2008 HUMMER H3 Owner Manual

Seats and Restraint Systems 1-1
- Front Seats 1-2
- Rear Seats 1-8
- Safety Belts 1-10
- Child Restraints 1-30
- Airbag System 1-54
- Restraint System Check 1-69

Features and Controls 2-1
- Keys 2-3
- Doors and Locks 2-7
- Windows 2-11
- Theft-Deterrent Systems 2-14
- Starting and Operating Your Vehicle 2-18
- Mirrors 2-38
- Object Detection Systems 2-44
- OnStar® System 2-48
- Universal Home Remote System 2-51
- Storage Areas 2-56
- Sunroof 2-60

Instrument Panel 3-1
- Instrument Panel Overview 3-4
- Climate Controls 3-22
- Warning Lights, Gages, and Indicators 3-25
- Driver Information Center (DIC) 3-40
- Audio System(s) 3-48

Driving Your Vehicle 4-1
- Your Driving, the Road, and Your Vehicle 4-2
- Towing 4-48

Service and Appearance Care 5-1
- Service 5-3
- Fuel 5-5
- Checking Things Under the Hood 5-11
- Rear Axle 5-45
- Four-Wheel Drive 5-46
- Front Axle 5-46
- Headlamp Aiming 5-46
- Bulb Replacement 5-49
- Windshield Wiper Blade Replacement 5-52
- Tires 5-54
- Appearance Care 5-91
- Vehicle Identification 5-100
- Electrical System 5-101
- Capacities and Specifications 5-107

Maintenance Schedule 6-1
- Maintenance Schedule 6-2

Customer Assistance Information 7-1
- Customer Assistance and Information 7-2
- Reporting Safety Defects 7-14
- Vehicle Data Recording and Privacy 7-16

Index 1

Downloaded from www.Manualslib.com manuals search engine

GENERAL MOTORS, GM, the GM Emblem, HUMMER, and H3 are registered trademarks of General Motors Corporation.

This manual includes the latest information at the time it was printed. We reserve the right to make changes after that time without further notice. For vehicles first sold in Canada, substitute the name “General Motors of Canada Limited” for HUMMER whenever it appears in this manual.

This manual describes features that may be available in this model, but your vehicle may not have all of them. For example, more than one entertainment system may be offered or your vehicle may have been ordered without a front passenger or rear seats.

Keep this manual in the vehicle for quick reference.

Canadian Owners

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

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

1-800-551-4123
www.helminc.com

Propriétaires Canadiens

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

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

1-800-551-4123
www.helminc.com

Litho in U.S.A.
Part No. 15862068 A First Printing

©2007 General Motors Corporation. All Rights Reserved.

Downloaded from www.Manualslib.com manuals search engine

Using this Manual

Many people read the owner manual from beginning to end when they first receive their new vehicle to learn about the vehicle's features and controls. Pictures and words work together to explain things.

Index

A good place to quickly locate information about the vehicle is 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.

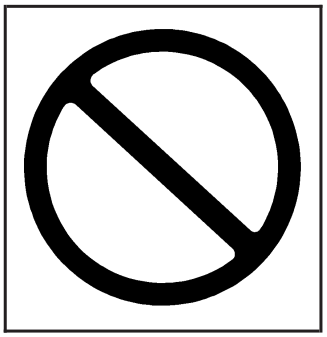
Safety Warnings and Symbols

There are a number of safety cautions in this book. A box with the word CAUTION is used to tell about things that could hurt you or others if you were to ignore the warning.

⚠ CAUTION:

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

We tell you what the hazard is and what to do to help avoid or reduce the hazard. Please read these cautions. If you do not, you or others could be hurt.



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."

Downloaded from www.Manualslib.com manuals search engine

Vehicle Damage Warnings

You will also find notices in this manual.

Notice: **These mean there is something that could damage your vehicle.**

A notice tells about something that can damage the vehicle. Many times, this damage would not be covered by your vehicle's warranty, and it could be costly. The notice tells what to do to help avoid the damage.

When you read other manuals, you might see CAUTION and NOTICE warnings in different colors or in different words.

There are also warning labels on the vehicle which use the same words, CAUTION or NOTICE.

Vehicle 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, gage, or indicator.

Downloaded from www.Manualslib.com manuals search engine

Section 1 Seats and Restraint Systems

Front Seats 1-2
- Manual Seats 1-2
- Power Seats 1-3
- Power Lumbar 1-3
- Heated Seats 1-4
- Reclining Seatbacks 1-4
- Head Restraints 1-7

Rear Seats 1-8
- 60/40 Split Bench Seat 1-8

Safety Belts 1-10
- Safety Belts: They Are for Everyone 1-10
- How to Wear Safety Belts Properly 1-16
- Lap-Shoulder Belt 1-24
- Safety Belt Use During Pregnancy 1-29
- Safety Belt Extender 1-30

Child Restraints 1-30
- Older Children 1-30
- Infants and Young Children 1-33
- Child Restraint Systems 1-37
- Where to Put the Restraint 1-40
- Lower Anchors and Tethers for Children (LATCH) 1-42
- Securing a Child Restraint in a Rear Outside Seat Position 1-48
- Securing a Child Restraint in the Center Rear Seat Position 1-50
- Securing a Child Restraint in the Right Front Seat Position 1-51

Airbag System 1-54
- Where Are the Airbags? 1-57
- When Should an Airbag Inflate? 1-59
- What Makes an Airbag Inflate? 1-60
- How Does an Airbag Restrain? 1-60
- What Will You See After an Airbag Inflates? 1-61
- Passenger Sensing System 1-62
- Servicing Your Airbag-Equipped Vehicle 1-67
- Adding Equipment to Your Airbag-Equipped Vehicle 1-68

Restraint System Check 1-69
- Checking the Restraint Systems 1-69
- Replacing Restraint System Parts After a Crash 1-70

Downloaded from www.Manualslib.com manuals search engine

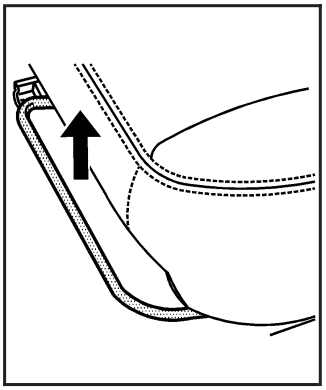
Front Seats

Manual Seats

⚠ CAUTION:

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

To move a manual seat forward or rearward:

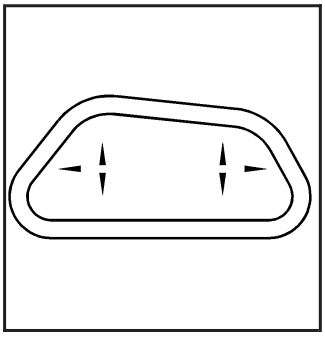


1. Lift the bar to unlock the seat.
2. Slide the seat to the desired position and release the bar.

Try to move the seat with your body to be sure the seat is locked in place.

Downloaded from www.Manualslib.com manuals search engine

Power Seats

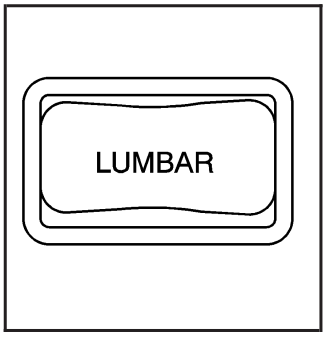


If the vehicle has power seats, the controls used to operate them are located on the outboard side of the seats.

To adjust the seat, do any of the following:

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

Power Lumbar

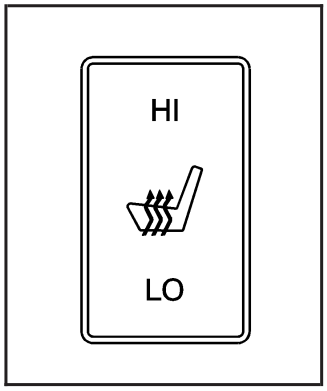


If your vehicle has this feature, the control is located on the outboard side of the seat(s).

Press and hold the front of the control until you have the desired lumbar support. To decrease lumbar support, press and hold the rear of the control.

Downloaded from www.Manualslib.com manuals search engine

Heated Seats



If your vehicle has this feature, the controls are located on the outboard side of the front seats.

This feature will heat the cushion and back of the seats.

Press the top of the switch to turn the heat to the high setting. Press the bottom of the switch to turn the heat to the low setting. Put the switch in the center position to turn the heat off.

The ignition must be on for the heated seat feature to work. The seat will heat to the last setting if the ignition has been turned off and then turned back on.

The passenger's safety belt must be fastened for the heated seat feature to work on the passenger's seat.

