decrease the treble. If a station is weak or has static, decrease the treble.

**MID (Midrange):** Press + or - to increase or decrease the midrange.

**BASS:** Press + or - to increase or decrease the bass.

## Adjusting the Speakers

**L/R (Left/Right) (Balance):** To adjust the balance between the left and the right speakers, press and hold the L or R screen buttons.

**Front/Rear (Fade):** To adjust the fade between the front and the rear speakers, press and hold the Front or Rear screen buttons.

## Digital Signal Processing (DSP)

The system has Digital Signal Processing (DSP). DSP provides a choice of four different listening experiences. DSP can be used while listening to the audio system. Not all DSP modes are available for

all source types. The type of DSP selected is displayed on the status line.

Select from the following DSP settings:

**Normal:** Adjusts the audio for normal mode. This provides the best sound quality for all seating positions.

**Surround (Centrepoint®):** Enables Bose® Centrepoint signal processing that produces a surround sound listening experience from a CD. Centrepoint delivers five independent audio channels from conventional two channel stereo recordings (not available for AM or FM).

**Driver:** Adjusts the audio to give the driver the best possible sound quality.

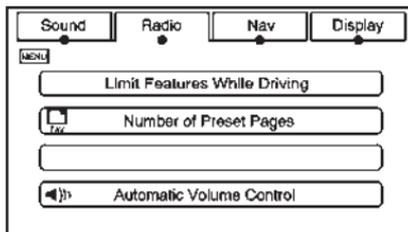
**Rear:** Adjusts the audio to give the rear seat occupants the best possible sound quality.

**2 CH. (Channel):** Enhances surround sound.

## 7-12 Infotainment System

**5.1 CH. (Channel):** Gives a full affect of surround sound listening. This button is only available when playing DVD video discs that support 5.1 audio and if the RSA is off.

### Radio Menu



Press CONFIG to enter the configure menu screen, then press CONFIG repeatedly until Radio is selected or press the Radio screen button to make changes for radio information displayed or to limit

features while driving, number of preset pages and Bose® AudioPilot®.

### Limit Features While Driving

Press the Limit Features While Driving screen button to turn on and off the ability to limit functions while driving. When this screen button is highlighted, the following functions are limited while driving:

- Music Navigator Scrolling.
- Radio Category Scrolling.
- Navigation Menu Scrolling and some functions.

### Number of Preset Pages

Press the Number of Preset Pages screen button to change the number of preset pages, 1 through 6. Each preset page can contain five preset stations. Press the desired numbered screen button.

### Bose® AudioPilot®

**AudioPilot:** The Bose AudioPilot noise compensation technology.

To use AudioPilot:

1. Press CONFIG to enter the menu screen, then press CONFIG repeatedly until Radio is selected or press the Radio screen button
2. Press the Automatic Volume Control screen button to access the AudioPilot menu.
3. Press ON.

To turn it off, press OFF. When on, AudioPilot continuously adjusts the audio system equalisation, to compensate for background noise, so that the music sound is consistent at the set volume level.

This feature is most effective at lower volume settings where background noise can affect how well the music being played is heard through the vehicle's audio system. At higher volume settings, where the music is much louder than the background noise, there may be little or no adjustments by

AudioPilot®. For more information on AudioPilot, visit [www.bose.com/audiopilot](http://www.bose.com/audiopilot).

## Radio Data System (RDS)

The audio system has a Radio Data System (RDS). RDS features are available for use only on FM stations that broadcast RDS information. With RDS, the radio can do the following:

- Receive announcements concerning local and national emergencies
- Display messages from radio stations

This system relies on receiving specific information from these stations and only works when the information is available. In rare cases, a radio station may broadcast incorrect information that causes the radio features to work improperly. If this happens, contact the radio station.

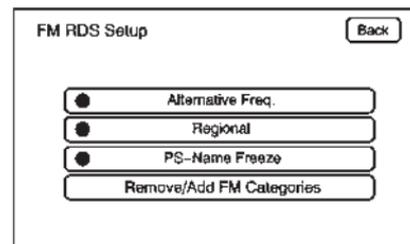
The RDS system is always on. When information is broadcast from the FM station that is playing, the station name or call letters displays on the audio screen.

### RDS Set-Up Menu

The radio's RDS features rely upon receiving specific information from the RDS stations. These features will only work when RDS information is available.

To enable or disable an RDS feature:

1. Press CONFIG to display the setup menu.
2. Press the Radio button to display the Radio screen options, or press CONFIG repeatedly to select one of the menus located at the top of the screen.
3. Press the FM RDS Setup screen button to access the FM RDS setup screen.



**Alternate Freq. (Alternate Frequency):** In this mode, when the radio detects a signal that a traffic announcement will be broadcast, the radio will automatically broadcast the traffic announcement from the station with the strongest signal.

To receive traffic event data, the radio must be tuned to an RDS FM station that has traffic announcement broadcast capability. Press this button to turn this feature on or off.

## 7-14 Infotainment System

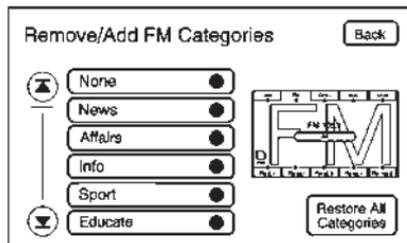
**Regional:** Press this screen button to restrict the RDS alternate frequency search to network stations within the same region as the current station.

To receive traffic event data, the radio must be tuned to an RDS FM station that has traffic announcement broadcast capability.

**PS-Name Freeze (Program Service Name Freeze):** Press this screen button to display only the name of the station. Other broadcast messages will not be displayed.

### Remove/Add FM Categories:

Press this screen button to view the RDS program types.



This menu item allows a choice of radio program types that could be listened to by category rather than frequency.

Use the up and down arrows to scroll through the list. Press the category to turn the program type on or off.

Press the Restore All Categories to turn all program types on.

### Traffic Announcement

Enable this option so that the navigation system can provide verbal announcements for a traffic situation on the planned route.

To receive traffic event data, the radio must be tuned to an RDS FM station that has traffic announcement broadcast capability.

If a CD or DVD is playing, this feature automatically changes the audio source.

1. Press CONFIG to display the Setup menu.
2. Press the Radio screen button to display the radio screen, or press CONFIG repeatedly to select one of the menus located at the top of the screen.
3. Press the TP (Traffic Announcement Priority) screen button to enable the traffic announcement feature. If the radio detects a signal that a traffic announcement will be broadcast and a CD or DVD is

playing, the audio source automatically switches to the current station.

## Radio Reception

Frequency interference and static can occur during normal radio reception if items such as mobile phone chargers, vehicle convenience accessories, and external electronic devices are plugged into the accessory power outlet. If there is interference or static, unplug the item from the accessory power outlet.

### FM

FM signals only extend about 16 to 65 km (10 to 40 mi). Although the radio has a built-in electronic circuit that automatically works to reduce interference, some static can occur, especially around tall buildings or hills, causing the sound to fade in and out.

### AM

The range for most AM stations is greater than for FM, especially at night. The longer range can cause station frequencies to interfere with each other. Static can occur when things like storms and power lines interfere with radio reception. When this happens, try reducing the treble on the radio.

### Mobile Phone Usage

Mobile phone usage can cause interference with the vehicle's radio.

### Rear Side Window Aerial

The AM-FM aerial is located in the passenger rear side windows. Make sure the inside surfaces of the rear side windows are not scratched and that the lines on the glass are not damaged. If the inside surfaces are damaged, they could interfere with radio reception.

If a mobile telephone aerial needs to be attached to the glass, make sure that the grid lines for the AM-FM

aerial are not damaged. There is enough space between the grid lines to attach a mobile telephone aerial without interfering with radio reception.

**Notice:** Using a razor blade or sharp object to clear the inside of the rear side windows may affect radio reception or damage the rear side window aerial. Repairs would not be covered by the warranty. Do not clear the inside of the rear side windows 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 the aerial due to metallic tinting materials will not be covered by the warranty.

# Audio Players

## CD/DVD Player

The player can be used for CD, MP3, and as a DVD video player. Read this section for more information about DVD audio and video.

When playing an audio CD the rear seat operator can power on the RSE video screen and use the remote control to navigate through the tracks on the CD.

While playing a CD, the navigation system is available.

When you insert a CD, the CD tab displays. If a DSP setting is selected for the CD, it activates each time you play a CD.

If the ignition or radio is turned off with a CD in the player, it stays in the player. When the ignition or radio is turned on, the CD starts playing where it stopped, if it was the last selected audio source.

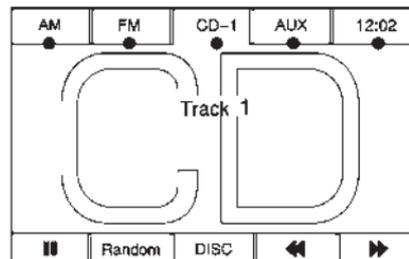
As each new track starts to play, the track number displays.

If an error appears on the display, see “CD/DVD Messages” in this section.

If viewing a map screen, press the CD screen button. The display splits between the audio screen and the map screen. If you do not want to view a split screen or you are not on a map screen, press AUDIO then press AUDIO again, repeatedly until CD is selected or press the CD screen button.

 **(Eject):** Press to eject a disc.

## Playing an Audio CD



**|| / ► (Pause/Play):** Press to pause the CD. This button will then change to the play button. Press the play button to play the CD.

### Random:

1. Press to hear the tracks in random, rather than sequential, order.
2. Press Random again to turn off random play.

⏮ (Rewind):

1. Press and hold this button to rewind quickly through a track selection. You will hear sound at a reduced volume.
2. Release this button to stop rewinding. The display will show the elapsed time of the track.

⏭ (Forward):

1. Press and hold this button to fast forward quickly through a track selection. You will hear sound at a reduced volume.
2. Release this button to stop fast forwarding. The display will show the elapsed time of the track.

⏪ / ⏩ or ⏴ / ⏵ (Seek/Scan):

1. To seek tracks, press the up arrow to go to the next track.
2. Press the down arrow to go to the start of the current track, if more than eight seconds have played.

3. If either arrow is pressed more than once, the player continues moving backward or forward through the CD. The sound mutes while seeking.

⏮⏭ (Tuning Knob):

1. Turn anticlockwise one notch to go to the start of the current track, turn it again to go to the previous track.
2. Turn clockwise to go to the next track.

**Playing a DVD**

DVD video does not display on the navigation screen unless the vehicle is in P (Park). It will operate on the rear seat entertainment screens while the vehicle is moving. The Rear Seat Entertainment (RSE) video screen starts play of the DVD when a DVD video has been inserted into the navigation system. The DVD player can be controlled by the buttons on the navigation system, the Rear Seat Audio (RSA) system, and the remote control. The

DVD player can also be used for the rear seat passengers with the radio off. The rear seat passengers can power on the video screen and use the remote control to navigate the disc. See the Rear Seat Infotainment user guide.

The DVD player is only compatible with DVDs of the appropriate region code that is printed on the jacket of most DVDs.

The CD/DVD slot is compatible with most audio CDs, CD-R, CD-RW, DVD-Video, DVD-Audio, DVD-R/RW, DVD+R/RW media along with MP3 and WMA formats.

If an error appears on the display, see "CD/DVD Messages" in this section.

Once a DVD starts to play, the menu options and cursor screen buttons will automatically appear. To display the menu Options screen button while a DVD is playing, touch anywhere on the screen.

## 7-18 Infotainment System

---

There are three ways to play a DVD:

- Once a DVD is inserted, the system will automatically start play of the DVD.
- If you are on a map screen, press the DVD screen button.
- Press the AUDIO control button, then press the DVD screen button.

When a DVD is loaded, the rear seat passengers can power on the RSE video screen and use the remote control to navigate through the DVD.

 (Power/Volume):

1. Press to turn the system on and off.
2. Turn the knob to increase or decrease the volume of the audio system.
3. Press and hold for more than two seconds to turn off the navigation system, RSE video screen, and RSA. If the vehicle

has not been tuned off, the RSE and the RSA can be turned back on by pressing this knob and will continue play of the last active source.

### DVD Menu Options

**Options:** Select this screen button to view the menu option screen buttons. Menu options are available when they are highlighted. Some menu options are only available when the DVD is not playing.

**Cursor:** Press this button to access the cursor menu. The arrows and other cursor options allow you to navigate the DVD menu options. The cursor menu options are only available if a DVD has a menu. Use the cursor menu to start a DVD video from the disc main menu.

**◀, ▲, ▶, ▼ (Arrow Buttons):** Press the arrows to move around the DVD menu.

**Enter:** Press to select the highlighted option.

**Return:** Press to go back to the previous DVD menu.

**Back:** Press to go back to the main DVD display screen.

**Move:** Press to move the cursor buttons back and forth from the bottom-right corner to the top-left corner of the screen.

**|| / ▶ (Pause/Play):**

1. Press to pause the DVD. This button will then change to the play button.
2. Press the play button to play the DVD.
3. Press this button in a DVD disc main menu to start the movie.

**■ (Stop):**

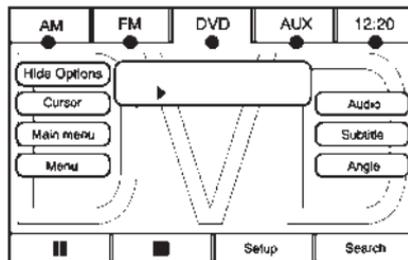
1. Press to stop play of the DVD.
2. Press the play button to continue playing the DVD from where the DVD was stopped.
3. Press this button twice to return to the beginning of the DVD.

### ⏮ (Rewind):

1. Press and release to rewind through the scene, chapters, and titles.
2. Press again to increase the rewinding speed.
3. Press the play button to stop rewinding. This button may not work when the DVD is playing the copyright information or the previews.

### ⏭ (Forward):

1. Press and release this button to advance rapidly through the scene, chapters, and titles.
2. Press this button again to increase the fast forwarding speed.
3. Press the play button to stop fast forwarding. This button may not work when the DVD is playing the copyright information or the previews.



**Hide Options:** Press to remove all menu options from the display, except Options and Cursor.

**Top Menu:** Press to display the first menu of the DVD. This is not available on all DVDs.

**Menu:** Press to display the DVD menu of the current area of the DVD that is playing. This button is not available for DVD audio.

**Audio:** Press to display the audio options. Select the audio options that best improve sound quality. This is not available on all DVDs or

when the DVD is stopped. This button is not available for DVD audio.

**Subtitle:** Press to playback the video with subtitles. This is not available on all DVDs or when the DVD is stopped. This button is not available for DVD audio.

**Angle:** Press to adjust the viewing angle of the DVD. Repeatedly press this button to toggle through the angles. This is not available on all DVDs or when the DVD is stopped. This button is not available for DVD audio.

◀ **(Previous Scene):** Press to go to the previous scene. This button does not work when the DVD is stopped. This button is not available for DVD video.

▶ **(Next Scene):** Press to go to the next scene. This button does not work when the DVD is stopped. This button is not available for DVD video.

## 7-20 Infotainment System

**Search:** Press to display the search screen. Select Title or Chapter Search for DVD video and Group or Track for DVD audio. The keyboard allows you to type in the title/chapter/group/track number that you would like to watch or listen to. This button does not work when the DVD is stopped.

**Setup:** Press to display the DVD Setup screen. This button is only available when the DVD is not playing. The DVD Setup screen allows you to change the brightness, contrast, and mode, change the viewing on the monitor and to change the initial settings; language, parental level, and aspect.

☀ **(Brightness):** Press the up or down screen arrows to increase or decrease the brightness of the navigation screen.

● **(Contrast):** Press the up or down screen arrows to increase or decrease the contrast of the navigation screen.

**Auto (Automatic):** Press so the system can automatically adjust the navigation screen background depending on exterior lighting conditions.

**Night:** Press to make the navigation screen background brighter.

**Day:** Press to make the navigation screen background darken.

**Monitor:** From the DVD Setup screen, press to adjust the viewing angle of the DVD on the navigation screen. This is not available on all DVDs. This button is not available for DVD audio

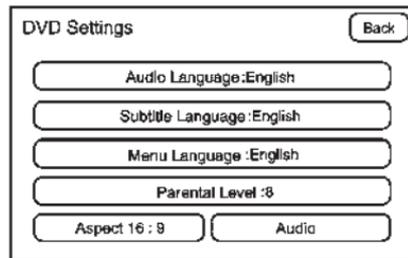
Press  to close the screen in from the left and right sides.

Press  to fill the screen on the left and right sides.

Press  to fill the screen on the top and bottom.

**Settings:** From the DVD Setup screen, press to change the default audio, subtitle, and menu

languages, parental level, audio, and to view the aspect of the DVD. These settings are not available on all DVDs. This button is not available for DVD audio.



**Audio Language:** Press English, Francais, Espanol, Italiano, or Deutsch to change the default language that the DVD player uses for each disc. The audio language must be available on the disc. The audio language may vary for each DVD.

**Subtitle Language:** Press English, Français, Español, Italiano, or Deutsch to change the default language of the subtitles that the DVD player uses for each disc. The subtitle language must be available on the disc. The subtitle language may vary for each DVD.

**Menu Language:** Press English, Français, Español, Italiano, or Deutsch to change the default language of the DVD video menus. The menu language must be available on the disc. The menu language may vary for each DVD.

**Parental Level:** Press to change the rating level to only allow the play of DVDs with a certain rating. The rating selection is 1 through 8. If the 1 is selected, any DVD with a rating above general audience will not be able to be viewed without entering a password.

When the parental level is first entered a keyboard will appear on the display and a four-digit password will need to be created.

Type in a password that you will be able to remember. Once the password is created, you can then select a rating level.

If you would like to change the rating level, press the Parental Level button, then press the Password button. Type in the password and then change the rating level.

If the password has been forgotten, contact your dealer.

This may not be available on all DVDs.

**Aspect:** Press to change the aspect ratio of the DVD. This may not be available on all DVDs.

**^ (Next Track/Chapter):** Press to go to the next track or chapter. This button may not work when the DVD is playing the copyright information or the previews.

**∨ (Previous Track/Chapter):**

1. Press to return to the start of the current track or chapter.

2. Press again to go to the previous track or chapter. This button may not work when the DVD is playing the copyright information or the previews.

**▷◁ (Tuning Knob):**

1. Turn this knob anticlockwise one notch to go to the start of the current chapter/track, turn it again to go to the previous chapter/track.
2. Turn this knob clockwise to go to the next chapter/track.

### Care of Your CDs and DVDs

Sound quality can be reduced due to disc quality, recording method, quality of the music recorded, and how the disc has been handled. Handle discs carefully and store them in their original cases or other protective cases away from direct sunlight and dust. If the bottom surface of a disc is damaged, the disc may not play properly or at all. Do not touch the bottom surface of a disc while handling it; this could

## 7-22 Infotainment System

---

damage the surface. Pick up discs by grasping the outer edges or the edge of the hole and the outer edge.

If the bottom surface of a disc is dirty, take a soft lint free cloth, or dampen a clean soft cloth in a mild neutral detergent solution mixed with water, and clean it. Wipe the disc from the centre to the outer edge.

**Notice:** If a label is added to a CD or DVD, or more than one CD or DVD is inserted into the slot at a time, or an attempt is made to play scratched or damaged CDs or DVDs, the player could be damaged. While using the CD or DVD player, use only CDs or DVDs in good condition without any label, load one CD or DVD at a time, and keep the player and the loading slot free of foreign materials, liquids, and debris.

Do not add any label to a CD or DVD, it could get caught in the player. If a CD or DVD is recorded on a personal computer and a

description label is needed, try labelling the top of the recorded CD or DVD with a soft marker.

### CD/DVD Messages

If Disc Read Error appears on the display and/or the CD/DVD comes out, it could be for one of the following reasons:

- If a CD was inserted with an invalid or unknown format.
- If a DVD is not from a correct region.
- It is very hot. When the temperature returns to normal, the CD should play.
- You are driving on a very rough road. When the road becomes smoother, the CD/DVD should play.
- The CD/DVD is dirty, scratched, wet, or upside down.
- The air is very humid. If so, wait about an hour and try again.

- There may have been a problem while burning the CD/DVD.
- The label may be caught in the CD/DVD player.

If the CD/DVD is not playing correctly, for any other reason, try a known good CD/DVD.

If any error occurs repeatedly or if an error cannot be corrected, contact your dealer.

### Connecting a USB Storage Device or iPod®

The USB Port, located on the instrument panel or in the centre console, can be used to control an iPod or a USB storage device.

To avoid connection problems, extension cords are not recommended. Use only the cable that came with the device.

To connect a USB storage device, connect the device to the USB port located on the instrument panel or in the centre console.

To connect an iPod, connect one end of the USB cable that came with the iPod to the iPod's dock connector and connect the other end to the USB port. If the vehicle is on and the USB connection works, "OK to disconnect" and a GM logo may appear on the iPod and iPod appears on the radio's display. The iPod music appears on the radio's display and begins playing.

The iPod charges while it is connected to the vehicle if the vehicle is in the ACC/ACCESSORY or ON/RUN position. When the vehicle is turned off, the iPod automatically powers off and will not charge or draw power from the vehicle's battery.

### USB Supported File and Folder Structure

The guidelines that must be met while using USB supported files and folders are:

- Up to 700 folders.
- Up to 8 folders in depth.

- Up to 65,535 files.
- Folder and file names up to 64 bytes.
- Files with an .mp3 or .wma file extension.
- AAC files stored on an iPod.
- FAT16
- FAT32

### Using the Navigation Audio System to Control a USB Storage Device or iPod

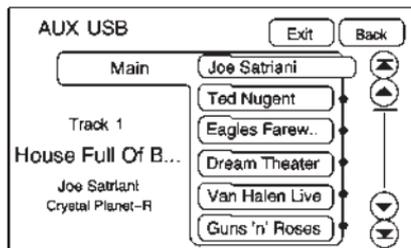
The navigation audio system can control a USB storage device or an iPod by using the radio touch screens and steering wheel controls.

1. Press the AUX button and then the USB button.



2. Press centre screen button to enter the music navigator main screen.
3. Press or tap the left or right arrow to select desired Category such as: Artist, Album, Genre, etc. A list of that category will display.

## 7-24 Infotainment System



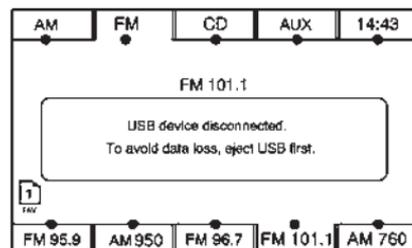
4. Select an Artist, Album, or Track from that list.
5. Press the up or down arrows located on the side of the screen to select one item at a time, or press the top or bottom arrow to jump 10 percent up or down the list.
6. Press the Back button to go back to the previous screen.

7. Press the Exit button to go back to the main audio screen.

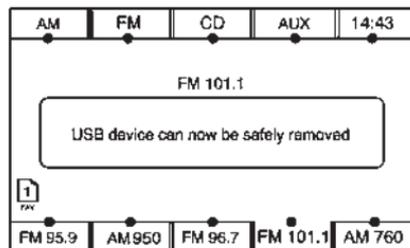


8. Press the left or right arrow to select desired Category such as: Artist, Album, Genre, etc. A list of that category will display.

The iPod or USB storage device should not be pulled out from the USB dock. To safely remove it, press .



A warning message will display for a few seconds.



A message to safely remove the device displays.

## MP3

### Using an MP3 CD

#### MP3 Format

There are guidelines that must be met, when creating an MP3 disc. If the guidelines are not met when recording a CD-R(W), the CD may not play. The guidelines are:

- Sampling rate: 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, and 44.1 kHz.

- Bit rates supported: 32, 40, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, and 320 kbps.
- ID3 tag information is displayed by the radio if it is available. The radio supports ID3 tag information v1.0, v1.1, or v2.0. The radio will display a filename, song name, artist name, album name, and directory name.
- Maximum 32 characters, including spaces, in a file or folder name.
- Maximum number of folders is 100 with a maximum hierarchy of eight folders.
- Create a folder structure that makes it easy to find songs while driving. Organise songs by albums using one folder for each album. Each folder or album should contain 18 songs or fewer.
- It is recommended that there is a maximum of 192 files on a disc.

- The files can be recorded on a CD-R or CD-RW with a maximum capacity of 700MB.
- DVD with MP3 are not playable on this system.

#### Root Directory

The root directory is treated as a folder. If the root directory has compressed audio files, the directory displays as No Folder or ALL.

#### Empty Directory or Folder

If a root directory or a folder exists somewhere in the file structure that contains only folders/subfolders and no compressed files directly beneath them, the player advances to the next folder in the file structure that contains compressed audio files and the empty folder is not displayed or numbered.

### No Folder

When the CD contains only compressed files, the files are located under the root folder. The next and previous folder functions will have no function on a CD that was recorded without folders or playlists. When displaying the name of the folder the radio will display No Folder.

### Order of Play

Play begins from the first track under the root directory. When all tracks from the root directory have been played, play continues from files according to their numerical listing. After playing the last track from the last folder, play begins again at the first track of the first folder or root directory.

When play enters a new folder, the display does not automatically show the new folder name. The new track name appears on the display.

### File System and 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 extension (such as .mp3) as the track name.

Track names longer than 32 characters or four pages are shortened. The display does not show parts of words on the last page of text and the extension of the filename does not display.

### Playing an MP3

While playing a CD, the navigation system is available.

When you insert a CD, the CD tab displays. If a DSP setting is selected for the CD, it will be activated each time you play a CD.

If you turn off the ignition or radio with a CD in the player, it stays in the player. When you turn on the

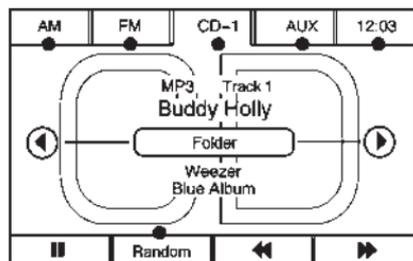
ignition or radio, the CD starts playing where it stopped, if it was the last selected audio source.

As each new track starts to play, the track number appears on the display.

If an error appears on the display, see "CD/DVD Messages" in this section.

If viewing a map screen, press the CD screen button. The display splits between the audio screen and the map screen. If you do not want to view a split screen or you are not on a map screen, press AUDIO, then press AUDIO again, repeatedly until CD is selected or press the CD screen button.

 **(Eject):** Press to eject a disc:



 **(Pause/Play):** Press to pause the CD. This button will then change to the play button. Press the play button to play the CD.

**Random:**

1. Press to hear the tracks in random, rather than sequential, order.
2. Press Random again to turn off random play.

**DISC:** Press to view the list of loaded disc(s). Select the disc to play.

 **(Rewind):**

1. Press and hold to rewind quickly through a track selection. You will hear sound at a reduced volume.
2. Release to stop rewinding. The display will show the elapsed time of the track.

 **(Forward):**

1. Press and hold to fast forward quickly through a track selection. You will hear sound at a reduced volume.
2. Release to stop fast forwarding. The display shows the elapsed time of the track.

 **(Folder/Artist/Album):**

1. Select the left or right arrow to go to the previous or next folder, artist, or album on the disc.

2. Press the middle screen button, with the folder, artist, or album name, to sort the MP3 by folder, artist, or album. It may take a few minutes for the system to sort the MP3.

 /  or  /  **(Seek/Scan):**

1. To seek tracks, press the up arrow to go to the next track.
2. Press the down arrow to go to the start of the current track, if more than eight seconds have played.
3. If either arrow is pressed more than once, the player continues moving backward or forward through the CD. The sound mutes while seeking.

 **(Tuning Knob):**

1. Turn anticlockwise one notch to go to the start of the current track, turn it again to go to the previous track.
2. Turn this knob clockwise to go to the next track.

## 7-28 Infotainment System

When playing an MP3 the rear seat operator can power on the RSE video screen and use the remote control to navigate through the MP3.

### Auxiliary Devices

#### Using the Auxiliary Input Jack

The navigation system has an auxiliary input jack located on the right side of the faceplate. This is not an audio output; do not plug the headphone set into the front auxiliary input jack. An external audio device such as an iPod, laptop computer, MP3 player, or CD player, etc. can be connected to the auxiliary input jack for use as another audio source.

Drivers are encouraged to set up any auxiliary device while the vehicle is in P (Park). See *Defensive Driving on page 9-2* for more information on driver distraction.

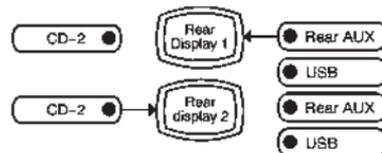
To use a portable audio player, connect a 3.5 mm (1/8 in) cable to the radio's front auxiliary input jack. When a device is connected, press AUDIO, then press it again until AUX is selected or press the AUX screen button to begin playing audio from the device over the vehicle speakers.

For optimal sound quality, increase the portable audio device's volume to the loudest level.

It is always best to power the portable audio device through its own battery while playing.

The vehicle may have a rear entertainment system (RSE) with a second and third row screen. The RSE has audio adapters to allow you to connect auxiliary devices. The audio can be heard through the speakers or through the wireless or wired headphones. See the Rear Seat Infotainment user guide.

Drivers are encouraged to set up any auxiliary device while the vehicle is in P (Park). See *Defensive Driving on page 9-2* for more information on driver distraction.



To switch the RSE system to use an auxiliary device:

1. Connect the auxiliary device to the RSE system, for the second or third row.

2. Press AUDIO then press AUDIO again, repeatedly until AUX (auxiliary) is selected or press the AUX screen button. An auxiliary device must be connected for the AUX screen button to appear as an option to select.
3. For the second row display select the Rear AUX screen button next to Rear Display 1 and for the third row display select the Rear AUX screen button next to Rear Display 2. Each screen works independently of the other. The second row screen can watch a DVD while the third row screen can use the auxiliary device.

The rear seat passengers can also use the remote control to change the functions of the RSE. See the Rear Seat Infotainment user guide.

## Rear Seat Infotainment

### Rear Seat Audio (RSA) System

Vehicles with this feature allow the rear seat passengers to listen to and control any of the music sources: radio, CDs, DVDs, or other auxiliary sources. The rear seat passengers can control the same music sources the front seat passengers are listening to (dual control) or a different source. For example, rear seat passengers can listen to and control a CD through the headphones, while the driver listens to the radio through the speakers. The rear seat passengers have control of the volume for each set of headphones.

The radio functionality is controlled by both the RSA and the front radio, only one band can be tuned to at

one time. Changing the band on the RSA or the front radio will change band on the other system.

RSA functions can be operated even when the main radio is off.

Audio can be heard through wired headphones (not included) plugged into the jacks on the RSA. If the vehicle has this feature, audio can also be heard on Channel 2 of the wireless headphones.

The audio system allows the rear speakers to continue playing even when the RSA audio is active through the headphones.

To listen to an iPod® or portable audio device through the RSA, attach the iPod or portable audio device to the auxiliary input (if available), located below the RSA system, USB port, or AUX jack. Turn the iPod on, then choose the auxiliary input with the RSA SRCE button.

## 7-30 Infotainment System



**Power:** Press the  button to turn RSA on and off.

**Volume:** To increase or decrease headphone volume, turn the knobs located next to the SRCE or PROG buttons. The left knob controls the left headphones and the right knob controls the right headphones.

**SRCE (Source):** Press this button to switch between the radio, CD, and if the vehicle has these features, DVD, and rear auxiliary.

**Seek:** When listening to FM or AM, press either the left  or right  seek arrow to go to the previous or to the next station or channels and stay there. This

function is inactive, with some radios, if the front seat passengers are listening to the radio.

Press and hold either the left  or right  seek arrow until the display flashes, to tune to an individual station. The display stops flashing after the buttons have not been pushed for more than two seconds. This function is inactive, with some radios, if the front seat passengers are listening to the radio.

While listening to a disc, press the right  seek arrow to go to the next track or chapter on the disc. Press the left  seek arrow to go back to the start of the current track or chapter (if more than ten seconds have played). This function is inactive, with some radios, if the front seat passengers are listening to the disc.

When a DVD video menu is being displayed, press either the left  or right  seek arrow to perform a

cursor up or down on the menu. Hold the left  or right  seek arrow to perform a cursor left or right on the menu.

**PROG (Program):** Press this button to go to the next preset radio station or channel set on the main radio. This function is inactive, with some radios, if the front seat passengers are listening to the radio.

When a CD or DVD audio disc is playing, press this button to go to the beginning of the CD or DVD audio. This function is inactive, with some radios, if the front seat passengers are listening to the disc.

When a disc is playing in the CD or DVD changer, press this button to select the next disc, if multiple discs are loaded. This function is inactive, with some radios, if the front seat passengers are listening to the disc.

When a DVD video menu is being displayed, press the PROG button to perform the menu function, enter.

## Navigation

### Using the Navigation System

This section presents basic information needed to operate the navigation system.

Use the control buttons located on the navigation system along with the available touch-sensitive screen buttons on the navigation screen to operate the system. See *Overview on page 7-3* for more information.

Once the vehicle is moving, various functions are disabled to reduce driver distractions.

### Navigation Control Buttons

The following control buttons are located on the navigation system:

 **(Power/Volume):**

1. Press to turn the system on and off.
2. Turn to increase or decrease the volume to the audio system.

3. Press and hold for more than two seconds to turn off the navigation system, the Rear Seat Entertainment (RSE), and Rear Seat Audio (RSA). If the vehicle has not been tuned off, the RSE and the RSA can be turned back on by pressing this knob and continues play of the last active source.

 **(Tuning Knob):** Turn to go to the next or previous frequency or disc track or chapter. See *AM-FM Radio on page 7-8*, *CD/DVD Player on page 7-16* or *MP3 on page 7-25* for more information.

**AUDIO:** Press to display the audio screen. Press to switch between AM, FM, DISC, or AUX (Auxiliary), or press the screen button. See *AM-FM Radio on page 7-8*, *CD/DVD Player on page 7-16*, *MP3 on page 7-25*, and *Auxiliary Devices on page 7-28* for more information.

**FAV (Favourite):** Press to access the preset stations. See "Storing Radio Station Presets" under *Overview on page 7-3*.

 **(Sound):** Press to access the Sound menu to adjust the treble, midrange, bass, fade, balance, and Digital Signal Processing (DSP).

 **(Scan Up/Down):** Press to scan the tracks/chapters on a disc.

 **(Seek/Scan)**  
**(Previous/Next)** Press the up or down arrows to go to the next or previous station. Press and hold either arrow for more than two seconds. The radio goes to a station, plays for a few seconds, then goes to the next station.

**NAV (Navigation):** Press to view the vehicle's current position on the map screen. Each press of this button cycles through Full Map and the tab that displays the current audio source (AM, FM, CD, etc.). Full Map displays the screen in full map view. Selecting the audio tab

## 7-32 Infotainment System

---

splits the screen between the map screen and the current audio source screen menu.

**RPT (Repeat):** Press to repeat the last voice guidance prompt.

**DEST (Destination):** Press to access the Destination Entry screen. From this screen, you can select from several options to plan a route by entering destination points.

**CONFIG (Configure):** Press to adjust several of the system's features and preferences.

**TMC (Traffic Message Channel):** Press the TMC screen button when a vehicle icon displays next to TMC. This will produce a list of traffic events.

The  icon will appear in the TMC screen button if the vehicle is within the reception range of an RDS-TMC station.

If an RDS-TMC station is not available, the  icon will not display.

### Touch-Sensitive Screen Buttons

Touch-sensitive screen buttons are located on the screen. When a screen button has been selected, a beep sounds. Screen buttons are highlighted when a feature is available.

### Alpha-Numeric Keyboard

Letters of the alphabet, symbols, punctuation, and numbers, when available, displays on the navigation screen as an alpha or numeric keyboard. The alpha keyboard displays when the system requires entry of a city or street name.

All characters are touch-sensitive screen buttons. Press a character to select it.

**A-Y (Accent Alphabet):** Select to enter letters with accent symbols. This button may toggle to A-Z.

**A-Z (Alphabet):** Select to enter letters from the alphabet. This button may toggle to A-Y.

**0-9 (Numbers):** Select to enter numbers.

 **(Space):** Select to enter a space between characters or the words of a name.

**Backspace:** Select if an incorrect character has been entered.

To make name entries easier, the system only highlights the characters that can follow the last one entered. For example, if a Z is entered, a T may not be available for selection.

If a name does not display after entry, it may need to be entered differently or the map DVD disc may not contain that information. See *Maps on page 7-32* for more information.

### Maps

This section includes basic information that you need to know about the map database.

## Detailed Areas

Road network attributes are contained in the map database for detailed areas. Attributes include information such as street names, street address, turn restrictions, etc. A detailed area includes all major highways, service roads, and residential roads. The detailed areas include points of interest (POI) such as: restaurants, airports, banks, hospitals, police stations, petrol stations, tourist attractions, historical monuments, etc. The map database may not include data for newly constructed areas or map database corrections that are completed after the production of the disc. The navigation system provides full route guidance in the detailed map areas.

## Limited Guidance Areas

Any area that is not classified as detailed, is a limited guidance area. Limited guidance streets are displayed on the map but route guidance may not be given on these

streets. Some POI categories, such as the city centre POI category, and some street addresses are included in the limited guidance areas.

The navigation system informs through voice prompts when you are travelling into a limited guidance area where route guidance is not available. The street maps and the directional arrow displayed on the navigation system can then be used to determine the remaining route to your destination.

## Map Adjustments

The system lets you adjust the scale of view on the map. Also, as you drive, the map scrolls automatically based on the direction of travel.