Reclining Seatbacks

⚠ CAUTION:

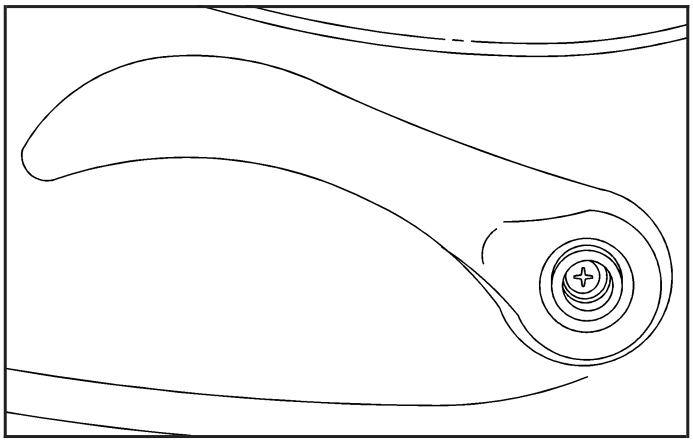
You can lose control of the vehicle if you try to adjust a manual driver's seat while the vehicle is moving. The sudden movement could startle and confuse you, or make you push a pedal when you do not want to. Adjust the driver's seat only when the vehicle is not moving.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

If the 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 seatback to be sure it is locked.

The seats have manual reclining seatbacks. The lever used to operate them is located on the outboard side of the seats.



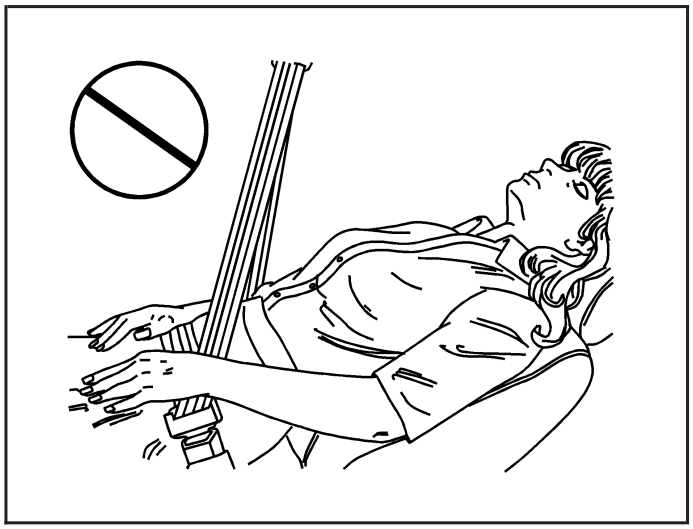
To recline the seatback:

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

To return the seatback to an upright position:

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

Downloaded from www.Manualslib.com manuals search engine



⚠ CAUTION:

Sitting in a reclined position when your vehicle is in motion can be dangerous. Even if you buckle up, your safety belts cannot do their job when you are reclined like this.

The shoulder belt cannot do its job because it 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.

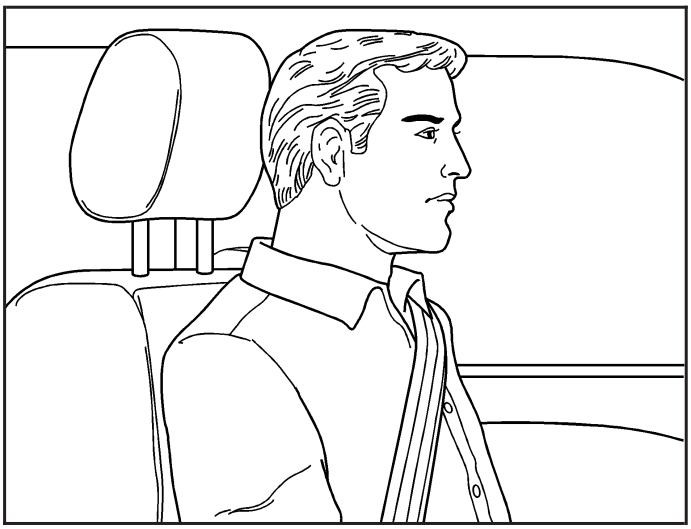
The lap belt cannot do its job either. In a crash, the belt could go up over your abdomen. The belt forces would be there, not at your pelvic bones. This could cause serious internal injuries.

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

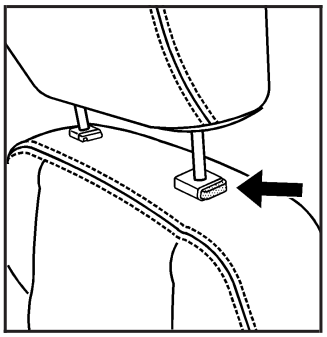
Do not have a seatback reclined if your vehicle is moving.

Downloaded from www.Manualslib.com manuals search engine

Head Restraints



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



Pull the head restraint up to raise it. To lower the head restraint, press the button, located on the top of the seatback, and push the head restraint down.

Downloaded from www.Manualslib.com manuals search engine

Rear Seats

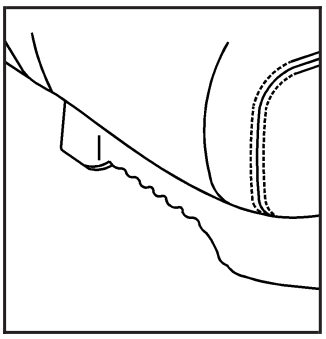
60/40 Split Bench Seat

The 60/40 split bench seats can be folded to give you more cargo space.

Folding the Seatbacks

To fold the rear seatback(s), do the following:

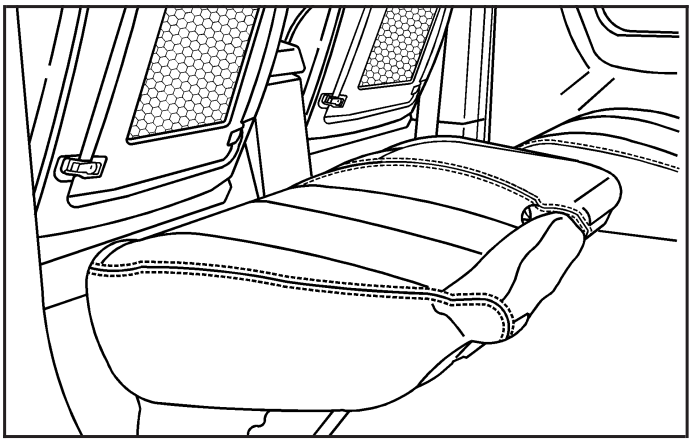
1. Make sure that nothing is on, under, or in front of the seat.

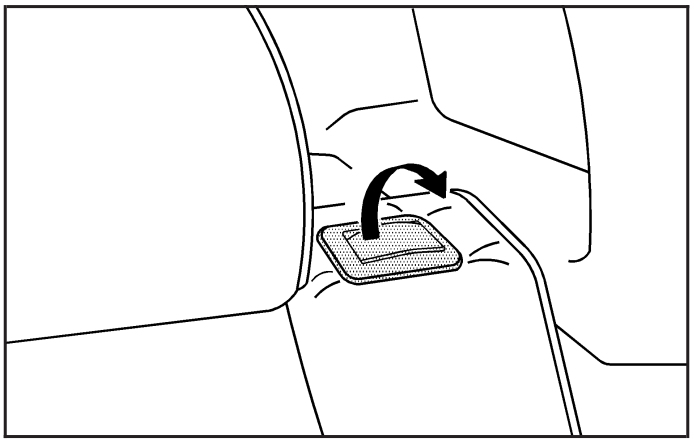


2. Place your hand under the front of the seat cushion and lift the cushion up while moving it forward.

There is a label below the seat cushion with instructions to aid in seat operation.

Downloaded from www.Manualslib.com manuals search engine





3. Pull the cushion forward until it rests in the footwell.

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.**

4. Lift the latch on top of the seatback and pull the seatback forward. Fold the seatback down until it is nearly flat.
5. If the seatback will not fold nearly flat, try moving the front seat forward and/or moving the front seatback more upright.
6. Repeat the steps for the other half of the 60/40 split bench seat.

Downloaded from www.Manualslib.com manuals search engine

Returning the Seatbacks to an Upright Position

⚠ CAUTION:

If the 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 seatback to be sure it is locked.

⚠ CAUTION:

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

To return the seatback(s) to the upright position, do the following:

1. Lift the seatback up and push it rearward all the way.
2. Place your hand under the front of the seat cushion and lift the cushion while moving it rearward until it latches into position.
3. Pull forward on the seatback and push down on the seat cushion to make sure the seat is securely in place.

Safety Belts

Safety Belts: They Are for Everyone

This part of the manual tells you how to use safety belts properly. It also tells you some things you should not do with safety belts.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

Do not let anyone ride where he or she cannot wear a safety belt properly. If you are in a crash and you are not wearing a safety belt, your injuries can be much worse. You can hit things inside the vehicle harder or be ejected from it and be seriously injured or killed. In the same crash, you might not be, if you are buckled up. Always fasten your safety belt, and check that your passenger(s) are restrained properly too.

⚠ CAUTION:

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and safety belts. Be sure everyone in your vehicle is in a seat and using a safety belt properly.

Your vehicle has indicators as a reminder to buckle your safety belts. See *Safety Belt Reminders on page 3-28*.

In most states and in all Canadian provinces, the law requires wearing safety belts. Here is why:

You never know if you will be in a crash. If you do have a crash, you do not know if it will be a serious one.

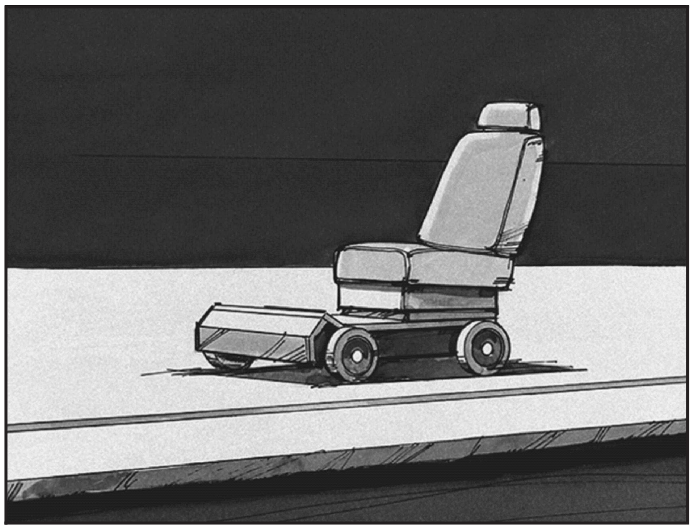
A few crashes are mild, and some crashes can be so serious that even buckled up, a person would not survive. But most crashes are in between. In many of them, people who buckle up can survive and sometimes walk away. Without belts they could have been badly hurt or killed.

After more than 40 years of safety belts in vehicles, the facts are clear. In most crashes buckling up does matter... a lot!

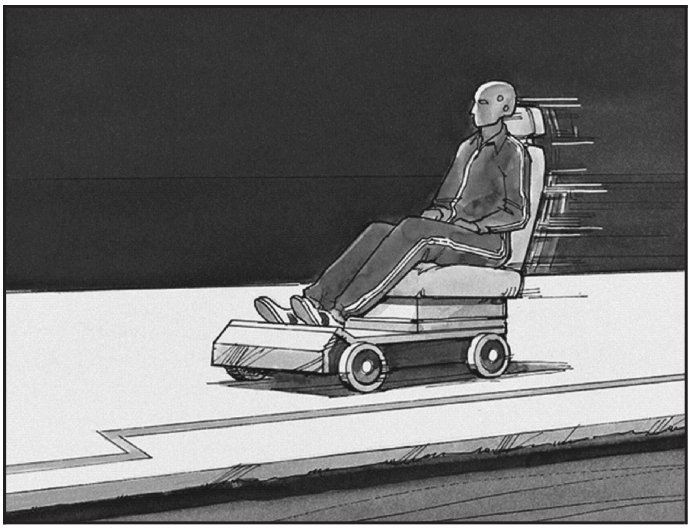
Downloaded from www.Manualslib.com manuals search engine

Why Safety Belts Work

When you ride in or on anything, you go as fast as it goes.

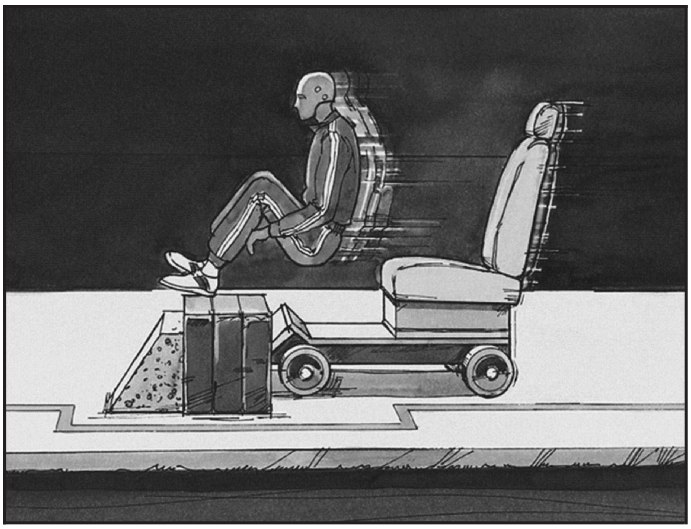


Take the simplest vehicle. Suppose it is just a seat on wheels.



Put someone on it.

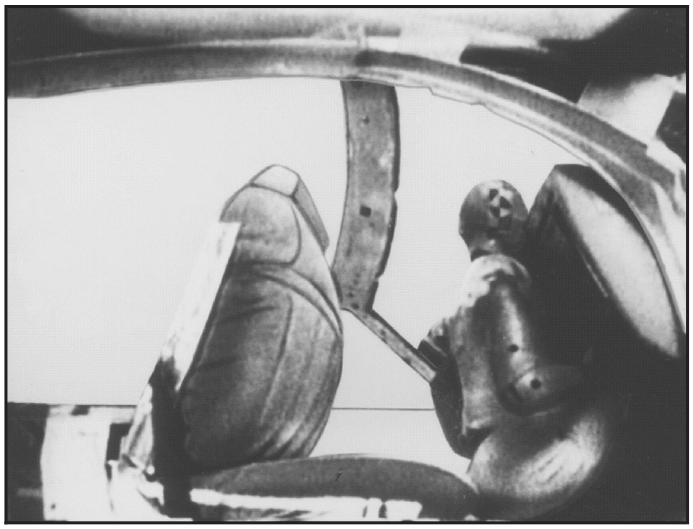
Downloaded from www.Manualslib.com manuals search engine



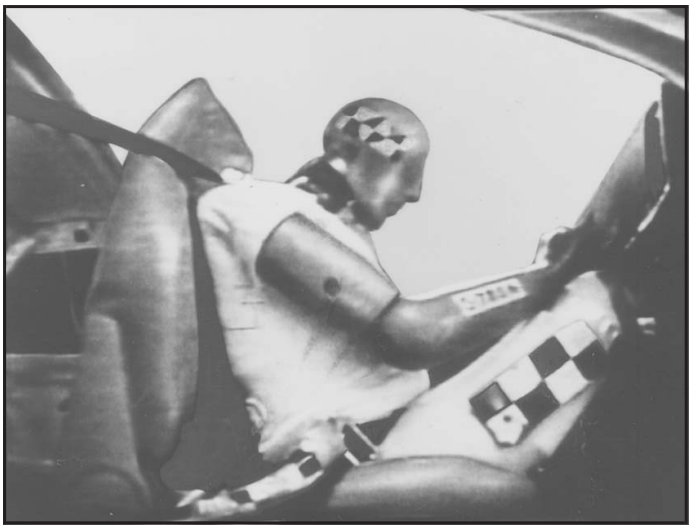
Get it up to speed. Then stop the vehicle.
The rider does not stop.

The person keeps going until stopped by something.
In a real vehicle, it could be the windshield...

Downloaded from www.Manualslib.com manuals search engine



or the instrument panel...



or the safety belts!

With safety belts, you slow down as the vehicle does. You get more time to stop. You stop over more distance, and your strongest bones take the forces. That is why safety belts make such good sense.

Downloaded from www.Manualslib.com manuals search engine

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. But your chance of being conscious during and after an accident, so you *can* unbuckle and get out, is *much* greater if you are belted. And you can unbuckle a safety belt, even if you are upside down.

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. That is true not only in frontal collisions, but especially in side and other collisions.

Q: If I am a good driver, and I never drive far from home, why should I wear safety belts?

A: You may be an excellent driver, but if you are in a crash — even one that is not your fault — you and your passenger(s) can be hurt. Being a good driver does not protect you from things beyond your control, such as bad drivers.

Most accidents occur within 25 miles (40 km) of home. And the greatest number of serious injuries and deaths occur at speeds of less than 40 mph (65 km/h).

Safety belts are for everyone.

Downloaded from www.Manualslib.com manuals search engine

How to Wear Safety Belts Properly

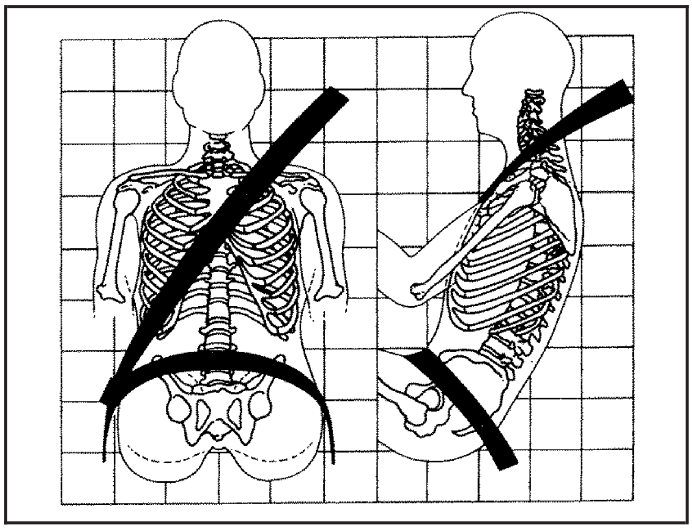
This section is only for people of adult size.

Be aware that there are special things to know about safety belts and children. And there are different rules for smaller children and babies. If a child will be riding in your vehicle, see *Older Children on page 1-30* or *Infants and Young Children on page 1-33*. 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.

Occupants who are not buckled up can be thrown out of the vehicle in a crash. And they can strike others in the vehicle who are wearing safety belts.

First, before you or your passenger(s) wear a safety belt, there is important information you should know.