## Map Scales

**+ / - (Zoom In/Zoom Out):** Press the zoom in or out screen button, or the scale on the bar to change the level of map detail. The scale appears on the screen once the zoom in or zoom out screen button is selected. The system adjusts the

map accordingly. The scale of a map can range from 50 m (1/32 mi) to 400 km (256 mi). To change English or metric, see *Driver Information Centre (DIC)* on page 5-22 for more information.

## Scrolling the Map



Press anywhere on the map screen and the scroll symbol appears. Use this feature to scroll across the map.

Move your finger in any direction on the map screen and the map continues to scroll in that direction until you remove your finger from the screen.

If scrolling while the vehicle is in P (Park), the system scrolls initially at a slower rate. It increases if you continue pressing the map screen.

If scrolling while the vehicle is in motion, there is one scroll speed and a limited distance to scroll. Keep touching the map screen to scroll for a longer distance.

If you have used the scroll feature to scroll the map and the vehicle icon disappears off the screen, press the NAV (Navigation) control button to return to the current vehicle location on the map.

The scroll feature on the map can be used to set a destination. See "From Map" under *Destination on page 7-39* for more information.

While scrolling on the map, press the GO screen button to calculate the route from the current position to the destination mark.

### Navigation Symbols

The following symbols are the most common symbols that appear on a map screen.



The vehicle is shown as this symbol. It indicates the current position and the direction the vehicle is travelling on the map.



The destination symbol appears on the map, after a route has been planned, marking the final destination.



The stopover symbol displays on the map after a stopover has been added to the route.

The stopover symbols are numbered one through three, depending on how many stopovers have been set.



The distance to destination symbol indicates the distance to the final destination.

This symbol appears when the time to the destination is not available or while you are scrolling on the map.



The distance and time to destination symbol indicates the distance and the estimated time remaining to the final destination, depending on the option selected.



The straight line to distance symbol indicates the straight-line distance to the destination.

This symbol appears before you start driving on the route or if on a road where navigation guidance cannot be given.



The north up symbol indicates the map with North Up, known as North Up mode.

While in North Up mode, the vehicle icon follows the north direction on the map regardless of which direction the vehicle is travelling. Select this screen symbol to switch between North Up, Heading Up, and 3-D view modes.



The heading up symbol indicates that the vehicle is travelling up on the map and is known as Heading Up mode.

## 7-36 Infotainment System

The shaded triangle indicates the North direction. While in Heading Up mode the direction at the top of the screen and the way the vehicle icon is heading indicates the direction the vehicle is travelling. Select this screen symbol to switch between Heading Up, North Up, and 3-D view modes.

Three-dimensional (3-D) view mode changes the appearance of the map display to a road level view.



The No GPS symbol appears when the vehicle is acquiring or not receiving a Global Positioning System (GPS) satellite signal.

See *Global Positioning System (GPS)* on page 7-56 for more information.

Mark

Select the Mark screen button to store the location on the screen in the address book.

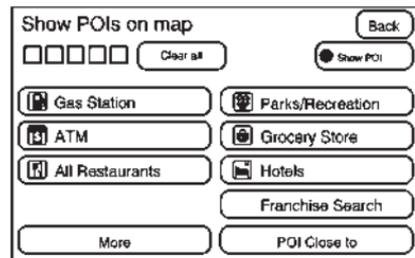
The system automatically stores the point in the address book. See *Destination* on page 7-39 for more information.

### Displaying Points of Interest (POI) on the Map Screen

POI

Select the POI screen button to display or delete POI icons from the map.

Displaying POI icons on the map shows where POIs (e.g. restaurants, petrol stations, etc.) are located. This screen appears after selecting the POI screen button.



1. Select one of the POI categories to display the POI icon at the top of the map screen. Select the POI category again to delete the POI icon.
2. Up to five categories can display on the map screen.
3. Press the Show POI screen button to add more POI icons.

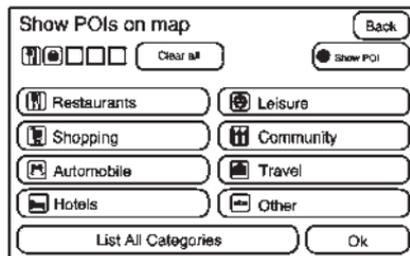
**More:** Select to view more POI categories.

### Franchise Search:

1. Press to display a list of pre-set franchise categories near the vehicle's current location.
2. Press the desired franchise category.
3. Press Search Selected Categories. A list of franchises with location information will display.

### POI Close to:

1. Once a category has been selected, touch this button to display the list of available POIs for the selected POI category. The list provides the POI icon, the name, the direction, and the distance to the POI from the vehicle's current position.



2. Use the scroll arrows to move up and down the list.
3. Use the sorting screen buttons: Dist (distance), Icon, Name, and on Route as needed.

**GO:** Select this screen button, next to the desired POI, to make this POI a destination or a stopover.

Select a POI name to receive information about the POI. From this screen you can select: Address Book, GO, or Map.

**Address Book:** Press to add this POI to the address book. See "Nav" under *Configure Menu* on page 7-51 for information on editing address book entries.

**GO:** Select to make this POI a destination or a stopover.

**Map:** Select to display the map showing the location of the POI.

**OK:** Select to display the map screen.

**Show POI:** Select to display or remove the POI icons from the map screen.

**List all Categories:** Select to list all POIs sorted alphabetically.

**Delete:** To delete a specific POI category, select the category.

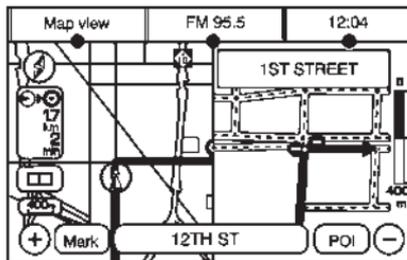
**Clear All:** Select this screen button to clear all selected POI categories.

### Driving on a Route

When driving on a routed destination, the map screen automatically displays the next manoeuvre.

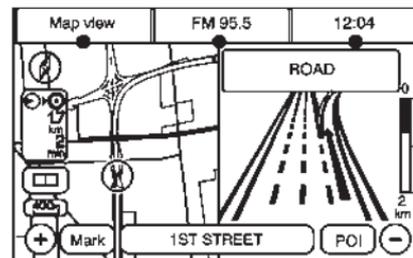


The pop-up displays the next manoeuvre direction and the distance from it.



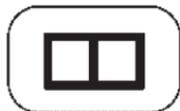
When approximately 400 m (1/4 mi) from the next manoeuvre, the screen displays the name and a detailed view of it.

### 3-D Lane Guidance



Some major metropolitan areas may include a 3-D lane guidance feature for highway exits and junctions. This feature gives you an enhanced representation of the exits and junctions on the route.

## Dual Mode



This dual screen symbol displays when the screen is in dual mode.

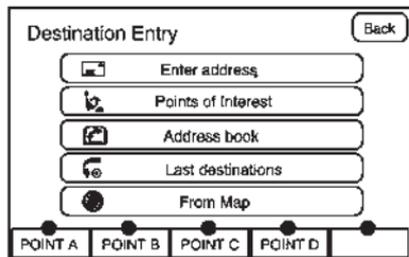
Dual mode displays the route on half of the screen and a manoeuvre or highway exit list on the other half. The highway exit list advises of approaching exits. Press this button to switch between dual screen and full screen which displays the entire route.

## Auto Reroute

When a destination is set but is off the planned route, the system automatically plans a new route and begins to reroute. The new route is highlighted on the screen.

## Destination

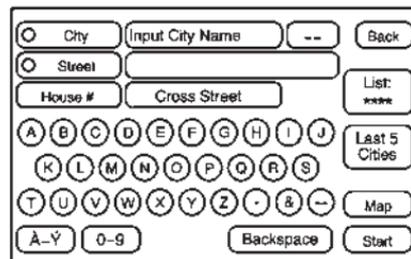
Press DEST to access the Destination Entry screen. From this screen, you can select from several options to plan a route by entering destination points.



To enter a destination, choose from one of the following destination entry methods:

### Address Entry

 **Address Entry:** Enter either a city or street to use the address entry destination method.



To enter a destination by inputting the city name first:

1. Press DEST.
2. Select .
3. Select the country screen button, if needed, to change the current country. A list of all of the available countries appear. Select the country.

## 7-40 Infotainment System

---

4. Once a country has been selected the City name category is automatically selected for entry.

Enter the City Name or press the Last 5 Cities screen button.

The Last 5 Cities screen displays a list of the last five city names that had been entered. Select a city from the list and it appears in the City name area.

If using the alpha keyboard, finish entering the city name.

If five or fewer names are available, a list displays. If more than five are available, the List screen button displays a number. This number represents the number of available cities. Select this button to view the list and select a city.

5. Once a city has been selected the Street name category is automatically selected for entry.

Start entering the street name. If five or fewer names are available, a list displays. If more than five are available, the List screen button displays a number. This number represents the number of available streets. Select this button to view the list.

6. Once a street has been selected, press House to enter the house number. The system displays the house number range that is available for the street.
7. Select GO. The map screen, with the destination marked displays.
8. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
9. Select Start Guidance. The route is now ready to be started.  
See "Getting Started on Your Route" in this section for more information.

To enter a destination by entering the street name first:

1. Press DEST.
2. Select .
3. Select the country screen button, if needed, to change the current country. A list of all of the available countries appear. Select the country.
4. Select Street and start entering the street name or press the Last 5 Streets screen button.

If the street name is common, the city might need to be entered first.

The Last 5 Streets screen displays a list of the last five street names that had been entered. Select a street from the list and it appears in the Street name area.

If using the alpha keyboard, finish entering the street name. If five or fewer names are available, a list displays. If more

than five are available, the List screen button displays a number. This number represents the number of available streets. Select this button to view the list and select a street.

5. Once a street has been selected, select House to enter the house number. The system displays the house number range that is available for the street.
6. Once the house number is selected, the city name automatically populates. If there is more than one city available for selection, a list of cities display. Select the city.
7. Select GO. The map screen, with the destination marked displays.
8. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.

9. Select Start Guidance. The route is now ready to be started.

See "Getting Started on Your Route" in this section for more information.

To enter a destination by entering a cross street:

1. Press DEST.
2. Select .
3. Select the country screen button, if needed, to change the current country. A list of all of the available countries appear. Select the country.
4. Select Street and start entering the street name or press the Last 5 Streets screen button.  
  
If the street name is common, the city might need to be entered first.

The Last 5 Streets screen displays a list of the last five street names that had been entered. Select a street from the list and it appears in the Street name area.

If using the alpha keyboard, finish entering the street name. If five or fewer names are available, a list displays. If more than five are available, the List screen button displays a number. This number represents the number of available streets. Select this button to view the list and select a street.

5. Once a street has been selected, select Cross Street and start entering the cross street name. If five or fewer names are available, a list displays. If more than five are available, the List screen button displays a number. This number represents the number of available streets. Select this button to view the list and select a street.

## 7-42 Infotainment System

6. Select GO. The map screen, with the destination marked displays.
7. Select the route preference (Fastest, Shortest, or Other). The system calculates and highlights the route.
8. Select Start Guidance. The route is now ready to be started.

See "Getting Started on Your Route" in this section for more information.

### Point of Interest (POI)

The Point of Interest (POI) destination entry method lets you select a destination from the POI list.

 **Point of Interest:** Press to access the POI (Point of Interest) screen. From this screen you have three options to select/enter a destination. Enter the name using the alpha keyboard, select a category from the category list, or select the Franchise Search screen button to do a franchise search.

To use the point of interest destination entry method by entering the name:

1. Press DEST.
2. Select .
3. Select the country screen button, if needed, to change the current country. A list of all of the available countries appear. Select the country.
4. Enter the POI name.  
If five or fewer names are available, a list displays. If more than five are available, the List screen button displays a number. This number represents the number of available POIs. Select this button to view the list.
5. Select GO, located next to the POI. The map screen, with the destination marked displays.

6. Select the route preference (Fastest, Shortest, or Other). The system calculates and highlights the route.
7. Select Start Guidance. The route is now ready to be started.  
See "Getting Started on Your Route" in this section for more information.

To use the point of interest destination entry method by selecting a category:

1. Press DEST.
2. Select .
3. Select Browse POI Categories to view the list of POI categories.
4. Select a category.  
The system displays available POI names in the selected category.

5. Select GO, located next to the POI. The map screen, with the destination marked displays.
6. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
7. Select Start Guidance. The route is now ready to be started.  
See "Getting Started on Your Route" in this section for more information.

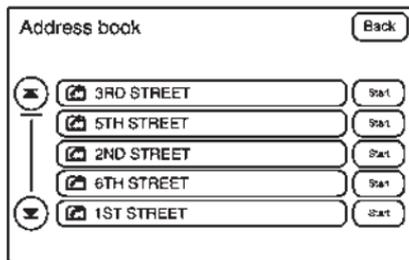
To use the point of interest destination entry method by selecting to do a franchise search:

1. Press DEST.
2. Press .
3. Press Franchise Search to view a list of franchise categories.

4. Select a category.  
The system displays available POI names in the selected category.
5. Press GO, located next to the POI. The map screen, with the destination marked displays.
6. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
7. Press Start Guidance. The route is now ready to be started.  
See "Getting Started on Your Route" in this section for more information.

### Address Book

The address book entry method lets you select a destination by selecting an address that has been stored in the address book.



**Address Book:** Press to access the Address Book screen. From this screen an address that already exists can be selected as the destination.

To use the address book entry method:

1. Press DEST.
2. Select .

A list of the address book addresses display.

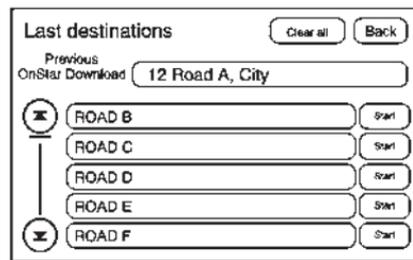
3. Select GO, located next to the destination. The map screen, with the destination marked displays.
4. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
5. Select Start Guidance. The route is now ready to be started.

See "Getting Started on Your Route" in this section for more information.

See "Adding Destinations to the Address Book" in this section.

### Previous Destination

The previous destination entry method lets you select a destination from a list of previous destination points.



**Previous Destination:** Press to access the Previous Destination screen. The system stores up to 20 points that have been previously entered. As new destinations are entered, the system automatically deletes the oldest destinations and adds the new destinations.

To use the previous destination entry method:

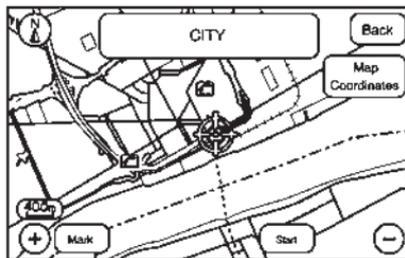
1. Press DEST.
2. Select .

3. Select a previous destination from the list. Use the arrow to the right of the destination to view the entire destination name as necessary. Use the scroll arrows to the left to scroll through the list.
4. Select GO, located next to the destination. The map screen, with the destination marked displays.
5. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
6. Select Start Guidance. The route is now ready to be started.

See "Getting Started on Your Route" in this section for more information.

### From Map

This destination entry method allows you to select a destination by scrolling on the map.



**From Map:** Press to enter the From Map destination entry method.

To use this destination entry method:

1. Press DEST.
2. Select . A map screen displays with the scrolling symbol.

3. Use  /  and press on the map to find the area that you would like to select as your destination.

Pressing/holding and dragging your finger on the map activates fast scrolling.

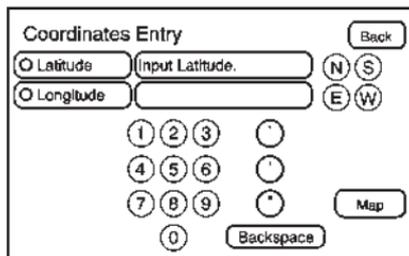
4. Press once on the area that you would like to set as your destination.

The map screen displays the address information.

5. Select GO. The map screen, with the destination marked displays.
6. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
7. Select Start Guidance. The route is now ready to be started.  
See "Getting Started on Your Route" in this section for more information.

### Map Coordinates

The coordinates destination entry method lets you select a destination by entering latitude and longitude coordinates.



**Map Coordinates:** Press to access the Coordinates Entry screen.

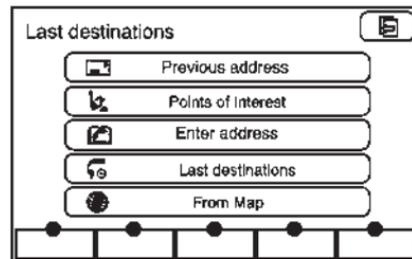
To use the coordinates destination entry method:

1. Press DEST.
2. Select From Map.
3. Select Map Coordinates.

4. Select Latitude and select either N (North) or S (South) to enter the direction of the latitude coordinate. Enter the numeric portion of the latitude coordinate.
5. Select Longitude and select either E (East) or W (West) next to enter the direction of the longitude coordinate. Enter the numeric portion of the longitude coordinate.
6. Once both coordinates are entered, select GO. The map screen, with the destination marked displays.
7. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
8. Select Start Guidance. The route is now ready to be started.  
See "Getting Started on Your Route" in this section for more information.

### Preset Destination

The preset destination entry method lets you set a destination by selecting from one of five previously stored destinations. Besides voice tagged destinations, these are the only destinations available to set while the vehicle is moving. If a destination is not set for one of the screen buttons, the button is dimmed and not available for use. See "Adding or Changing Preset Destinations" in this section for information on how to add a preset destination.



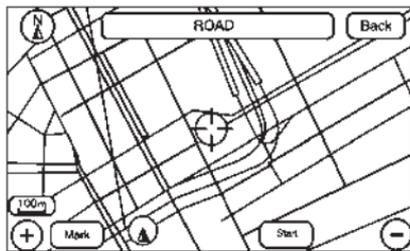
To use the preset destination entry method:

1. Press DEST.
2. Select the desired preset destination screen button. The screen buttons are labelled with the name that was selected for the destination when it was stored. The map screen, with the destination marked displays.
3. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
4. Select Start Guidance. The route is now ready to be started.

See "Getting Started on Your Route" in this section for more information.

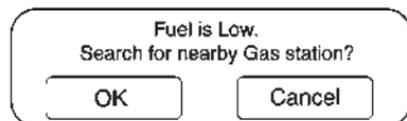
### Map Destination Screen Functions

If the map screen is used to show destination, it will have map screen capabilities such as GO, Mark, Zoom, Scroll, etc. The address is shown at the top of the screen.



### Destination Map Screen

#### Low Fuel Warning



When the fuel in the vehicle becomes low, a pop-up displays "Fuel is low. Search for nearby Filling station?"

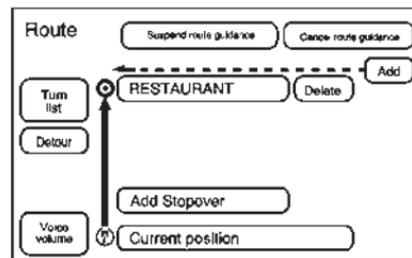
1. Press OK to show a list of nearby filling stations.

2. Press GO next to the desired filling station for location information.
3. Press Cancel if the list of Near Filling Station is not needed.

For more information, see *Driver Information Centre (DIC)* on page 5-22.

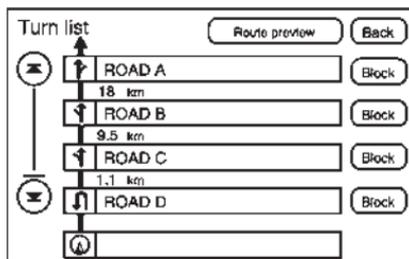
### Getting Started on Your Route

Once a destination has been entered, there are several functions that can be performed. Press DEST to access the Route screen.



### Turn List

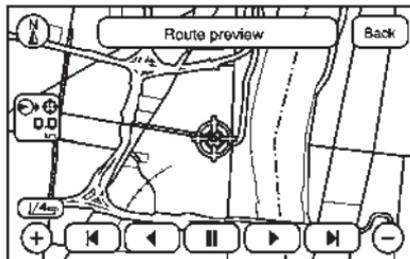
Press to view the list of turn manoeuvres for the entire route and to avoid turns on the route.



**▲ / ▼ (Scroll Arrows):** Press the arrows to scroll through the list of manoeuvres.

**Avoid:** Press this screen button, next to the adjacent street name, to avoid the manoeuvre.

The map screen displays. The route recalculates without this manoeuvre.



**Route Preview:** Select to preview the entire route in either direction.

**◀ (Reverse Skip):** Select to go back to the start point or previous stopover.

**◀◀ (Reverse Scroll):** Select to scroll to the start point or previous stopover. The ◀ (reverse skip) button changes to a fast reverse screen button.

**|| (Pause):** Select to pause the route preview, while in reverse or fast forward scroll.

**▶ / ▶▶ (Fast Forward Scroll):** Select to scroll to the next stopover or to the final destination. The ▶ (fast forward skip) button changes to a fast speed fast forward.

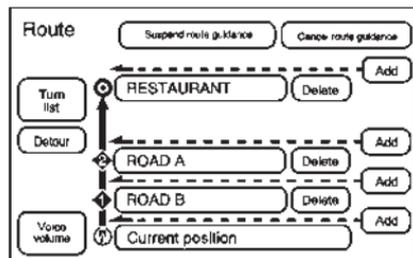
**▶ (Fast Forward Skip):** Select to go to the next stopover or to the final destination.

**Detour:** Select this screen button from the Route screen, then select to detour 2 km, 5 km, 10 km (1 mi, 3 mi, or 5 mi) around the current route. This can also be selected to detour the whole route if necessary. The detour option is only available while driving on a current planned route.

### Voice Volume

Select this screen button from the Route screen to turn voice guidance on or off and to change the volume of voice prompts. See "Nav" under *Configure Menu* on page 7-51 for more information.

## Add Stopover



**Add Stopover:** Select this screen button from the Route screen. This feature allows up to three stopovers to be added to the current route between the start point and final destination. Once a stopover has been added, the points can be edited or deleted.

To add a stopover:

1. Press DEST.
2. Select the Add Stopover screen button. This button only appears if a route has been calculated.
3. Using the desired method of entering a destination, enter the stopover. See "Destination" previously for more information.
4. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
5. Select Start Guidance. The route is now ready to be started.
6. To add the second and third stopovers, press DEST, then select the Add screen button, where the next waypoint should appear on the route.
7. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.

8. Select Start Guidance. The route is now ready to be started.

To delete a stopover from the current route:

1. Press DEST.
2. Select Delete for the desired stopover to delete.
3. The system displays a pop-up confirmation message. Press Yes to delete the stopover; press No to cancel this operation.
4. Select the route preference for Fastest, Shortest, or Other. The system calculates and highlights the route.
5. Select Start Guidance. The route is now ready to be started.

### Suspend Guidance

Press this screen button, from the Route screen, to put the current route on hold.

### Resume Guidance

Press this screen button, from the Route screen, to resume guidance on the current route.

### Cancel Guidance

Press this screen button, from the Route screen, to cancel the current route.

### Adding Destinations to the Address Book

There are two ways to add a destination to the address book:

- To add the current vehicle position to the address book, press the Mark screen button from the map screen. The system automatically saves the current vehicle information in the address book. When scrolling on the map the Mark screen button automatically adds the current scrolled position information in the address book.

- Press the Add to Address Book screen button when available on POI information screens, Destination Entry screens, or POI screens. The system automatically saves this information in the address book.

See "Nav" under *Configure Menu on page 7-51* for information on editing address book entries.

### Adding or Changing Preset Destinations

This feature allows additions or changes one of five preset destinations. When a destination has been added as a preset destination, it is available to select from the Destination Entry screen. See "Preset Destination" previously for information on how to select a preset destination as a final destination.

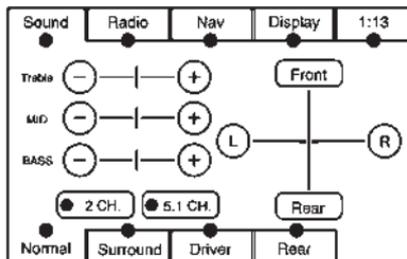
To store the current vehicle position as a preset destination:

1. Select Mark from the map screen to add the current vehicle position to the address book. The Address Book screen appears.
2. Select Name. An alpha-keyboard displays. Enter the name. Press OK then Back to return to the address book information screen.
3. Press and hold one of the buttons at the bottom of the screen until the name appears in that preset destination screen button. It is now available to select from the Destination Entry screen.

To store an address book entry as a preset destination:

1. Select CONFIG.
2. Select the Nav screen button or press CONFIG until Nav is selected or press the Nav screen button.
3. Select Edit/View.
4. Select the address book entry to be stored as the preset destination. Select Name to add a name, if needed.
5. Press and hold one of the buttons at the bottom of the screen until the name appears in that preset destination screen button. It is now available to select from the Destination Entry screen.

## Configure Menu



Press CONFIG (Configure) to adjust several of the system's features and preferences. The last selected CONFIG screen is the screen that displays: Sound, Radio, Nav (navigation), Display, or Time.

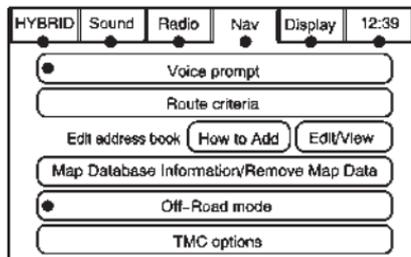
## Sound

Press CONFIG to enter the configure menu options, then press CONFIG again, repeatedly until Sound is selected or press the Sound screen button to make speaker and DSP (Digital Signal Processing) adjustments. See "Sound Menu" under, *Using the Navigation System on page 7-31* for more information.

## Radio

Press CONFIG to enter the configure menu options, then press CONFIG again, repeatedly until Radio is selected or press the Radio screen button to make changes for radio information displayed, preset pages and Bose® AudioPilot®. See "Radio Menu" under, *Using the Navigation System on page 7-31* for more information.

### Nav (Navigation)



Press CONFIG to enter the configure menu options, then press CONFIG again, repeatedly until Nav is selected or press the Nav screen button.

#### Voice Prompt

Press the Voice Prompt screen button to change the volume of the voice prompts or to turn voice guidance on and off.

**Volume:** Press + or - to increase or to decrease the volume of the voice prompts. The system will respond with the adjusted voice level.

**Voice Guidance:** Press On or Off to turn voice instructions on and off while travelling on a planned route.

#### Route Preference

Press the Route Preference screen button to change route options when the system calculates a route.

**Allow Major Roads:** This feature allows the system to use major roads when calculating a planned route.

**Allow Toll Roads:** This feature allows the system to use toll roads when calculating a planned route.

**Allow Ferrys:** This feature allows the system to use ferries when calculating a planned route.

#### Allow Time and Seasonal

**Restricted Roads:** This feature allows the system to use time restricted and seasonal roads when calculating a planned route.

#### Edit Address Book - How to Add

To add an address to the address book, see "Adding Destinations to the Address Book" under *Destination on page 7-39*.

#### Edit Address Book - Edit/View

To edit the name of an address book:

1. Select CONFIG.
2. Select the Nav screen button.
3. Select Edit/View Address Book.
4. Select the Address book entry.

5. Press the Name screen button and use the alpha keyboard to edit or add the name.
6. Press OK to save your changes, then press Back to return to the Address Book information screen.

To add or change the phone number of an address book entry:

1. Select CONFIG.
2. Select the Nav screen button.
3. Select Edit/View Address Book.
4. Select the address book entry to change.

5. Press the Phone # screen button and use the numeric keyboard to input or change the phone number.
6. Press OK to save your changes, then press Back to return to the Address Book information screen.

To change the map icon of an address book entry:

1. Select CONFIG.
2. Select the Nav screen button.
3. Select Edit/View Address Book.
4. Select the address book entry to change.
5. Select the Icon screen button.
6. Select an icon from the list.

To add a voice tag to an address book entry:

1. Select CONFIG.
2. Select the Nav screen button.
3. Select Edit/View Address Book.
4. Select Add Voice Tag.

5. The system will ask for you to state the name. You will have four seconds to state the name. The system will respond back with the name and prompt you to repeat the name for confirmation.

To delete an address book entry:

1. Select CONFIG.
2. Select the Nav screen button.
3. Select Edit/View Address Book.
4. Select the address book entry to delete.
5. Press Delete to delete the address book entry.
6. A confirmation pop-up will display. Select OK to delete; select Cancel to cancel the operation.

To delete the entire address book:

1. Select CONFIG.
2. Select the Nav screen button.
3. Select Edit/View Address Book.

## 7-54 Infotainment System

- A list of all the address book entries will display. Press and hold Clear All.
- A confirmation pop-up will display. Select OK to delete; select Cancel to cancel the operation.

### Map Database Information



Press the Map Database Information screen button to view the coverage areas of the map DVD.

### Off-Road Mode

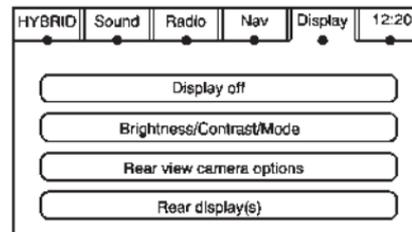
To turn the Off-road mode on or off:

- Press CONFIG.
- Press the Nav screen button.
- Press Off-Road mode. The button will be highlighted when the feature is on.

When the off-road mode is turned on, the navigation system will show the path being travelled by the vehicle when not on a marked road. This path will be a simulation since the map database coverage will not have these roads on the DVD. This path will be stored in the navigation system's memory, see "Previous Destination" under *Destination on page 7-39* for more information.

See *Defensive Driving on page 9-2* for more information about off-road driving.

### Display

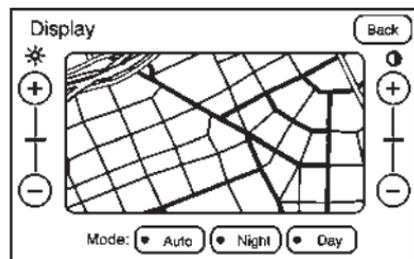


Press CONFIG to enter the configure menu options, then press CONFIG repeatedly until Display is selected or press the Display screen button.

### Display OFF

Press this screen button to turn the display off. Press any control button to view the display.

## Brightness/Contrast/Mode



Press this screen button to change the brightness, contrast, and mode of the display.

**Brightness:** Press + or - to increase or decrease the brightness of the screen.

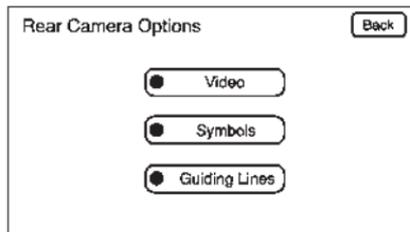
**Contrast:** Press + or - to increase or decrease the contrast of the screen.

**Auto (Automatic):** Press so the system can automatically adjust the screen background depending on exterior lighting conditions.

**Night:** Press to make the map background darker.

**Day:** Press to make the map background brighter.

## Rear Vision Camera (If Equipped)



**Rear Camera Options:** Press to display options available.

The available options are:

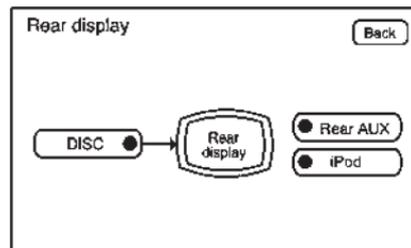
**Video:** Press to turn on or off.

**Symbols:** Press to turn on or off.

**Guiding Lines:** Press to turn on or off.

For more information about the Rear Vision Camera, see *Rear Vision Camera (RVC)* on page 9-42 in the vehicle owner manual.

## Rear Display(s)



Press the Rear Display(s) screen button to allow the choice of sources for rear display between front disc, rear aux, or usb, if connected.

### Setting the Clock

The navigation system time and the analogue clock operate independently. Changing the time through the navigation system does not change the time on the analogue clock. See *Clock on page 5-7* to change the analogue clock time.

Press CONFIG to enter the configure menu options, then press CONFIG again, repeatedly until the time is selected or press the time screen button.

**Hours:** Press - or + to decrease or increase the hours.

**Minutes:** Press - or + to decrease or increase the minutes.

**12/24 Format:** Select the 12 screen button for standard time; select the 24 screen button for military time.

### Global Positioning System (GPS)

The navigation system determines the position of the vehicle by using satellite signals, various vehicle signals, and map data.

At times, other interferences such as the satellite condition, road configuration, the condition of the vehicle and/or other circumstances can interfere with the navigation system's ability to determine the accurate position of the vehicle.

The GPS shows the current position of the vehicle using signals sent by the GPS Satellites. When the vehicle is not receiving signals from the satellites, a symbol appears on the map screen.

This system may not be available or interferences may occur if any of the following are true:

- Signals are obstructed by tall buildings, trees, large trucks, or a tunnel.

- Objects are located on the front dash of the vehicle.
- Satellites are being repaired or improved.
- After-market glass tinting has been applied to the vehicle's windshield.

**Notice:** Do not apply after-market glass tinting to the vehicle's windows. Glass tinting interferes with the system's ability to receive GPS signals and causes the system to malfunction. The window might have to be replaced to correct the problem. This would not be covered by the warranty.

For more information if the GPS is not functioning properly, see *Vehicle Positioning on page 7-57* and *Problems with Route Guidance on page 7-57*.

## Vehicle Positioning

At times, the position of the vehicle on the map may be inaccurate due to one or more of the following reasons:

- Road system has changed.
- Vehicle is driving on slippery road surfaces such as in sand, gravel, and/or snow.
- Vehicle is travelling on winding roads.
- Vehicle is on a long straight road.
- Vehicle is approaching a tall building or a large vehicle.
- Surface streets run parallel to a motorway.
- Vehicle has just been transferred by a vehicle carrier or a ferry.
- Current position calibration is set incorrectly.
- Vehicle is travelling at high speed.

- Vehicle changes directions more than once, or when the vehicle is turning on a turn table in a parking lot.
- Vehicle is entering and/or exiting a parking lot or a garage.
- GPS signal is not received.
- Roof carrier is installed on the vehicle.
- Vehicle is being driven with tyre chains.
- Tyres are replaced.
- Tyre pressure for the tyres is incorrect.
- Tyres are worn.
- First time the map DVD is inserted.
- Battery is disconnected for several days.
- Vehicle is driving in heavy traffic where driving is at low speeds, and the vehicle is stopped and started repeatedly.

See your dealer if other problems occur.

## Problems with Route Guidance

Inappropriate route guidance may occur under one or more of the following conditions:

- You have not turned onto the road indicated.
- Route guidance may not be available when using automatic rerouting for the next right or left turn.
- The route may not be changed when using automatic rerouting.
- There is no route guidance when turning at an intersection.
- Plural names of places may be announced occasionally.
- It may take a long time to operate automatic rerouting during high-speed driving.

- Automatic rerouting may display a route returning to the set stopover if you are heading for a destination without passing through a set stopover.
- The route prohibits the entry of a vehicle due to a regulation by time or season or any other regulation which may be given.
- Some routes may not be searched.
- The route to the destination may not be shown if there are new roads, if roads have recently changed, or if certain roads are not listed on the map DVD. See *Database Coverage Explanations on page 7-58*.

To recalibrate the vehicle's position on the map, see your dealer.

### **If the System Needs Service**

If your system needs service and you have followed the steps listed here and still are experiencing problems, see your dealer for assistance.

### **Map Data Updates**

The navigation map database is stored on a compact flash card. It is usable only in this type of navigation system, and will not function in other electronic devices.

The map in the vehicle was installed by the factory and is the most up-to-date information available as the vehicle was produced. This map may have to be updated periodically, provided that the map information has changed. See your dealer for service.

### **Database Coverage Explanations**

Coverage area depends upon the map detail available. Some areas have greater map detail than others. The navigation system works only as well as the information provided on the map disc. See *Map Data Updates on page 7-58* on how to obtain updated map information.

# Climate Controls

## Climate Control Systems

Dual Automatic Climate Control System ..... 8-1  
 Rear Climate Control System ..... 8-6

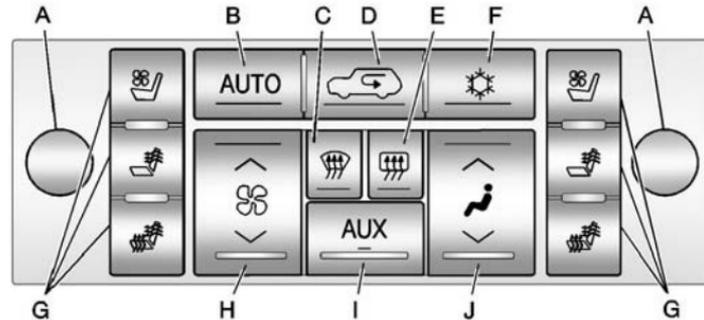
## Air Vents

Air Vents ..... 8-7

# Climate Control Systems

## Dual Automatic Climate Control System

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



**Climate Control with Heated and Cooled Seats Shown**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>A. Driver and Passenger Temperature Controls</li> <li>B. AUTO (Automatic Operation)</li> <li>C. Defrost</li> <li>D. Recirculation</li> <li>E. Rear Window Demister</li> </ul> | <ul style="list-style-type: none"> <li>F. Air Conditioning</li> <li>G. Heated and Cooled Seats</li> <li>H. Fan Control</li> <li>I. AUX (Auxiliary Control)</li> <li>J. Air Delivery Mode Control</li> </ul> |
|--|---|

## 8-2 Climate Controls

---

**Off:** Press the driver side temperature knob to turn the climate control system off. Outside air still enters the vehicle, and is directed to the floor. This direction can be changed by pressing the mode button. The temperature can also be adjusted using either temperature knob. Press the up or down arrows on the fan switch, the defrost button, the AUTO button, driver side temperature knob, or the air conditioning button to turn the system on when it is off.