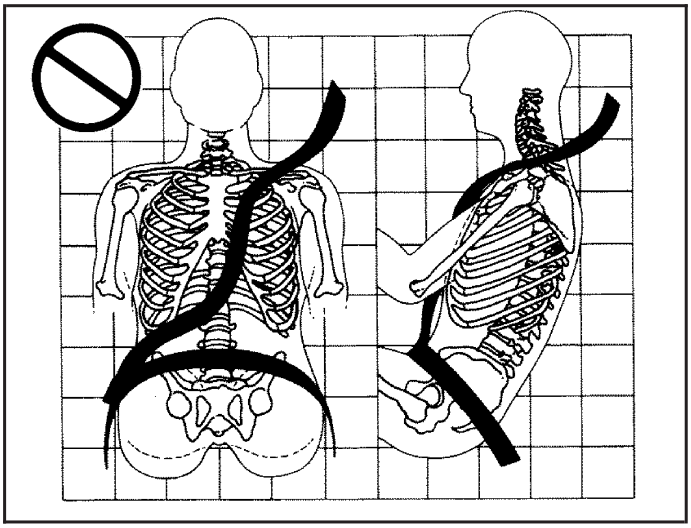


Sit up straight and always keep your feet on the floor in front of you. The lap part of the belt should be worn low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong pelvic bones and you would be less likely to slide under the lap belt. If you slid under it, the belt would apply force on your abdomen. This could cause serious or even fatal injuries. The shoulder belt should go over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces.

The shoulder belt locks if there is a sudden stop or crash.

Downloaded from www.Manualslib.com manuals search engine

Q: What is wrong with this?



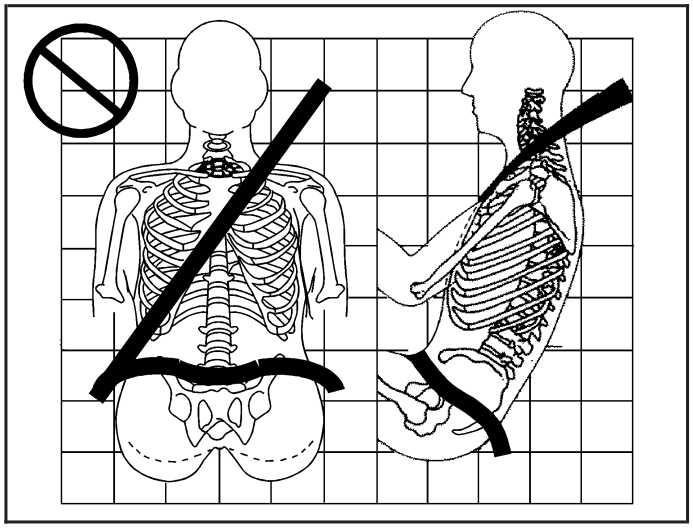
A: The shoulder belt is too loose. It will not give nearly as much protection this way.

⚠ CAUTION:

You can be seriously hurt if your shoulder belt is too loose. In a crash, you would move forward too much, which could increase injury. The shoulder belt should fit snugly against your body.

Downloaded from www.Manualslib.com manuals search engine

Q: What is wrong with this?



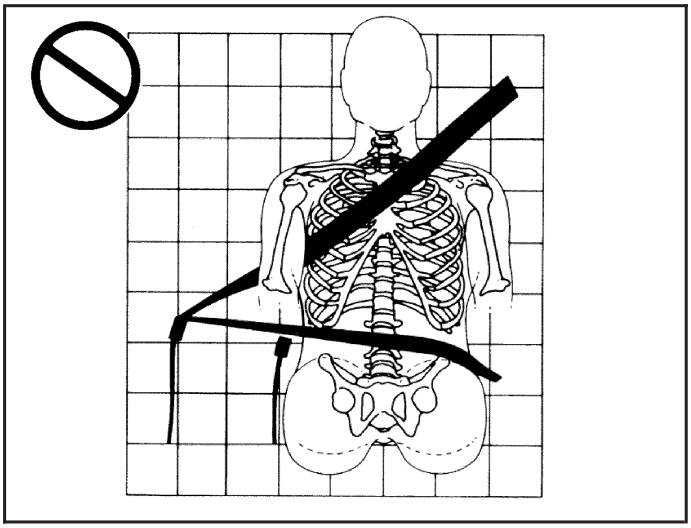
A: The lap belt is too loose. It will not give as much protection this way.

⚠ CAUTION:

You can be seriously hurt if your lap belt is too loose. In a crash, you could slide under the lap belt and apply force on your abdomen. This could cause serious or even fatal injuries. The lap belt should be worn low and snug on the hips, just touching the thighs.

Downloaded from www.Manualslib.com manuals search engine

Q: What is wrong with this?



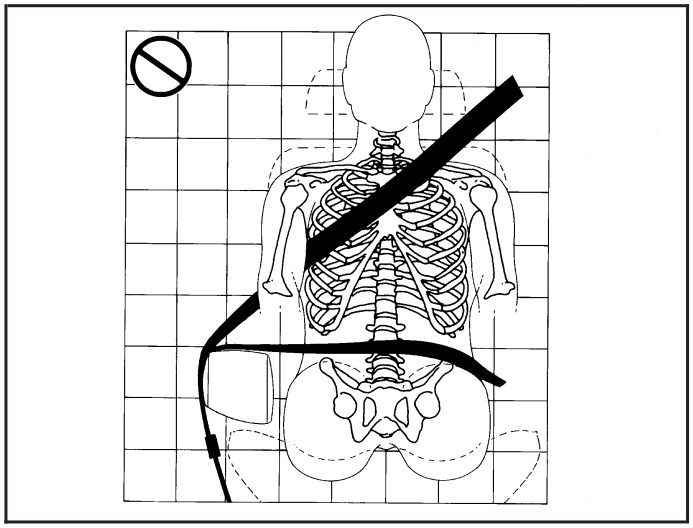
A: The belt is buckled in the wrong place.

⚠ CAUTION:

You can be seriously injured if your belt is buckled in the wrong place like this. In a crash, the belt would go up over your abdomen. The belt forces would be there, not on the pelvic bones. This could cause serious internal injuries. Always buckle your belt into the buckle nearest you.

Downloaded from www.Manualslib.com manuals search engine

Q: **What is wrong with this?**



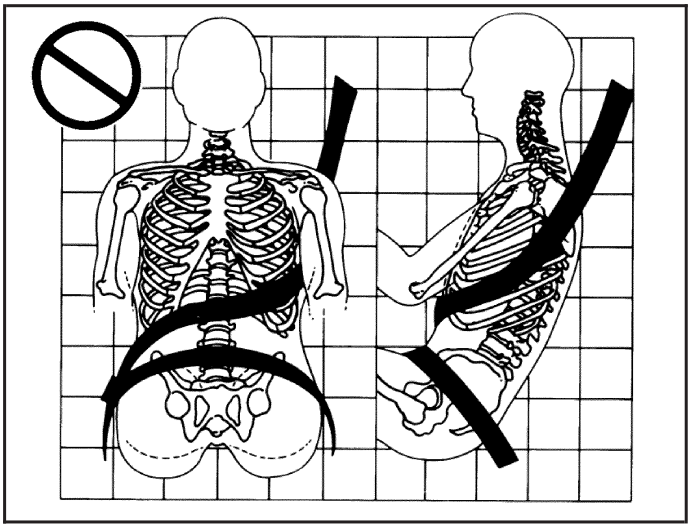
A: The belt is over an armrest.

⚠ CAUTION:

You can be seriously injured if your belt goes over an armrest like this. The belt would be much too high. In a crash, you can slide under the belt. The belt force would then be applied on the abdomen, not on the pelvic bones, and that could cause serious or fatal injuries. Be sure the belt goes under the armrests.

Downloaded from www.Manualslib.com manuals search engine

Q: What is wrong with this?



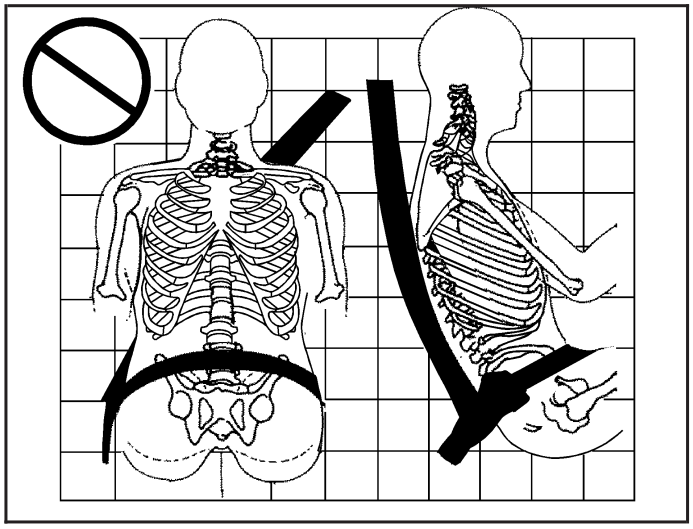
A: The shoulder belt is worn under the arm. It should be worn over the shoulder at all times.

⚠ CAUTION:

You can be seriously injured if you wear the shoulder belt under your arm. In a crash, your body would move too far forward, which would increase the chance of head and neck injury. Also, the belt would apply too much force to the ribs, which are not as strong as shoulder bones. You could also severely injure internal organs like your liver or spleen. The shoulder belt should go over the shoulder and across the chest.