### **Driver and Passenger Side Temperature Knob**

The driver and passenger side temperature knobs are used to adjust the temperature of the air coming through the system on the driver or passenger side of the vehicle. The temperature can be adjusted even if the system is turned off. This is possible since outside air always flows through the system as the vehicle is moving

forward unless it is set to recirculation mode. See “Recirculation” later in this section.

Turn the knob clockwise or anticlockwise to increase or decrease the cabin temperature. The display will show the temperature setting increasing or decreasing.

Set the passenger temperature setting to match the driver temperature setting by pressing the passenger temperature knob.

When in defrost mode the passenger temperature setting cannot be changed.

### **Automatic Operation**

**AUTO (Automatic):** When automatic operation is active the system will control the inside temperature, the air delivery, and the fan speed.

Use the steps below to place the entire system in automatic mode:

1. Press the AUTO button.

When AUTO is selected, the display will change to show the current temperature(s) and AUTO come on the display. The current delivery mode and fan speed will also be displayed for approximately 5 seconds.

When AUTO is selected, the air conditioning operation and air inlet will be automatically controlled. The air conditioning compressor will run when the outside temperature is over about 4°C (40°F). The air inlet will normally be set to outside air. If it is hot outside, the air inlet may automatically switch to recirculate inside air to help quickly cool down the vehicle. The light on the button comes on in recirculation.

2. Set the driver and passenger temperature.

To find your comfort setting, start with a 23°C (74°F) temperature setting and allow about 20 minutes for the system to regulate. Use the driver or passenger temperature buttons to adjust the temperature setting as necessary. If a temperature setting of 15°C (60°F) is chosen, the system remains at the maximum cooling setting. If a temperature setting of 32°C (90°F) is chosen, the system remains at the maximum heat setting. Choosing either maximum setting will not cause the vehicle to heat or cool any faster.

Be careful not to cover the sensor located on the top of the instrument panel near the windscreen. This sensor regulates air temperature based on sun load and also turns on the headlamps.

To avoid blowing cold air in cold weather, the system will delay turning on the fan until warm air is available. The length of delay depends on the engine coolant temperature. Pressing the fan switch will override this delay and change the fan to a selected speed.

### Manual Operation

 **(Fan Control):** Press the up or down arrows to increase or decrease the fan speed

Pressing this button when the system is off will turn the system on.

Pressing either arrow while using automatic operation will place the fan in manual operation. The fan setting will display and the AUTO light will turn off. The air delivery will remain in automatic operation.

 **(Air Delivery Mode Control):** Press to change the direction of the airflow in the vehicle. Repeatedly press the button until the desired mode appears on the display.

When the system is turned off, the display goes blank after displaying the current status of the system.

 **(Vent):** Air is directed to the instrument panel outlets.

 **(Bi-Level):** Air is divided between the instrument panel and floor outlets. Some air is directed towards the windscreen and side window outlets. Cooler air is directed to the upper vents and warmer air to the floor vents.

 **(Floor):** Air is directed to the floor outlets, with some to the windscreen, side window outlets, and second row floor outlets. In this mode, the system automatically selects outside air.

 **(Demist):** This mode clears the windows of mist or moisture. Air is directed to the windscreen, floor outlets, and side window vents. In this mode, the system turns off recirculation and runs the air conditioning compressor unless the outside temperature is close to

## 8-4 Climate Controls

---

freezing. The recirculation mode cannot be selected while in the demist mode.

 **(Defrost):** This mode removes mist or frost from the windscreen more quickly. Air is directed to the windscreen and side window vents, with some directed to the floor vents. In this mode, the system automatically forces outside air into the vehicle and runs the air conditioning compressor unless the outside temperature is close to freezing. The recirculation mode cannot be selected while in the defrost mode.

The passenger temperature control cannot be activated while in defrost mode. If the passenger control knob is pressed, the passenger temperature flashes three times and will not work. If the passenger control knob is adjusted, the driver temperature indicator changes. The passenger temperature will not be displayed.

If vent, bi-level, or floor mode is selected again, the climate control system displays the previous temperature settings.

Do not drive the vehicle until all the windows are clear.

 **(Air Conditioning):** Press to turn the air conditioning (A/C) compressor on and off. An indicator light comes on to show that the air conditioning is on.

Pressing this button when the outside temperature is too cool for air conditioning will make the air conditioning indicator flash 3 times and then turn off indicating the air conditioning mode is not available. If the air conditioning is on and the outside temperature drops below a temperature which is too cool for air conditioning to be effective, the air conditioning light turns off to show that the air conditioning mode has been cancelled.

On hot days, open the windows long enough to let hot inside air escape. This helps to reduce the time it takes for the vehicle to cool down. It also helps the system to operate more efficiently.

The air conditioning system removes moisture from the air, so a small amount of water might drip under the vehicle while idling or after turning off the engine. This is normal.

 **(Recirculation):** Press to turn the recirculation mode on or off. An indicator light comes on to show that the recirculation is on.

This mode recirculates and helps to quickly cool the air inside the vehicle. It can be used to help prevent outside air and odours from entering the vehicle.

The recirculation mode cannot be used with floor, demist, or defrost modes. If recirculation is selected with one of those modes, the indicator light flashes three times and then turns off. The air conditioning compressor also comes on when this mode is activated. While in recirculation mode the windows may mist up when the weather is cold and damp. To clear the mist, select either the demist or defrost mode and increase the fan speed.

The recirculation mode can also be turned off by turning off the ignition.

**AUX (Auxiliary Control):** For vehicles with the rear heating and air conditioning controls. Press the AUX button to turn the rear climate control system on or off. See *Rear Climate Control System on page 8-6*.

### Rear Window Demister

The rear window demister uses a warming grid to remove mist from the rear window.

#### (Rear Window Demister):

Press to turn the rear window demister on or off. It automatically turns off after it has been activated. The demister can also be turned off by turning off the engine. Do not drive the vehicle until all the windows are clear.

**Notice:** Do not use a razor blade or sharp object to clear the inside rear window. Do not adhere anything to the demister grid lines in the rear glass. These actions may damage the rear demister. Repairs would not be covered by your warranty.

**Heated Mirrors:** Press  to help clear mist or frost from the surface of the outside mirror. See *Heated Mirrors on page 2-16*.

**Heated or Cooled Seats:** For vehicles with heated and cooled seats, see *Heated and Ventilated Front Seats on page 3-7*.



## Automatic Operation, If Equipped

**AUTO:** Press the air delivery mode button until this setting is selected to control the inside temperature, air delivery, and fan speed. AUTO appears in the display when automatic operation is active.

### **+/- (Increase/Decrease**

**Temperature):** Press the + or - buttons to increase or decrease the cabin temperature. The rear control temperature display will show the temperature setting increasing or decreasing.

The display only indicates climate control functions when the system is in rear independent mode.

## Manual Operation

 **(Fan Control):** Press these buttons on the rear seat audio control panel to increase or decrease the airflow. Pressing the fan up button when the system is off will turn the system on. The air delivery mode will remain under automatic control.

**+/- (Temperature Control):** Press these buttons to adjust the temperature of the air flowing into the passenger area. Press the + button for warmer air and press the - button for cooler air.

 **(Air Delivery Mode Control):** Press the mode button to change the direction of the airflow in the vehicle. Repeatedly press the button until the desired mode appears on the display. Multiple presses will cycle through the delivery selections.

## Air Vents

Use the air outlets located in the centre and on the side of the instrument panel to direct the airflow.

### Operation Tips

- Keep the bonnet and front air inlets free of ice, snow, or any other obstruction (such as leaves). The heater and defroster will work far better, reducing the chance of misting the inside of the windows.
- When you enter a vehicle in cold weather, press the fan up button to the maximum fan level before driving. This helps clear the intake ducts of snow and moisture, and reduces the chance of misting the inside of the window.

## 8-8 Climate Controls

---

- Keep the air path under the front seats clear of objects. This helps air to circulate throughout the vehicle.
- Adding outside equipment to the front of the vehicle, such as bonnet-air deflectors, may affect the performance of the heating and air conditioning system. Check with your dealer before adding equipment to the outside of the vehicle.

# Driving and Operating

## Driving Information

Defensive Driving .....	9-2
Control of a Vehicle .....	9-2
Braking .....	9-2
Steering .....	9-3
Off-Road Recovery .....	9-3
Loss of Control .....	9-4
Off-Road Driving .....	9-4
Driving on Wet Roads .....	9-9
Highway Hypnosis .....	9-10
Hill and Mountain Roads .....	9-10
Winter Driving .....	9-11
If the Vehicle Is Stuck .....	9-13
Vehicle Load Limits .....	9-14

## Starting and Operating

New Vehicle Run-In .....	9-17
Adjustable Throttle and Brake Pedal .....	9-18
Ignition Positions .....	9-18
Starting the Engine .....	9-20
Retained Accessory Power (RAP) .....	9-21
Shifting Into Park .....	9-21

Shifting out of Park .....	9-22
Parking over Things That Burn .....	9-23
Active Fuel Management® ...	9-23

## Engine Exhaust

Engine Exhaust .....	9-24
Running the Vehicle While Parked .....	9-24

## Automatic Transmission

Automatic Transmission .....	9-25
Manual Mode .....	9-27
Tow/Haul Mode .....	9-28

## Drive Systems

All-Wheel Drive .....	9-29
-----------------------	------

## Brakes

Antilock Brake System (ABS) .....	9-29
Parking Brake .....	9-30
Brake Assist .....	9-31
Hill Start Assist (HSA) .....	9-31

## Ride Control Systems

StabiliTrak® System .....	9-32
Locking Rear Axle .....	9-34

Road Sensing Suspension ...	9-35
Continuous Damping Control (CDC) .....	9-35
Automatic Level Control .....	9-35

## Cruise Control

Cruise Control .....	9-36
----------------------	------

## Object Detection Systems

Ultrasonic Parking Assist .....	9-39
Side Blind Zone Alert (SBZA) .....	9-40
Rear Vision Camera (RVC) .....	9-42

## Fuel

Fuel .....	9-45
Recommended Fuel .....	9-45
Fuel Additives .....	9-45
Filling the Tank .....	9-46
Filling a Portable Fuel Container .....	9-47

## Towing

General Towing Information .....	9-48
Driving Characteristics and Towing Tips .....	9-48

## 9-2 Driving and Operating

---

Trailer Towing .....	9-50
Towing Equipment .....	9-53
Trailer Sway Control (TSC) .....	9-57
<b>Conversions and Add-Ons</b>	
Add-On Electrical Equipment .....	9-58

### Driving Information

#### 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 3-15*.

- 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.

#### Control of a Vehicle

Braking, steering, and accelerating are important factors in helping to control a vehicle while driving.

### Braking

Braking action involves perception time and reaction time. Deciding to push the brake pedal is perception time. Actually doing it is reaction time.

Average driver reaction time is about three-quarters of a second. In that time, a vehicle moving at 100 km/h (60 mph) travels 20 m (66 ft), which could be a lot of distance in an emergency.

Helpful braking tips to keep in mind include:

- Keep enough distance between you and the vehicle in front of you.
- Avoid needless heavy braking.
- Keep pace with traffic.

If the engine ever stops while the vehicle is being driven, brake normally but do not pump the brakes. Doing so could make the pedal harder to push down. If the engine stops, there will be some

power brake assist but it will be used when the brake is applied. Once the power assist is used up, it can take longer to stop and the brake pedal will be harder to push.

## Steering

### Hydraulic Power Steering

Your vehicle has hydraulic power steering. It may require maintenance. See *Power Steering Fluid* on page 10-20.

If power steering assist is lost because the engine stops or because of a system malfunction, the vehicle can be steered but may require increased effort. See your dealer if there is a problem.

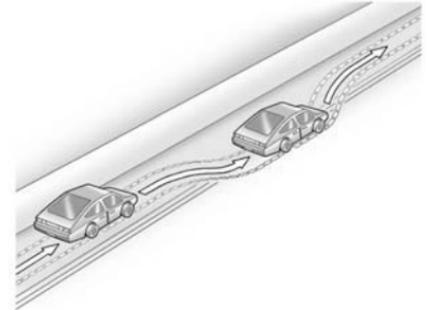
### Bend Tips

- Take bends at a reasonable speed.
- Reduce speed before entering a bend.
- Maintain a reasonable steady speed through the bend
- Wait until the vehicle is out of the bend before accelerating gently into the straight.

### Steering in Emergencies

- There are some situations when steering around a problem may be more effective than braking.
- Holding both sides of the steering wheel allows you to turn 180 degrees without removing a hand.
- Antilock Brake System (ABS) allows steering while braking.

### Off-Road Recovery



The vehicle's right wheels can drop off the edge of a road onto the shoulder while driving. Follow these tips:

1. Ease off the accelerator and then, if there is nothing in the way, steer the vehicle so that it straddles the edge of the pavement.
2. Turn the steering wheel about one-eighth of a turn, until the right front tyre contacts the pavement edge.

## 9-4 Driving and Operating

---

3. Turn the steering wheel to go straight down the roadway.

### Loss of Control

#### Skidding

There are three types of skids that correspond to the vehicle's three control systems:

- Braking Skid - wheels are not rolling.
- Steering or Cornering Skid - too much speed or steering in a bend causes tyres to slip and lose cornering force.
- Acceleration Skid - too much throttle causes the driving wheels to spin.

Defensive drivers avoid most skids by taking reasonable care suited to existing conditions, and by not overdriving those conditions. But skids are always possible.

If the vehicle starts to slide, follow these suggestions:

- Ease your foot off the accelerator pedal and steer the way you want the vehicle to go. The vehicle may straighten out. Be ready for a second skid if it occurs.
- Slow down and adjust your driving according to weather conditions. Stopping distance can be longer and vehicle control can be affected when traction is reduced by water, snow, ice, gravel, or other material on the road. Learn to recognise 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 tyres to slide.

Remember: Antilock brakes help avoid only the braking skid.

### Off-Road Driving

Four-wheel-drive and all-wheel-drive vehicles can be used for off-road driving. Vehicles without four-wheel drive, all-wheel-drive and vehicles not equipped with All Terrain (AT) or On-Off Road (OOR) tyres must not be driven off-road except on a level, solid surface. To contact the tyre manufacturer for more information about the original equipment tyres, see the Limited Warranty and Owner Assistance Information manual.

Controlling the vehicle is the key to successful off-road driving. One of the best ways to control the vehicle is to control the speed.

 **Warning**

When driving off-road, bouncing and quick changes in direction can easily throw you out of position. This could cause you to lose control and crash. You and your passengers should always wear safety belts.

**Before Driving Off-Road**

- Have all necessary maintenance and service work completed.
- Fuel the vehicle, fill fluid levels, and check inflation pressure in all tyres, including the spare, if equipped.
- Read all the information about four-wheel-drive and all-wheel-drive vehicles in this manual.
- Make sure all underbody shields, if equipped, are properly attached.

- Know the local laws that apply to off-road driving.

To gain more ground clearance if needed, it may be necessary to remove the front fascia lower air dam.

**Notice: Operating the vehicle for extended periods without the front fascia lower air dam installed can cause improper air flow to the engine. Re-attach the front fascia air dam after off-road driving.**

**Loading the Vehicle for Off-Road Driving**

 **Warning**

- Unsecured cargo on the load floor can be tossed about when driving over rough terrain. You or your passengers can be struck by flying objects. Secure the cargo properly.

(Continued)

**Warning (Continued)**

- Keep cargo in the cargo area as far forward and as low as possible. The heaviest things should be on the floor, forward of the rear axle.
- Heavy loads on the roof raise the vehicle's centre of gravity, making it more likely to roll over. You can be seriously or fatally injured if the vehicle rolls over. Put heavy loads inside the cargo area, not on the roof.

For more information about loading the vehicle, see Vehicle Load Limits and Tyres.

**Environmental Concerns**

- Always use established trails, roads, and areas that have been set aside for public off-road recreational driving and obey all posted regulations.

## 9-6 Driving and Operating

- Do not damage shrubs, flowers, trees, or grasses or disturb wildlife.
- Do not park over things that burn. See Parking Over Things that Burn.

### Driving on Hills

Driving safely on hills requires good judgement and an understanding of what the vehicle can and cannot do.

#### Warning

Many hills are simply too steep for any vehicle. Driving up hills can cause the vehicle to stall. Driving down hills can cause loss of control. Driving across hills can cause a rollover. You could be injured or killed. Do not drive on steep hills.

Before driving on a hill, assess the steepness, traction, and obstructions. If the terrain ahead

cannot be seen, get out of the vehicle and walk the hill before driving further.

When driving on hills:

- Use a low gear and keep a firm grip on the steering wheel.
- Maintain a slow speed.
- When possible, drive straight up or down the hill.
- Slow down when approaching the top of the hill.
- Use headlamps even during the day to make the vehicle more visible.

#### Warning

Driving to the top of a hill at high speed can cause an accident. There could be a drop-off, embankment, cliff, or even another vehicle. You could be seriously injured or killed. As you near the top of a hill, slow down and stay alert.

- Never go downhill forward or backward with either the transmission or transfer case in N (Neutral). The brakes could overheat and you could lose control.

#### Warning

If the vehicle has the two-speed automatic transfer case, shifting the transfer case to N (Neutral) can cause your vehicle to roll even if the transmission is in P (Park). This is because the N (Neutral) position on the transfer case overrides the transmission. You or someone else could be injured. If leaving the vehicle, set the parking brake and shift the transmission to P (Park). Shift the transfer case to any position but N (Neutral).

- When driving down a hill, keep the vehicle headed straight down. Use a low gear because the engine will work with the

brakes to slow the vehicle and help keep the vehicle under control.

 **Warning**

Heavy braking when going down a hill can cause your brakes to overheat and fade. This could cause loss of control and you or others could be injured or killed. Apply the brakes lightly when descending a hill and use a low gear to keep vehicle speed under control.

If the vehicle stalls on a hill:

1. Apply the brakes to stop the vehicle, and then apply the parking brake.

2. Shift into P (Park) and then restart the engine.

- If driving uphill when the vehicle stalls, shift to R (Reverse), release the parking brake, and reverse straight down.
- Never try to turn the vehicle around. If the hill is steep enough to stall the vehicle, it is steep enough to cause it to roll over.
- If you cannot make it up the hill, back straight down the hill.
- Never reverse down a hill in N (Neutral) using only the brake.
- The vehicle can roll backward quickly and you could lose control.
- If driving downhill when the vehicle stalls, shift to a lower gear, release the parking brake, and drive straight down the hill.

3. If the vehicle cannot be restarted after stalling, apply the parking brake, shift an automatic transmission into P (Park), and turn the vehicle off.

- 3.1. Leave the vehicle and seek help.

- 3.2. Stay clear of the path the vehicle would take if it rolled downhill.

- Avoid turns that take the vehicle across the incline of the hill. A hill that can be driven straight up or down might be too steep to drive across. Driving across an incline puts more weight on the downhill wheels which could cause a downhill slide or a rollover.
- Surface conditions can be a problem. Loose gravel, muddy spots, or even wet grass can cause the tyres to slip sideways, downhill. If the vehicle slips sideways, it can hit something that will trip it - a rock, a rut, etc. - and roll over.

## 9-8 Driving and Operating

- Hidden obstacles can make the steepness of the incline more severe. If a rock is driven across with the uphill wheels, or if the downhill wheels drop into a rut or depression, the vehicle can tilt even more.
- If an incline must be driven across, and the vehicle starts to slide, turn downhill. This should help straighten out the vehicle and prevent the side slipping.

### Warning

Getting out of the vehicle on the downhill side when stopped across an incline is dangerous. If the vehicle rolls over, you could be crushed or killed. Always get out on the uphill side of the vehicle and stay well clear of the rollover path.

### Driving in Mud, Sand, Snow, or Ice

Use a low gear when driving in mud – the deeper the mud, the lower the gear. Keep the vehicle moving to avoid getting stuck.

Traction changes when driving on sand. On loose sand, such as on beaches or sand dunes, the tyres tend to sink into the sand. This affects steering, accelerating, and braking. Drive at a reduced speed and avoid sharp turns or abrupt manoeuvres.

Traction is reduced on hard packed snow and ice and it is easy to lose control. Reduce vehicle speed when driving on hard packed snow and ice.

### Warning

Driving on frozen lakes, ponds, or rivers can be dangerous. Ice conditions vary greatly and the vehicle could fall through the ice; you and your passengers could drown. Drive your vehicle on safe surfaces only.

### Driving in Water

### Warning

Driving through rushing water can be dangerous. Deep water can sweep your vehicle downstream and you and your passengers could drown. If it is only shallow water, it can still wash away the ground from under your tyres. Traction could be lost, and the vehicle could roll over. Do not drive through rushing water.

**Notice:** Do not drive through standing water if it is deep enough to cover the wheel hubs, axles or exhaust pipe. Deep water can damage the axle and other vehicle parts.

If the standing water is not too deep, drive slowly through it. At faster speeds, water splashes on the ignition system and the vehicle can stall. Stalling can also occur if you get the tailpipe under water. While the tailpipe is under water, you will not be able to start the engine. When going through water, the brakes get wet, and it might take longer to stop. See Driving on Wet Roads.

### After Off-Road Driving

Remove any brush or debris that has collected on the underbody, or chassis, or under the bonnet. These accumulations can be a fire hazard.

After operation in mud or sand, have the brake linings cleaned and checked. These substances can cause glazing and uneven braking. Check the body structure, steering, suspension, wheels, tyres, and exhaust system for damage and check the fuel lines and cooling system for any leakage.

More frequent maintenance service is required. Refer to the *Scheduled Maintenance on page 11-1*.

### Driving on Wet Roads

Rain and wet roads can reduce vehicle traction and affect your ability to stop and accelerate. Always drive slower in these types of driving conditions and avoid driving through large puddles and deep-standing or flowing water.

### Warning

Wet brakes can cause crashes. They might not work as well in a quick stop and could cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car/vehicle wash, lightly apply the brake pedal until the brakes work normally.

Flowing or rushing water creates strong forces. Driving through flowing water could cause the vehicle to be carried away. If this happens, you and other vehicle occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

### Aquaplaning

Aquaplaning is dangerous. Water can build up under the vehicle's tyres 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 aquaplaning, it has little or no contact with the road.

There is no hard and fast rule about aquaplaning. 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.
- Overtake with caution.
- Keep windscreen wiping equipment in good condition.
- Keep the windscreen washer fluid reservoir filled.

- Have good tyres with proper tread depth. See *Tyres on page 10-40*.
- 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, tyres, 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. Steering may also be affected when ignition is off. 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 centre 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, overtaking or no-overtaking zones) and take appropriate action.

## Winter Driving

### Driving on Snow or Ice

Drive carefully when there is snow or ice between the tyres 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 tyres 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 tyres even more.

If equipped, Traction Control should be turned on. See *StabiliTrak® System* on page 9-32.

The *Antilock Brake System (ABS)* on page 9-29 improves vehicle stability during hard stops on slippery roads, but apply the brakes sooner than when on dry pavement.

Allow greater following distance on any slippery road and watch for slippery spots. Icy patches can occur on otherwise clear roads in shaded areas. The surface of a curve or an overpass can remain icy when the surrounding roads are clear. Avoid sudden steering manoeuvres and braking while on ice.

Turn off cruise control on slippery surfaces.

## 9-12 Driving and Operating

### Blizzard Conditions

Being stuck in snow can be a serious situation. Stay with the vehicle unless there is help nearby. To get help and keep everyone in the vehicle safe:

- Turn on the hazard warning lights.
- Tie a red cloth to an outside mirror.

#### **Warning**

Snow can trap engine exhaust under the vehicle. This may cause exhaust gases to get inside. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death.

(Continued)

#### **Warning (Continued)**

If the vehicle is stuck in the snow:

- Clear away snow from around the base of your vehicle, especially any that is blocking the exhaust pipe.
- Check again from time to time to be sure snow does not collect there.
- Open a window about 5 cm (2 in) on the side of the vehicle that is away from the wind to bring in fresh air.
- Fully open the air outlets on or under the instrument panel.

(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 Systems” in the Index.

For more information about carbon monoxide, see *Engine Exhaust* on page 9-24.

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. See “Rocking Your Vehicle to Get It Out” later in this section.

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 tyres spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 56 km/h (35 mph).

For information about using tyre chains on the vehicle, see *Tyre Chains on page 10-54*.

## Rocking Your Vehicle to Get It Out

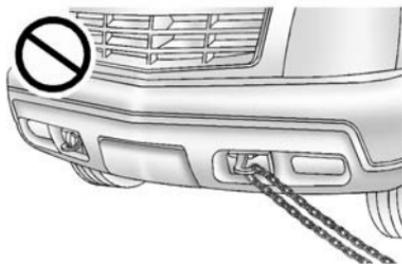
Turn the steering wheel left and right to clear the area around the front wheels. Turn off any traction or stability system. Shift back and forth between R (Reverse) and a forward gear, spinning the wheels as little as possible. To prevent transmission wear, wait until the wheels stop spinning before 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. Recovery hooks can be used, if the vehicle has them. If the vehicle does need to be towed out, see *Towing the Vehicle on page 10-74*.

## Recovery Hooks

### Warning

Never pull on recovery hooks from the side. The hooks could break and you and others could be injured. When using recovery hooks, always pull the vehicle from the front.



**Notice:** Never use recovery hooks to tow the vehicle. Your vehicle could be damaged and it would not be covered by warranty.

For vehicles with recovery hooks at the front of the vehicle, you can use them if you are stuck off-road and need to be pulled to some place where you can continue driving.

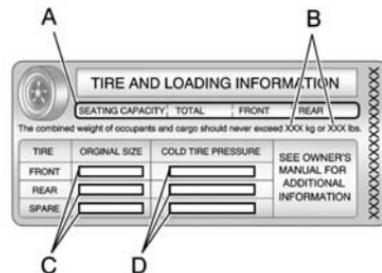
### Vehicle Load Limits

It is very important to know how much weight your vehicle can carry. This weight is called the vehicle capacity weight and includes the weight of all occupants, cargo, and all non-factory-installed options.

#### 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.

### Tyre and Loading Information Label



#### Label Example

The Tyre and Loading Information label also shows the size of the original equipment tyres (C) and the recommended cold tyre inflation pressures (D). For more information on tyres and inflation see *Tyres on page 10-40* and *Tyre Pressure on page 10-43*.

A vehicle specific Tyre and Loading Information label is attached to the rear pillar of the driver door frame. The tyre and loading information label shows the number of occupant seating positions (A), and the maximum vehicle capacity weight (B) in kilogrammes and pounds.

There is also important loading information on the vehicle Certification/Tyre label. It tells you the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axles. See "Certification/Tyre Label" later in this section.

Refer to your vehicle's tyre and loading information label for specific information about your vehicle's capacity weight and seating positions. The combined

weight of the driver, passengers, and cargo should never exceed your vehicle's capacity weight.

#### **Certification/Tyre Label**

A vehicle specific Certification/Tyre label is attached to the left rear door. The label shows the Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, and cargo.

The Certification/Tyre label also tells you the maximum weights for the front and rear axles, called Gross Axle Weight Rating (GAWR). To find out the actual loads on your front and rear axles, you need to go to a weigh station and weigh your vehicle. Your dealer can help you with this. Be sure to spread out your load equally on both sides of the centre line.

Never exceed the GVWR for your vehicle, or the GAWR for either the front or rear axle.

And, if you do have a heavy load, you should spread it 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). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also shorten the life of the vehicle.

Your warranty does not cover parts or components that fail because of overloading.

The label will help you decide how much cargo and installed equipment your vehicle can carry.

Using heavier suspension components to get added durability might not change your weight ratings. Ask your dealer to help you load your vehicle the right way.

If you put things inside your vehicle - like suitcases, tools, packages, or anything else - they will go as fast as the vehicle goes. If you have to stop or turn quickly, or if there is a crash, they will keep going.

### Warning

Things you put inside the vehicle can strike and injure people in a sudden stop or turn or in a crash.

- Put things in the cargo area of the vehicle. Try to spread the weight evenly.
- Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.
- Do not leave an unsecured child restraint in the vehicle.
- When you carry something inside the vehicle, secure it whenever you can.
- Do not leave a seat folded down unless you need to.

There is also important loading information for off-road driving in this manual. See "Loading Your Vehicle for Off-Road Driving" under *Off-Road Driving* on page 9-4.

### Add-On Equipment

When you carry removable items, you may need to put a limit on how many people you can carry inside your vehicle. Be sure to weigh your vehicle before you buy and install the new equipment.

**Notice: Overloading the vehicle may cause damage. Repairs would not be covered by the vehicle warranty. Do not overload the vehicle.**

Remember not to exceed the Gross Axle Weight Rating (GAWR) of the front or rear axle.

### Automatic Level Control

The automatic level control rear suspension comes as a part of the Road Sensing Suspension. See *Road Sensing Suspension* on page 9-35.

This type of level control is fully automatic and will provide a better levelled riding position as well as better handling under a variety of passenger and loading conditions. An air compressor connected to the rear shocks will raise or lower the rear of the vehicle to maintain proper vehicle height. The system is activated when the ignition key is turned to RUN and will automatically adjust vehicle height thereafter. The system may exhaust (lower vehicle height) for up to 10 minutes after the ignition key has been turned

to LOCK. You may hear the air compressor operating when the height is being adjusted.

If a weight-distributing hitch is being used, it is recommended to allow the shocks to inflate, thereby levelling the vehicle prior to adjusting the height. See "Weight distributing Hitches and Weight Carrying Hitches" under *Towing Equipment* on page 9-53.

## Starting and Operating

### New Vehicle Run-In

**Notice:** The vehicle does not need an elaborate run-in. But it will perform better in the long run if you follow these guidelines:

- Keep the vehicle speed at 88 km/h (55 mph) or less for the first 805 km (500 miles).
- 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

## 9-18 Driving and Operating

breaking-in guideline every time you get new brake linings.

- Do not tow a trailer during run-in. See *Trailer Towing on page 9-50* for the trailer towing capabilities of the vehicle and more information.

Following run-in, engine speed and load can be gradually increased.

### Adjustable Throttle and Brake Pedal

The vehicle has adjustable throttle and brake pedals that allow you to change their positions.

The feature will not operate when the vehicle is in R (Reverse) or while using the cruise control.



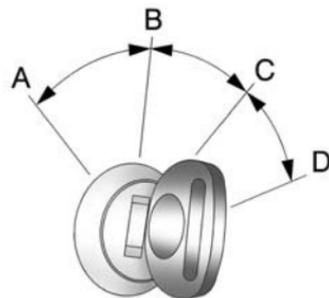
The switch used to adjust the pedals is located on the centre console below the climate control system.

Press the right and left arrows to move the pedals either closer or further from your body.

Before you start driving, fully press the brake pedal to confirm the adjustment is right for you. While driving, make only small adjustments.

The vehicle has a memory function which allows the pedal positions to be saved and recalled. See *Memory Seats on page 3-5*.

### Ignition Positions



The ignition switch has four different positions.

To shift out of P (Park), the ignition must be in ON/RUN or ACC/ACCESSORY and the regular brake pedal must be applied.

**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 9-21.

This position locks the ignition. It may also lock the steering wheel and automatic transmission. The key can be removed in LOCK/OFF.

The steering may bind with the wheels turned off centre. If this happens, move the steering wheel from right to left while turning the key to ACC/ACCESSORY. If this doesn't work, then the vehicle needs service.

Do not turn the engine off when the vehicle is moving. This will cause a loss of power assist in the brake and steering systems and disable the airbags.

If the vehicle must be shut off in an emergency:

1. Brake using a firm and steady pressure. Do not pump the brakes repeatedly. This may deplete power assist, requiring increased brake pedal force.

2. Shift the vehicle to N (Neutral). This can be done while the vehicle is moving. After shifting to N (Neutral), firmly apply the brakes and steer the vehicle to a safe location.
3. Come to a complete stop, shift to P (Park), and turn the ignition to 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. Apply the parking brake. See *Parking Brake* on page 9-30.

 **Warning**

Turning off the vehicle while moving may cause loss of power assistance 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.

**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.

**B (ACC/ACCESSORY):** This position lets things like the radio and the windscreen wipers operate while the engine is off. Use this position if the vehicle must be pushed or towed.

**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. The transmission is also unlocked in this position on automatic transmission vehicles when the brake pedal is applied.

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 tone will sound when the driver door is opened, the ignition is in ACC/ACCESSORY or LOCK/OFF and the key is in the ignition.

### 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 go 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 Centre (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 5-10 seconds, especially in very cold weather (below -18°C or 0°F), it could be flooded with too much petrol. 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 petrol 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:** If you add electrical parts or accessories, you could change the way the engine operates. Any resulting damage would not be covered by the vehicle warranty. See *Add-On Electrical Equipment on page 9-58*.

### Retained Accessory Power (RAP)

The following vehicle accessories can be used for up to 10 minutes after the engine is turned off:

- Audio System
- Power Windows
- Sunroof (if equipped)

These features work when the key is in ON/RUN or ACC/ACCESSORY. Once the key is turned to LOCK/OFF, the windows and sunroof continue to work up to 10 minutes until any door is opened. The radio continues to work for up to 10 minutes or until the driver door is opened.

### Shifting Into Park

1. Hold the brake pedal down, then set the parking brake.
2. Move the shift lever into the P (Park) position by pulling the shift lever toward you and moving it up as far as it will go.
3. Turn the ignition key to LOCK/OFF.
4. 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. It could overheat and catch fire.

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly applied. The vehicle can roll.

Do not leave the vehicle when the engine is running. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park on page 9-21*. If you are towing a trailer, see *Driving Characteristics and Towing Tips on page 9-48*.

If you have to leave the vehicle with the engine running, be sure the vehicle is in P (Park) and the parking brake is firmly set. After the shift lever is moved into P (Park), hold the regular brake pedal down. Then, see if you can move the shift lever away from P (Park) without first pulling it toward you. If you can, it means that the shift lever was not fully locked into P (Park).

#### Torque Lock

If you are parking on a hill and you do not shift the transmission into P (Park) properly, the weight of the vehicle can put too much force on the parking pawl in the transmission. It might be difficult to pull the shift lever out of P (Park). This is called torque lock. To prevent torque lock, apply the parking brake and then shift into P (Park) properly before you leave the driver seat. To find out how, see *Shifting Into Park on page 9-21*.

When you are ready to drive, move the shift lever out of P (Park) before releasing the parking brake.

If torque lock does occur, you might need to have another vehicle push yours a little uphill to take some of the pressure from the parking pawl in the transmission. Then you should be able to pull the shift lever out of P (Park).

#### Shifting out of Park

This vehicle is equipped with 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) with the shift lever button fully released.
- Prevent movement of the shift lever out of P (Park), unless the ignition is in ON/RUN or ACC/ACCESSORY and the regular brake pedal is applied.

The shift lock release is always functional except in the case of an uncharged or low voltage (less than 9 volt) battery.

If the vehicle has an uncharged battery or a battery with low voltage, try charging or jump starting the battery. See *Jump Starting* on page 10-69.

To shift out of P (Park):

1. Apply the brake pedal.
2. Move the shift lever to the desired position.

If you still are unable to shift out of P (Park):

1. Ease the pressure on the shift lever.
2. While holding down the brake pedal, press the shift lever all the way into P (Park).
3. Move the shift lever to the desired position.

If you are still having a problem shifting, then have the vehicle serviced soon.

## Parking over Things That Burn

### Warning

Things that can burn could touch hot exhaust parts under the vehicle and ignite. Do not park over papers, leaves, dry grass, or other things that can burn.

## Active Fuel Management®

Vehicles with V8 engines may have Active Fuel Management. This system allows the engine to operate on either all or half of its cylinders, depending on the driving conditions.

When less power is required, such as cruising at a constant vehicle speed, the system will operate in the half cylinder mode, allowing the vehicle to achieve better fuel economy. When greater power demands are required, such as accelerating from a stop, overtaking,

or merging onto a freeway, the system will maintain full-cylinder operation.

If the vehicle has an Active Fuel Management indicator, see *Driver Information Centre (DIC)* on page 5-22 for more information on using this display.

## 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 exhaust pipes).
- The exhaust smells or sounds strange or different.
- The exhaust system leaks due to corrosion or damage.
- The vehicle exhaust system has been modified, damaged, or improperly repaired.

(Continued)

### Warning (Continued)

- There are holes or openings in the vehicle body from damage or aftermarket modifications that are not completely sealed.

If unusual fumes are detected or if it is suspected that exhaust is coming into the vehicle:

- Drive it only with the windows completely down.
- Have the vehicle repaired immediately.

Never park the vehicle with the engine running in an enclosed area such as a garage or a building that has no fresh air ventilation.

## Running the Vehicle While Parked

It is better not to park with the engine running.

If the vehicle is left with the engine running, follow the proper steps to be sure the vehicle will not move. See *Shifting Into Park* on page 9-21 and *Engine Exhaust* on page 9-24.

If parking on a hill and pulling a trailer, see *Driving Characteristics and Towing Tips* on page 9-48.

## Automatic Transmission

The vehicle has a Hydra-Matic® 6L80 automatic transmission, and has an electronic shift position indicator within the instrument panel cluster. The electronic shift position indicator displays when the shift lever is moved out of P (Park).

There are several different positions for the shift lever.

P R N D M

**P (Park):** This position locks the rear wheels. It is the best position to use when you start the engine because the vehicle cannot move easily.

When parked on a hill, especially when the vehicle has a heavy load, you may notice an increase in the effort to shift out of P (Park). See “Torque Lock” under *Shifting Into Park* on page 9-21 for more information.

### 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 applied. The vehicle can roll.

Do not leave the vehicle when the engine is running. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park).

(Continued)

### Warning (Continued)

See *Shifting Into Park* on page 9-21 and *Driving Characteristics and Towing Tips* on page 9-48.

**R (Reverse):** Use this gear to reverse.

**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 9-13.

**N (Neutral):** In this position, the engine does not connect with the wheels. To restart when you are 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 overtaking, and you are:

- Going less than about 55 km/h (35 mph), push the accelerator pedal about halfway down.
- Going about 55 km/h (35 mph) or more, push the accelerator all the way down.

By doing this, the vehicle shifts down to the next gear and has more power.

D (Drive) can be used when towing a trailer, carrying a heavy load, driving on steep hills, or for off-road driving. You may want to shift the transmission to a lower gear selection if the transmission shifts too often.

Downshifting the transmission in slippery road conditions could result in skidding, see “Skidding” under *Loss of Control on page 9-4*.

The vehicle has a shift stabilisation feature that adjusts the transmission shifting to the current driving conditions in order to reduce rapid upshifts and downshifts. This shift stabilisation feature is designed to determine, before making an upshift, if the engine will be able to maintain vehicle speed by analysing things such as vehicle speed, throttle position and vehicle load.

If the shift stabilisation feature determines that a current vehicle speed cannot be maintained, the transmission does not upshift and instead holds the current gear. In some cases, this may appear to be a delayed shift, however the transmission is operating normally.

The vehicle's transmission uses adaptive shift controls that compares key shift parameters to pre-programmed ideal shifts stored in the transmissions computer. The transmission constantly makes adjustments to improve vehicle performance according to how the vehicle is being used, such as with

a heavy load or when temperature changes. During this adaptive shift controls process, shifting may feel different as the transmission determines the best settings.

When temperatures are very cold, the Hydra-Matic® 6L80 automatic transmission's gear shifting may be delayed providing more stable shifts until the engine warms up. Shifts may be more noticeable with a cold transmission. This difference in shifting is normal.

**M (Manual Mode):** This position lets drivers select the range of gears appropriate for current driving conditions. See “Driver Shift Control (DSC)” under *Manual Mode* on page 9-27.

**Notice:** Spinning the tyres or holding the vehicle in one place on a hill using only the accelerator pedal may damage the transmission. The repair will not be covered by the vehicle warranty. If you are stuck, do not

spin the tyres. When stopping on a hill, use the brakes to hold the vehicle in place.

### Normal Mode Grade Braking

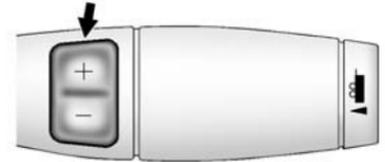
Normal Mode Grade Braking is enabled when the vehicle is started, but is not enabled in Range Selection Mode. It assists in maintaining desired vehicle speeds when driving on downhill grades by using the engine and transmission to slow the vehicle. The first time the system engages for each ignition key cycle, a DIC message will be displayed. See *Transmission Messages* on page 5-35.

To disable or enable Normal Mode Grade Braking within the current ignition key cycle, press and hold the Tow/Haul button for three seconds. A DIC message displays. See *Transmission Messages* on page 5-35.

For other forms of grade braking, see *Tow/Haul Mode* on page 9-28 and *Cruise Control* on page 9-36.

## Manual Mode

### Driver Shift Control (DSC)



The vehicle has Driver Shift Control (DSC). DSC controls the vehicle's transmission and vehicle speed while driving down hill or towing a trailer by allowing you to select a desired range of gears.

To use this feature:

1. Move the shift lever to M (Manual Mode).
2. Press the plus/minus buttons, to upshift or downshift selecting the desired range of gears for current driving conditions.

The DIC display will show the message MANUAL SHIFT on the first line and the current gear will be

displayed on the second line. The number displayed in the DIC is the highest gear that can be used. However, the vehicle can automatically shift to lower gears as it adjusts to driving conditions. This means that all gears below that number are available. When 5 (Fifth) is selected, 1 (First) through 5 (Fifth) gears are automatically shifted by the vehicle, but 6 (Sixth) cannot be used until the plus/minus button located on the steering column lever is used to change to the gear.

Grade Braking is not available when the Driver Shift Control is active. See *Tow/Haul Mode* on page 9-28.

While using the DSC, Cruise Control and the Tow/Haul Mode can be used.

### Tow/Haul Mode



The vehicle has a Tow/Haul Mode. The Tow/Haul Mode adjusts the transmission shift pattern to reduce shift cycling, providing increased performance, vehicle control, and transmission cooling when driving down steep hills and mountain gradients, towing, or hauling heavy loads.

Press the button located on the end of the shift lever to turn the tow/haul on or off. When the tow/haul is on, a light on the instrument panel cluster will come on.

See *Tow/Haul Mode Light* on page 5-19 and *Hill and Mountain Roads* on page 9-10 for more information.

Also see “Tow/Haul Mode” under *Towing Equipment* on page 9-53 for more information.

The Tow/Haul Mode works with the Autoride® feature, if the vehicle has this, to enhance the ride when trailering or with a loaded vehicle. See *Continuous Damping Control (CDC)* on page 9-35.

### Tow/Haul Mode Grade Braking (6-Speed Automatic Transmission)

This feature is only enabled while the Tow/Haul Mode is selected and the vehicle is not in the Range Selection Mode. See “Tow/Haul Mode” listed previously and *Manual Mode* on page 9-27. Tow/Haul Mode Grade Braking assists in maintaining desired vehicle speeds when driving on downhill grades by using the engine and transmission to slow the vehicle.

To disable or enable Tow/Haul Grade Braking within the current ignition key cycle, press and hold the Tow/Haul button for three seconds. A DIC message will be displayed. See *Transmission Messages* on page 5-35.

See *Towing Equipment* on page 9-53 for more information.

For other forms of grade braking, see *Automatic Transmission* on page 9-25 and *Cruise Control* on page 9-36.

## Drive Systems

### All-Wheel Drive

If the vehicle has this feature, engine power is sent to all four wheels when extra traction is needed. This is like four-wheel drive, but there is no separate lever or switch to engage or disengage the front axle. It is fully automatic, and adjusts itself as needed for road conditions.

## Brakes

### Antilock Brake System (ABS)

This vehicle has ABS, an advanced electronic braking system that helps prevent a braking skid.

When the vehicle begins to drive away, ABS checks itself. A momentary motor or clicking noise 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 5-18.

## 9-30 Driving and Operating

---

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 you steer around the obstacle while braking hard.

As the brakes are applied, the computer keeps receiving updates on wheel speed and controls braking pressure accordingly.

Remember: ABS does not change the time needed to get a foot up to the brake pedal or always decrease stopping distance. If you get too close to the vehicle in front of you, there will not be enough time to apply the brakes if that vehicle

suddenly slows or stops. Always leave enough room up ahead to stop, even with ABS.

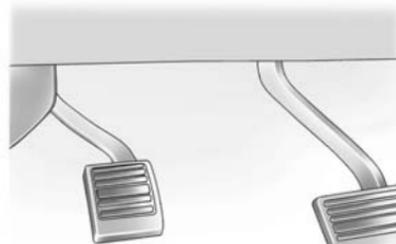
### Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly and let ABS work. You might hear the ABS pump or motor operating and feel the brake pedal pulsate, but this is normal.

### Braking in Emergencies

ABS allows you to steer and brake at the same time. In many emergencies, steering can help more than even the very best braking.

## Parking Brake



Apply the parking brake by holding the regular brake pedal down, then pushing down the parking brake pedal.

If the ignition is on, the brake system warning light will come on. See *Brake System Warning Light* on page 5-17.

**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.**

To release the parking brake, hold the regular brake pedal down, then push down momentarily on the parking brake pedal until you feel the pedal release. Slowly pull your foot up off the parking brake pedal. If the parking brake is not released when you begin to drive, the brake system warning light will flash and a chime will sound warning you that the parking brake is still on.

If you are towing a trailer and are parking on a hill, see *Driving Characteristics and Towing Tips* on page 9-48.

**Brake Assist**

This vehicle has a brake assist feature designed to assist the driver in stopping or decreasing vehicle speed in emergency driving conditions. This feature automatically uses the stability system hydraulic brake control

module to supplement the power brake system under conditions where the driver has quickly and forcefully applied the brake pedal in an attempt to quickly stop or slow down the vehicle. The stability system hydraulic brake control module increases brake pressure at each corner of the vehicle until the ABS activates. Minor brake pedal pulsation or pedal movement during this time is normal and the driver should continue to apply the brake pedal as the driving situation dictates. The brake assist feature will automatically disengage when the brake pedal is released or brake pedal pressure is quickly decreased.

**Hill Start Assist (HSA)**

This vehicle has an HSA feature, which may be useful when the vehicle is stopped on a gradient. This feature is designed to prevent the vehicle from rolling, either forward or rearward, during vehicle drive off. After you completely stop

and hold the vehicle at a complete standstill on an incline, HSA will automatically activate. During the transition period between when you release the brake pedal and start to accelerate to drive off on an incline, HSA holds the brake pressure for a maximum of two seconds to ensure that there is no rolling. The brakes will automatically release when the accelerator pedal is applied within the two-second window. If the vehicle is equipped with the Integrated Trailer Brake Control (ITBC) system, HSA may also apply the trailer brakes. It will not activate if the vehicle is in a drive gear and facing downhill or if the vehicle is facing uphill and in R (Reverse). There may be situations on minor hills (less than 5% gradient) with a loaded vehicle or while pulling a trailer where HSA will not activate.

If you release the brake pedal and then reapply the brake pedal while HSA is activated, the brake pedal typically feels firmer with less pedal travel.

### Ride Control Systems

#### StabiliTrak<sup>®</sup> System

The vehicle has a vehicle stability enhancement system called StabiliTrak. It is an advanced computer-controlled system that assists the driver with directional control of the vehicle in difficult driving conditions.

StabiliTrak activates when the computer senses a discrepancy between the intended path and the direction the vehicle is actually travelling. StabiliTrak selectively applies braking pressure at any one of the vehicle's brakes to assist the driver with keeping the vehicle on the intended path.

StabiliTrak is on automatically whenever the vehicle is started. To assist with directional control of the vehicle, the system should always be left on. Trailer Sway Control (TSC) is also on automatically when

the vehicle is started. See *Trailer Sway Control (TSC)* on page 9-57 for more information.

When the vehicle is started and begins to move, the system performs several diagnostic checks to insure there are no problems.

The system may be heard or felt while it is working. This is normal and does not mean there is a problem with the vehicle. The system should initialise before the vehicle reaches 32 km/h (20 mph). In some cases, it may take approximately 3.2 km (2 mi) of driving before the system initialises.

If cruise control is being used when StabiliTrak activates, the cruise control automatically disengages. The cruise control can be re-engaged when road conditions allow. See *Cruise Control* on page 9-36.

If the system fails to turn on or activate, the StabiliTrak light along with a message will be displayed on the Driver Information Centre (DIC).

If a DIC message appears, make sure the StabiliTrak system has not been turned off using the Traction Control System (TCS)/StabiliTrak button. Then turn the vehicle off, wait 15 seconds, and then turn it back on again to reset the system. If any of the messages still appear on the DIC, the vehicle should be taken in for service. For more information on the DIC messages, see *Ride Control System Messages* on page 5-33.



The StabiliTrak light will flash on the instrument panel cluster when the system or the TSC feature is both on and activated.

The system may be heard or felt while it is working; this is normal.



The TCS/StabiliTrak button is located on the instrument panel.

The traction control part of StabiliTrak can be turned off by pressing and releasing the TCS/StabiliTrak button if both systems (traction control and StabiliTrak) were previously on.



To disable both TCS and StabiliTrak, press and hold the TCS/StabiliTrak button until the StabiliTrak OFF light illuminates and

the appropriate DIC message displays. This will also disable the TSC feature.

Traction control and StabiliTrak can be turned on by pressing and releasing the TCS/StabiliTrak button if they are not automatically shut off for any other reason. This will also enable the TSC feature.

When the TCS or StabiliTrak system is turned off, the StabiliTrak light and the appropriate TCS off or StabiliTrak off message will be displayed on the DIC to warn the driver. The vehicle will still have brake-traction control when traction control is off, but will not be able to use the engine speed management system. See “Traction Control Operation” next for more information.

When TCS has been turned off, system noises may still be heard as a result of the brake-traction control coming on.

It is recommended to leave the system on for normal driving conditions, but it may be necessary to turn the system off if the vehicle is stuck in sand, mud, ice or snow, and you want to “rock” the 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 9-13.

When the transfer case is in 4LO, the stability system is automatically disabled, the StabiliTrak light comes on, and the appropriate message will appear on the DIC. Both traction control and StabiliTrak are automatically disabled in this condition.

### **Traction Control Operation**

TCS is part of the StabiliTrak system. Traction control limits wheel spin by reducing engine power to the wheels (engine speed management) and by applying

## 9-34 Driving and Operating

---

brakes to each individual wheel (brake-traction control) as necessary.

TCS is enabled automatically when the vehicle is started. It will activate and the StabiliTrak light will flash if it senses that any of the wheels are spinning or beginning to lose traction while driving. If traction control is turned off, only the brake-traction control portion of traction control will work. The engine speed management will be disabled. In this mode, engine power is not reduced automatically and the driven wheels can spin more freely. This can cause the brake-traction control to activate constantly.

**Notice: If the wheel(s) of one axle is allowed to spin excessively while the StabiliTrak<sup>®</sup>, ABS, brake warning lights, and any relevant DIC messages are displayed, the transfer case could be damaged. The repairs would not be covered by the vehicle warranty. Reduce engine power and do not spin the**

**wheel(s) excessively while these lights and messages are displayed.**

TCS may activate on dry or rough roads or under conditions such as heavy acceleration while turning or abrupt upshifts/downshifts of the transmission. When this happens, a reduction in acceleration may be noticed, or a noise or vibration may be heard. This is normal.

If cruise control is being used when the system activates, the StabiliTrak light will flash and cruise control will automatically disengage. Cruise control may be reengaged when road conditions allow. See *Cruise Control* on page 9-36.

StabiliTrak may also turn off automatically if it determines that a problem exists with the system. If the problem does not clear itself after restarting the vehicle, see your dealer for service.

Vehicles with StabiliTrak have a Trailer Sway Control (TSC) feature. See *Trailer Sway Control (TSC)* on page 9-57.

Vehicles with StabiliTrak have a Hill Start Assist (HSA) feature. See *Hill Start Assist (HSA)* on page 9-31.

Adding non-dealer accessories can affect the vehicle's performance. See *Accessories and Modifications* on page 10-2.

### Locking Rear Axle

Vehicles with a locking rear axle can give more traction on snow, mud, ice, sand, or gravel. It works like a standard axle most of the time, but when traction is low, this feature will allow the rear wheel with the most traction to move the vehicle.

## Road Sensing Suspension

The Road Sensing Suspension (RSS) feature provides superior vehicle ride and handling under a variety of passenger and loading conditions.

The system is fully automatic and uses a computer controller to continuously monitor vehicle speed, wheel to body position, lift/dive and steering position of the vehicle. The controller then sends signals to each shock absorber to independently adjust the damping level to provide the optimum vehicle ride.

RSS also interacts with the tow/haul mode that, when engaged, will provide additional control of the shock absorbers. This additional control results in better ride and handling characteristics when the vehicle is loaded or towing a trailer. See "Tow/Haul Mode" under *Towing Equipment* on page 9-53.

## Continuous Damping Control (CDC)

This vehicle may have a continuous damping control system called Autoride<sup>®</sup> or MagneRide<sup>™</sup>. With this feature, improved vehicle ride and handling is provided under a variety of passenger and loading conditions.

Autoride and MagneRide are fully automatic and use a computer controller to continuously monitor vehicle speed, wheel to body position, lift/dive and steering position of the vehicle. The controller then sends signals to each shock absorber to independently adjust the damping level to provide the optimum vehicle ride.

Autoride and MagneRide also interact with the tow/haul mode that, when activated, will provide additional control of the shock absorbers. This additional control results in better ride and handling characteristics when the vehicle is

loaded or towing a trailer. See "Tow/Haul Mode" under *Trailer Towing* on page 9-50.

## Automatic Level Control

The automatic level control rear suspension is available on light-duty vehicles and comes as a part of the Continuous Damping Control (CDC) suspension, if equipped.

This type of level control is fully automatic and will provide a better levelled riding position as well as better handling under a variety of passenger and loading conditions. An air compressor connected to the rear shocks will raise or lower the rear of the vehicle to maintain proper vehicle height. The system is activated when the ignition key is turned to ON/RUN and will automatically adjust vehicle height thereafter. The system may exhaust (lower vehicle height) for up to ten minutes after the ignition key

has been turned off. You may hear the air compressor operating when the height is being adjusted.

If a weight-distributing hitch is being used, it is recommended to allow the shocks to inflate, thereby levelling the vehicle prior to adjusting the hitch.

### Cruise Control

 **Warning**

Cruise control can be dangerous where you cannot drive safely at a steady speed. Do not use the cruise control on winding roads or in heavy traffic.

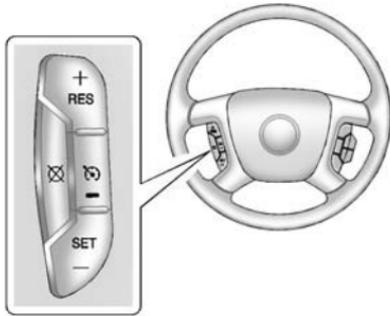
Cruise control can be dangerous on slippery roads. On such roads, fast changes in tyre traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.

With cruise control, a speed of about 40 km/h (25 mph) or more can be maintained without keeping your foot on the accelerator. Cruise control does not work at speeds below about 40 km/h (25 mph).

When the brakes are applied, cruise control is turned off.

This vehicle has a Hydra-Matic 6-speed automatic transmission, see Gradient Braking under *Tow/Haul Mode* on page 9-28 for an explanation of how cruise control interacts with the Range Selection Mode, tow/haul and gradient braking systems.

This vehicle has StabiliTrak and when the system begins to limit wheel spin, the cruise control will automatically disengage. See *StabiliTrak® System* on page 9-32. When road conditions allow the cruise control to be safely used again, it can be turned back on.



**(On/Off):** Press to turn the system on or off. A white cruise control indicator comes on when cruise control is on and turns off when cruise control is off.

**+ RES (Resume/Accelerate):** Press briefly to make the vehicle resume to a previously set speed, or press and hold to accelerate.

**SET - (Set/Coast):** Press to set the speed and activate cruise control or make the vehicle decelerate.

**(Cancel):** Press to disengage cruise control without erasing the set speed from memory.

### Setting Cruise Control

If the cruise button is on when not in use, it could get bumped and go into cruise when not desired. Keep the cruise control switch off when cruise is not being used.

The cruise control light on the instrument panel cluster comes on green after the cruise control has been set to the desired speed.

1. Press the  button.
2. Get up to the desired speed.
3. Press the SET- button located on the steering wheel and release it.
4. Take your foot off the accelerator.

### Resuming a Set Speed

If the cruise control is set at a desired speed and then the brakes are applied, the cruise control is disengaged without erasing the set speed from memory.

Once the vehicle speed reaches about 40 km/h (25 mph) or more, press the +RES button on the steering wheel. The vehicle returns to the previous set speed and stays there.

### Increasing Speed While 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 amounts, 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 desired lower speed is reached, then release it.
- To slow down in small amounts, press the SET- button on the steering wheel briefly. Each time this is done, the vehicle goes about 1.6 km/h (1 mph) slower.

### Overtaking Another Vehicle While Using Cruise Control

Use the accelerator pedal to increase the vehicle speed. When you take your foot off the pedal, the vehicle will slow down to the previous set cruise speed.

### Using Cruise Control on Hills

How well the cruise control works on hills depends on the vehicle speed, the load, and the steepness of the hills. When going up steep

hills, pressing the accelerator pedal may be necessary to maintain vehicle speed. When going downhill, Cruise Grade Braking helps maintain the driver selected speed.

Cruise Grade Braking is enabled when the vehicle is started and Cruise Control is active. It is not enabled in Range Selection Mode. It assists in maintaining driver selected speed when driving on downhill grades by using the engine and transmission to slow the vehicle.

To disable and enable Cruise Grade Braking for the current ignition key cycle, press and hold the Tow/Haul button for three seconds. A DIC message displays. See *Transmission Messages on page 5-35*.

For other forms of Grade Braking, see *Automatic Transmission on page 9-25* and *Tow/Haul Mode on page 9-28*.

### Ending Cruise Control

There are three ways to end cruise control:

- To disengage cruise control, step lightly on the brake pedal.
- Press  on the steering wheel.
- To turn off the cruise control, press  on the steering wheel.

### Erasing Speed Memory

The cruise control set speed is erased from memory by pressing the  button or if the ignition is turned off.

## Object Detection Systems

### Ultrasonic Parking Assist

If available, the Ultrasonic Rear Parking Assist (URPA) system uses sensors on the rear bumper to assist with parking and avoiding objects while in R (Reverse).

#### Warning

The URPA system does not detect children, pedestrians, bicyclists, animals, or objects below the bumper or that are too close or too far from the vehicle. It is not available at speeds greater than 8 km/h (5 mph). To prevent injury, death, or vehicle damage, even with URPA, always check the area around the vehicle and check all mirrors before reversing.

### How the System Works

URPA comes on automatically when the shift lever is moved into R (Reverse). A single beep sounds to indicate the system is working.

URPA operates only at speeds less than 8 km/h (5 mph).

An obstacle is indicated by audible beeps. The interval between the beeps becomes shorter as the vehicle gets closer to the obstacle. A continuous tone is heard when the distance is less than 30 cm (12 in).

To be detected, objects must be at least 25 cm (10 in) off the ground and below tailgate level. Objects must also be within 2.5 m (8 ft) from the rear bumper. This distance may be less during warmer or humid weather.

### Turning the System On and Off



Press this button, located next to the radio, to disable URPA.

The indicator light will come on and PARKING ASSIST OFF displays on the Driver Information Centre (DIC). See *Object Detection System Messages on page 5-31*.

### When the System Does Not Seem to Work Properly

The following messages may be displayed on the DIC:

**SERVICE PARKING ASSIST:** If this message occurs, take the vehicle to your dealer for repair.

**PARKING ASSIST OFF:** This message occurs if the driver disables the system or if the vehicle is driven above 8 km/h (5 mph) in R (Reverse).

**PARKING ASSIST BLOCKED SEE OWNERS MANUAL:** This message can occur under the following conditions:

- The ultrasonic sensors are not clean. Keep the vehicle's rear bumper free of mud, dirt, snow, ice, slush, and frost. The message may not clear until frost or ice has melted all around and inside the sensor.
- A trailer is attached to the vehicle, or a bicycle or an object was hanging out of the tailgate during the current or last drive cycle. URPA will return to normal operation after it is determined the object is removed. This could take a few drive cycles.
- A tow bar is attached to the vehicle.

Other conditions may affect system performance, such as vibrations from a pneumatic drill or the compression of air brakes on a very large truck.

### Side Blind Zone Alert (SBZA)

If equipped, the Side Blind Zone Alert system is a lane-changing aid that assists drivers with avoiding crashes that occur with vehicles in the side blind zone (or spot) areas. The SBZA warning display will light up in the corresponding outside side mirror and will flash if the indicator is on.

#### Warning

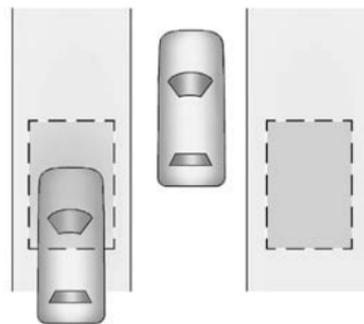
SBZA does not alert the driver to vehicles rapidly approaching outside of the side blind zones, pedestrians, bicyclists, or animals. It may not provide alerts when changing lanes under

(Continued)

#### Warning (Continued)

all driving conditions. Failure to use proper care when changing lanes may result in injury, death, or vehicle damage. Before making a lane change, always check mirrors, glance over your shoulder, and use the indicators.

#### SBZA Detection Zones

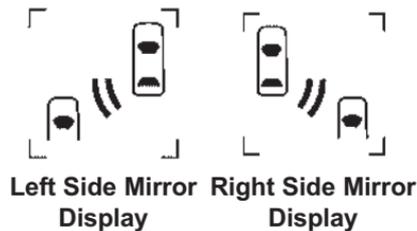


The SBZA sensor covers a zone of approximately one lane over from both sides of the vehicle, or 3.5 m

(11 ft). The height of the zone is approximately between 0.5 m (1.5 ft) and 2 m (6 ft) off the ground. This zone starts at approximately the middle of the vehicle and goes back 5 m (16 ft).

### How the System Works

The SBZA symbol lights up in the side mirrors when the system detects a vehicle in the next lane over that is in the side blind zone. This indicates it may be unsafe to change lanes. Before making a lane change, check the SBZA display, check mirrors, glance over your shoulder, and use the indicators.



When the vehicle is started, both outside mirror SBZA displays will briefly come on to indicate the system is operating. When the vehicle is moving forward, the left- or right-side mirror display will light up if a vehicle is detected in that blind zone. If the indicator is activated in the same direction of a detected vehicle, this display will flash as an extra warning not to change lanes.

SBZA can be disabled through the Driver Information Centre (DIC). See *Driver Information Centre (DIC)* on page 5-22. If SBZA is disabled by the driver, the SBZA mirror displays will not light up.

### When the System Does Not Seem to Work Properly

SBZA displays may not come on when passing a vehicle quickly or when towing a trailer. Keep in mind the SBZA detection zones that extend back from the side of the vehicle do not move further back when a trailer is towed. Use extra

caution while changing lanes when towing a trailer. SBZA may alert you to objects attached to the vehicle, such as a trailer, bicycle, or object extending out to either side of the vehicle. This is normal system operation; the vehicle does not need service.

SBZA may not always alert the driver to vehicles in the side blind zone, especially in wet conditions. The system does not need to be serviced. The system may light up due to guardrails, signs, trees, shrubs, and other non-moving objects. This is normal system operation; the vehicle does not need service.

SBZA may not operate when the SBZA sensors in the left or right corners of the rear bumper are covered with mud, dirt, snow, ice, or slush, or in heavy rainstorms. For cleaning instructions, see "Washing the Vehicle" under *Exterior Care* on page 10-74. If the DIC still displays the SIDE BLIND ZONE SYSTEM UNAVAILABLE message after

cleaning both sides of the vehicle toward the rear corners of the vehicle, see your dealer.

If the SBZA displays do not light up when vehicles are in the blind zone and the system is clean, the system may need service. Take the vehicle to your dealer.

When SBZA is disabled for any reason other than the driver turning it off, the Side Blind Zone Alert ON option will not be available on the DIC menu.

### Declaration of Conformity

See *Declaration of Conformity* on page 13-1.

### Rear Vision Camera (RVC)

If available, the Rear Vision Camera (RVC) system displays part of the scene behind the vehicle.

#### Warning

The RVC system does not display children, pedestrians, bicyclists, animals, or any other object located outside the camera's field of view, below the bumper, or under the vehicle. Perceived distances may be different from actual distances. Do not reverse the vehicle using only the RVC screen, during longer, higher speed reversing manoeuvres, or where there could be cross traffic. Failure to use proper care before reversing may result in injury, death, or vehicle damage. Always check behind and around the vehicle before reversing.

### Turning the RVC System On or Off

The RVC system is designed to help the driver when reversing by displaying a view of the area behind the vehicle. When the vehicle is

shifted into R (Reverse), the video image appears on the navigation screen. After a delay, the navigation screen displays the last screen after the vehicle is shifted out of R (Reverse).

To turn the RVC system on or off:

1. Shift into P (Park).
2. Press the CONFIG hard key to enter the configure menu options, then press the CONFIG hard key to select Display or touch the Display screen button.
3. Select the Rear Camera Options screen button. The Rear Camera Options screen displays.
4. Select the Video screen button. When the Video screen button is highlighted the RVC system is on.

The delay that is received after shifting out of R (Reverse) is approximately 10 seconds. To return to the previous screen sooner, do one of the following:

- Press a hard key on the navigation system.
- Shift in to P (Park).
- Reach a vehicle speed of 8 km/h (5 mph).

### Symbols & Guidelines

The navigation system may have a feature that allows for viewing parking assist symbols on the navigation screen while using the RVC. The Ultrasonic Rear Park Assist (URPA) system must not be disabled to use the caution symbols. If URPA has been disabled and the symbols have been turned on, the Rear Parking Assist Symbols Unavailable error message may display. See *Ultrasonic Parking Assist on page 9-39*.

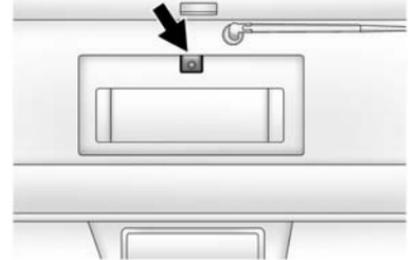
The symbols appear near objects detected by the URPA system. The symbol may cover the object when viewing the navigation screen.

The RVC system may have a guideline overlay that can help the driver align the vehicle when reversing into a parking spot.

To turn the symbols or guidelines on or off:

1. Make sure that URPA has not been disabled.
2. Shift into P (Park).
3. Press the CONFIG hard key to enter the configure menu options, then press the CONFIG hard key to select Display or touch the Display screen button.
4. Select the Rear Camera Options screen button. The Rear Camera Options screen displays.
5. Touch the Symbols or Guidelines screen button. The screen button will be highlighted when on.

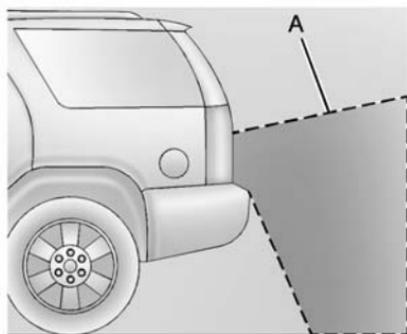
### RVC Location



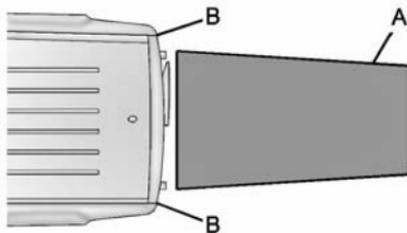
The camera is located above the licence plate.

This shows the field of view that the camera provides.

## 9-44 Driving and Operating



A. View displayed by the camera



A. View displayed by the camera

B. Corners of the rear bumper

Displayed images may be further or closer than they appear. The area displayed is limited and objects which are close to either corner of the bumper or under the bumper do not display.

### When the System Does Not Seem To Work Properly

The RVC system might not work properly or display a clear image if:

- The RVC is turned off. See "Turning the RVC System On or Off" earlier in this section.
- It is dark.
- The sun or the beam of headlamps is shining directly into the camera lens.
- Ice, snow, mud, or anything else builds up on the camera lens. Clean the lens, rinse it with water, and wipe it with a soft cloth.

- The back of the vehicle is in an accident, the position and mounting angle of the camera can change or the camera can be affected. Be sure to have the camera and its position and mounting angle checked at your dealer.

## Fuel

Use the recommended fuel for proper vehicle maintenance.

### Recommended Fuel

Use premium unleaded petrol with a stated octane rating of 97 RON or higher. Regular unleaded petrol rated 95 RON or higher can be used, but acceleration could be reduced, and an audible knocking noise may be heard. If the octane is less than 97 RON, a heavy knocking noise may be heard. If this occurs, use a petrol rated at 97 RON or higher as soon as possible. Otherwise, the engine could be damaged. If heavy knocking is heard when using petrol rated at 97 RON or higher, the engine needs service.

### Use of Seasonal Fuels

Use summer and winter fuels in the appropriate season. Driving or starting could be affected if the incorrect fuel is used. Drive the

vehicle with the engine running until the fuel is a half tank or less, then refuel with the current seasonal fuel.

### Prohibited Fuels

Petrols containing oxygenates, such as ethers and ethanol, as well as reformulated petrols are available in some cities. If these petrols comply with the previously described specification, then they are acceptable to use. However, E85 (85% ethanol) and other fuels containing more than 15% ethanol must be used only in flex fuel vehicles.

**Notice: 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 petrols that are not reformulated for low emissions can contain an octane-enhancing additive called methylcyclopentadienyl manganese

tricarbonyl (MMT). Do not use petrols with MMT as they can reduce spark plug life and affect emission control system performance. The malfunction indicator lamp may turn on. If this occurs, see your dealer for service.

### Fuel Additives

Petrol should contain detergent additives that help prevent engine and fuel system deposits from forming. Clean fuel injectors and intake valves will allow the emission control system to work properly. Some petrol does not contain sufficient quantities of additive to keep fuel injectors and intake valves clean. To make up for this lack of detergency, add Fuel System Treatment PLUS, part number 88861013 to the fuel tank at every engine oil change or every 15 000 km, whichever occurs first.

## Filling the Tank

### Warning

Fuel vapours and fuel fires burn violently and can cause injury or death.

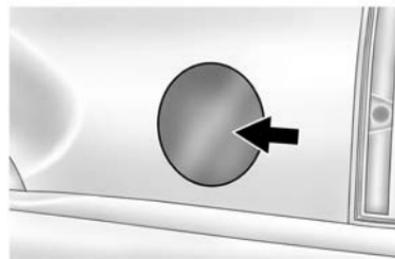
- To help avoid injuries to you and others, read and follow all the instructions on the fuel pump island.
- Turn off the engine when refuelling.
- Keep sparks, flames, and smoking materials away from fuel.
- Do not leave the fuel pump unattended.
- Do not reenter the vehicle while pumping fuel.
- Keep children away from the fuel pump and never let children pump fuel.

(Continued)

### Warning (Continued)

- Fuel can spray out if the fuel cap is opened too quickly. This spray can happen if the tank is nearly full, and is more likely in hot weather. Open the fuel cap slowly and wait for any hiss noise to stop then unscrew the cap all the way

The tethered fuel cap is behind a hinged fuel door on the driver side of the vehicle. To open the fuel door, push the rearward centre edge in and release and it will open.



To remove the fuel cap, turn it slowly anticlockwise. The fuel cap has a spring in it; if the cap is released too soon, it will spring back to the right.

While refuelling, hang the tethered fuel cap from the hook on the fuel door.

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 10-74.

When replacing the fuel cap, insert the tether in its hole before tightening the cap. Turn the fuel cap clockwise until it clicks. It will require more effort to turn the fuel cap on the last turn as you tighten it. 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 5-15*.

If the vehicle has a Driver Information Centre (DIC), the TIGHTEN GAS CAP message displays if the fuel cap is not properly installed.

### Warning

If a fire starts while you are refuelling, 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 you need a new fuel cap, be sure to get the right type. Your dealer can get one for you. If you get the wrong type, it may not fit properly. This may cause the malfunction indicator lamp to light and may damage the fuel tank and emissions system. See *Malfunction Indicator Lamp on page 5-15*.

## Filling a Portable Fuel Container

### Warning

Filling a portable fuel container while it is in the vehicle can cause fuel vapours that can ignite either by static electricity or other means. You or others could be badly burned and the vehicle could be damaged. Always:

- Use approved fuel containers.

(Continued)

### Warning (Continued)

- Remove the container from the vehicle, boot, or pickup bed before filling.
- Place the container on the ground.
- Place the nozzle inside the fill opening of the container before dispensing fuel, and keep it in contact with the fill opening until filling is complete.
- Fill the container no more than 95% full to allow for expansion.
- Do not smoke, light matches, or use lighters while pumping fuel.
- Avoid using mobile phones or other electronic devices.

## Towing

### General Towing Information

Only use towing equipment that has been designed for the vehicle. Contact your dealer or trailering dealer for assistance with preparing the vehicle for towing a trailer. Read the entire section before towing a trailer.

For towing a disabled vehicle, see *Towing the Vehicle on page 10-74*. For towing the vehicle behind another vehicle such as a motor home, see *Recreational Vehicle Towing on page 10-74*.

### Driving Characteristics and Towing Tips

#### Driving with a Trailer

When towing a trailer:

- Become familiar with the state and local laws that apply to trailer towing.

- Do not tow a trailer during the first 800 km (500 mi) to prevent damage to the engine, axle, or other parts.
- Then during the first 800 km (500 mi) of trailer towing, do not drive over 80 km/h (50 mph) and do not make starts at full throttle.
- Vehicles can tow in D (Drive). Shift the transmission to a lower gear if the transmission shifts too often under heavy loads and/or hilly conditions.

#### **Warning**

When towing a trailer, exhaust gases may collect at the rear of the vehicle and enter if the tailgate, boot/hatch, or rear-most window is open.

When towing a trailer:

- Do not drive with the tailgate, boot/hatch, or rear-most window open.

(Continued)

#### **Warning (Continued)**

- Fully open the air outlets on or under the instrument panel.
- Also adjust the climate control system to a setting that brings in only outside air. See “Climate Control Systems” in the Index.

For more information about Carbon Monoxide, see *Engine Exhaust on page 9-24*.

Towing a trailer requires a certain amount of experience. The combination you are driving is longer and not as responsive as the vehicle itself. Get acquainted with the handling and braking of the rig before setting out for the open road.

Before starting, check all trailer hitch parts and attachments, safety chains, electrical connectors, lamps, tyres, and mirrors. If the trailer has electric brakes, start the

combination moving and then apply the trailer brake controller by hand to be sure the brakes work.

During the trip, check occasionally to be sure that the load is secure and the lamps and any trailer brakes still work.

### 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 heavy braking and sudden turns.

### Overtaking

More overtaking distance is needed when towing a trailer. The combination will not accelerate as quickly and is longer so it is necessary to go much farther beyond the passed vehicle before returning to the lane.