Downloaded from www.Manualslib.com manuals search engine

Q: **What is wrong with this?**



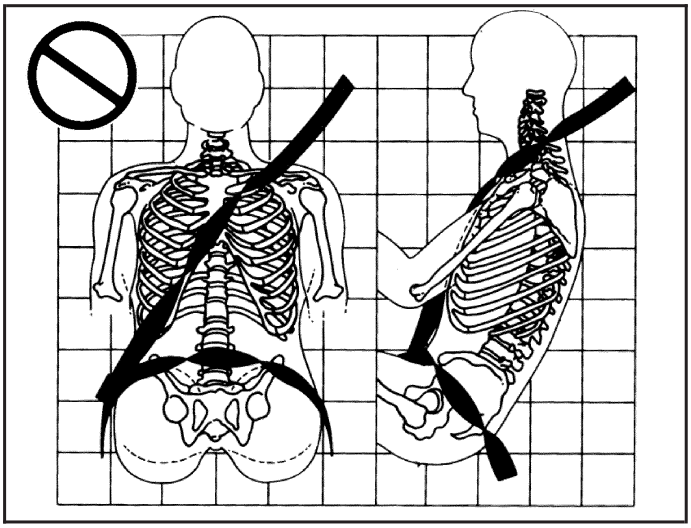
A: The belt is behind the body.

⚠ CAUTION:

You can be seriously injured by not wearing the lap-shoulder belt properly. In a crash, you would not be restrained by the shoulder belt. Your body could move too far forward increasing the chance of head and neck injury. You might also slide under the lap belt. The belt force would then be applied right on the abdomen. That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.

Downloaded from www.Manualslib.com manuals search engine

Q: What is wrong with this?



A: The belt is twisted across the body.

⚠ CAUTION:

You can be seriously injured by a twisted belt. In a crash, you would not have the full width of the belt to spread impact forces. If a belt is twisted, make it straight so it can work properly, or ask your dealer/retailer to fix it.

Downloaded from www.Manualslib.com manuals search engine

Lap-Shoulder Belt

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

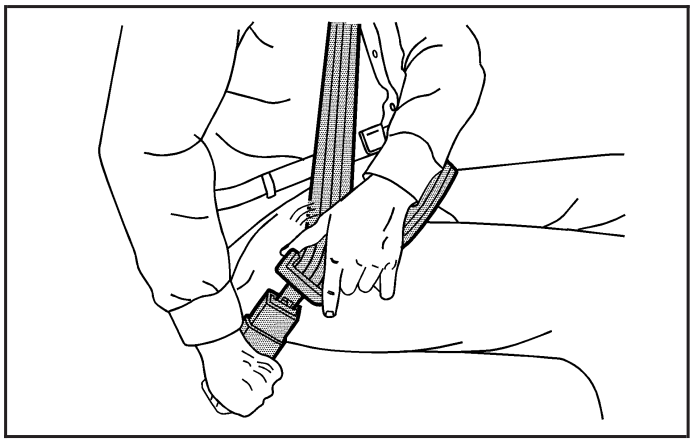
Here is how to wear a lap-shoulder belt properly.

1. Adjust the seat, if the seat is adjustable, so you can sit up straight. To see how, see “Seats” in the Index.
2. Pick up the latch plate and pull the belt across you. Do not let it get twisted.

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

   If you ever pull the shoulder portion of a passenger belt out all the way, you may engage the child restraint locking feature. If this happens, just let the belt go back all the way and start again.

   Engaging the child restraint locking feature may affect the passenger sensing system. See *Passenger Sensing System on page 1-62*.

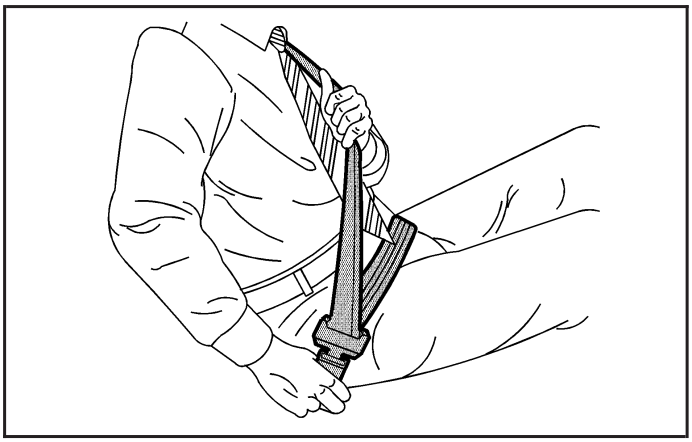


3. Push the latch plate into the buckle until it clicks.

   Pull up on the latch plate to make sure it is secure. If the belt is not long enough, see *Safety Belt Extender on page 1-30*.

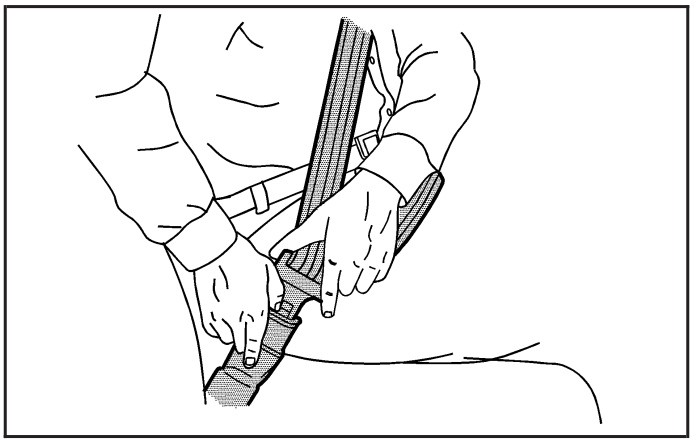
   Make sure the release button on the buckle is positioned so you would be able to unbuckle the safety belt quickly if necessary.
4. If equipped with a shoulder belt height adjuster, move it to the height that is right for you. Improper shoulder belt height adjustment could reduce the effectiveness of the safety belt in a crash. See “Shoulder Belt Height Adjustment” later in this section.

Downloaded from www.Manualslib.com manuals search engine



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, just push the button on the buckle. When the safety belt is not in use, slide the latch plate up the safety belt webbing. The latch plate should rest on the stitching on the safety belt, near the guide loop on the side wall.

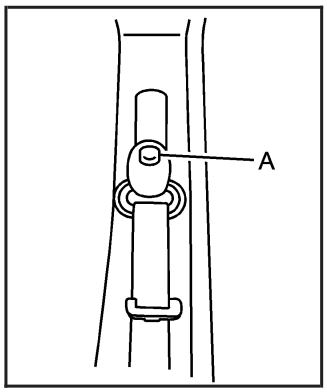
Before you close a door, be sure the belt is out of the way. If you slam the door on it, you can damage both the belt and your vehicle.

Downloaded from www.Manualslib.com manuals search engine

Shoulder Belt Height Adjuster

Your vehicle has a shoulder belt height adjuster for the driver and right front passenger.

Adjust the height so that the shoulder portion of the belt is centered on your shoulder. The belt should be away from your face and neck, but not falling off your shoulder. Improper shoulder belt height adjustment could reduce the effectiveness of the safety belt in a crash.



To move it down, press the release button (A) and move the height adjuster to the desired position. You can move the height adjuster up just by pushing up on the shoulder belt guide.

After you move the height adjuster to where you want it, try to move it down without pressing the release button to make sure it has locked into position.

Safety Belt Pretensioners

Your vehicle has safety belt pretensioners for front outboard occupants. Although you cannot see them, 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 your vehicle has side impact airbags, safety belt pretensioners can help tighten the safety belts in a side crash or a rollover event.

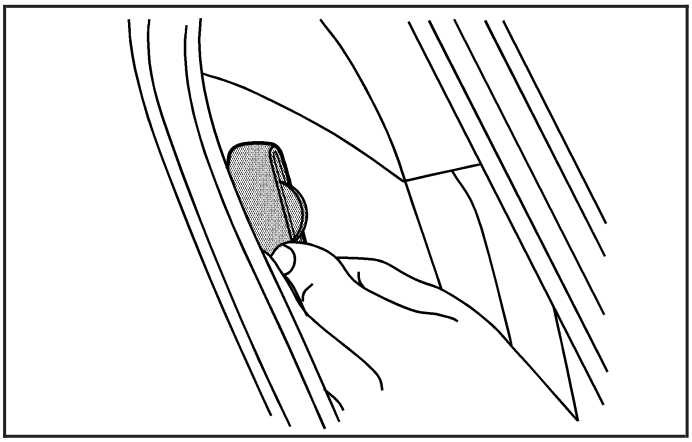
Pretensioners work only once. If they activate in a crash, you will need to get new ones, and probably other new parts for your safety belt system. See *Replacing Restraint System Parts After a Crash on page 1-70*.

Rear Safety Belt Comfort Guides

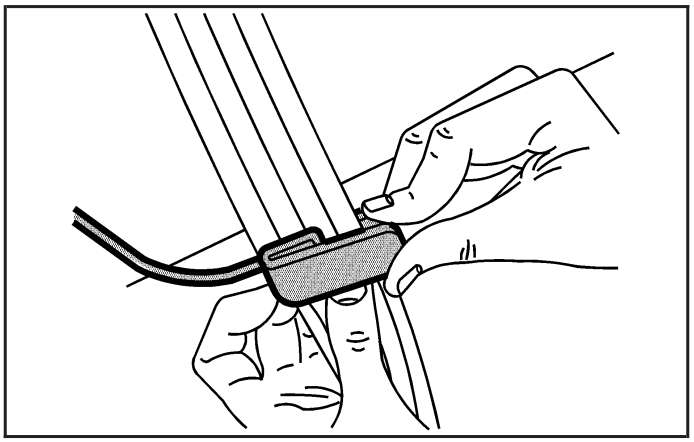
Rear shoulder belt comfort guides may provide added safety belt comfort for older children who have outgrown booster seats and for some adults. When installed on a shoulder belt, the comfort guide positions the belt away from the neck and head.

Downloaded from www.Manualslib.com manuals search engine

There is one guide for each outboard passenger position in the rear seat. Here is how to install a comfort guide to the safety belt:

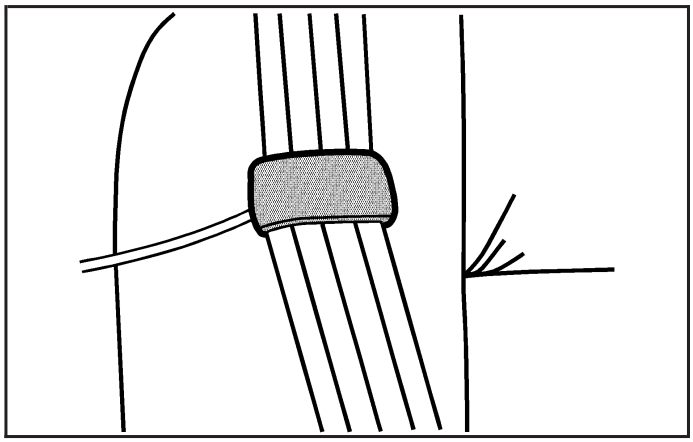


1. Pull the elastic cord out from between the edge of the seatback and the interior body to remove the guide from its storage clip.



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

Downloaded from www.Manualslib.com manuals search engine

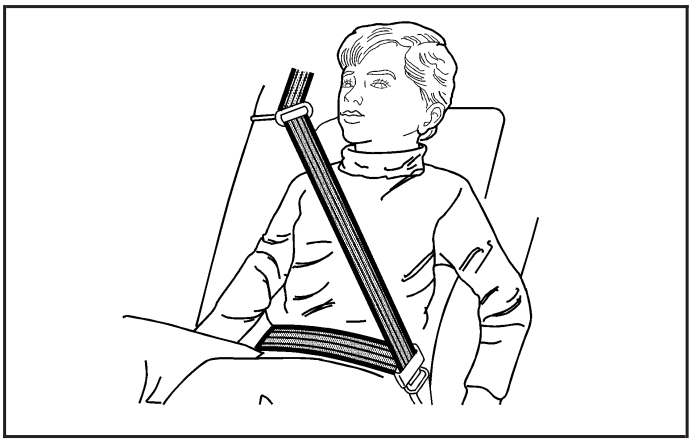


3. Be sure that the belt is not twisted and it lies flat. The elastic cord must be under the belt and the guide on top.

⚠ CAUTION:

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

Downloaded from www.Manualslib.com manuals search engine

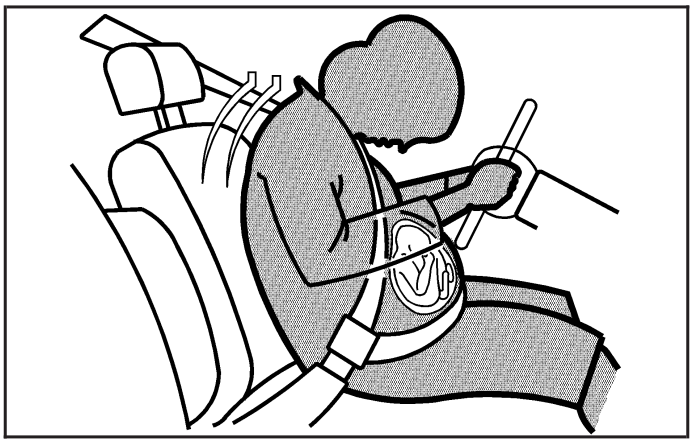


4. Buckle, position, and release the safety belt as described previously in this section. Make sure that the shoulder belt crosses the shoulder.

To remove and store the comfort guide, squeeze the belt edges together so that you can take them out of the guide. Pull the guide upward to expose its storage clip, and then slide the guide onto the clip. Turn the guide and clip inward and slide them in between the seatback and the interior body, leaving only the loop of the elastic cord exposed.

Safety Belt Use During Pregnancy

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



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

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

Downloaded from www.Manualslib.com manuals search engine

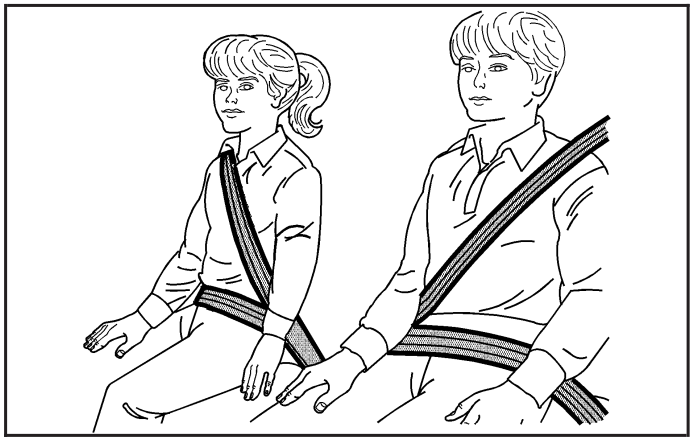
Safety Belt Extender

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

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

Child Restraints

Older Children



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

Downloaded from www.Manualslib.com manuals search engine

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

- Sit all the way back on the seat. Do the knees bend at the seat edge? If yes, continue. If no, return to the booster seat.
- Buckle the lap-shoulder belt. Does the shoulder belt rest on the shoulder? If yes, continue. If no, try using the rear safety belt comfort guide. See "Rear Safety Belt Comfort Guides" under *Lap-Shoulder Belt on page 1-24* for more information. If the shoulder belt still does not rest on the shoulder, then return to the booster seat.
- Does the lap belt fit low and snug on the hips, touching the thighs? If yes, continue. If no, return to the booster seat.
- Can proper safety belt fit be maintained for the length of the trip? If yes, continue. If no, return to the booster seat.

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

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

Also see "Rear Safety Belt Comfort Guides" under *Lap-Shoulder Belt on page 1-24*.

According to accident statistics, children and infants are safer when properly restrained in the rear seating positions than in the front seating positions.

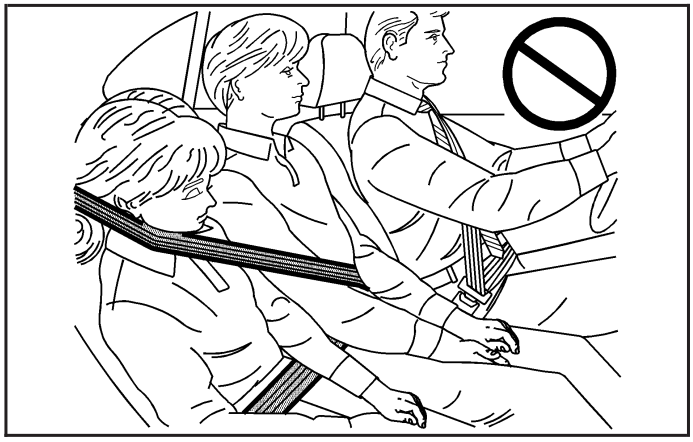
In a crash, children who are not buckled up can strike other people who are buckled up, or can be thrown out of the vehicle. Older children need to use safety belts properly.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

Never do this.

Here two children are wearing the same belt. The belt cannot properly spread the impact forces. In a crash, the two children can be crushed together and seriously injured. A belt must be used by only one person at a time.



⚠ CAUTION:

Never do this.

Here a child is sitting in a seat that has a lap-shoulder belt, but the shoulder part is behind the child. In a crash, the child would not be restrained by the shoulder belt. The child might slide under the lap belt. The belt force would then be applied right on the abdomen. That could cause serious or fatal injuries. The child could also move too far forward increasing the chance of head and neck injury. The shoulder belt should go over the shoulder and across the chest.

Downloaded from www.Manualslib.com manuals search engine

Infants and Young Children

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

⚠ CAUTION:

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.

Every time infants and young children ride in vehicles, they should have the protection provided by appropriate restraints. Children who are not restrained properly can strike other people, or can be thrown out of the vehicle. In addition, young children should not use the vehicle's adult safety belts alone; they need to use a child restraint.