### Reversing

Hold the bottom of the steering wheel with one hand. To move the trailer to the left, move that hand to

the left. To move the trailer to the right, move your hand to the right. Always reverse 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 manoeuvres. Signal well in advance.

If the trailer indicator bulbs burn out, the arrows on the instrument cluster will still flash for turns. It is important to check occasionally to be sure the trailer bulbs are still working.

### Driving on Grades

Reduce speed and shift to a lower gear *before* starting down a long or steep downgrade. If the transmission is not shifted down, the brakes might get hot and no longer work well.

Vehicles can tow in D (Drive). Shift the transmission to a lower gear if the transmission shifts too often under heavy loads and/or hilly conditions.

The Tow/Haul Mode may be used if the transmission shifts too often. See *Tow/Haul Mode on page 9-28*.

When towing at high altitude on steep uphill grades, consider the following: Engine coolant will boil at a lower temperature than at normal altitudes. If the engine is turned off immediately after towing at high altitude on steep uphill grades, the vehicle may show signs similar to engine overheating. To avoid this, let the engine run while parked, preferably on level ground, with the automatic transmission in P (Park)

## 9-50 Driving and Operating

for a few minutes before turning the engine off. If the overheat warning comes on, see *Engine Overheating on page 10-17*.

### 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 regular brakes until the chocks absorb the load.
4. Reapply the brake pedal. Then apply the parking brake and shift into P (Park).
5. Release the brake pedal.

### Leaving After Parking on a Hill

1. Apply and hold the brake pedal.
2. Start the engine.
3. Shift into a gear.
4. Release the parking brake.
5. Release the brake pedal.
6. Drive slowly until the trailer is clear of the chocks.
7. Stop and have someone pick up and store the chocks.

### Maintenance when Trailer Towing

The vehicle needs service more often when pulling a trailer. See the Maintenance Schedule booklet. Things that are especially important

in trailer operation are automatic transmission fluid, engine oil, axle lubricant, 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.

### Trailer Towing

Do not tow a trailer during running-in. See *New Vehicle Run-In on page 9-17*.

#### 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

(Continued)

**Warning (Continued)**

also be damaged; the resulting repairs would not be covered by the vehicle warranty. Pull a trailer only if all the steps in this section have been followed. Ask your dealer for advice and information about towing a trailer with the vehicle.

**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.

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 your safety and that of your passengers. So please read this section carefully before pulling a trailer.

**Weight of the Trailer**

How heavy can a trailer safely be?

It depends on how the rig is used. 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.

Trailer weight rating (TWR) is calculated assuming the tow vehicle has only the driver but all required trailering equipment. Weight of additional optional equipment, passengers and cargo in the tow vehicle must be subtracted from the trailer weight rating.

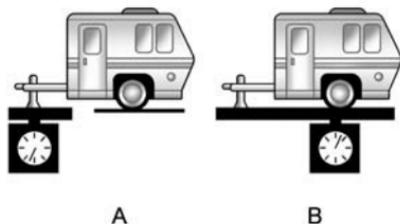
Ask your dealer for trailering information or advice.

**Weight of the Trailer Tongue**

The tongue load (A) of any trailer is very important because it is also part of the vehicle weight. The Gross Vehicle Weight (GVW) includes the curb weight of the vehicle, any cargo carried in it, and the people who will be riding in the vehicle as well as trailer tongue weight. Vehicle options, equipment, passengers and cargo in the vehicle reduce the amount of tongue weight the vehicle can carry, which will also reduce the trailer weight the vehicle

## 9-52 Driving and Operating

can tow. See *Vehicle Load Limits* on page 9-14 for more information about the vehicle's maximum load capacity.



Trailer tongue weight (A) should be 10 percent to 15 percent and fifth wheel or goose-neck kingpin weight should be 15 to 25 percent of the loaded trailer weight (B) up to the maximums for vehicle series and hitch type shown below:

Hitch Type	Maximum Tongue Weight
Weight Carrying	272 kg (600 lbs)
Weight Distributing	453 kg (1,000 lbs)

Do not exceed the maximum allowable tongue weight for the vehicle. Choose the shortest hitch extension that will position the hitch ball closest to the vehicle. This will help reduce the effect of trailer tongue weight on the rear axle.

Trailer rating may be limited by the vehicle's ability to carry tongue weight. Tongue or kingpin weight cannot cause the vehicle to exceed the GVWR (Gross Vehicle Weight Rating) or the RGAWR (Rear Gross Axle Weight Rating). See "Total Weight on the Vehicle's Tyres" following.

After loading the trailer, weigh the trailer and then the tongue, separately, to see if the weights are

proper. If they are not, adjustments might be made by moving some items around in the trailer.

### Total Weight on the Vehicle's Tyres

Be sure the vehicle's tyres are inflated to the inflation pressures found on the Certification label on the driver side rear door or see *Vehicle Load Limits* on page 9-14 for more information. Make sure not to exceed the GVWR limit for the vehicle, or the RGAWR, with the tow vehicle and trailer fully loaded for the trip including the weight of the trailer tongue. If using a weight distributing hitch, make sure not to exceed the RGAWR before applying the weight distribution spring bars.

## Weight of the Trailering Combination

It is important that the combination of the tow vehicle and trailer does not exceed any of its weight ratings - GCWR, GVWR, RGAWR, Trailer Weight Rating or Tongue Weight. The only way to be sure it is not exceeding any of these ratings is to weigh the tow vehicle and trailer combination, fully loaded for the trip, getting individual weights for each of these items.

## Towing Equipment

### Hitches

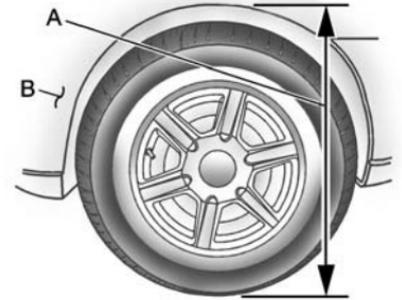
The correct hitch equipment helps maintain combination control. Many trailers can be towed with a weight carrying hitch which simply features a coupler latched to the hitch ball, or a tow eye latched to a pintle hook. Other trailers may require a weight distributing hitch that uses spring bars to distribute the trailer tongue weight among the two

vehicle and trailer axles. See "Weight of the Trailer Tongue" in *Trailer Towing* on page 9-50 for rating limits with various hitch types.

If a step-bumper hitch will be used, the bumper could be damaged in sharp turns. Make sure there is ample room when turning to avoid contact between the trailer and the bumper.

Consider using sway controls with any trailer. Ask a trailering professional about sway controls or refer to the trailer manufacturer's recommendations and instructions.

## Weight-Distributing Hitch Adjustment

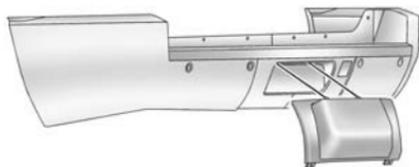


- A. Body to Ground Distance
- B. Front of Vehicle

When using a weight-distributing hitch, the spring bars should be adjusted so the distance (A) is the same after coupling the trailer to the tow vehicle and adjusting the hitch.

### Hitch Cover (without Dual Exhaust)

The vehicle may have a hitch cover. To remove the hitch cover:



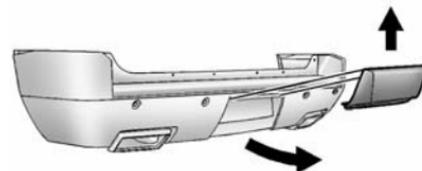
1. Turn the fasteners on the lower tabs 90 degrees anticlockwise.
2. Lift the lower edge of the cover about 45 degrees.
3. Pull the cover downward to disengage the upper attachments.

To reinstall the hitch cover:

1. Hold the cover at a 45 degree angle to the vehicle and push the upper tabs in the hitch cover into the chrome slots in the fascia.
2. Move the bottom of the cover forward until the lower tabs line up with the lower fascia slots.
3. Snap the hitch cover into place by pushing the upper corners forward.
4. Turn the fasteners on the lower tabs 90 degrees clockwise to lock the cover in place.

### Hitch Cover (with Dual Exhaust)

To remove the hitch cover:



1. Turn the fasteners on the lower tabs 90 degrees anticlockwise.
2. Pull the lower edge of the cover out slightly.
3. Lift the cover up off the upper bracket.

To reinstall the hitch cover:

1. Insert the tabs on the hitch cover into the slots in the upper bracket.
2. Move the bottom of the cover forward.

- Turn the fasteners on the lower tabs 90 degrees clockwise to lock the cover in place.

### Safety Chains

Always attach chains between the vehicle and the trailer. Cross the safety chains under the tongue of the trailer to help prevent the tongue from contacting the road if it becomes separated from the hitch. Instructions about safety chains may be provided by the hitch manufacturer or by the trailer manufacturer. Safety chains should be attached to holes on the trailer hitch platform. Always leave just enough slack so the combination can turn. Never allow safety chains to drag on the ground.

### Trailer Brakes

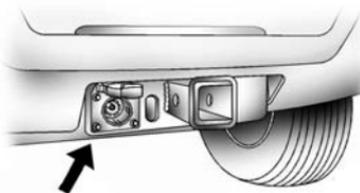
A loaded trailer that weighs more than 900 kg (2,000 lbs) needs to have its own brake system that is adequate for the weight of the trailer. Be sure to read and follow

the instructions for the trailer brakes so they are installed, adjusted and maintained properly.

Do not tap into the vehicle's hydraulic system.

### Trailer Wiring Harness

#### Heavy-Duty Trailer Wiring Harness Package



The vehicle has a seven-pin universal heavy-duty trailer connector attached to the rear bumper beam next to the integrated trailer hitch.

The seven-wire harness contains the following trailer circuits:

- Yellow: Left Stop/Indication
- Dark Green: Right Stop/Indication
- Brown: Tail lamps
- White: Ground
- Light Green: Reversing Lamps
- Red: Battery Feed\*
- Dark Blue: Trailer Brake\*

\*The fuses for these two circuits are installed in the underbonnet electrical centre, but the wires are not connected. They should be connected by your dealer or a qualified service centre.

If charging a remote (non-vehicle) battery, press the tow/haul mode button located at the end of the gear lever. This will boost the vehicle system voltage and properly charge the battery. If the trailer is too light for tow/haul mode, turn on the

## 9-56 Driving and Operating

headlamps as a second way to boost the vehicle system and charge the battery.

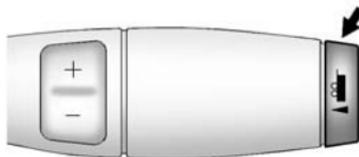
### Electric Brake Control Wiring Provisions

These wiring provisions are included with the vehicle as part of the trailer wiring package. These provisions are for an electric brake controller. The instrument panel contains blunt cut wires near the data link connector for the trailer brake controller. The harness contains the following wires:

- Dark Blue: Brake Signal to Trailer Connector
- Red/Black: Battery
- Light Blue/White: Brake Switch
- White: Ground

It should be installed by your dealer or a qualified service centre.

### Tow/Haul Mode



Pressing this button at the end of the gear shift lever turns on and off the tow/haul mode.



This indicator light on the instrument panel cluster comes on when the tow/haul mode is on.

Tow/Haul is a feature that assists when pulling a heavy trailer or a large or heavy load. See *Tow/Haul Mode on page 9-28* for more information.

Tow/Haul is designed to be most effective when the vehicle and trailer combined weight is at least 75 percent of the vehicle's Gross Combined Weight Rating (GCWR). See "Weight of the Trailer" in *Trailer Towing on page 9-50*. Tow/Haul is most useful under the following driving conditions:

- When pulling a heavy trailer or a large or heavy load through rolling terrain.
- When pulling a heavy trailer or a large or heavy load in stop and go traffic.
- When pulling a heavy trailer or a large or heavy load in busy parking lots where improved low speed control of the vehicle is desired.

Operating the vehicle in Tow/Haul when lightly loaded or with no trailer at all will not cause damage. However, there is no benefit to the selection of Tow/Haul when the vehicle is unloaded. Such a selection when unloaded may result

in unpleasant engine and transmission driving characteristics and reduced fuel economy. Tow/Haul is recommended only when pulling a heavy trailer or a large or heavy load.

## Trailer Sway Control (TSC)

Vehicles with StabiliTrak have a TSC feature. Trailer sway is unintended side-to-side motion of a trailer while being towed. If the vehicle is towing a trailer and the TSC detects that sway is increasing, the vehicle brakes are selectively applied at each wheel, to help reduce excessive trailer sway. If the vehicle is equipped with the Integrated Trailer Brake Control (ITBC) system, and the trailer has the electric actuated brake system, StabiliTrak may also apply the trailer brakes.

If TSC is enabled, the Traction Control System (TCS)/StabiliTrak warning light will flash on the

instrument cluster. Vehicle speed must be reduced. If trailer sway continues, StabiliTrak can reduce engine torque to help slow the vehicle. See *StabiliTrak® System on page 9-32*.

### Warning

Even if the vehicle is equipped with TSC, trailer sway could result in loss of control and the vehicle could crash. If excessive trailer sway is detected, slow down to a safe speed. Check the trailer and vehicle to help correct possible causes. These could include an improperly or overloaded trailer, unrestrained cargo, improper trailer hitch configuration, excessive vehicle-trailer speed, or improperly inflated or incorrect vehicle or trailer tyres. See *Towing Equipment on page 9-53* for trailer ratings and hitch setup recommendations.

Adding non-dealer accessories can affect the vehicle performance. See *Accessories and Modifications on page 10-2*.

## Conversions and Add-Ons

### Add-On Electrical Equipment

**Notice:** Some electrical equipment can damage the vehicle or cause components to not work and would not be covered by the warranty. Always check with your dealer before adding electrical equipment.

Add-on equipment can drain the vehicle's 12-volt battery, even if the vehicle is not operating.

The vehicle has an airbag system. Before attempting to add anything electrical to the vehicle, see *Servicing the Airbag-Equipped Vehicle* on page 3-35 and *Adding Equipment to the Airbag-Equipped Vehicle* on page 3-35.

## Vehicle Care

### General Information

General Information .....	10-2
Accessories and Modifications .....	10-2

### Vehicle Checks

Doing Your Own Service Work .....	10-3
Bonnet .....	10-3
Engine Compartment Overview .....	10-5
Engine Oil .....	10-6
Engine Oil Life System .....	10-9
Automatic Transmission Fluid .....	10-9
Engine Air Cleaner/Filter .....	10-12
Cooling System .....	10-13
Engine Coolant .....	10-14
Engine Overheating .....	10-17
Overheated Engine Protection Operating Mode .....	10-19
Engine Fan .....	10-19
Power Steering Fluid .....	10-20
Washer Fluid .....	10-20
Brakes .....	10-21

Brake Fluid .....	10-22
Battery .....	10-24
All-Wheel Drive .....	10-25
Front Axle .....	10-25
Rear Axle .....	10-26
Starter Switch Check .....	10-27
Automatic Transmission Shift Lock Control Function Check .....	10-27
Ignition Transmission Lock Check .....	10-28
Park Brake and P (Park) Mechanism Check .....	10-28
Wiper Blade Replacement .....	10-28
Glass Replacement .....	10-29

### Headlamp Aiming

Headlamp Aiming .....	10-30
-----------------------	-------

### Bulb Replacement

Bulb Replacement .....	10-30
High Intensity Discharge (HID) Lighting .....	10-30
LED Lighting .....	10-30
Back-Up Lamps .....	10-30
Number Plate Lamp .....	10-31
Replacement Bulbs .....	10-32

### Electrical System

Electrical System Overload .....	10-32
Fuses and Circuit Breakers .....	10-33
Engine Compartment Fuse Block .....	10-33
Instrument Panel Fuse Block .....	10-37

### Wheels and Tyres

Tyres .....	10-40
All-Season Tyres .....	10-41
Winter Tyres .....	10-42
Summer Tyres .....	10-42
All-Terrain Tyres .....	10-42
Tyre Pressure .....	10-43
Tyre Pressure for High-Speed Operation .....	10-44
Tyre Pressure Monitor System .....	10-44
Tyre Pressure Monitor Operation .....	10-45
Tyre Inspection .....	10-48
Tyre Rotation .....	10-49
When It Is Time for New Tyres .....	10-50
Buying New Tyres .....	10-51

## 10-2 Vehicle Care

---

Different Size Tyres and Wheels .....	10-53
Wheel Alignment and Tyre Balance .....	10-53
Wheel Replacement .....	10-53
Tyre Chains .....	10-54
If a Tyre Goes Flat .....	10-55
Tyre Changing .....	10-56
Secondary Latch System ...	10-66
Full-Size Spare Tyre .....	10-69
<b>Jump Starting</b>	
Jump Starting .....	10-69
<b>Towing</b>	
Towing the Vehicle .....	10-74
Recreational Vehicle Towing .....	10-74
<b>Appearance Care</b>	
Exterior Care .....	10-74
Interior Care .....	10-77
Floor Mats .....	10-81

### General Information

For service and parts needs, visit your dealer. You will receive genuine parts and trained and supported service people.

### Accessories and Modifications

Adding non-dealer accessories or making modifications to the vehicle can affect vehicle performance and safety, including such things as airbags, braking, stability, ride and handling, emissions systems, aerodynamics, durability, and electronic systems like anti-lock 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 accessorise the vehicle using genuine GM Accessories installed by a dealer technician.

Also, see *Adding Equipment to the Airbag-Equipped Vehicle* on page 3-35.

## Vehicle Checks

### Doing Your Own Service Work

#### Warning

It can be dangerous to work on your vehicle if you do not have the proper knowledge, service manual, tools, or parts. Always follow owner manual procedures and consult the service manual for your vehicle before doing any service work.

If doing some of your own service work, use the proper service manual. It tells you much more about how to service the vehicle than this manual can.

This vehicle has an airbag system. Before attempting to do your own service work, see *Airbag System Check* on page 3-36.

Keep a record with all parts receipts and list the mileage and the date of any service work performed.

**Notice: Even small amounts of contamination can cause damage to vehicle systems. Do not allow contaminants to contact the fluids, reservoir caps, or dipsticks.**

## Bonnet

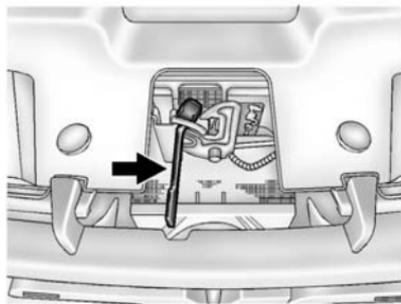
To open the bonnet:



1. Pull the handle with this symbol on it. It is inside the vehicle to the lower left of the steering wheel.

## 10-4 Vehicle Care

---



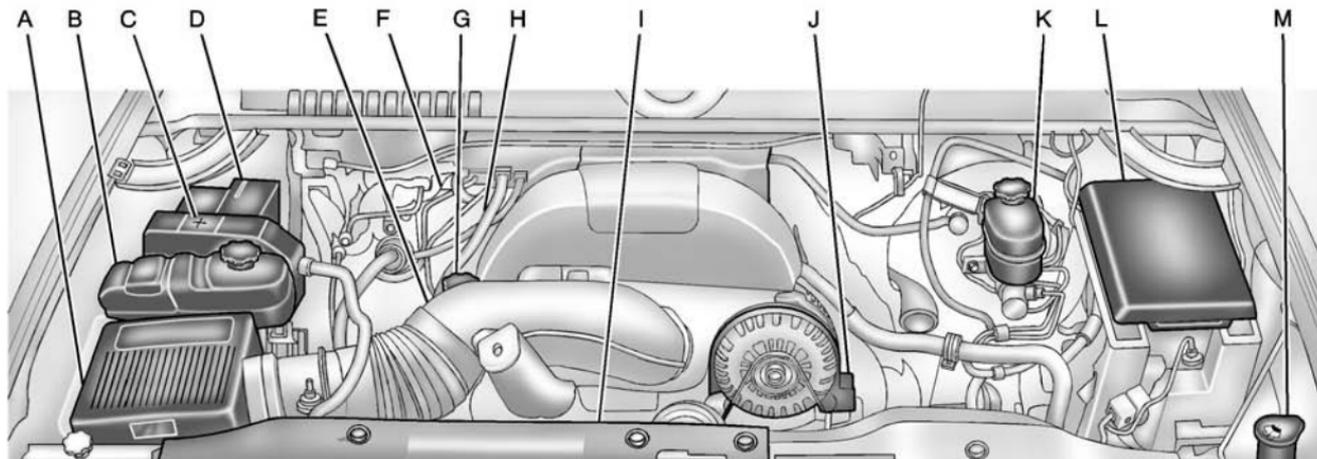
2. Then go to the front of the vehicle and locate the secondary bonnet release, near the centre of the grille.
3. Push the secondary bonnet release to the right.

4. Lift the hood.

Before closing the bonnet, be sure all the filler caps are on properly. Then bring the bonnet from full open to within 152 mm (6 in) from the closed position, pause, then push the front centre of the bonnet with a swift, firm motion to fully close the bonnet.

## Engine Compartment Overview

### 6.2L V8 Engine



## 10-6 Vehicle Care

---

- A. *Engine Air Cleaner/Filter on page 10-12.*
- B. *Coolant Surge Tank and Pressure Cap. See Cooling System on page 10-13.*
- C. *Remote Positive (+) Terminal. See Jump Starting on page 10-69.*
- D. *Battery on page 10-24.*
- E. *Remote Negative (-) Terminal (Out of View). See Jump Starting on page 10-69.*
- F. *Automatic Transmission Dipstick (Out of View). See "Checking the Fluid Level" under Automatic Transmission Fluid on page 10-9.*
- G. *Engine Oil Fill Cap. See "When to Add Engine Oil" under Engine Oil on page 10-6.*
- H. *Engine Oil Dipstick (Out of View). See "Checking Engine Oil" under Engine Oil on page 10-6.*
- I. *Engine Cooling Fans (Out of View). See Cooling System on page 10-13.*
- J. *Power Steering Fluid Reservoir. See Power Steering Fluid on page 10-20.*
- K. *Brake Master Cylinder Reservoir. See "Brake Fluid" under Brake Fluid on page 10-22.*
- L. *Engine Compartment Fuse Block on page 10-33.*
- M. *Windscreen Washer Fluid Reservoir. See "Adding Washer Fluid" under Washer Fluid on page 10-20.*

### 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 10-9.*
- Always dispose of engine oil properly. See "What to Do with Used Oil" in this section.

## Checking Engine Oil

It is a good idea to check the engine oil level at each fuel fill. In order to get an accurate reading, the vehicle must be on level ground. The engine oil dipstick handle is a loop. See *Engine Compartment Overview* on page 10-5 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 sump. Checking the oil level too soon after engine shutoff will not provide an accurate oil level reading.

### Warning

The engine oil dipstick handle may be hot; it could burn you. Use a towel or glove to touch the dipstick handle.

2. Pull out the dipstick and 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 10-5 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 done.

## 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 11-5.

### Specification

Use and ask for licensed engine oils with the dexos2™ approved certification mark. Engine oils meeting the requirements for the vehicle should have the dexos2 approved certification mark. This certification mark indicates that the oil has been approved to the dexos2 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 dexos2 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.

**Cold Temperature Operation:** If in an area of extreme cold, where the temperature falls below  $-29^{\circ}\text{C}$  ( $-20^{\circ}\text{F}$ ), an SAE 0W-30 oil may be used. An oil of this viscosity grade will provide easier cold starting for the engine at extremely low temperatures. When selecting an oil of the appropriate viscosity grade, always select an oil of the correct specification. See “Specification” earlier in this section for more information.

### Engine Oil Additives/Engine Oil Flushes

Do not add anything to the oil. The recommended oils with the dexos2 specification and displaying the dexos2 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.

After you change the oil, the oil life monitor will need to be reset. See your dealer for service.

See OIL LIFE REMAINING under *Driver Information Centre (DIC) on page 5-22* for information on the engine oil life monitor.

## Automatic Transmission Fluid

### When to Check and Change Automatic Transmission Fluid

It is usually not necessary to check the transmission fluid level. The only reason for fluid loss is a transmission leak or overheating the transmission. If a small leak is suspected, then use the following checking procedures to check the fluid level. However, if there is a large leak, then it may be necessary to have the vehicle towed to a dealer and have it repaired before driving the vehicle further.

**Notice:** Use of the incorrect automatic transmission fluid may damage the vehicle, and the damages may not be covered by the vehicle warranty. Always use the automatic transmission fluid listed in *Recommended Fluids and Lubricants on page 11-5*.

Change the fluid and filter at the scheduled maintenance intervals listed in the Maintenance Schedule booklet. Be sure to use the transmission fluid listed in *Recommended Fluids and Lubricants on page 11-5*.

### How to Check Automatic Transmission Fluid

**Notice: Too much or too little fluid can damage the transmission. Too much can mean that some of the fluid could come out and fall on hot engine parts or exhaust system parts, starting a fire. Too little fluid could cause the transmission to overheat. Be sure to get an accurate reading if checking the transmission fluid.**

Before checking the fluid level, prepare the vehicle as follows:

1. Start the engine and park the vehicle on a level surface. Keep the engine running.

2. Apply the parking brake and place the shift lever in P (Park).
3. With your foot on the brake pedal, move the shift lever through each gear range, pausing for about three seconds in each range. Then, move the shift lever back to P (Park).
4. Allow the engine to idle (500-800 RPM) for at least one minute. Slowly release the brake pedal.
5. Keep the engine running and press the Trip/Fuel button or trip odometer reset stem until TRANS TEMP (Transmission Temperature) displays on the Driver Information Centre (DIC).
6. Using the TRANS TEMP reading, determine and perform the appropriate check procedure. If the TRANS TEMP reading is not within the required temperature ranges, allow the vehicle to cool, or operate the

vehicle until the appropriate transmission fluid temperature is reached.

### Cold Check Procedure

Use this procedure only as a reference to determine if the transmission has enough fluid to be operated safely until a hot check procedure can be made. The hot check procedure is the most accurate method to check the fluid level. Perform the hot check procedure at the first opportunity. Use this cold check procedure to check fluid level when the transmission temperature is between 24°C and 34°C (75°F and 93°F).



1. Locate the transmission dipstick at the rear of the engine compartment, on the passenger side of the vehicle.

See *Engine Compartment Overview on page 10-5* for more information.

2. Pull out the dipstick and wipe it with a clean rag or paper towel.
3. Install the dipstick by pushing it back in all the way, wait three seconds, and then pull it back out again.
4. Check both sides of the dipstick and read the lower level. Repeat the check procedure to verify the reading.



5. If the fluid level is below the COLD check band, add only enough fluid as necessary to bring the level into the COLD band. It does not take much fluid, generally less than 0.5 Litres (1 Pint). Do not overfill.
6. Perform a hot check at the first opportunity after the transmission reaches a normal operating temperature between 60°C and 75°C (140°F and 167°F).
7. If the fluid level is in the acceptable range, push the dipstick back in all the way.

### Hot Check Procedure

Use this procedure to check the transmission fluid level when the transmission fluid temperature is between 60°C and 75°C (140°F and 167°F).

The hot check is the most accurate method to check the fluid level. The hot check should be performed at the first opportunity in order to verify the cold check. The fluid level rises as fluid temperature increases, so it is important to ensure the transmission temperature is within range.



1. Locate the transmission dipstick at the rear of the engine compartment, on the passenger side of the vehicle.

## 10-12 Vehicle Care

---

See *Engine Compartment Overview on page 10-5* for more information.

- Pull out the dipstick and wipe it with a clean rag or paper towel.
- Install the dipstick by pushing it back in all the way, wait three seconds, and then pull it back out again.
- Check both sides of the dipstick and read the lower level. Repeat the check procedure to verify the reading.



- Safe operating level is within the HOT cross hatch band on the dipstick. If the fluid level is not within the HOT band, and the transmission temperature is between 60°C and 75°C (140°F and 167°F), add or drain fluid as

necessary to bring the level into the HOT band. If the fluid level is low, add only enough fluid to bring the level into the HOT band. It does not take much fluid, generally less than 0.5 Litres (1 Pint). Do not overfill.

- If the fluid level is in the acceptable range, push the dipstick back in all the way.

### Consistency of Readings

Always check the fluid level at least twice using the procedure described previously. Consistency (repeatable readings) is important to maintaining proper fluid level. If readings are still inconsistent, contact your dealer.

### Engine Air Cleaner/Filter

See *Engine Compartment Overview on page 10-5* for the location of 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 *Scheduled Maintenance on page 11-1*. If driving on dusty/dirty conditions, inspect the filter at each engine oil change.

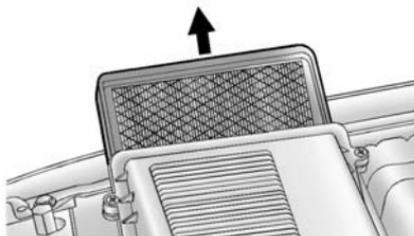
### How to Inspect the Engine Air Cleaner/Filter

To inspect the air cleaner/filter, remove the engine air cleaner/filter from the vehicle by following Steps 1 through 6. When the engine air cleaner/filter is removed, lightly shake it to release loose dust and dirt. If the engine air cleaner/filter remains covered with dirt, a new filter is required. Never use compressed air to clean the filter.

## Replacing the Engine Air Cleaner/Filter



1. Locate the air cleaner/filter assembly. See *Engine Compartment Overview* on page 10-5.
2. Loosen the four screws on the cover of the housing and lift up the cover.



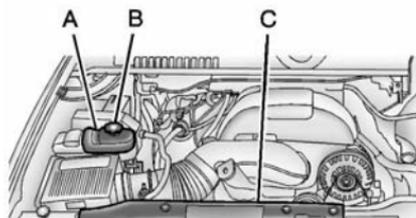
3. Remove the engine air cleaner/filter from the housing. Care should be taken to dislodge as little dirt as possible.
4. Clean the engine air cleaner/filter sealing surfaces and the housing.
5. Inspect or replace the engine air cleaner/filter.
6. Reinstall the cover and tighten the screws.

### 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.

## Cooling System

The cooling system allows the engine to maintain the correct working temperature.



- A. Coolant Surge Tank
- B. Coolant Surge Tank Pressure Cap
- C. Engine Cooling Fan(s) (Out of View)

### Warning

An electric engine cooling fan under the bonnet can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underbonnet 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<sup>®</sup> can cause premature engine, heater core, or radiator corrosion. In addition, the engine coolant could require changing sooner, at 50 000 km (30,000 mi) or 24 months, whichever occurs first. Any repairs would not be covered by the vehicle warranty. Always use DEX-COOL (silicate-free) coolant in the vehicle.

## Engine Coolant

The cooling system in the vehicle is filled with DEX-COOL engine coolant. This coolant is designed to remain in the vehicle for 5 years or 240 000 km (150,000 mi), whichever occurs first.

The following explains the cooling system and how to check and add coolant when it is low. If there is a problem with engine overheating, see *Engine Overheating* on page 10-17.

### What to Use

#### Warning

Adding only plain water or some other liquid to the cooling system can be dangerous. Plain water and other liquids, can boil before the proper coolant mixture will. The coolant warning system is set for the proper coolant mixture. With plain water or the wrong

(Continued)

**Warning (Continued)**

mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant.

Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant. If using this mixture, nothing else needs to be added. This mixture:

- Gives freezing protection down to  $-37^{\circ}\text{C}$  ( $-34^{\circ}\text{F}$ ), outside temperature.
- Gives boiling protection up to  $129^{\circ}\text{C}$  ( $265^{\circ}\text{F}$ ), engine temperature.
- Protects against rust and corrosion.
- Will not damage aluminium parts.

- Helps keep the proper engine temperature.

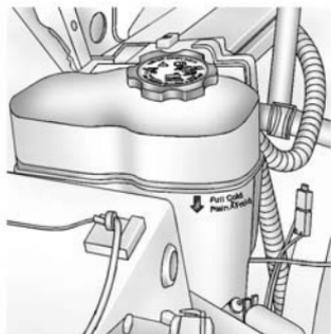
**Notice:** If improper coolant mixture, inhibitors, or additives are used in the vehicle cooling system, the engine could overheat and be damaged. Too much water in the mixture can freeze and crack engine cooling parts. The repairs would not be covered by the warranty. Use only the proper mixture of engine coolant for the cooling system. See *Recommended Fluids and Lubricants on page 11-5*.

Never dispose of engine coolant by putting it in the refuse, pouring it on the ground, or into sewers, streams, or bodies of water. Have the coolant changed by an authorised service centre, 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 FULL COLD mark, add a 50/50 mixture of clean, drinkable water and DEX-COOL coolant at the coolant surge tank, but be sure the cooling system is cool before doing this.



The coolant surge tank is located in the engine compartment on the passenger side of the vehicle. See *Engine Compartment Overview* on page 10-5 for more information on location.

The coolant level should be at or above the FULL COLD mark. If it is not, the vehicle may have a leak in the cooling system.

### How to Add Coolant to the 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

Steam and scalding liquids from a hot cooling system can blow out and burn you badly. Never turn the cap when the cooling system, including the surge tank pressure

(Continued)

### Warning (Continued)

cap, is hot. Wait for the cooling system and surge tank pressure cap to cool.

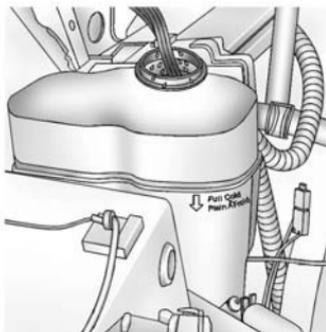
If no coolant is visible in the surge tank, add coolant as follows:



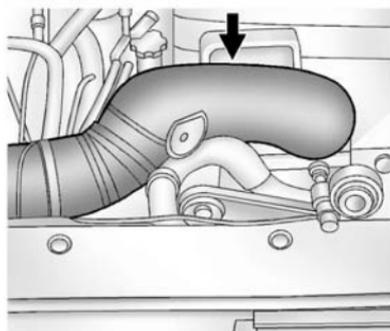
1. Remove the coolant surge tank pressure cap when the cooling system, including the coolant surge tank pressure cap and upper radiator hose, is no longer hot.

Turn the pressure cap slowly anticlockwise about one full turn. If a hiss is heard, wait for that to stop. A hiss means there is still some pressure left.

- Keep turning the pressure cap slowly and remove it.



- Fill the coolant surge tank with the proper mixture to the FULL COLD mark.



- With the coolant surge tank pressure cap off, start the engine and let it run until the upper radiator hose can be felt getting hot. Watch out for the engine cooling fan.

By this time, the coolant level inside the coolant surge tank may be lower. If the level is lower, add more of the proper mixture to the coolant surge tank until the level reaches the FULL COLD mark.

- Replace the pressure cap tightly.

- Verify coolant level after engine is shut off and the coolant is cold. If necessary, repeat coolant fill procedure Steps 1–6.

**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

The vehicle has several indicators to warn of engine overheating.

There is a coolant temperature gauge on your vehicle's instrument panel. See *Engine Coolant Temperature Gauge* on page 5-12.

In addition, ENGINE OVERHEATED STOP ENGINE, ENGINE OVERHEATED IDLE ENGINE, and a ENGINE POWER IS REDUCED message comes on in the Driver Information Centre (DIC) on the instrument panel. See *Engine Cooling System Messages* on page 5-29 and *Engine Power Messages* on page 5-30.

If the decision is made not to lift the bonnet when this warning appears, get service help right away.

If the decision is made to lift the bonnet, make sure the vehicle is parked on a level surface.

Then check to see if the engine cooling fans are running. If the engine is overheating, both fans should be running. If they are not, do not continue to run the engine and have the vehicle serviced.

**Notice:** Running the engine without coolant may cause damage or a fire. Vehicle damage would not be covered by the warranty. See *Overheated Engine Protection Operating Mode on page 10-19* for information on driving to a safe place in an emergency.

### If Steam Is Coming from the Engine Compartment

#### Warning

Steam from an overheated engine can burn you badly, even if you just open the bonnet. Stay away from the engine if you see or hear steam coming from it. Turn it off and get everyone away from the vehicle until it cools down. Wait until there is no sign of steam or coolant before you open the bonnet.

If you keep driving when the vehicle's engine is overheated, the liquids in it can catch fire. You or others could be badly burned. Stop the engine if it overheats, and get out of the vehicle until the engine is cool.

(Continued)

#### Warning (Continued)

See *Overheated Engine Protection Operating Mode on page 10-19* for information on driving to a safe place in an emergency.

### If No Steam Is Coming from the Engine Compartment

The ENGINE OVERHEATED STOP ENGINE or the ENGINE OVERHEATED IDLE ENGINE message, together with a low coolant condition, can indicate a serious problem.

If there is an engine overheat warning, but see or hear no steam, the problem may not be too serious. Sometimes the engine can get a little too hot when the vehicle:

- Climbs a long hill on a hot day.
- Stops after high-speed driving.
- Idles for long periods in traffic.

- Tows a trailer. See *Trailer Towing* on page 9-50.

If the ENGINE OVERHEATED STOP ENGINE or the ENGINE OVERHEATED IDLE ENGINE message appears with no sign of steam, try this for a minute or so:

If the overheat warning is displayed with no sign of steam:

1. Turn the air conditioning off.
2. Turn the heater on to the highest temperature and to the highest fan speed. Open the windows as necessary.
3. In heavy traffic, let the engine idle in N (Neutral) while stopped. If it is safe to do so, pull off the road, shift to P (Park) or N (Neutral) and let the engine idle.

If the temperature overheat gauge is no longer in the overheat zone or an overheat warning no longer displays, the vehicle can be driven. Continue to drive the vehicle slowly for about 10 minutes. Keep a safe

vehicle distance from the vehicle in front. If the warning does not come back on, continue to drive normally.

If the warning continues, pull over, stop, and park the vehicle right away.