Downloaded from www.Manualslib.com manuals search engine

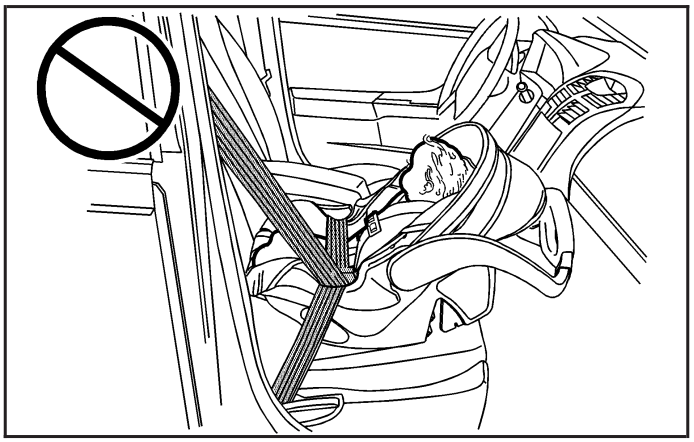
⚠ CAUTION:

People should never hold an infant in their arms while riding in a vehicle. An infant does not weigh much — until a crash. During a crash an infant will become so heavy it is not possible to hold it. For example, in a crash at only 25 mph (40 km/h), a 12 lb (5.5 kg) infant will suddenly become a 240 lb (110 kg) force on a person's arms. An infant should be secured in an appropriate restraint.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

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's 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.



Downloaded from www.Manualslib.com manuals search engine

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

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

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

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

⚠ CAUTION:

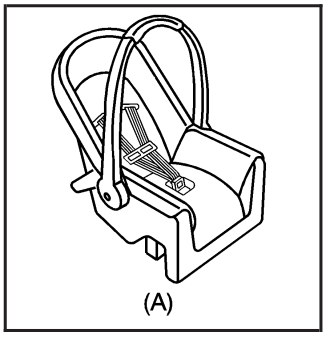
Newborn infants need complete support, including support for the head and neck. This is necessary because a newborn infant's neck is weak and its head weighs so much compared with the rest of its body. In a crash, an infant in a rear-facing seat settles into the restraint, so the crash forces can be distributed across the strongest part of an infant's body, the back and shoulders. Infants should always be secured in appropriate infant restraints.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

The body structure of a young child is quite unlike that of an adult or older child, for whom the safety belts are designed. 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. Young children should always be secured in appropriate child restraints.

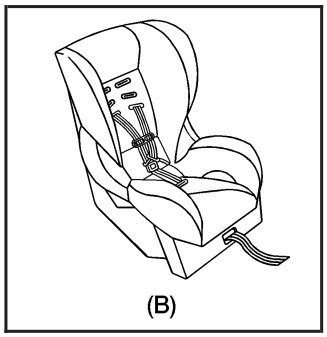
Child Restraint Systems



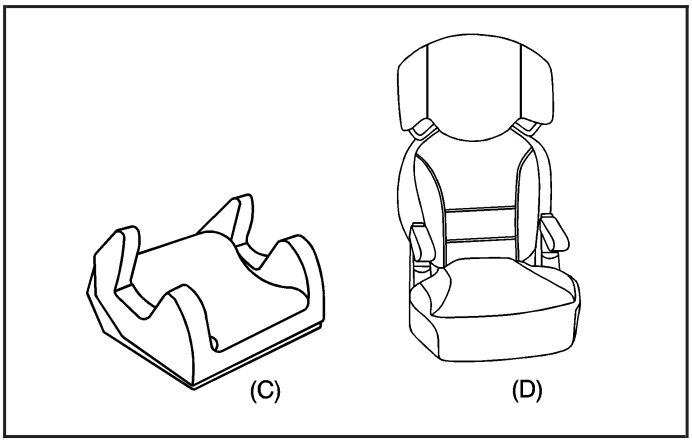
A rear-facing infant seat (A) provides restraint with the seating surface against the back of the infant.

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

Downloaded from www.Manualslib.com manuals search engine



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



A booster seat (C-D) 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.

Downloaded from www.Manualslib.com manuals search engine

Securing an Add-On Child Restraint in the Vehicle

⚠ CAUTION:

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

To help reduce the chance of injury, the child restraint must be secured in the vehicle. Child restraint systems must be secured in vehicle seats by lap belts or the lap belt portion of a lap-shoulder belt, or by the LATCH system. See *Lower Anchors and Tethers for Children (LATCH) on page 1-42* for more information. A child can be endangered in a crash if the child restraint is not properly secured in the vehicle.

When securing an add-on child restraint, refer to the 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 your vehicle — even when no child is in it.

Downloaded from www.Manualslib.com manuals search engine

Securing the Child Within the Child Restraint

⚠ CAUTION:

A child can be seriously injured or killed in a crash if the child is not properly secured in the child restraint. Because there are different systems, it is important to refer to the instructions that come with the restraint. Make sure the child is properly secured, following the instructions that came with that restraint.

Where to Put the Restraint

Accident statistics show that children are safer if they are restrained in the rear rather than the front seat.

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

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

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

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

Even though the passenger sensing system is designed to turn off the right front passenger's frontal airbag if the system detects a rear-facing child restraint, no system is fail-safe, and no one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off. We recommend that rear-facing child restraints be secured in a rear seat, even if the airbag is off.

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

See *Passenger Sensing System on page 1-62* for additional information.

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

Wherever you install a child restraint, be sure to secure the child restraint properly.

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

Downloaded from www.Manualslib.com manuals search engine

Lower Anchors and Tethers for Children (LATCH)

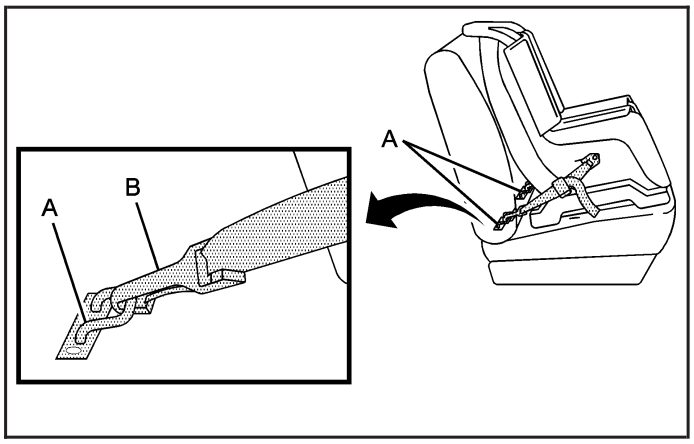
The LATCH system holds a child restraint during driving or in a crash. This system is designed to make installation of a child restraint easier. The LATCH system uses anchors in the vehicle and attachments on the child restraint that are made for use with the LATCH system.

Make sure that a LATCH-compatible child restraint is properly installed using the anchors, or use the vehicle's safety belts to secure the restraint, following the instructions that came with that restraint, and also the instructions in this manual. When installing a child restraint with a top tether, you must also use either the lower anchors or the safety belts to properly secure the child restraint. A child restraint must never be installed using only the top tether and anchor.

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

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

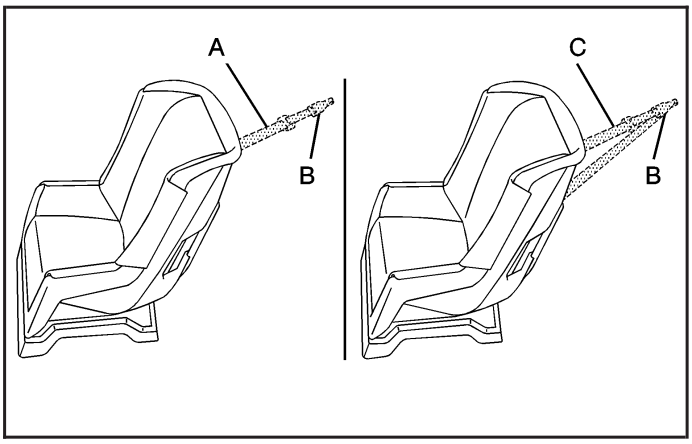
Lower Anchors



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

Downloaded from www.Manualslib.com manuals search engine

Top Tether Anchor



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

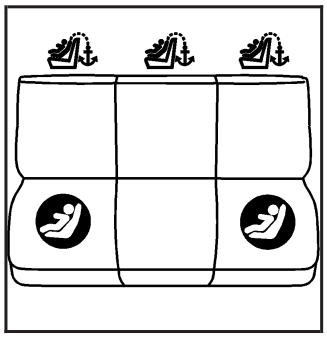
Your child restraint may have a single tether (A) or a dual tether (C). Either will have a single attachment (B) to secure the top tether to the anchor.

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

If the child restraint does not have a top tether, one can be obtained, in kit form, for many child restraints. Ask the child restraint manufacturer whether or not a kit is available.

Downloaded from www.Manualslib.com manuals search engine

Lower Anchor and Top Tether Anchor Locations



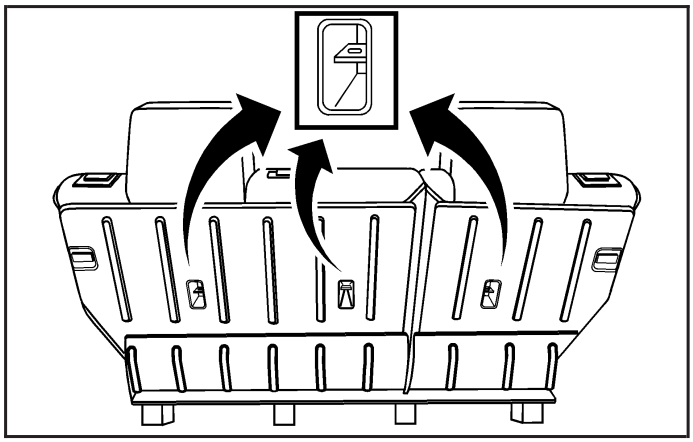
Rear Seat

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

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

Each outboard seating position in the rear seat has exposed metal lower anchors in the crease between the seatback and the seat cushion.