If there is no sign of steam, idle the engine for five minutes while parked. If the warning is still displayed, turn off the engine until it cools down. Also, see “Overheated Engine Protection Operating Mode” later in this section.

### Overheated Engine Protection Operating Mode

If an overheated engine condition exists and the ENGINE POWER IS REDUCED message is displayed, an overheat protection mode which alternates firing groups of cylinders helps prevent engine damage. In this mode, a loss in power and engine performance will be noticed. This operating mode allows the

vehicle to be driven to a safe place in an emergency. Driving extended distances and/or towing a trailer in the overheat protection mode should be avoided.

**Notice:** After driving in the overheated engine protection operating mode, to avoid engine damage, allow the engine to cool before attempting any repair. The engine oil will be severely degraded. Repair the cause of coolant loss, change the oil and reset the oil life system. See *Engine Oil* on page 10-6.

### Engine Fan

The vehicle has electric cooling fans. The fans spinning at low speed during most everyday driving might be heard. The fans can turn off if no cooling is required. Under heavy vehicle loading, trailer towing, and/or high outside temperatures, or if operating the air conditioning system, the fans can change to high speed and an increase in fan noise

might be heard. This is normal and indicates that the cooling system is functioning properly. The fans change to low speed when additional cooling is no longer required.

### Power Steering Fluid



See *Engine Compartment Overview on page 10-5* for reservoir location.

### When to Check Power Steering Fluid

It is not necessary to regularly check power steering fluid unless there is a leak 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

To check the power steering fluid:

1. Turn the key off and let the engine compartment cool down.
2. Wipe the cap and the top of the reservoir clean.
3. Unscrew the cap and wipe the dipstick with a clean rag.
4. Replace the cap and completely tighten it.
5. Remove the cap again and look at the fluid level on the dipstick.

The level should be at the FULL COLD mark. If necessary, add only enough fluid to bring the level up to the mark.

### What to Use

To determine what kind of fluid to use, see *Recommended Fluids and Lubricants on page 11-5*. Always use the proper fluid.

**Notice:** Use of the incorrect fluid may damage the vehicle and the damages may not be covered by the vehicle's warranty. Always use the correct fluid listed in *Recommended Fluids and Lubricants on page 11-5*.

### Washer Fluid

#### What to Use

When windscreen washer fluid needs to be added, be sure to read the manufacturer's instructions before use. Use a fluid that has sufficient protection against freezing in an area where the temperature may fall below freezing.

#### Adding Washer Fluid

The vehicle has a low washer fluid message on the DIC that comes on when the washer fluid is low. The message is displayed for 15 seconds at the start of each ignition cycle. When the WASHER FLUID LOW ADD FLUID message

displays, washer fluid will need to be added to the windscreen washer fluid reservoir.



Open the cap with the washer symbol on it. Add washer fluid until the tank is full. See *Engine Compartment Overview* on page 10-5 for reservoir location.

#### Notice

- **When using concentrated washer fluid, follow the manufacturer instructions for adding water.**
- **Do not mix water with ready-to-use washer fluid. Water can cause the solution to freeze and damage the washer fluid tank and other parts of the washer system.**

- **Fill the washer fluid tank only three-quarters full when it is very cold. This allows for fluid expansion if freezing occurs, which could damage the tank if it is completely full.**
- **Do not use engine coolant (antifreeze) in the windscreen washer. It can damage the windscreen 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 tyres 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. See *Engine Compartment Overview on page 10-5* 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. See “Checking Brake Fluid” in this section.

When the brake fluid falls to a low level, the brake warning light comes on. See *Brake System Warning Light* on page 5-17.

Refer to the Maintenance Schedule booklet to determine when to check the brake fluid.

**Checking Brake Fluid**

Check brake fluid by looking at the brake fluid reservoir. See *Engine Compartment Overview* on page 10-5.



The fluid level should be above MIN. If it is not, have the brake hydraulic system checked to see if there is a leak.

After work is done on the brake hydraulic system, make sure the level is above the MIN but not over the MAX mark.

**What to Add**

Use only new DOT 3 brake fluid from a sealed container.

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.

### Warning

Used brake fluid should not be disposed of with regular refuse.

Have the brake fluid changed by an authorised service centre, familiar with the requirements of the law regarding used brake fluid disposal, to help protect the environment and your health.

## Battery

Refer to the replacement number on the original battery label when a new battery is needed. See *Engine Compartment Overview on page 10-5* for battery location.

### Warning

Batteries should not be disposed of with regular refuse. Make sure that you dispose of old batteries in accordance with environmental protection regulations to help protect the environment and your health.

### Warning

Do not use a match or flame near a vehicle's battery. If you need more light, use a torch.

Do not smoke near a vehicle's battery.

When working around a vehicle's battery, shield your eyes with protective glasses.

Keep children away from vehicle batteries.

### Warning

Batteries have acid that can burn you and gas that can explode. You can be hurt badly if you are not careful.

Follow instructions carefully when working around a battery.

Battery posts, terminals and related accessories contain lead and lead compounds which can cause cancer and reproductive harm. Wash hands after handling.

## Vehicle Storage

**Infrequent Usage:** Remove the black, negative (-) cable from the battery to keep the battery from running down.

**Extended Storage:** Remove the black, negative (-) cable from the battery or use a battery trickle charger.

## All-Wheel Drive

### Transfer Case

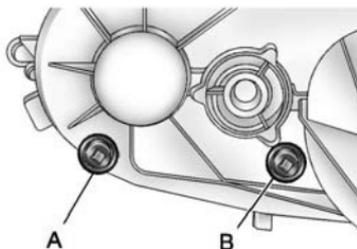
If the vehicle is equipped with All-Wheel Drive, be sure to perform the lubricant checks described in this section.

### When to Check Lubricant

Refer to *Scheduled Maintenance on page 11-1* to determine how often to check the lubricant.

### How to Check Lubricant

To get an accurate reading, the vehicle should be on a level surface.



- A. Drain Plug
- B. Fill Plug

If the level is below the bottom of the fill plug hole, located on the transfer case, some lubricant will need to be added. Add enough lubricant to raise the level to the bottom of the fill plug hole. Use care not to over-tighten the plug.

### What to Use

Refer to *Recommended Fluids and Lubricants on page 11-5* to determine what kind of lubricant to use.

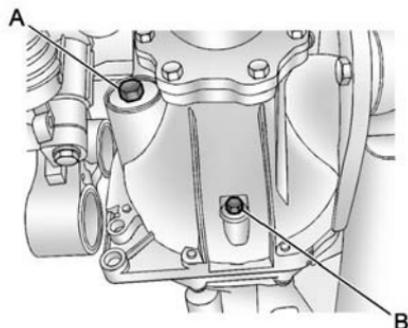
## Front Axle

### When to Check and Change Lubricant

It is not necessary to regularly check front axle fluid unless there is a leak suspected or an unusual noise is heard. A fluid loss could indicate a problem. Have it inspected and repaired.

### How to Check Lubricant

To get an accurate reading, the vehicle should be on a level surface.



A. Fill Plug

B. Drain Plug

- When the differential is cold, add enough lubricant to raise the level from 0 mm (0 in) to 3.2 mm (1/8 in) below the fill plug (A) hole.
- When the differential is at operating temperature (warm), add enough lubricant to raise the level to the bottom of the fill plug (A) hole.

### What to Use

Refer to *Recommended Fluids and Lubricants* on page 11-5 to determine what kind of lubricant to use.

### Rear Axle

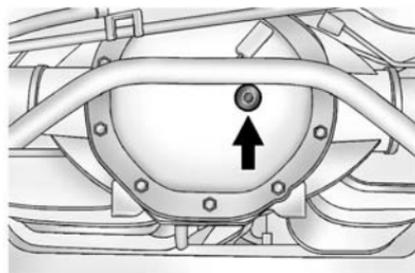
#### When to Check Lubricant

It is not necessary to regularly check rear axle fluid unless there is a leak suspected or an unusual noise is heard. A fluid loss could indicate a problem. Have it inspected and repaired.

All axle assemblies are filled by volume of fluid during production. They are not filled to reach a certain level. When checking the fluid level on any axle, variations in the readings can be caused by factory fill differences between the minimum and the maximum fluid volume.

Also, if a vehicle has just been driven before checking the fluid level, it may appear lower than normal because fluid has travelled out along the axle tubes and has not drained back to the sump area. Therefore, a reading taken five minutes after the vehicle has been driven will appear to have a lower fluid level than a vehicle that has been stationary for an hour or two. Remember that the rear axle assembly must be supported to get a true reading.

## How to Check Lubricant



To get an accurate reading, the vehicle should be on a level surface.

For All-Wheel-Drive vehicles, the proper level is from 1.0 mm to 19.0 mm (0.04 in to 0.75 in) below the bottom of the filler plug hole, located on the rear axle. Add only enough fluid to reach the proper level.

## What to Use

Refer to *Recommended Fluids and Lubricants* on page 11-5 to determine what kind of lubricant to use.

## Starter Switch Check

### Warning

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle.
2. Apply both the handbrake and the regular brake.

Do not use the accelerator pedal, and be ready to turn off the engine immediately if it starts.

3. Try to start the engine in each gear. The vehicle should start only in P (Park) or N (Neutral). If the vehicle starts in any other position, contact your dealer for service.

## Automatic Transmission Shift Lock Control Function Check

### Warning

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle. It should be parked on a level surface.

2. Apply the handbrake. 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 gear 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

If equipped with a key type ignition, while parked and with the handbrake set, try to turn the ignition to LOCK/OFF in each gear 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, apply 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

Windscreen wiper blades should be inspected for wear or cracking. See *Scheduled Maintenance on page 11-1*.

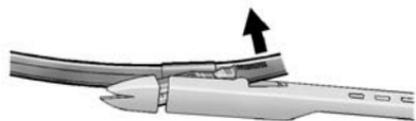
Replacement blades come in different types and are removed in different ways.

#### Front Wiper Blade Replacement

1. Pull the windscreen wiper arm connector away from the windscreen.



2. Squeeze the grooved areas on each side of the blade, and turn the blade assembly away from the arm connector.

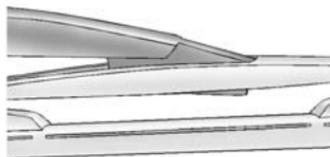


3. Install the new blade onto the arm connector and make sure the grooved areas are fully set in the locked position.

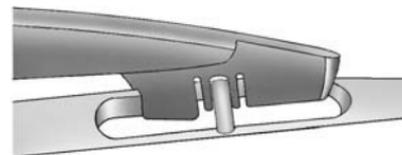
For the proper type and size, see *Maintenance Replacement Parts* on page 11-7.

### Rear Wiper Blade Replacement

1. Lift the wiper blade assembly up and out of the park rest position.



2. Pull the wiper blade assembly away from the back glass. The back glass wiper blade will not lock in a vertical position, so care should be used when pulling it away from the vehicle.
3. Turn the wiper blade assembly, and pull it off of the wiper arm. Hold the wiper arm in position and push the blade away from the wiper arm.



4. Replace the wiper blade.
5. Return the wiper blade assembly to the park rest position.

### Glass Replacement

If the windshield or front side glass must be replaced, see your dealer to determine the correct replacement glass.

## Headlamp Aiming

Headlamp alignment has been preset and should need no further adjustment.

If the vehicle is damaged in a crash, the headlamp alignment may be affected. If adjustment to the headlamps is necessary, see your dealer.

## Bulb Replacement

For the proper type of replacement bulbs, see *Replacement Bulbs on page 10-32*.

For any bulb-changing procedure not listed in this section, contact your dealer.

## High Intensity Discharge (HID) Lighting

### Warning

The high intensity discharge lighting system operates at a very high voltage. If you try to service any of the system components, you could be seriously injured. Have your dealer or a qualified technician service them.

The vehicle may have HID headlamps. After an HID headlamp bulb has been replaced, you may

notice that the beam is a slightly different shade than it was originally. This is normal.

## LED Lighting

This vehicle has several LED lamps. For replacement of any LED lighting assembly, contact your dealer.

## Back-Up Lamps

To replace this bulb:



1. Open the tailgate. See *Tailgate on page 2-8* for more information.

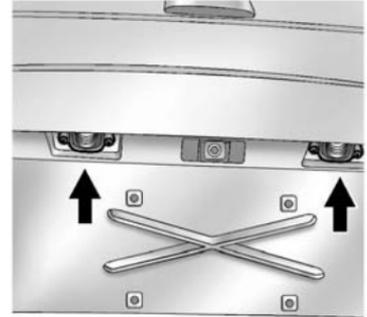


2. Remove the two screws from the taillamp assembly.
3. Pull the tail lamp assembly rearward until the inner pins on the tail lamp assembly disengage from the vehicle.
4. Turn the socket anticlockwise to remove it from the taillamp assembly.
5. Pull the old bulb straight out from the socket.

6. Press a new bulb into the socket, insert the socket into the taillamp assembly and turn the socket clockwise into the taillamp assembly.
7. Reinstall the tail lamp assembly. When reinstalling, make sure to line up the pins on the tail lamp assembly with the vehicle. If the pins do not line up correctly, the tail lamp assembly will not be able to be installed properly.

If the tail lamp, brake lamp, or indicator need to be replaced, see your dealer for service.

## Number Plate Lamp



1. Remove the two screws holding each of the number plate lamps to the moulding that is part of the tailgate.
2. Twist and pull the number plate lamp assembly forward through the moulding opening.
3. Remove the bulb socket from the lamp assembly by turning it anticlockwise.

- Pull the bulb straight out of the socket and install the new bulb.
- Reverse Steps 1–3 to reinstall the number plate lamp.

### Replacement Bulbs

Exterior Lamp	Bulb Number
Reversing Lamp	7441
Number Plate Lamp	W5W LL

For replacement bulbs not listed here, contact your dealer.

## Electrical System

### Electrical System Overload

The vehicle has fuses and circuit breakers to protect against an electrical system overload.

When the current electrical load is too heavy, the circuit breaker opens and closes, protecting the circuit until the current load returns to normal or the problem is fixed. This greatly reduces the chance of circuit overload and fire caused by electrical problems.

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.

### Windscreen Wipers

If the wiper motor overheats due to heavy snow or ice, the windscreen 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 windscreen before using the windscreen 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, circuit breakers, and fusible thermal links. This greatly reduces the chance of fires caused by electrical problems.

Look at the silver-coloured 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.

Fuses of the same amperage can be temporarily borrowed from another fuse location, if a fuse goes out. Replace the fuse as soon as you can.

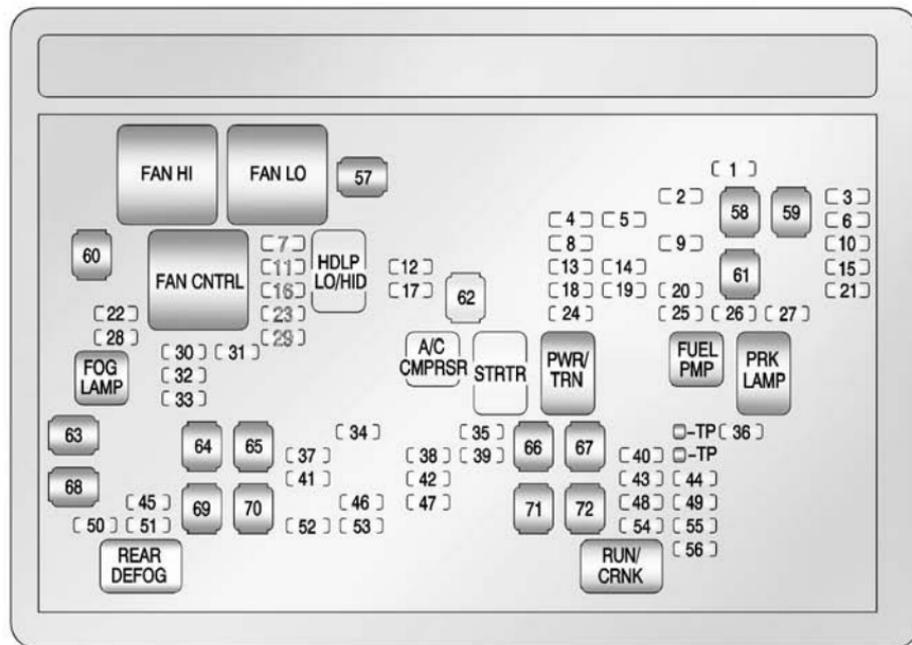
## Engine Compartment Fuse Block



The Engine Compartment Fuse Block is located in the engine compartment, on the driver side of the vehicle. Lift the cover for access to the fuse/relay block.

**Notice:** Spilling liquid on any electrical component on the vehicle may damage it. Always keep the covers on any electrical component.

To remove fuses, hold the end of the fuse between your thumb and index finger and pull straight out.



The vehicle may not be equipped with all of the fuses, relays, and features shown.

Fuses	Usage
1	Right Trailer Brake/ Indicator Lamp
2	Electronic Stability Suspension Control, Automatic Level Control Exhaust
3	Left Trailer Brake/ Indicator Lamp
4	Engine Controls
5	Engine Control Module, Throttle Control
6	Trailer Brake Controller
7	Front Washer
8	Oxygen Sensors
9	Antilock Brakes System 2

Fuses	Usage
10	Trailer Reversing Lamps
11	Driver Side Dipped-Beam Headlamp
12	Engine Control Module (Battery)
13	Fuel Injectors, Ignition Coils (Right Side)
14	Transmission Control Module (Battery)
15	Vehicle Reversing Lamps
16	Passenger Side Dipped-Beam Headlamp
17	Air Conditioning Compressor
18	Oxygen Sensors
19	Transmission Controls (Ignition)
20	Fuel Pump

Fuses	Usage
21	Fuel System Control Module
22	Headlamp Washer
23	Rear Windscreen Washer
24	Fuel Injectors, Ignition Coils (Left Side)
25	Trailer Parking Lamps
26	Driver Side Parking Lamps
27	Passenger Side Parking Lamps
28	Fog Lamps
29	Horn
30	Passenger Side Main-Beam Headlamp
31	Daytime Running Lamps (DRL) (If Equipped)
32	Driver Side Main-Beam Headlamp

## 10-36 Vehicle Care

Fuses	Usage
33	Daytime Running Lamps 2 (If Equipped)
34	Sunroof
35	Key Ignition System, Theft Deterrent System
36	Windscreen Wiper
37	SEO B2 Upfitter Usage (Battery)
38	Electric Adjustable Pedals
39	Climate Controls (Battery)
40	Airbag System (Ignition)
41	Amplifier
42	Audio System
43	Miscellaneous (Ignition), Cruise Control
44	Tailgate Release

Fuses	Usage
45	Airbag System (Battery)
46	Instrument Panel Cluster
47	Not Used
48	Auxiliary Climate Control (Ignition)
49	Centre High-Mounted Brake lamp (CHMBL)
50	Rear Demister
51	Heated Mirrors
52	SEO B1 Upfitter Usage (Battery)
53	Accessory Power Outlet, Cigarette Lighter (If Equipped)
54	Automatic Level Control Compressor Relay
55	Climate Controls (Ignition)

Fuses	Usage
56	Engine Control Module, Secondary Fuel Pump (Ignition)

J-Case Fuses	Usage
57	Cooling Fan 1
58	Automatic Level Control Compressor
59	Heavy Duty Antilock Braking System
60	Cooling Fan 2
61	Antilock Brake System 1
62	Starter
63	Stud 2 (Trailer Brakes)
64	Left Bussed Electrical Centre 1
65	Electric Running Boards

J-Case Fuses	Usage
66	Not Used
67	Transfer Case
68	Stud 1 (Trailer Connector Battery Power)
69	Mid-Bussed Electrical Centre 1
70	Climate Control Blower
71	Power Tailgate Module
72	Left Bussed Electrical Centre 2

Relays	Usage
FAN HI	Cooling Fan High Speed
FAN LO	Cooling Fan Low Speed
FAN CNTRL	Cooling Fan Control

Relays	Usage
HDLP LO/HID	Dipped-Beam Headlamp
FOG LAMP	Front Fog Lamps
A/C CMPRSR	Air Conditioning Compressor
STRTR	Starter
PWR/TRN	Powertrain
FUEL PMP	Fuel Pump
PRK LAMP	Parking Lamps
REAR DEFOG	Rear Demister
RUN/CRNK	Switched Power

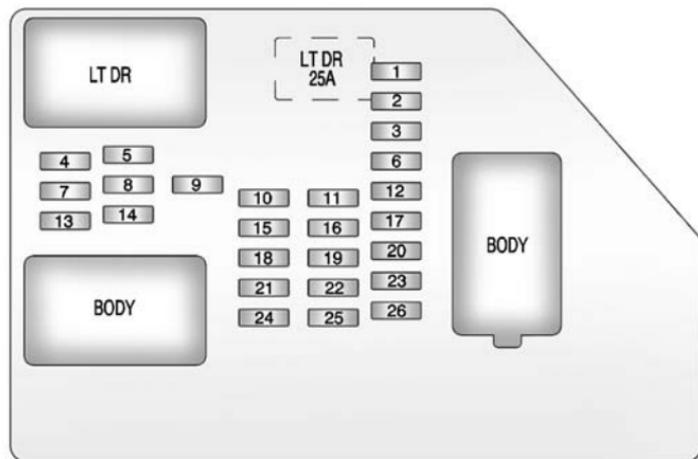
## Instrument Panel Fuse Block



The instrument panel fuse block access door is located on the driver side edge of the instrument panel.

Pull off the cover to access the fuse block.

## 10-38 Vehicle Care



The vehicle may not be equipped with all of the fuses, relays, and features shown.

Fuses	Usage
1	Rear Seats
2	Rear Accessory Power Outlet

Fuses	Usage
3	Steering Wheel Controls Backlight
4	Driver Door Module
5	Dome Lamps, Driver Side Indicator

Fuses	Usage
6	Driver Side Indicator, Brake lamp
7	Instrument Panel Back Lighting
8	Passenger Side Indicator, Brake lamp
9	Passenger Door Module, Driver Unlock
10	Power Door Lock 2 (Unlock Feature)
11	Power Door Lock 2 (Lock Feature)
12	Brake lamps, Centre High-Mounted Brake lamp
13	Rear Climate Controls
14	Power Mirror
15	Body Control Module (BCM)
16	Accessory Power Outlets

Fuses	Usage
17	Interior Lamps
18	Power Door Lock 1 (Unlock Feature)
19	Rear Seat Entertainment
20	Ultrasonic Rear Parking Assist, Power Tailgate
21	Power Door Lock 1 (Lock Feature)
22	Driver Information Centre (DIC)
23	Rear Wiper
24	Cooled Seats
25	Driver Seat Module, Remote Keyless Entry System
26	Driver Power Door Lock (Unlock Feature)

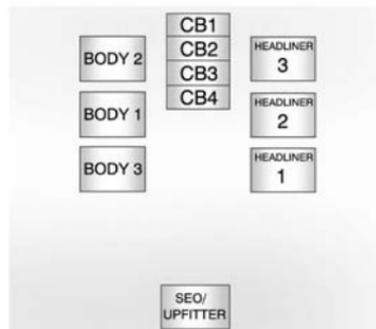
Circuit Breaker	Usage
LT DR	Driver Side Power Window Circuit Breaker

Harness Connector	Usage
LT DR	Driver Door Harness Connection
BODY	Harness Connector
BODY	Harness Connector

### Centre Instrument Panel Fuse Block

The centre instrument panel fuse block is located underneath the instrument panel, to the left of the steering column.

### Top View



Harness Connector	Usage
BODY 2	Body Harness Connector 2
BODY 1	Body Harness Connector 1
BODY 3	Body Harness Connector 3
HEADLINER 3	Headliner Harness Connector 3

Harness Connector	Usage
HEADLINER 2	Headliner Harness Connector 2
HEADLINER 1	Headliner Harness Connector 1
SEO/ UPFITTER	Special Equipment Option Upfitter Harness Connector

Circuit Breaker	Usage
CB1	Passenger Side Power Window Circuit Breaker
CB2	Passenger Seat Circuit Breaker
CB3	Driver Seat Circuit Breaker
CB4	Rear Sliding Window

## Wheels and Tyres

### Tyres

Every new GM vehicle has high-quality tyres made by a leading tyre manufacturer. See the warranty manual for information regarding the tyre warranty and where to get service. For additional information refer to the tyre manufacturer.

#### Warning

- Poorly maintained and improperly used tyres are dangerous.
- Overloading the tyres can cause overheating as a result of too much flexing. There could be a blowout

(Continued)

#### Warning (Continued)

and a serious crash. See *Vehicle Load Limits on page 9-14*.

- Underinflated tyres pose the same danger as overloaded tyres. The resulting crash could cause serious injury. Check all tyres frequently to maintain the recommended pressure. Tyre pressure should be checked when the tyres are cold.
- Overinflated tyres are more likely to be cut, punctured, or broken by a sudden impact - such as when hitting a pothole. Keep tyres at the recommended pressure.

(Continued)

**Warning (Continued)**

- Worn or old tyres can cause a crash. If the tread is badly worn, replace them.
- Replace any tyres that have been damaged by impacts with potholes, curbs, etc.
- Improperly repaired tyres can cause a crash. Only the dealer or an authorised tyre service centre should repair, replace, dismount, and mount the tyres.
- Do not spin the tyres in excess of 56 km/h (35 mph) on slippery surfaces such as snow, mud, ice, etc. Excessive spinning may cause the tyres to explode.

See *Tyre Pressure for High-Speed Operation on page 10-44* for inflation pressure adjustment for high speed driving.

**22-Inch Tyres**

If the vehicle has 22-inch P285/45R22 size tyres, they are classified as touring tyres and are designed for on-road use. The low-profile, wide tread design is not recommended for off-road driving. See *Off-Road Driving on page 9-4*, for additional information.

**Notice: Low-profile tyres are more susceptible to damage from road hazards or curb impact than standard profile tyres. Tyre and/or wheel assembly damage can occur when coming into contact with road hazards like, potholes, or sharp edged objects, or when sliding into a**

**curb. The warranty does not cover this type of damage. Keep tyres set to the correct inflation pressure and, when possible, avoid contact with curbs, potholes, and other road hazards.**

**All-Season Tyres**

This vehicle may come with all-season tyres. These tyres are designed to provide good overall performance on most road surfaces and weather conditions. Original equipment tyres designed to GM's specific tyre performance criteria have a TPC specification code moulded onto the sidewall. Original equipment all-season tyres can be identified by the last two characters of this TPC code, which will be "MS."

Consider installing winter tyres on the vehicle if frequent driving on snow or ice-covered roads is expected. All-season tyres provide adequate performance for most

winter driving conditions, but they may not offer the same level of traction or performance as winter tyres on snow or ice-covered roads. See *Winter Tyres on page 10-42*.

### Winter Tyres

This vehicle was not originally equipped with winter tyres. Winter tyres are designed for increased traction on snow and ice-covered roads. Consider installing winter tyres on the vehicle if frequent driving on snow or ice-covered roads is expected. See your dealer for details regarding winter tyre availability and proper tyre selection. Also, see *Buying New Tyres on page 10-51*.

With winter tyres, there may be decreased dry road traction, increased road noise and shorter tread life. After changing to winter tyres, be alert for changes in the vehicle handling and braking.

If using winter tyres:

- Use tyres of the same brand and tread type on all four wheel positions.
- Use only radial ply tyres of the same size, load range and speed rating as the original equipment tyres.

Winter tyres with the same speed rating as the original equipment tyres may not be available for H, V, W, Y and ZR speed rated tyres. If winter tyres with a lower speed rating are chosen, never exceed the tyre's maximum speed capability.

### Summer Tyres

This vehicle may come with high performance summer tyres. These tyres have a special tread and compound that are optimised for maximum dry and wet road performance. This special tread and compound will decrease performance in cold climates, and on ice and snow. We recommend installing winter tyres on the vehicle

if frequent driving in cold temperatures or on snow or ice covered roads is expected. See *Winter Tyres on page 10-42*.

### All-Terrain Tyres

This vehicle may have All-Terrain Tyres. These tyres provide good performance on most road surfaces, weather conditions, and for off-road driving. See *Off-Road Driving on page 9-4*.

The tread pattern on these tyres may wear more quickly than other tyres. Consider rotating the tyres more frequently than at 12 000 km (7,500 ml) intervals if irregular wear is noted when the tyres are inspected. See *Tyre Inspection on page 10-48*.

## Tyre Pressure

Tyres need the correct amount of air pressure to operate effectively.

**Notice:** Neither tyre underinflation nor overinflation is good. Underinflated tyres, or tyres that do not have enough air, can result in:

- Tyre overloading and overheating which could lead to a blowout.
- Premature or irregular wear.
- Poor handling.
- Reduced fuel economy.

Overinflated tyres, or tyres that have too much air, can result in:

- Unusual wear.
- Poor handling.

- Rough ride.
- Needless damage from road hazards.

The Tyre and Loading Information label on the vehicle indicates the original equipment tyres and the correct cold tyre 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 Tyre and Loading Information label, see *Vehicle Load Limits on page 9-14*. 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 tyres once a month or more.

Do not forget the spare tyre, if the vehicle has one. See *Full-Size Spare Tyre on page 10-69* for additional information.

## How to Check

Use a good quality pocket-type gauge to check tyre pressure. Proper tyre inflation cannot be determined by looking at the tyre. Check the tyre inflation pressure when the tyres 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 tyre valve stem. Press the tyre gauge firmly onto the valve to get a pressure measurement. If the cold tyre inflation pressure

matches the recommended pressure on the Tyre 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 centre of the tyre valve to release air.

Re-check the tyre pressure with the tyre gauge.

Return the valve caps on the valve stems to prevent leaks and keep out dirt and moisture.

### Tyre Pressure for High-Speed Operation

#### Warning

Driving at high speeds, 160 km/h (100 mph) or higher, puts an additional strain on tyres.

(Continued)

#### Warning (Continued)

Sustained high-speed driving causes excessive heat build-up and can cause sudden tyre failure. You could have a crash and you or others could be killed. Some high-speed rated tyres require inflation pressure adjustment for high-speed operation. When speed limits and road conditions are such that a vehicle can be driven at high speeds, make sure the tyres are rated for high-speed operation, in excellent condition, and set to the correct cold tyre inflation pressure for the vehicle load.

Vehicles with P265/65R18 or P285/45R22 size tyres require inflation pressure adjustment when driving the vehicle at speeds of 160 km/h (100 mph) or higher. Set the cold inflation pressure to 20 kPa (3 psi) above the recommended tyre pressure shown on the Tyre and

Loading Information Label. Return the tyres to the recommended cold tyre inflation pressure when high-speed driving has ended. See *Vehicle Load Limits on page 9-14* and *Tyre Pressure on page 10-43*.

### Tyre Pressure Monitor System

**Notice: Modifications made to the Tyre Pressure Monitor System (TPMS) by anyone other than an authorised service facility may void authorisation to use the system.**

The Tyre Pressure Monitor System (TPMS) uses radio and sensor technology to check tyre pressure levels. The TPMS sensors monitor the air pressure in your vehicle's tyres and transmit tyre pressure readings to a receiver located in the vehicle.

Each tyre, 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 tyre inflation pressure label. (If your vehicle has tyres of a different size than the size indicated on the vehicle placard or tyre inflation pressure label, you should determine the proper tyre inflation pressure for those tyres.)

As an added safety feature, your vehicle has been equipped with a tyre pressure monitoring system (TPMS) that illuminates a low tyre pressure telltale when one or more of your tyres is significantly under-inflated.

Accordingly, when the low tyre pressure telltale illuminates, you should stop and check your tyres as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tyre causes the tyre to overheat and can lead to tyre failure. Under-inflation also reduces fuel efficiency and tyre tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tyre maintenance, and it is the driver's responsibility to maintain correct tyre pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tyre 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 tyre 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 tyre pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tyres or

wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tyres or wheels on your vehicle to ensure that the replacement or alternate tyres and wheels allow the TPMS to continue to function properly.

See *Tyre Pressure Monitor Operation* on page 10-45 for additional information.

See *Declaration of Conformity* on page 13-1.

## **Tyre Pressure Monitor Operation**

This vehicle may have a Tyre Pressure Monitor System (TPMS). The TPMS is designed to warn the driver when a low tyre pressure condition exists. TPMS sensors are mounted onto each tyre and wheel assembly, excluding the spare tyre and wheel assembly. The TPMS sensors monitor the air pressure in

the tyres and transmit the tyre pressure readings to a receiver located in the vehicle.



When a low tyre pressure condition is detected, the TPMS illuminates the low tyre 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 Tyre and Loading Information label. See *Vehicle Load Limits* on page 9-14.

A message to check the pressure in a specific tyre displays in the Driver Information Centre (DIC). The low tyre pressure warning light and the DIC warning message come on at each ignition cycle until the tyres are inflated to the correct inflation pressure. Using the DIC, tyre

pressure levels can be viewed. For additional information and details about the DIC operation and displays, see *Driver Information Centre (DIC)* on page 5-22 and *Tyre Messages* on page 5-34.

The low tyre 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 Tyre and Loading Information label shows the size of the original equipment tyres and the correct inflation pressure for the tyres when they are cold. See *Vehicle Load Limits* on page 9-14, for an example of the Tyre and Loading Information label and its location. Also see *Tyre Pressure* on page 10-43.

The TPMS can warn about a low tyre pressure condition but it does not replace normal tyre maintenance. See *Tyre Inspection* on page 10-48, *Tyre Rotation* on page 10-49, and *Tyres* on page 10-40.

**Notice: Tyre sealant materials are not all the same. A non-approved tyre sealant could damage the TPMS sensors. TPMS sensor damage caused by using an incorrect tyre sealant is not covered by the vehicle warranty. Always use only the GM-approved tyre 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 tyre 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 tyres has been replaced with the spare tyre. The spare tyre does not have a TPMS sensor. The malfunction light and the DIC message should go off after the road tyre 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 tyres. 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 tyres or wheels do not match the original equipment tyres or wheels. Tyres and wheels other than those recommended could prevent the TPMS from functioning properly. See *Buying New Tyres on page 10-51*.

- 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 tyre 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 tyre/wheel position after rotating the vehicle's tyres or replacing one or more of the TPMS sensors. Also, the TPMS sensor matching process should be performed after replacing a spare tyre with a road tyre 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 tyre/wheel positions,

using a TPMS relearn tool, in the following order: driver side front tyre, passenger side front tyre, passenger side rear tyre, and driver side rear. See your dealer for service or to purchase a relearn tool.

You have two minutes to match the first tyre/wheel position, and five minutes overall to match all four tyre/wheel positions. If it takes longer, the matching process stops and must be restarted.

The TPMS sensor matching process is outlined below:

1. Apply 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 TYRE LEARNING ACTIVE message displays on the DIC screen.

4. Start with the driver side front tyre.
5. Place the relearn tool against the tyre 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 tyre and wheel position.
6. Proceed to the passenger side front tyre, and repeat the procedure in Step 5.
7. Proceed to the passenger side rear tyre, and repeat the procedure in Step 5.
8. Proceed to the driver side rear tyre, 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 tyre, and the TPMS sensor

matching process is no longer active. The TYRE LEARNING ACTIVE message on the DIC display screen goes off.

9. Turn the ignition to LOCK/OFF.
10. Set all four tyres to the recommended air pressure level as indicated on the Tyre and Loading Information label.

### Tyre Inspection

We recommend that the tyres, including the spare tyre, if the vehicle has one, be inspected for signs of wear or damage at least once a month.

Replace the tyre if:

- The indicators at three or more places around the tyre can be seen.
- There is cord or fabric showing through the tyre's rubber.

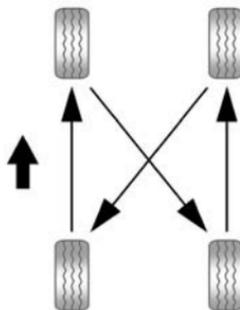
- The tread or sidewall is cracked, cut, or snagged deep enough to show cord or fabric.
- The tyre has a bump, bulge, or split.
- The tyre has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

## Tyre Rotation

Tyres should be rotated at the intervals specified in the Maintenance Schedule. See *Scheduled Maintenance on page 11-1*.

Tyres are rotated to achieve a uniform wear for all tyres. The first rotation is the most important.

Anytime unusual wear is noticed, rotate the tyres as soon as possible, check for proper tyre inflation pressure, and check for damaged tyres or wheels. If the unusual wear continues after the rotation, check the wheel alignment. See *When It Is Time for New Tyres on page 10-50* and *Wheel Replacement on page 10-53*.



Use this rotation pattern when rotating the tyres.

Do not include the spare tyre in the tyre rotation.

Adjust the front and rear tyres to the recommended inflation pressure on the Tyre and Loading Information label after the tyres have been rotated. See *Tyre Pressure on page 10-43* and *Vehicle Load Limits on page 9-14*.

Reset the Tyre Pressure Monitor System. See *Tyre Pressure Monitor Operation on page 10-45*.

Check that all wheel nuts are properly tightened. See "Wheel Nut Torque" under *Capacities and Specifications on page 12-2*.

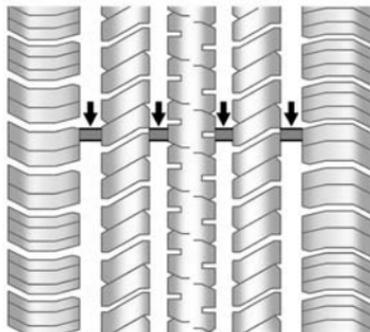
### ⚠ Warning

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.

Lightly coat the centre of the wheel hub with wheel bearing grease after a wheel change or tyre 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 Tyres

Factors, such as maintenance, temperatures, driving speeds, vehicle loading, and road conditions affect the wear rate of the tyres.



Tread wear indicators are one way to tell when it is time for new tyres. Tread wear indicators appear when the tyres have only 1.6 mm (1/16 in) or less of tread remaining. Some commercial truck tyres may not

have tread wear indicators. See *Tyre Inspection* on page 10-48 and *Tyre Rotation* on page 10-49 for additional information.

The rubber in tyres ages over time. This also applies to the spare tyre, if the vehicle has one, even if it is never used. Multiple factors including temperatures, loading conditions, and inflation pressure maintenance affect how fast ageing takes place. GM recommends that tyres, including the spare if equipped, be replaced after six years, regardless of tread wear. The tyre manufacturer date is the last four digits of the DOT Tyre Identification Number (TIN) which is moulded into one side of the tyre sidewall. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

## Vehicle Storage

Tyres 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 ageing. 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 tyres that may result in vibrations while driving. When storing a vehicle for at least a month, remove the tyres or raise the vehicle to reduce the weight from the tyres.

## Buying New Tyres

GM has developed and matched specific tyres for the vehicle. The original equipment tyres installed were designed to meet General Motors Tyre Performance Criteria Specification (TPC Spec)

system rating. When replacement tyres are needed, GM strongly recommends buying tyres 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 tyre pressure monitoring performance. GM's TPC Spec number is moulded onto the tyre's sidewall near the tyre size. If the tyres have an all-season tread design, the TPC Spec number will be followed by MS for mud and snow.

GM recommends replacing worn tyres in complete sets of four. Uniform tread depth on all tyres will help to maintain the performance of the vehicle.

Braking and handling performance may be adversely affected if all the tyres are not replaced at the same time. If proper rotation and maintenance have been done, all four tyres should wear out at about the same time. See *Tyre Rotation* on page 10-49 for information on proper tyre rotation. However, if it is necessary to replace only one axle set of worn tyres, place the new tyres on the rear axle.

### Warning

Tyres could explode during improper service. Attempting to mount or dismount a tyre could cause injury or death. Only your dealer or authorised tyre service centre should mount or dismount the tyres.

 **Warning**

Never drive faster than the speed the tyres are rated, regardless of the legal speed limit. When frequently driving the vehicle at high speeds and/or for prolonged periods of time, check with your vehicle/tyre dealer for the proper type of tyres to use for the specific driving and weather conditions.

 **Warning**

Mixing tyres 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 tyres on all wheels.

(Continued)

**Warning (Continued)**

This vehicle may have a different size spare than the road tyres originally installed on the vehicle. When new, the vehicle included a spare tyre and wheel assembly with a similar overall diameter as the road tyres and wheels, so it is all right to drive on it. The spare tyre was developed for use on this vehicle and will not affect vehicle handling.

 **Warning**

Using bias-ply tyres on the vehicle may cause the wheel rim flanges to develop cracks after many miles of driving. A tyre and/or wheel could fail

(Continued)

**Warning (Continued)**

suddenly and cause a crash. Use only radial-ply tyres with the wheels on the vehicle.

If the vehicle tyres must be replaced with a tyre 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 tyres.

Vehicles that have a tyre pressure monitoring system could give an inaccurate low-pressure warning if non-TPC Spec rated tyres are installed. See *Tyre Pressure Monitor System* on page 10-44.

The Tyre and Loading Information label indicates the original equipment tyres on the vehicle. See *Vehicle Load Limits on page 9-14*, for the label location and more information about the Tyre and Loading Information label.

## Different Size Tyres and Wheels

If wheels or tyres are installed that are a different size than the original equipment wheels and tyres, vehicle performance, including its braking, ride and handling characteristics, stability, and resistance to rollover may be affected. If the vehicle has electronic systems such as antilock brakes, rollover airbags, traction control, electronic stability control, or All-Wheel Drive, the performance of these systems can also be affected.

### Warning

If different sized wheels are used, there may not be an acceptable level of performance and safety if tyres not recommended for those wheels are selected. This increases the chance of a crash and serious injury. Only use GM specific wheel and tyre systems developed for the vehicle, and have them properly installed by a GM certified technician.

See *Buying New Tyres on page 10-51* and *Accessories and Modifications on page 10-2*.

## Wheel Alignment and Tyre Balance

The tyres and wheels were aligned and balanced at the factory to provide the longest tyre life and best overall performance. Adjustments to wheel alignment and tyre balancing are not necessary on a regular

basis. Consider an alignment check if there is unusual tyre wear or the vehicle is significantly pulling to one side or the other. Some slight pull to the left or right, depending on the crown of the road and/or other road surface variations such as troughs or ruts, is normal. If the vehicle is vibrating when driving on a smooth road, the tyres and wheels may need to be rebalanced. See your dealer for proper diagnosis.

## Wheel Replacement

Replace any wheel that is bent, cracked, or badly rusted or corroded. If wheel nuts keep coming loose, the wheel, wheel bolts, and wheel nuts should be replaced. If the wheel leaks air, replace it. Some aluminium 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 Tyre 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. Tyres 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 tyre or tyre chain clearance to the body and chassis.

### Used Replacement Wheels

### Warning

Replacing a wheel with a used one is dangerous. How it has been used or how far it has been driven may be unknown. It could fail suddenly and cause a crash. When replacing wheels, use a new GM original equipment wheel.

### Tyre Chains

Use tyre chains only where legal and only when you must.

Before using tyre chains, check with the tyre manufacturer to make sure tyre chains are compatible with the tyres on the vehicle.

It is recommended that tyre chains be used only on P265/70R17 size tyres.

Install them on the rear tyres, as tightly as possible, with the ends securely fastened.

**Notice:** Do not install traction devices on the front tyres.

Drive slowly and follow the cable manufacturer's instructions. If you hear the cables contacting the vehicle, stop and retighten them. If the contact continues, slow down until it stops.

**Notice:** To help avoid damage to the vehicle, drive slowly, do not spin the wheels, and readjust or remove the device if it contacts the vehicle.

## If a Tyre Goes Flat

It is unusual for a tyre to blow out while driving, especially if the tyres are maintained properly. If air goes out of a tyre, 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 tyre fails, the flat tyre 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 tyre will cause permanent damage to the tyre. Re-inflating a tyre 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 tyre that has been driven on while severely underinflated or flat. Have your dealer or an authorized tyre service centre repair or replace the flat tyre 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 tyre. 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 tyre.

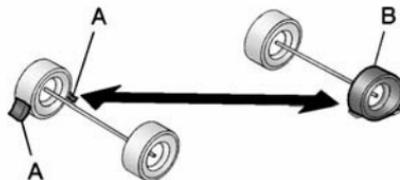
If a tyre goes flat, avoid further tyre and wheel damage by driving slowly to a level place, well off the road, if possible. Turn on the hazard warning flashers. See *Hazard Warning Flashers* on page 6-4.

### Warning

Changing a tyre 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 tyre. To help prevent the vehicle from moving:

1. Apply the parking brake firmly.
2. Put an automatic transmission in P (Park) or a manual gearbox 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 tyre at the opposite corner of the tyre being changed.

When the vehicle has a flat tyre (B), use the following example as a guide to assist in the placement of the wheel blocks (A).



A. Wheel Block

B. Flat Tyre

The following information explains how to repair or change a tyre.

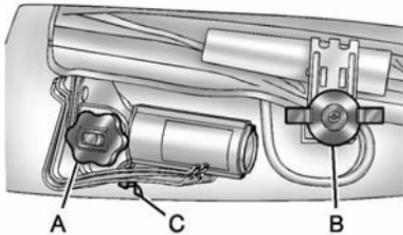
## Tyre Changing

### Removing the Spare Tyre and Tools

The equipment you will need is stored under the storage tray, which is located on the driver side trim panel (over the rear wheelhouse).

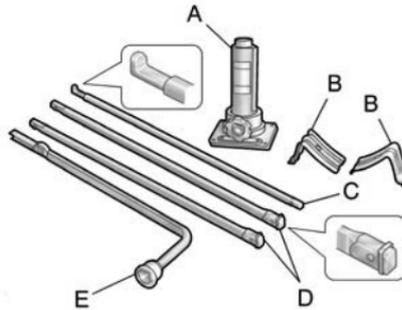


1. Remove the tray to access the tools by pulling up on the finger depression under the jack symbol.



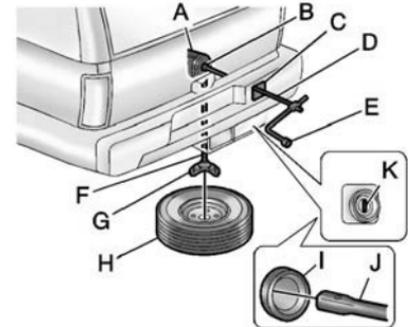
2. Remove the wing nut (B) used to retain the tool bag by turning it anticlockwise.
3. Turn the knob (A) on the jack anticlockwise to release the jack and wheel blocks from the bracket.
4. Remove the wheel blocks and the wheel block retainer by turning the wing nut (C) anticlockwise.

The tools you will be using include the following:



- A. Jack
- B. Wheel Blocks
- C. Jack Handle
- D. Jack Handle Extensions
- E. Wheel Wrench

To access the spare tyre:



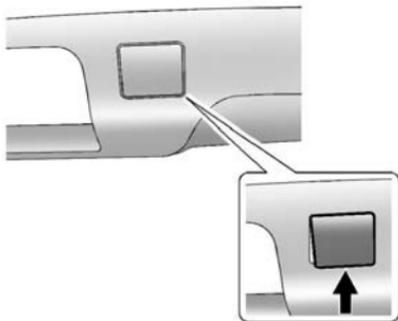
- A. Hoist Assembly
- B. Hoist Shaft
- C. Hoist Shaft Access Cover/Hole
- D. Jack Handle Extensions
- E. Wheel Wrench
- F. Hoist Cable
- G. Tyre/Wheel Retainer
- H. Spare Tyre (Valve Stem Pointed Down)
- I. Hoist Shaft Access Hole

## 10-58 Vehicle Care

J. Hoist End of Extension Tool

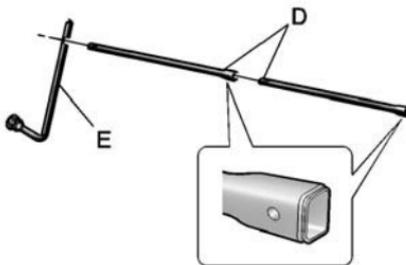
K. Spare Tyre Lock

1. To reach the hoist shaft access cover (C), you will first need to remove the hitch cover. Remove it by turning the two fasteners located at the bottom of the cover anticlockwise and then pull the cover down and rotate towards you.

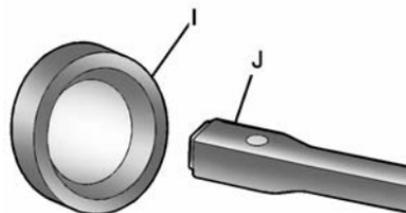


2. Open the hoist shaft access cover (C) on the bumper to access the spare tyre lock (K).

3. To remove the spare tyre lock insert the ignition key, turn it clockwise and then pull the lock out.



4. Assemble the two jack handle extensions (D) and wheel wrench (E) as shown.

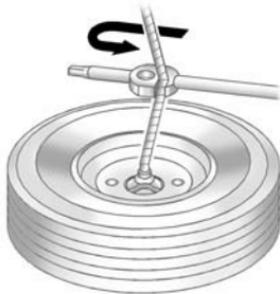


5. Insert the open end of the extension (J) through the hole in the rear bumper (I) (hoist shaft access hole).

Be sure the hoist end (J) of the extension (D) connects to the hoist shaft (B). The ribbed square end of the extension is used to lower the spare tyre.

6. Turn the wheel wrench (E) anticlockwise to lower the spare tyre (H) to the ground. Continue to turn the wheel wrench until the spare tyre can be pulled out from under the vehicle.

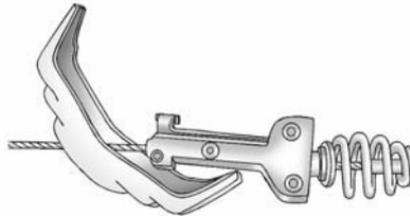
If the spare tyre does not lower to the ground, the secondary latch is engaged causing the tyre not to lower. See *Secondary Latch System* on page 10-66 for more information.



7. Use the wheel wrench hook that allows you to pull the hoist cable towards you, to assist in reaching the spare tyre.



8. Tilt the tyre toward the vehicle with some slack in the cable to access the tyre/wheel retainer. Separate the retainer from the guide pin by sliding the retainer up the pin while pressing down on the latch.

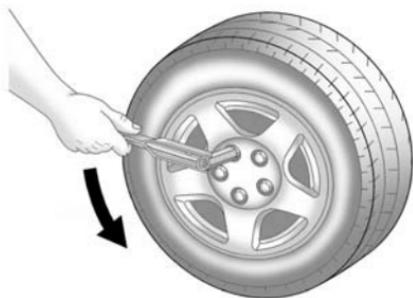


Once the retainer is separated from the pin, tilt the retainer and pull it through the centre of the wheel along with the cable and latch.

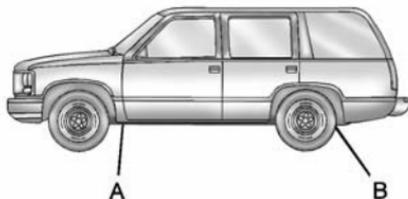
9. Put the spare tyre near the flat tyre.

### Removing the Flat Tyre and Installing the Spare Tyre

1. Do a safety check before proceeding. See *If a Tyre Goes Flat* on page 10-55 for more information.
2. To remove the centre cap, place the chiselled end of the wheel wrench in the slot on the wheel and gently pry the cap out.



3. Use the wheel wrench to loosen all the wheel nuts. Turn the wheel wrench anticlockwise to loosen the wheel nuts. Do not remove the wheel nuts yet.



**Jacking Locations (Overall View)**

- A. Front Position
- B. Rear Position

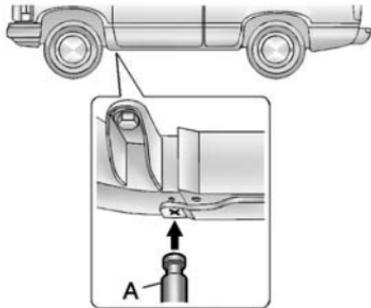
**⚠ Warning**

Getting under a vehicle when it is lifted on a jack is dangerous. If the vehicle slips off the jack, you could be badly injured or killed. Never get under a vehicle when it is supported only by a jack.

**⚠ Warning**

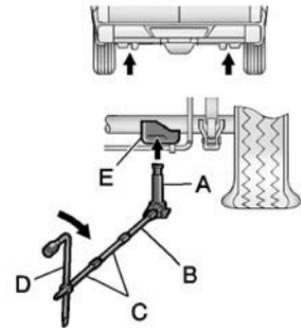
Raising the vehicle with the jack improperly positioned can damage the vehicle and even make the vehicle fall. To help avoid personal injury and vehicle damage, be sure to fit the jack lift head into the proper location before raising the vehicle.

4. Position the jack under the vehicle as shown.



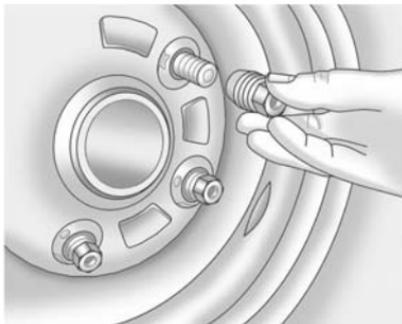
Front Position

**Front Tyre Flat:** If the flat tyre is on a front tyre of the vehicle, you will need to use the jack handle and only one jack handle extension. Attach the wheel wrench to the jack handle extension. Attach the jack handle to the jack (A). Position the jack on the frame behind the flat tyre where the frame sections overlap. Turn the wheel wrench clockwise to raise the vehicle. Raise the vehicle far enough off the ground so there is enough room for the spare tyre to clear the ground.



Rear Position

**Rear Tyre Flat:** If the flat tyre is on a rear tyre of the vehicle, you will need to use the jack handle (B) and both jack handle extensions (C). Attach the wheel wrench (D) to the jack handle extensions (C). Attach the jack handle (B) to the jack (A). Use the jacking pad (E) provided on the rear axle. Turn the wheel wrench (D) clockwise to raise the vehicle. Raise the vehicle far enough off the ground so there is enough room for the spare tyre to clear the ground.



5. Remove all of the wheel nuts.
6. Take off the flat tyre.

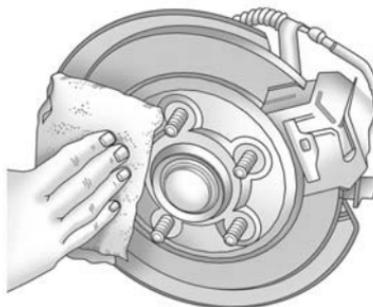
**⚠ Warning**

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

(Continued)

**Warning (Continued)**

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.

**⚠ 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.

8. Put the wheel nuts back on with the rounded end of the nuts toward the wheel after mounting the spare tyre.
9. Tighten each wheel nut by hand. Then use the wheel wrench to tighten the nuts until the wheel is held against the hub.
10. Turn the wheel wrench anticlockwise to lower the vehicle. Lower the jack completely.

**⚠ Warning**

Wheel nuts that are improperly or incorrectly tightened can cause the wheels to become loose or

(Continued)

**Warning (Continued)**

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 disc 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 nuts firmly in a crisscross sequence as shown by turning the wheel wrench clockwise.

When you reinstall the regular wheel and tyre, you must also reinstall the centre cap. Line the tab on the back of the cap with the slot in the wheel. Place the cap on the wheel and press until it snaps into place.

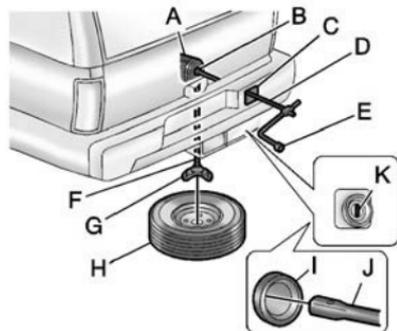
**Storing a Flat or Spare Tyre and Tools****Warning**

Storing a jack, a tyre, 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.

**Notice:** Storing an aluminium wheel with a flat tyre under your vehicle for an extended period of time or with the valve stem pointing up can damage the wheel. Always stow the wheel with the valve stem pointing down and have the wheel/tyre repaired as soon as possible.

Store the tyre under the rear of the vehicle in the spare tyre carrier.

## 10-64 Vehicle Care

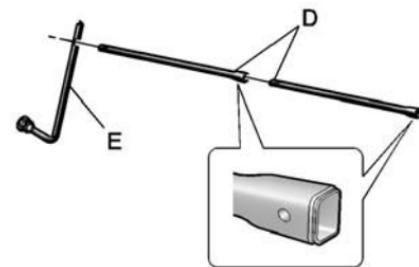
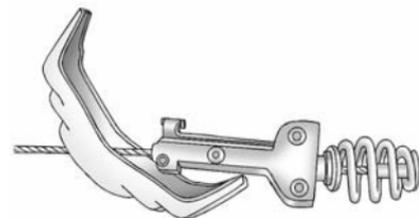


- A. Hoist Assembly
- B. Hoist Shaft
- C. Hoist Shaft Access Cover/Hole
- D. Jack Handle Extensions
- E. Wheel Wrench
- F. Hoist Cable
- G. Tyre/Wheel Retainer
- H. Spare Tyre/Flat Tyre (Valve Stem Pointed Down)
- I. Hoist Shaft Access Hole
- J. Hoist End of Extension Tool
- K. Spare Tyre Lock

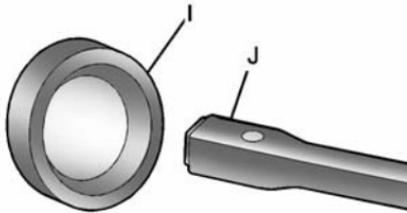
1. Put the tyre (H) on the ground at the rear of the vehicle with the valve stem pointed down and to the rear.



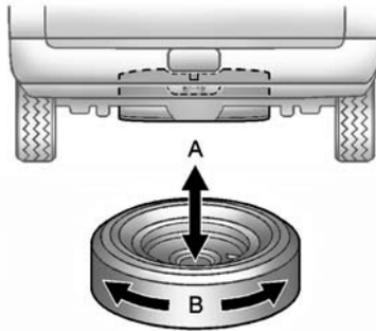
2. Tilt the tyre toward the vehicle. Separate the tyre/wheel retainer (G) from the guide pin. Pull the pin through the centre of the wheel. Tilt the retainer down and through the centre wheel opening.



3. Assemble the two jack handle extensions (D) and wheel wrench (E) as shown.

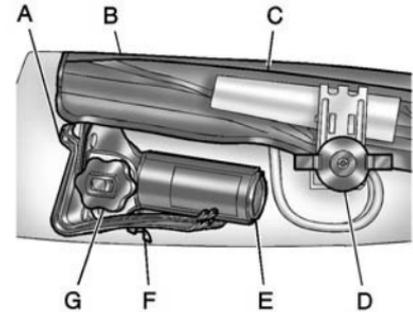


4. Insert the open end of the extension (J) through the hole in the rear bumper (I) (hoist shaft access hole).
5. Raise the tyre part way upward. Make sure the retainer is fully seated across the underside of the wheel and centred in the wheel opening.
6. Raise the tyre fully against the underside of the vehicle by turning the wheel wrench clockwise until you hear two clicks or feel it skip twice. You cannot overtighten the cable.



7. Make sure the tyre is stored securely. Push, pull (A), and then try to turn (B) the tyre. If the tyre moves, use the wheel wrench to tighten the cable.
8. Reinstall the spare tyre lock.
9. Reinstall the hoist shaft access cover.
10. Reinstall the hitch cover.

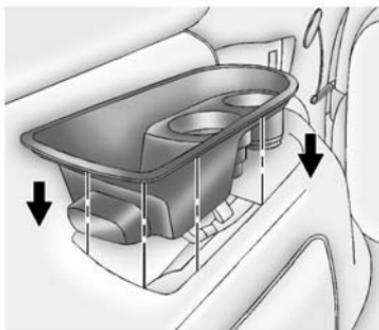
To store the tools:



- A. Wheel Blocks
  - B. Tool Bag with Jack Tools
  - C. Retaining Bracket
  - D. Wing Nut Retaining Tool Bag
  - E. Jack
  - F. Wing Nut Retaining Wheel Blocks
  - G. Jack Knob
1. Return the tools (wheel wrench, jack handle, and jack handle extensions) to the tool bag (B).

## 10-66 Vehicle Care

2. Assemble wheel blocks (A) and jack (E) together with the wing nut (F).
3. Position the jack (E) and wheel blocks (A) in the driver side trim panel over the wheelhouse.
4. Turn the jack knob (G) clockwise until the jack is secured tight in the mounting bracket. Be sure to position the holes in the base of the jack onto the pin in the mounting bracket.
5. Use the retaining bracket (C) to fasten the tool bag (B) on the stud and turn the wing nut (D) clockwise to secure.



6. Return the storage tray to its original stored position.

### Secondary Latch System

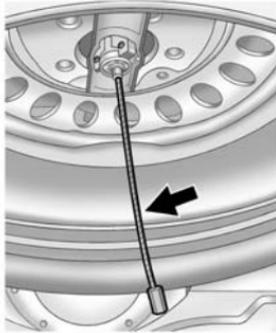
This vehicle has an underbody-mounted tyre hoist assembly equipped with a secondary latch system. It is designed to stop the spare tyre from suddenly falling off your vehicle. For the secondary latch to work, the spare must be installed with the

valve stem pointing down. See "Storing a Flat or Spare Tyre and Tools" under *Tyre Changing* on page 10-56.

#### **Warning**

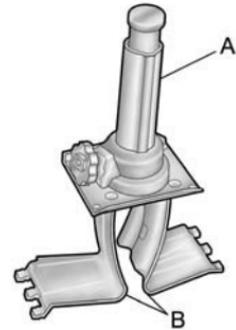
Before beginning this procedure read all the instructions. Failure to read and follow the instructions could damage the hoist assembly and you and others could get hurt. Read and follow the instructions listed next.

To release the spare tyre from the secondary latch:



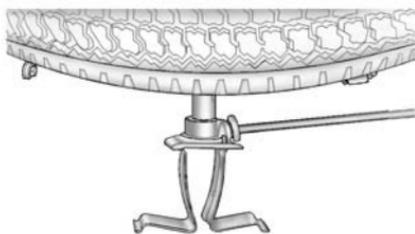
1. Check under the vehicle to see if the cable end is visible. If the cable is not visible proceed to Step 6.
2. If it is visible, first try to tighten the cable by turning the wheel wrench clockwise until you hear two clicks or feel it skip twice. You cannot overtighten the cable.

3. Loosen the cable by turning the wrench anticlockwise three or four turns.
4. Repeat this procedure at least two times. If the spare tyre lowers to the ground, continue with Step 5 under "Removing the Spare Tyre and Tools" under *Tyre Changing* on page 10-56.
5. If the spare does not lower, turn the wrench anticlockwise until approximately 15 cm (6 in) of cable is exposed.
6. Stand the wheel blocks on their shortest ends, with the backs facing each other.

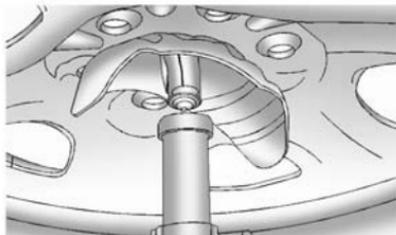


- A. Jack
- B. Wheel Blocks
7. Place the bottom edge of the jack (A) on the wheel blocks (B), separating them so that the jack is balanced securely.

## 10-68 Vehicle Care



8. Attach the jack handle, extension, and wheel wrench to the jack and place it (with the wheel blocks) under the vehicle toward the front of the rear bumper.



9. Position the centre lift point of the jack under the centre of the spare tyre.

10. Turn the wrench clockwise to raise the jack until it lifts the end fitting.
11. Continue raising the jack until the spare tyre stops moving upward and is held firmly in place. The secondary latch has released and the spare tyre is balancing on the jack.
12. Lower the jack by turning the wheel wrench anticlockwise. Keep lowering the jack until the spare tyre slides off the jack or is hanging by the cable.

### Warning

Someone standing too close during the procedure could be injured by the jack. If the spare tyre does not slide off the jack completely, make sure no one is behind you or on either side of you as you pull the jack out from under the spare.

13. Disconnect the jack handle from the jack and carefully remove the jack. Use one hand to push against the spare while firmly pulling the jack out from under the spare tyre with the other hand.

If the spare tyre is hanging from the cable, insert the hoist end of extension, and wheel wrench into the hoist shaft hole in the bumper and turn the wheel wrench anticlockwise to lower the spare the rest of the way.

14. Turn the wheel wrench in the hoist shaft hole in the bumper clockwise to raise the cable back up if the cable is hanging under the vehicle.

Have the hoist assembly inspected as soon as you can. You will not be able to store a spare or flat tyre using the hoist assembly until it has been inspected and/or replaced.

To continue changing the flat tyre, see "Removing the Flat Tyre and Installing the Spare Tyre" under *Tyre Changing on page 10-56*.

## Full-Size Spare Tyre

The full-size spare tyre that came with the vehicle was fully inflated when new, however, it can lose air over time. Check the inflation pressure regularly. See *Tyre Pressure on page 10-43* and *Vehicle Load Limits on page 9-14* for information regarding proper tyre inflation and loading the vehicle. For instructions on how to remove, install, or store a spare tyre, see *Tyre Changing on page 10-56*.

After installing the spare tyre on the vehicle, stop as soon as possible and check that the spare is correctly inflated. The spare tyre is made to perform well at speeds up to 112 km/h (70 mph) at the recommended inflation pressure, so you can finish your trip.

Have the damaged or flat road tyre repaired or replaced and installed back onto the vehicle as soon as possible so the spare tyre will be available in case it is needed again. Do not mix tyres and wheels of different sizes, because they will not fit. Keep the spare tyre and its wheel together.

## Jump Starting

For more information about the vehicle battery, see *Battery on page 10-24*.

If the vehicle's battery has run down, you may want to use another vehicle and some jump leads to start your vehicle. Be sure to use the following steps to do it safely.

### **Warning**

Batteries can hurt you. They can be dangerous because:

- They contain acid that can burn you.
- They contain gas that can explode or ignite.
- They contain enough electricity to burn you.

If you do not follow these steps exactly, some or all of these things can hurt you.

**Notice:** Ignoring these steps could result in costly damage to the vehicle that would not be covered by the warranty.

**Trying to start the vehicle by pushing or pulling it will not work, and it could damage the vehicle.**

1. Check the other vehicle. It must have a 12-volt battery with a negative ground system.

**Notice:** Only use a vehicle that has a 12-volt system with a negative ground for jump starting. If the other vehicle does not have a 12-volt system with a negative ground, both vehicles can be damaged.

2. Get the vehicles close enough so the jump leads can reach, but be sure the vehicles are not touching each other. If they are, it could cause a ground connection you do not want. You would not be able to start your vehicle, and the bad grounding could damage the electrical systems.

To avoid the possibility of the vehicles rolling, apply the parking brake firmly on both vehicles involved in the jump start procedure. Put the automatic transmission in P (Park) or a manual gearbox in N (Neutral) before applying the parking brake. If you have a four-wheel-drive vehicle, be sure that the transfer case is in a drive gear, not in N (Neutral).

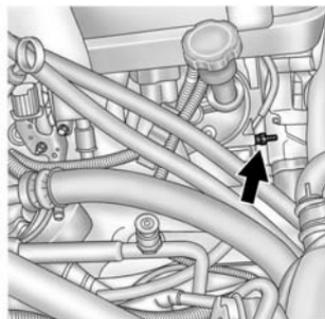
**Notice:** If any accessories are left on or plugged in during the jump starting procedure, they could be damaged. The repairs would not be covered by the vehicle warranty. Whenever possible,

**turn off or unplug all accessories on either vehicle when jump starting the vehicle.**

3. Turn off the ignition on both vehicles. Unplug unnecessary accessories plugged into the accessory power outlets. Turn off the radio and all the lamps that are not needed. This avoids sparks and helps save both batteries. And it could save the radio!
4. Open the hood on the other vehicle and locate the positive (+) and negative (-) terminal locations on that vehicle.

Your vehicle has a remote positive (+) jump starting terminal and a remote negative (-) jump starting terminal. You should always use these remote terminals instead of the terminals on the battery.

If the vehicle has a remote positive (+) terminal, it is located under a red plastic cover at the positive battery post. To uncover the remote positive (+) terminal, open the red plastic cover.



The remote negative (-) terminal is a stud located on the right front of the engine, where the negative battery cable attaches.

See *Engine Compartment Overview* on page 10-5 for more information on the location of the remote positive (+) and remote negative (-) terminals.

**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 underbonnet electric fan.

**Warning**

Using an open flame near a battery can cause battery gas to explode. People have been hurt doing this, and some have been blinded. Use a torch 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,

(Continued)

**Warning (Continued)**

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.

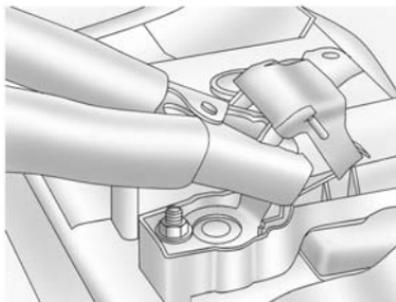
## 10-72 Vehicle Care

---

5. Check that the jump leads do not have loose or missing insulation. If they do, you could get a shock. The vehicles could be damaged too.

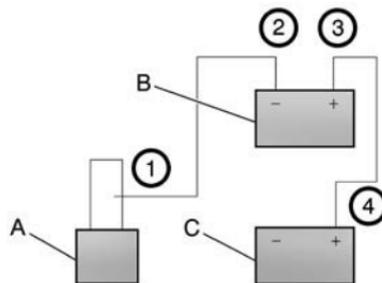
Before you connect the cables, here are some basic things you should know. Positive (+) will go to positive (+) or to a remote positive (+) terminal if the vehicle has one. Negative (-) will go to a heavy, unpainted metal engine part or to a remote negative (-) terminal if the vehicle has one.

Do not connect positive (+) to negative (-) or you will get a short that would damage the battery and maybe other parts too. And do not connect the negative (-) cable to the negative (-) terminal on the dead battery because this can cause sparks.



6. Connect the red positive (+) cable to the positive (+) terminal of the vehicle with the dead battery. Use a remote positive (+) terminal if the vehicle has one.
7. Do not let the other end touch metal. Connect it to the positive (+) terminal of the good battery. Use a remote positive (+) terminal if the vehicle has one.
8. Now connect the black negative (-) cable to the negative (-) terminal of the good battery. Use a remote negative (-) terminal if the vehicle has one.
- Do not let the other end touch anything until the next step. The other end of the negative (-) cable does not go to the dead battery. It goes to a heavy, unpainted metal engine part or to the remote negative (-) terminal on the vehicle with the dead battery.
9. Connect the other end of the negative (-) cable to the remote negative (-) terminal, on the vehicle with the dead battery.
10. Now start the vehicle with the good battery and run the engine for a while.
11. Try to start the vehicle that had the dead battery. If it will not start after a few tries, it probably needs service.

**Notice:** If the jump leads 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 jump leads in the correct order, making sure that the cables do not touch each other or other metal.



#### Jump Lead 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 jump leads from both vehicles do the following:

1. Disconnect the black negative (-) cable from the vehicle that had the bad 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 remote positive (+) terminal cover, if the vehicle has one, to its original position.

## Towing

### Towing the Vehicle

**Notice:** Incorrectly towing a disabled vehicle may cause damage. The damage would not be covered by the vehicle warranty. Do not lash or hook to the chassis components including the front and rear subframes, suspension control arms and links during towing and recovery of a disabled vehicle or to secure the vehicle to a flatbed car carrier. Use the proper nylon strap harnesses around the tyres to secure the flatbed car carrier.

Have the vehicle towed on a flatbed car carrier or a wheel lift tow truck. If a wheel lift tow truck is used, the drive wheels cannot contact the road while the vehicle is being towed. A wheel dolly must be used to lift all drive wheels off the ground.

Consult your dealer or a professional towing service if the disabled vehicle must be towed.

To tow the vehicle behind another vehicle for recreational purposes, such as behind a motor home, see "Recreational Vehicle Towing" following.

### Recreational Vehicle Towing

**Notice:** Towing an all-wheel-drive vehicle with all four wheels on the ground, or even with only two of its wheels on the ground, will damage drivetrain components. Do not tow an all-wheel-drive vehicle with any of its wheels on the ground.

All-wheel-drive vehicles are not designed to be towed with any wheels on the ground. If the vehicle must be towed, see Towing Your Vehicle previously.

## Appearance Care

### Exterior Care

#### Locks

Locks are lubricated at the factory. Use a de-icing agent only when absolutely necessary, and have the locks greased after using. See *Recommended Fluids and Lubricants* on page 11-5.

#### 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 washers 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.

Do not apply waxes or polishes to uncoated plastic, vinyl, rubber, decals, simulated wood, or flat paint as damage can occur.

**Notice:** Machine compounding or aggressive polishing on a base coat/clear coat paint finish may damage it. Use only non-abrasive

waxes and polishes that are made for a base coat/clear coat 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 aluminium, never use auto or chrome polish, steam, or caustic soap to clean. A coating of wax, rubbed to a high polish, is recommended for all bright metal parts.

### Cleaning Exterior Lamps/Lenses and Emblems

Use only lukewarm or cold water, a soft cloth and a car washing soap to clean exterior lamps, lenses and emblems. Follow instructions under "Washing the Vehicle" in this section.

### Windscreen and Wiper Blades

Clean the outside of the windscreen with glass cleaner.

Clean rubber blades using a lint-free cloth or paper towel soaked with windscreen washer fluid or a mild detergent. Wash the windscreen thoroughly when cleaning the blades. Insects, road grime, sap, and a build-up 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. Lubricate weatherstrips once a year. Black marks from rubber material on painted surfaces

can be removed by rubbing with a clean cloth. See *Recommended Fluids and Lubricants* on page 11-5.

### Tyres

Use a stiff brush with tyre cleaner to clean the tyres.

**Notice: Using petroleum-based tyre dressing products on the vehicle may damage the paint finish and/or tyres. When applying a tyre dressing, always wipe off any overspray from all painted surfaces on the vehicle.**

### Wheels and Trim - Aluminium or Chrome

Use a soft, clean cloth with mild soap and water to clean the wheels. After rinsing thoroughly with clean water, dry with a soft, clean towel. A wax may then be applied.

**Notice: Chrome wheels and other chrome trim may be damaged if the vehicle is not washed after driving on roads that have been sprayed with magnesium,**

**calcium, or sodium chloride. These chlorides are used on roads for conditions such as ice and dust. Always wash the chrome with soap and water after exposure.**

**Notice: To avoid surface damage, do not use strong soaps, chemicals, abrasive polishes, cleaners, brushes, or cleaners that contain acid on aluminium or chrome-plated wheels. Use only approved cleaners. Also, never drive a vehicle with aluminium or chrome-plated wheels through an automatic car wash that uses silicone carbide tyre cleaning brushes. Damage could occur and the repairs would not be covered by the vehicle warranty.**

### Steering, Suspension, and Chassis Components

Visually inspect the 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, bonnet hinges, tailgate 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 discolourations, 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 soiling. Note that newspapers or dark garments that can transfer colour to home furnishings can also permanently transfer colour to the vehicle's interior.

Use a soft bristle brush to remove dust from knobs and crevices on the instrument cluster. Using a mild soap solution, immediately remove hand lotions, sunscreen, and insect repellent from all interior surfaces or permanent damage may result.

Your dealer may have products for cleaning the interior. Use cleaners specifically designed for the surfaces being cleaned to prevent permanent damage. Apply all cleaners directly to the cleaning cloth. Do not spray cleaners directly on any switches or controls. Cleaners should be removed quickly. Never allow cleaners to

remain on the surface being cleaned for extended periods of time.

Cleaners may contain solvents that can become concentrated in the interior. Before using cleaners, read and adhere to all safety instructions on the label. While cleaning the interior, maintain adequate ventilation by opening the doors and windows.

To prevent damage, do not clean the interior using the following cleaners or techniques:

- Never use a razor or any other sharp object to remove a soil from any interior surface.
- Never use a brush with stiff bristles.
- Never rub any surface aggressively or with excessive pressure.
- Do not use laundry detergents or dishwashing soaps with degreasers. For liquid cleaners, use approximately 20 drops per

3.78 L (1 gal) of water.

A concentrated soap solution will leave a residue that creates streaks and attracts dirt. Do not use solutions that contain strong or caustic soap.

- Do not heavily saturate the upholstery when cleaning.
- Do not use solvents or cleaners containing solvents.

### Interior Glass

To clean, use a terry cloth fabric dampened with water. Wipe droplets left behind with a clean dry cloth. Commercial glass cleaners may be used, if necessary, after cleaning the interior glass with plain water.

**Notice: To prevent scratching, never use abrasive cleaners on automotive glass. Abrasive cleaners or aggressive cleaning may damage the rear window defogger.**

**Notice: Cleaning the windshield with water during the first three to six months of ownership will reduce tendency to fog.**

### Speaker Covers

Vacuum around a speaker cover gently, so that the speaker will not be damaged. Clean spots with just water and mild soap.

### Coated Mouldings

Coated mouldings should be cleaned.

- When lightly soiled, wipe with a sponge or soft lint-free cloth dampened with water.
- When heavily soiled, use warm soapy water.

**Fabric/Carpet/Suede**

Start by vacuuming the surface using a soft brush attachment. If a rotating 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 soil, remove as much as possible prior to vacuuming.

To clean:

1. Saturate a clean lint-free colourfast 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 centre. 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 colour 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 colourfastness 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.

**TEHAMA™ Leather**

The leather surface on the seat was not designed to be aggressively cleaned using any commercial product. Use a well wrung cloth dampened with water to remove dust. Do not use a wet cloth or saturated the leather surface with water. Allow the leather to dry naturally. If a soil occurs that cannot be completely removed, allow it to become part of the natural markings of the leather. The leather is designed to have a natural appearance and develop a more vintage appearance with use.

Do not use heat to dry. Never use steam to clean leather. Never use spot lifters or spot removers on leather. It is very important not to use any commercial leather cleaners and coatings that are sold to preserve and protect leather. Not only are those products not necessary, they will permanently and adversely change the appearance and feel of the leather. Never use silicone or wax-based

products, or those containing organic solvents to clean the interior. Never use shoe polish on leather.

### **Cleaning High Gloss Surfaces and Vehicle Information and Radio Displays**

For vehicles with high gloss surfaces or vehicle displays, use a microfibre cloth to wipe surfaces. Before wiping the surface with the microfibre cloth, use a soft bristle brush to remove dirt that could scratch the surface. Then use the microfibre cloth by gently rubbing to clean. Never use window cleaners or solvents. Periodically hand wash the microfibre cloth separately, using mild soap. Do not use bleach or fabric softener. Rinse thoroughly and air dry before next use.

**Notice:** Do not attach a device with a suction cup to the display. This may cause damage and would not be covered by the warranty.

### **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.

### **Cargo Cover and Convenience Net**

Wash with warm water and mild detergent. Do not use chlorine bleach. Rinse with cold water, and then dry completely.

### Care of Safety Belts

Keep belts clean and dry.



#### Warning

Do not bleach or dye safety 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 the 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 pedals. Always check that the floor mats do not interfere with the pedals.
- Use the floor mat with the correct side up. Do not turn it over.
- Do not place anything on top of the driver side floor mat.
- Use only a single floor mat on the driver side.
- Do not place one floor mat on top of another.



## Service and Maintenance

### General Information

General Information ..... 11-1

### Scheduled Maintenance

Scheduled Maintenance ..... 11-1

### Recommended Fluids, Lubricants, and Parts

Recommended Fluids and  
Lubricants ..... 11-5

Maintenance Replacement  
Parts ..... 11-7

## General Information

It is essential that your vehicle receives the maintenance outlined on the following pages to retain the safety, reliability and performance originally built into your vehicle.

When your odometer reaches the mileage indicated on the following pages, or the corresponding time interval has been reached, take your vehicle, preferably to an authorised dealer and/or repairer, who will provide the proper parts and service.

Once maintenance has been performed, have the authorised dealer and/or repairer fill out and stamp the appropriate box in this booklet to serve as your maintenance record which may be needed for warranty repairs. It will also show future owners how well your vehicle has been maintained.

## Scheduled Maintenance

### 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.

## 11-2 Service and Maintenance

---

### Inspection Every 15 000 km or 1 Year

- Change engine oil and filter. Reset oil life system.
  - Engine coolant level check.
  - Engine cooling system inspection. Visual inspection of hoses, pipes, fittings, and clamps and replacement, if needed.
  - Windscreen washer fluid level check.
  - Windscreen washer fluid level check.
  - Windscreen wiper blade inspection for wear, cracking, or contamination and windscreen and wiper blade cleaning, if contaminated. Worn or damaged wiper blade replacement.
  - Tyre inflation pressures check.
  - Tyre wear inspection.
  - Fluids visual leak check. A leak in any system must be repaired and the fluid level checked.
  - Engine air cleaner filter inspection.
  - Brake system inspection.
  - Steering and suspension inspection. Visual inspection for damaged, loose, or missing parts or signs of wear.
  - Body hinges and latches, key lock cylinders, folding seat hardware, and rear compartment, bonnet, and console door hinges and latches lubrication. More frequent lubrication may be required when the vehicle is exposed to a corrosive environment. Applying silicone grease on weatherstrips with a clean cloth makes them last longer, seal better, and not stick or squeak.
- Restraint system component check.
  - Fuel system inspection for damage or leaks.
  - Exhaust system and nearby heat shields inspection for loose or damaged components.
  - Accelerator pedal check for damage, high effort, or binding.
  - Bonnet/Deck lid/Tailgate/Lift glass Support Gas Strut Service: Visually inspect gas strut, if equipped, for signs of wear, cracks, or other damage. Check the hold open ability of the gas strut. Contact your authorised repairer if service is required.
  - Road Test. Check all systems for correct function/performance.

- To maintain air conditioning efficiency, have an authorised repairer check the system at least once each year.
- Automatic transmission shift lock control function check.
- Parking brake and automatic P (Park) mechanism check.
- Underbody flushing service.
- Tyre sealant and compressor kit (if equipped with tyre sealant and compressor kit), check sealant expiration date.
- Verify spare tyre key lock operation and lubricate as needed. See *Tyre Changing* on page 10-56.

### **Additional Maintenance Every 30 000 km or 2 Years**

In addition to the items listed under "Inspection every 15 000 km or 1 year" the following items should be carried out every 30 000 km or 2 years (whichever occurs first):

- Passenger compartment air filter — replace (if applicable).
- Engine Air Filter Replacement.
- All-wheel-drive vehicles only: Transfer case fluid change (severe service) for vehicles mainly driven in heavy city traffic in hot weather, in hilly or mountainous terrain, when frequently towing a trailer, or used for taxi, police, or delivery service. During any maintenance, if a power washer is used to clean mud and dirt from the underbody, care should be taken to not directly spray the transfer case output seals. High pressure water can overcome the seals and contaminate the transfer case fluid.

Contaminated fluid will decrease the life of the transfer case and should be replaced.

- Automatic transmission fluid change (severe service) for vehicles mainly driven in heavy city traffic in hot weather, in hilly or mountainous terrain, when frequently towing a trailer, or used for taxi, police, or delivery service.

### **Replace Every 2 Years**

Replace brake fluid every 2 years.

Note: All vehicles with rear-wheel drive — change driveline axle oil every 30 000 km, if vehicle is used for towing purposes.

### **Additional Maintenance Every 150 000 km or if Necessary**

- Spark plugs — replace
- Automatic transmission fluid and filter change

## 11-4 Service and Maintenance

---

- Four-wheel drive only: Transfer case fluid change (normal service). Check vent hose at transfer case for kinks and proper installation. Check to be sure vent hose is unobstructed, clear, and free of debris. During any maintenance, if a power washer is used to clean mud and dirt from the underbody, care should be taken to not directly spray the transfer case output seals. High pressure water can overcome the seals and contaminate the transfer case fluid. Contaminated fluid will decrease the life of the transfer case and should be replaced.

### **Additional Maintenance Every 250 000 km or Every Five Years, Whichever Occurs First**

- Engine cooling system drain and refill (or every five years, whichever occurs first).

### **Conditions Requiring More Frequent Maintenance (Severe Service)**

- Extreme temperatures
- Heavy city traffic
- Hilly or mountainous terrain
- Dusty, muddy or off-road conditions
- Commercial use or trailer towing
- Most trips less than 6 km

Note: All vehicles with rear-wheel drive — change driveline axle oil every 30 000 km, if vehicle is used for towing purposes.

## 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	The engine requires engine oil approved to the dexos 2™ specification. Oils meeting this specification can be identified with the dexos2™ certification mark. Look for and use only an engine oil that displays the dexos2™ certification mark of the proper viscosity grade. See “Engine Oil” in the owner manual.
Engine Coolant	50/50 mixture of clean, drinkable water and use only DEX-COOL Coolant. See “Engine Coolant” in the owner manual.
Hydraulic Brake System	DOT 3 Hydraulic Brake Fluid (GM Part No. 19299818).
Windscreen Washer	Optikleen® Washer Solvent.
Power Steering System	GM Power Steering Fluid (GM Part No. 89021184).
Chassis Lubrication	Chassis Lubricant (GM Part No. 12377985) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Parking Brake Cable Guides	Chassis Lubricant (GM Part No. 12377985) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Automatic Transmission	DEXRON®-VI Automatic Transmission Fluid.
Key Lock Cylinders	Multi-Purpose Lubricant, Superlube (GM Part No. 12346241).

## 11-6 Service and Maintenance

---

<b>Usage</b>	<b>Fluid/Lubricant</b>
Front and Rear Axle	SAE 75W-90 Synthetic Axle Lubricant (GM Part No. 89021677).
Transfer Case	DEXRON®-VI Automatic Transmission Fluid.
Bonnet Hinges, Body Door Hinge Pins, Tailgate Hinge and Linkage, Folding Seats, Fuel Door Hinge, and Outer Tailgate Handle Pivot Points	Multi-Purpose Lubricant, Superlube (GM Part No. 12346241).
Weatherstrip Conditioning	Weatherstrip Lubricant (GM Part No. 3634770) or Dielectric Silicone Grease (GM Part No. 12345579).
All: Weatherstrip	Synthetic Grease with Teflon, Superlube (GM Part No. 12371287).

## Maintenance Replacement Parts

Replacement parts identified here by name, part number, or specification can be obtained from your dealer.

Part	GM Part Number	ACDelco Part Number
Engine Air Cleaner/Filter	15908916	A3086C
Oil Filter	89017524	PF48
Spark Plugs	12621258	41-110
Wiper Blades		
Front - 55.0 cm (21.6 in)	25877402	-
Rear - 30.0 cm (11.8 in)	25820122	-



## Technical Data

### Vehicle Identification

Vehicle Identification Number (VIN) .....	12-1
Engine Identification .....	12-1
Service Parts Identification Label .....	12-1

### Vehicle Data

Capacities and Specifications .....	12-2
Engine Drive Belt Routing ...	12-4

## Vehicle Identification

### Vehicle Identification Number (VIN)



This legal identifier is in the front corner of the instrument panel, on the left side of the vehicle. It can be seen through the windshield from outside. The VIN also appears on the Vehicle Certification and Service Parts labels and certificates of title and registration.

## Engine Identification

The eighth character in the VIN is the engine code. This code identifies the vehicle's engine, specifications, and replacement parts. See "Engine Specifications" under *Capacities and Specifications* on page 12-2 for the vehicle's engine code.

## Service Parts Identification Label

This label, on the inside of the glove box, 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 11-5* for more information.

Application	Capacities	
	Metric	English
Air Conditioning Refrigerant	For the air conditioning system refrigerant charge amount, see the refrigerant label located under the bonnet. See your dealer for more information.	
Cooling System	16.7 L	17.6 qt
Engine Oil with Filter	5.7 L†	6.0 qt†
Fuel Tank	98.4 L	26.0 gal
Transmission Fluid (Pan Removal and Replacement)	5.7 L	6.0 qt
Transfer Case Fluid	1.4 L	1.5 qt
Wheel Nut Torque	190 N•m	140 lb ft
All capacities are approximate. When adding, be sure to fill to the approximate level, as recommended in this manual. Recheck fluid after filling. †Oil filter should be changed at every oil change.		

**Engine Specifications**

Engine	VIN Code	Horsepower	Torque	Spark Plug Gap
6.2L V8	F	301 kW@5700 min <sup>-1</sup>	565 Nm@4300 min <sup>-1</sup>	1.02 mm (0.040 in)

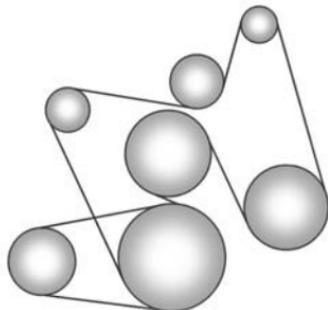
**Fuel Consumption and Emissions Information**

<b>Fuel Consumption</b>	
Urban	20.1L/100 km
Extra-Urban	11.3L/100 km
Combined	14.5L/100 km
<b>Carbon Dioxide Emissions</b>	
Urban	468 g/km
Extra-Urban	264 g/km
Combined	339 g/km

## 12-4 Technical Data

---

### Engine Drive Belt Routing



## Customer Information

### Customer Information

Declaration of Conformity .... 13-1

### Vehicle Data Recording and Privacy

Vehicle Data Recording and Privacy ..... 13-1  
Navigation System ..... 13-2  
Radio Frequency Identification (RFID) ..... 13-2

## Customer Information Declaration of Conformity

This vehicle has systems that transmit and/or receive radio waves subject to Directive 1999/5/EC. These systems are in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. Copies of the original Declarations of Conformity can be obtained on our website.

## Vehicle Data Recording and Privacy

### Event Data Recorders

#### Data Storage Modules in the Vehicle

A large number of electronic components of your vehicle contain data storage modules temporarily or permanently storing technical data about the condition of the vehicle, events, and errors. In general, this technical information documents the condition of parts, modules, systems, or the environment:

- Operating conditions of system components (e.g., filling levels).
- Status messages of the vehicle and its single components (e.g., number of wheel revolutions/rotational speed, deceleration, lateral acceleration).
- Dysfunctions and defects in important system components.

## 13-2 Customer Information

---

- Vehicle reactions in particular driving situations (e.g., inflation of an airbag, activation of the stability regulation system).
- Environmental concerns (e.g., temperature).

This data is exclusively technical and helps identify and correct errors as well as optimise vehicle functions.

Motion profiles indicating travelled routes cannot be created with this data.

If services are used (e.g., repair works, service processes, warranty cases, quality assurance), employees of the service network (manufacturer included) are able to read out this technical information from the event and error data storage modules applying special diagnostic devices. If required, you will receive further information at these dealers. After an error has been corrected, the data is deleted from the error storage module or constantly overwritten.

When using the vehicle, situations may occur in which this technical data related to other information (accident report, damages on the vehicle, witness statements, etc.) may be associated with a specific person — possibly, with the assistance of an expert.

Additional functions contractually agreed upon with the client (e.g., vehicle location in emergency cases) allow the transmission of particular vehicle data from the vehicle.

### Navigation System

Use of the navigation system may result in the storage of destinations, addresses, telephone numbers, and other trip information. See *Using the Navigation System on page 7-31* for information on stored data and for deletion instructions.

### Radio Frequency Identification (RFID)

Radio Frequency Identification (RFID) technology is used in some vehicles for functions such as tyre pressure monitoring and ignition system security. It is also used in connection with conveniences such as Remote Keyless Entry (RKE) transmitters for remote door locking/unlocking and starting, and in-vehicle transmitters for garage door openers. RFID technology in Cadillac vehicles does not use or record personal information or link with any other Cadillac system containing personal information.

**A**

Accessories and  
Modifications ..... 10-2

Accessory Power ..... 9-21

Active Fuel Management® ..... 9-23

Add-On Electrical  
Equipment ..... 9-58

Adjustable Throttle and  
Brake Pedal ..... 9-18

Adjustments  
Lumbar, Front Seats ..... 3-4

Air Cleaner/Filter, Engine ..... 10-12

Air Vents ..... 8-7

Airbag System  
Check ..... 3-36

How Does an Airbag  
Restrain? ..... 3-29

Passenger Sensing  
System ..... 3-31

What Makes an Airbag  
Inflate? ..... 3-28

What Will You See after an  
Airbag Inflates? ..... 3-29

When Should an Airbag  
Inflate? ..... 3-27

Where Are the Airbags? ..... 3-25

Airbags  
Adding Equipment to the  
Vehicle ..... 3-35

Passenger Status Indicator ..... 5-14

Readiness Light ..... 5-13

Servicing Airbag-Equipped  
Vehicles ..... 3-35

System Check ..... 3-23

Alarm  
Vehicle Security ..... 2-12

All-Terrain Tyres ..... 10-42

All-Wheel Drive ..... 9-29, 10-25

AM-FM Radio ..... 7-8

Antenna  
Rear Side Window ..... 7-15

Antilock Brake  
System (ABS) ..... 9-29

Warning Light ..... 5-18

Appearance Care  
Exterior ..... 10-74

Interior ..... 10-77

Armrest Storage ..... 4-2

Ashtrays ..... 5-9

Audio Players  
CD/DVD ..... 7-16

MP3 ..... 7-25

Audio System  
Radio Reception ..... 7-15

Rear Seat (RSA) ..... 7-29

Theft-Deterrent Feature ..... 7-3

Automatic  
Dimming Mirrors ..... 2-16

Door Locks ..... 2-7

Headlamp System ..... 6-3

Level Control ..... 9-35

Transmission ..... 9-25

Transmission Fluid ..... 10-9

Automatic Transmission  
Manual Mode ..... 9-27

Shift Lock Control  
Function Check ..... 10-27

Auxiliary  
Devices ..... 7-28

Axle, Front ..... 10-25

Axle, Rear ..... 10-26

**B**

Battery .....	10-24
Jump Starting .....	10-69
Load Management .....	6-7
Power Protection .....	6-8
Voltage and Charging Messages .....	5-28
Blade Replacement, Wiper ...	10-28
Bonnet .....	10-3
Brake	
Pedal and Adjustable Throttle .....	9-18
System Warning Light .....	5-17
Brakes .....	10-21
Antilock .....	9-29
Assist .....	9-31
Fluid .....	10-22
Parking .....	9-30
System Messages .....	5-28
Braking .....	9-2

Bulb Replacement .....	10-32
Headlamp Aiming .....	10-30
Headlamps .....	10-30
High Intensity Discharge (HID) Lighting .....	10-30
License Plate Lamps .....	10-31
Reversing Lamps .....	10-30
Buying New Tyres .....	10-51

**C**

Calibration .....	5-5
Camera, Rear Vision .....	9-42
Capacities and Specifications .....	12-2
Carbon Monoxide	
Engine Exhaust .....	9-24
Tailgate .....	2-8
Winter Driving .....	9-11
Cautions, Danger, and Warnings .....	iii
CD/DVD Player .....	7-16
Centre Console Storage .....	4-2
Chains, Tyre .....	10-54
Charging System Light .....	5-15

Check	
Engine Light .....	5-15
Ignition Transmission Lock .....	10-28
Child Restraints	
Infants and Young Children .....	3-39
ISOFIX .....	3-48
Older Children .....	3-37
Securing .....	3-50, 3-52
Systems .....	3-41
Cigarette Lighter .....	5-8
Circuit Breakers .....	10-33
Cleaning	
Exterior Care .....	10-74
Interior Care .....	10-77
Climate Control Systems	
Dual Automatic .....	8-1
Rear .....	8-6
Clock .....	5-7
Cluster, Instrument .....	5-10
Compass .....	5-5
Configure Menu .....	7-51
Conformity	
Declaration of .....	13-1

Continuous Damping  
 Control (CDC) ..... 9-35  
 Control of a Vehicle ..... 9-2  
 Convex Mirrors ..... 2-15  
 Coolant  
 Engine ..... 10-14  
 Engine Temperature  
 Gauge ..... 5-12  
 Cooling System ..... 10-13  
 Engine Messages ..... 5-29  
 Cruise Control ..... 9-36  
 Light ..... 5-22  
 Cupholders ..... 4-1

**D**

Danger, Warnings, and  
 Cautions ..... iii  
 Database Coverage  
 Explanations ..... 7-58  
 Declaration of Conformity ..... 13-1  
 Defensive Driving ..... 9-2  
 Delayed Locking ..... 2-7  
 Destination, Navigation ..... 7-39  
 Devices  
 Auxiliary ..... 7-28  
 Dome Lamps ..... 6-6

Door  
 Ajar Messages ..... 5-28  
 Delayed Locking ..... 2-7  
 Locks ..... 2-6  
 Power Locks ..... 2-7  
 Drive Belt Routing, Engine ..... 12-4  
 Drive Systems  
 All-Wheel Drive ..... 9-29, 10-25  
 Driver Information  
 Centre (DIC) ..... 5-22  
 Driving  
 Characteristics and  
 Towing Tips ..... 9-48  
 Defensive ..... 9-2  
 For Better Fuel Economy ..... 1-19  
 Highway Hypnosis ..... 9-10  
 Hill and Mountain Roads ..... 9-10  
 If the Vehicle is Stuck ..... 9-13  
 Loss of Control ..... 9-4  
 Off-Road ..... 9-4  
 Off-Road Recovery ..... 9-3  
 Vehicle Load Limits ..... 9-14  
 Wet Roads ..... 9-9  
 Winter ..... 9-11  
 Dual Automatic Climate  
 Control System ..... 8-1

DVD/CD Player ..... 7-16

**E**

Electrical Equipment,  
 Add-On ..... 9-58  
 Electrical System  
 Engine Compartment  
 Fuse Block ..... 10-33  
 Fuses and Circuit  
 Breakers ..... 10-33  
 Instrument Panel Fuse  
 Block ..... 10-37  
 Overload ..... 10-32  
 Engine  
 Air Cleaner/Filter ..... 10-12  
 Check and Service Engine  
 Soon Light ..... 5-15  
 Compartment Overview ..... 10-5  
 Coolant ..... 10-14  
 Coolant Temperature  
 Gauge ..... 5-12  
 Cooling System ..... 10-13  
 Cooling System Messages ..... 5-29  
 Drive Belt Routing ..... 12-4  
 Exhaust ..... 9-24  
 Fan ..... 10-19

Engine (cont'd)	
Oil Life System .....	10-9
Oil Messages .....	5-30
Overheated Protection	
Operating Mode .....	10-19
Overheating .....	10-17
Power Messages .....	5-30
Pressure Light .....	5-20
Running While Parked .....	9-24
Starting .....	9-20
Engine Identification .....	12-1
Entry Lighting .....	6-7
Equipment, Towing .....	9-53
Exit Lighting .....	6-7
Exterior Lamp Controls .....	6-1
Exterior Lamps Off Reminder ...	6-2
 <b>F</b>	
Fan	
Engine .....	10-19
Features	
Memory .....	1-8
Filter,	
Engine Air Cleaner .....	10-12
Flash-to-Pass .....	6-2

Flat Tyre .....	10-55
Changing .....	10-56
Floor Mats .....	10-81
Fluid	
Automatic Transmission .....	10-9
Brakes .....	10-22
Power Steering .....	10-20
Washer .....	10-20
Fog Lamp Light, Rear .....	5-21
Fog Lamps	
Front .....	6-5
Rear .....	6-5
Front Axle .....	10-25
Front Fog Lamp	
Light .....	5-21
Front Seats	
Heated and Ventilated .....	3-7
Fuel .....	9-45
Additives .....	9-45
Economy Driving .....	1-19
Filling a Portable Fuel	
Container .....	9-47
Filling the Tank .....	9-46
Gauge .....	5-11

Fuel (cont'd)	
Management, Active .....	9-23
Recommended .....	9-45
System Messages .....	5-31
Full-Size Spare Tyre .....	10-69
Fuses	
Engine Compartment	
Fuse Block .....	10-33
Fuses and Circuit	
Breakers .....	10-33
Instrument Panel Fuse	
Block .....	10-37

**G**

Gauges	
Engine Coolant	
Temperature .....	5-12
Fuel .....	5-11
Mileometer .....	5-11
Rev Counter .....	5-11
Speedometer .....	5-11
Trip Odometer .....	5-11
Warning Lights and	
Indicators .....	5-9

General Information  
 Service and Maintenance ..... 11-1  
 Towing ..... 9-48  
 Vehicle Care ..... 10-2  
 Glass Replacement ..... 10-29  
 Global Positioning  
 System (GPS) ..... 7-56  
 Glove Box ..... 4-1

**H**

Hazard Lights ..... 6-4  
 Head Restraints ..... 3-2  
 Headlamps  
 Aiming ..... 10-30  
 Automatic ..... 6-3  
 Bulb Replacement ..... 10-30  
 Flash-to-Pass ..... 6-2  
 High Intensity Discharge  
 (HID) Lighting ..... 10-30  
 Lamps On Reminder ..... 5-22  
 Main-Beam On Light ..... 5-21  
 Main/Dipped Beam Changer ... 6-2  
 Heated  
 Rear Seats ..... 3-8  
 Steering Wheel ..... 5-3

Heated and Ventilated Front  
 Seats ..... 3-7  
 Heated Mirrors ..... 2-16  
 High-Speed Operation ..... 10-44  
 Highway Hypnosis ..... 9-10  
 Hill and Mountain Roads ..... 9-10  
 Hill Start Assist (HSA) ..... 9-31  
 Horn ..... 5-3  
 How to Wear Safety Belts  
 Properly ..... 3-17

**I**

If the System Needs Service ... 7-58  
 Ignition Positions ..... 9-18  
 Ignition Transmission Lock  
 Check ..... 10-28  
 Immobiliser ..... 2-13  
 Infants and Young Children,  
 Restraints ..... 3-39  
 Instrument Cluster ..... 5-10  
 Introduction ..... iii, 7-1  
 ISOFIX Child Restraint  
 Systems ..... 3-48

**J**

Jump Starting ..... 10-69

**K**

Key and Lock Messages ..... 5-31  
 Keyless Entry  
 Remote (RKE) System ..... 2-2  
 Keys ..... 2-1

**L**

Lamps  
 Dome ..... 6-6  
 Exterior Controls ..... 6-1  
 Exterior Lamps Off  
 Reminder ..... 6-2  
 Front Fog ..... 6-5  
 Malfunction Indicator ..... 5-15  
 Messages ..... 5-31  
 Number Plate ..... 10-31  
 On Reminder ..... 5-22  
 Reading ..... 6-6  
 Rear Fog ..... 6-5  
 Lap-Shoulder Belt ..... 3-18  
 LED Lighting ..... 10-30



Mileometer .....	5-11
Trip .....	5-11
Mirrors	
Automatic Dimming .....	2-16
Automatic Dimming	
Rearview .....	2-16
Convex .....	2-15
Heated .....	2-16
Park Tilt .....	2-16
Power .....	2-15
Monitor System, Tyre	
Pressure .....	10-44
MP3 .....	7-25

## N

Navigation	
Destination .....	7-39
Symbols .....	7-34
Using the System .....	7-31
Vehicle Data Recording	
and Privacy .....	13-2
New Vehicle Run-In .....	9-17

## O

Object Detection System	
Messages .....	5-31
Object Detection, Side Blind	
Zone Alert (SBZA) .....	9-40
Off-Road .....	9-4
Driving .....	9-4
Recovery .....	9-3
Oil	
Engine .....	10-6
Engine Oil Life System .....	10-9
Messages .....	5-30
Pressure Light .....	5-20
Older Children, Restraints .....	3-37
Outlets	
Power .....	5-7
Overheated Engine	
Protection	
Operating Mode .....	10-19
Overheating, Engine .....	10-17
Overview, Infotainment	
System .....	7-3

## P

Park	
Shifting Into .....	9-21
Shifting Out of .....	9-22
Tilt Mirrors .....	2-16
Parking	
Assist, Ultrasonic .....	9-39
Brake .....	9-30
Brake and P (Park)	
Mechanism Check .....	10-28
Over Things That Burn .....	9-23
Passenger Airbag Status	
Indicator .....	5-14
Passenger Sensing System ...	3-31
Personalisation	
Vehicle .....	5-36
Power	
Door Locks .....	2-7
Mirrors .....	2-15
Outlets .....	5-7
Protection, Battery .....	6-8
Retained Accessory (RAP) ...	9-21
Seat Adjustment .....	3-3
Steering Fluid .....	10-20
Windows .....	2-17
Power Assist Steps .....	2-11

- Pregnancy, Using Safety
  - Belts ..... 3-21
- Privacy
- Radio Frequency
  - Identification (RFID) ..... 13-2
- Problems with Route
  - Guidance ..... 7-57

## R

- Radio Frequency
  - Identification (RFID) ..... 13-2
- Radios
  - AM-FM Radio ..... 7-8
  - CD/DVD Player ..... 7-16
  - Reception ..... 7-15
- Reading Lamps ..... 6-6
- Rear Axle ..... 10-26
  - Locking ..... 9-34
- Rear Climate Control System ... 8-6
- Rear Fog Lamp Light ..... 5-21
- Rear Fog Lamps ..... 6-5
- Rear Seat Audio (RSA)
  - System ..... 7-29
- Rear Seat Entertainment System
  - Rear Seat Audio (RSA) ..... 7-29

- Rear Seats
  - Heated ..... 3-8
- Rear Side Window Aerial ..... 7-15
- Rear Storage ..... 4-2
- Rear Vision Camera (RVC) ... 9-42
- Rear Window Washer/Wiper ... 5-4
- Rearview Mirrors
  - Automatic Dimming ..... 2-16
- Reclining Seat Backrests ..... 3-4
- Recommended
  - Fuel ..... 9-45
- Recommended Fluids and Lubricants ..... 11-5
- Recreational Vehicle
  - Towing ..... 10-74
- Remote Keyless Entry (RKE)
  - System ..... 2-2
- Remote Vehicle Start ..... 2-4
- Replacement
  - Glass ..... 10-29
- Replacement Bulbs ..... 10-32
- Replacement Parts
  - Airbags ..... 3-37
  - Maintenance ..... 11-7
- Replacing Airbag System ..... 3-37

- Replacing Safety Belt
  - System Parts after a Crash ... 3-22
- Restraints
  - Where to Put ..... 3-43
- Retained Accessory
  - Power (RAP) ..... 9-21
- Rev Counter ..... 5-11
- Ride Control Systems
  - Messages ..... 5-33
  - Road Sensing Suspension ... 9-35
- Road Sensing Suspension ... 9-35
- Roads
  - Driving, Wet ..... 9-9
- Roof
  - Sunroof ..... 2-19
- Roof Rack System ..... 4-3
- Rotation, Tyres ..... 10-49
- Routing, Engine Drive Belt .... 12-4
- Running the Vehicle While
  - Parked ..... 9-24
- Running-In, New Vehicle ..... 9-17

- S**
- Safety Belts ..... 3-15
    - Care ..... 3-22
    - How to Wear Safety Belts
      - Properly ..... 3-17
    - Lap-Shoulder Belt ..... 3-18
    - Replacing after a Crash ..... 3-22
    - Use During Pregnancy ..... 3-21
  - Safety Locks ..... 2-7
  - Safety System Check ..... 3-22
  - Scheduled Maintenance ..... 11-1
  - Seat Belts
    - Reminders ..... 5-12
  - Seats
    - Head Restraints ..... 3-2
    - Heated and Ventilated Front ... 3-7
    - Heated, Rear ..... 3-8
    - Lumbar Adjustment, Front ..... 3-4
    - Memory ..... 3-5
    - Power Adjustment, Front ..... 3-3
    - Reclining Seat Backrests ..... 3-4
    - Second Row ..... 3-8
    - Third Row Seat ..... 3-12
  - Second Row Seats ..... 3-8
  - Secondary Latch System ..... 10-66
  - Securing Child Restraints ..... 3-50, 3-52
  - Security
    - Light ..... 5-21
    - Messages ..... 5-34
    - Vehicle ..... 2-12
    - Vehicle Alarm ..... 2-12
  - Service
    - Accessories and Modifications ..... 10-2
    - Doing Your Own Work ..... 10-3
    - Engine Soon Light ..... 5-15
    - Maintenance, General Information ..... 11-1
    - Parts Identification Label ..... 12-1
  - Servicing the Airbag ..... 3-35
  - Shift Lock Control Function
    - Check, Automatic Transmission ..... 10-27
  - Shifting
    - Into Park ..... 9-21
    - Out of Park ..... 9-22
  - Side Blind Zone Alert ..... 9-40
  - Signals, Turn and Lane-Change ..... 6-4
  - Specifications and Capacities ..... 12-2
  - Speedometer ..... 5-11
  - StabiliTrak
    - OFF Light ..... 5-19
    - System ..... 9-32
  - Start Assist, Hills ..... 9-31
  - Start Vehicle, Remote ..... 2-4
  - Starter Switch Check ..... 10-27
  - Starting the Engine ..... 9-20
  - Steering ..... 9-3
    - Fluid, Power ..... 10-20
    - Heated Wheel ..... 5-3
    - Wheel Adjustment ..... 5-2
    - Wheel Controls ..... 5-2
  - Steps
    - Power Assist ..... 2-11
  - Storage
    - Rear ..... 4-2
  - Storage Areas
    - Armrest ..... 4-2
    - Centre Console ..... 4-2
    - Glove Box ..... 4-1
    - Roof Rack System ..... 4-3
  - Stuck Vehicle ..... 9-13
  - Sun Visors ..... 2-19

Sunroof .....	2-19
Symbols .....	iv
Symbols, Navigation .....	7-34
System	
Roof Rack .....	4-3
System Needs Service .....	7-58

## **T**

Tailgate	
Carbon Monoxide .....	2-8
Theft-Deterrent Systems .....	2-13
Immobiliser .....	2-13
Third-Row Seats .....	3-12
Throttle, Adjustable .....	9-18
Time .....	5-7
Tow/Haul Mode .....	9-28
Tow/Haul Mode Light .....	5-19
Towing	
Driving Characteristics .....	9-48
Equipment .....	9-53
General Information .....	9-48
Recreational Vehicle .....	10-74
Trailer .....	9-50
Trailer Sway Control (TSC) .....	9-57
Vehicle .....	10-74

Traction	
Control System (TCS)/	
StabiliTrak® Light .....	5-19
Road Sensing Suspension .....	9-35
Trailer	
Sway Control (TSC) .....	9-57
Towing .....	9-50
Transmission	
Automatic .....	9-25
Fluid, Automatic .....	10-9
Messages .....	5-35
Trip Odometer .....	5-11
Turn and Lane-Change	
Signals .....	6-4
Tyres	
All-Terrain .....	10-42
Buying New Tyres .....	10-51
Chains .....	10-54
Changing .....	10-56
Different Size .....	10-53
Full-Size Spare .....	10-69
If a Tyre Goes Flat .....	10-55
Inflation Monitor System .....	10-45
Inspection .....	10-48
Messages .....	5-34
Pressure .....	10-44

Tyres (cont'd)	
Pressure Light .....	5-20
Pressure Monitor System .....	10-44
Rotation .....	10-49
Secondary Latch System .....	10-66
Wheel Alignment and	
Tyre Balance .....	10-53
Wheel Replacement .....	10-53
When It Is Time for New	
Tyres .....	10-50
Winter .....	10-42

## **U**

Ultrasonic Parking Assist .....	9-39
Updates	
Map Data .....	7-58
Using This Manual .....	iii

## **V**

Vehicle	
Alarm System .....	2-12
Control .....	9-2
Identification	
Number (VIN) .....	12-1
Load Limits .....	9-14
Messages .....	5-27

Vehicle (cont'd)  
 Personalisation ..... 5-36  
 Positioning ..... 7-57  
 Reminder Messages ..... 5-36  
 Remote Start ..... 2-4  
 Security ..... 2-12  
 Towing ..... 10-74  
 Vehicle Care  
 Tyre Pressure ..... 10-43  
 Ventilation, Air ..... 8-7  
 Visors ..... 2-19

**W**

Warning  
 Brake System Light ..... 5-17  
 Warning Lights, Gauges, and  
 Indicators ..... 5-9  
 Warnings ..... iii  
 Cautions and Danger ..... iii  
 Hazard Lights ..... 6-4  
 Washer Fluid ..... 10-20  
 Messages ..... 5-36

Wheels  
 Alignment and Tyre  
 Balance ..... 10-53  
 Different Size ..... 10-53  
 Replacement ..... 10-53  
 When It Is Time for New  
 Tyres ..... 10-50  
 Where to Put the Restraint .... 3-43  
 Windows ..... 2-17  
 Power ..... 2-17  
 Windscreen  
 Wiper/Washer ..... 5-4  
 Winter  
 Driving ..... 9-11  
 Winter Tyres ..... 10-42  
 Wiper Blade Replacement .... 10-28  
 Wipers  
 Rear Washer ..... 5-4