The top tether anchors are located on the back of the rear seatbacks. Be sure to use an anchor located on the same side of the vehicle as the seating position where the child restraint will be placed.



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

Accident statistics show that children are safer if they are restrained in the rear rather than the front seat. See *Where to Put the Restraint on page 1-40* for additional information.

Downloaded from www.Manualslib.com manuals search engine

Securing a Child Restraint Designed for the LATCH System

⚠ CAUTION:

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

⚠ CAUTION:

Each top tether anchor and lower anchor in the vehicle is designed to hold only one child restraint. Attaching more than one child restraint to a single anchor could cause the anchor or attachment to come loose or even break during a crash. A child or others could be injured if this happens. To help prevent injury to people and damage to your vehicle, attach only one child restraint per anchor.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

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

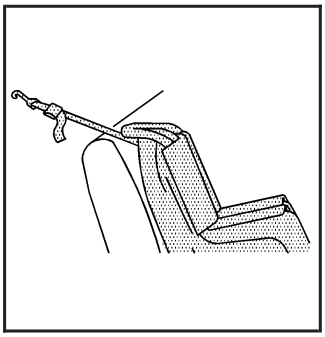
Notice: **Contact between the child restraint LATCH attachment parts and the vehicle's safety belt assembly may cause damage to these parts. Make sure when securing unused safety belts behind the child restraint that there is no contact between the child restraint LATCH attachment parts and the vehicle's safety belt assembly.**

Folding an empty rear seat with the safety belts secured may cause damage to the safety belt or the seat. When removing the child restraint, always remember to return the safety belts to their normal, stowed position before folding the rear seat.

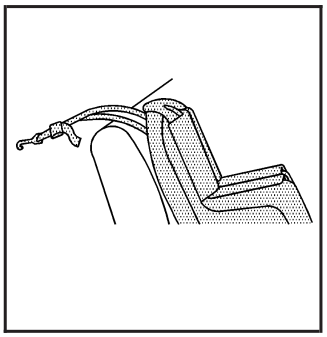
1. Attach and tighten the lower attachments to the lower anchors. If the child restraint does not have lower attachments or the desired seating position does not have lower anchors, secure the child restraint with the top tether and the safety belts. Refer to your child restraint manufacturer instructions and the instructions in this manual.
   1.1. Find the lower anchors for the desired seating position.
   1.2. Put the child restraint on the seat.
   1.3. Attach and tighten the lower attachments on the child restraint to the lower anchors.

Downloaded from www.Manualslib.com manuals search engine

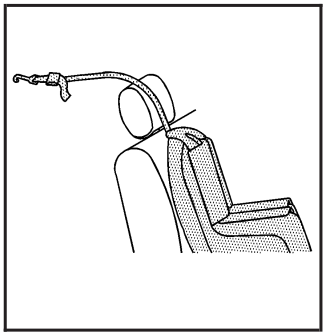
2. If the child restraint manufacturer recommends that the top tether be attached, attach and tighten the top tether to the top tether anchor, if equipped. Refer to the child restraint instructions and the following steps:
   2.1. Find the top tether anchor.
   2.2. Route, attach and tighten the top tether according to your child restraint instructions and the following instructions:



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

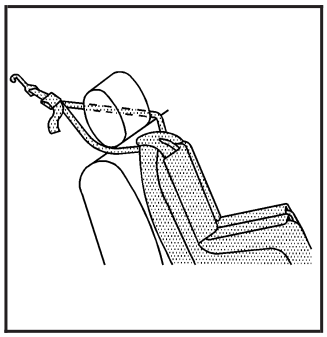


If the position you are using does not have a headrest or head restraint and you are using a dual tether, route the tether over the seatback.



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

Downloaded from www.Manualslib.com manuals search engine



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

3. Push and pull the child restraint in different directions to be sure it is secure.

Securing a Child Restraint in a Rear Outside Seat Position

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

If your child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH) on page 1-42* for how to install your child restraint using LATCH. If you secure a child restraint using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH) on page 1-42* for top tether anchor locations.

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

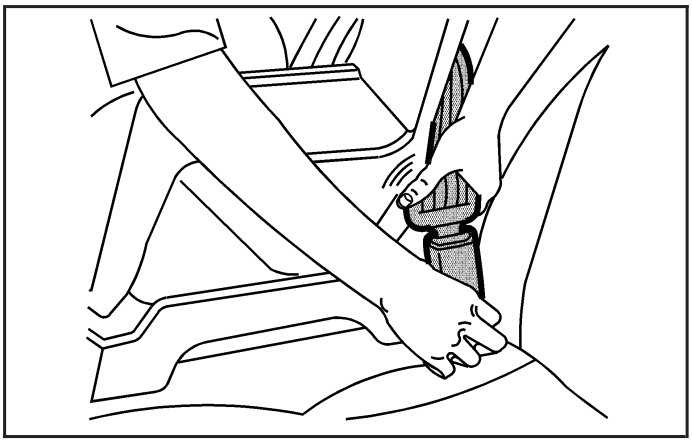
In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

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

If you need to install more than one child restraint in the rear seat, be sure to read *Where to Put the Restraint on page 1-40*.

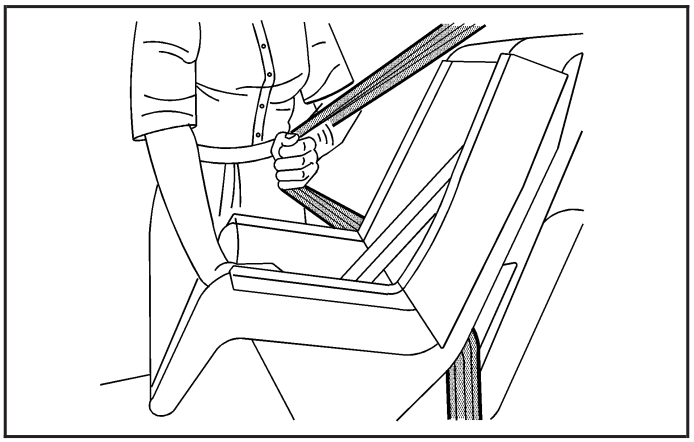
1. Put the child restraint on the seat.
2. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.

Downloaded from www.Manualslib.com manuals search engine



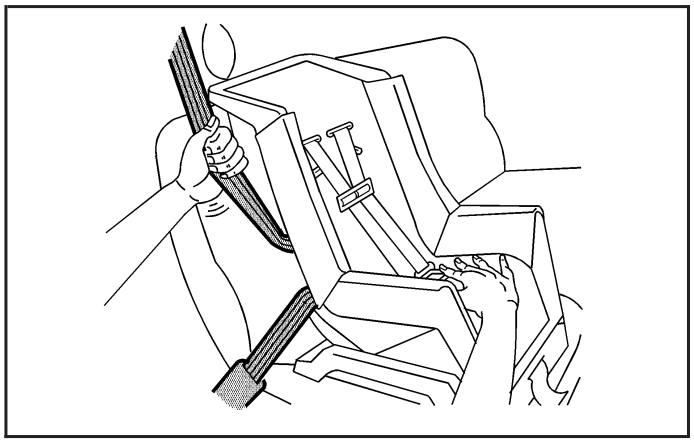
3. Push the latch plate into the buckle until it clicks.

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



4. Pull the rest of the shoulder belt all the way out of the retractor to set the lock.

Downloaded from www.Manualslib.com manuals search engine



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. If you are using a forward-facing child restraint, you may find it helpful to use your knee to push down on the child restraint as you tighten the belt.
6. If your child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *Lower Anchors and Tethers for Children (LATCH) on page 1-42* for more information.
7. Push and pull the child restraint in different directions to be sure it is secure.

To remove the child restraint, unbuckle the vehicle's safety belt and let it go back all the way. If the top tether is attached to a top tether anchor, disconnect it.

Securing a Child Restraint in the Center Rear Seat Position

Many child restraints are too wide to be correctly secured in the center rear seat, although some of them will fit there. If the center seat position is too narrow for your child restraint, secure it in a rear outside seat position.

If you secure a child restraint in the center seat position, follow the instructions in *Securing a Child Restraint in a Rear Outside Seat Position on page 1-48*.

Downloaded from www.Manualslib.com manuals search engine

Securing a Child Restraint in the Right Front Seat Position

Your 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 1-40*.

In addition, your vehicle has a passenger sensing system which is designed to turn off the right front passenger's frontal airbag under certain conditions. See *Passenger Sensing System on page 1-62* and *Passenger Airbag Status Indicator on page 3-30* for more information on this, including important safety information.

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

⚠ CAUTION:

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

CAUTION: (Continued)

CAUTION: (Continued)

Even though the passenger sensing system is designed to turn off the right front passenger's frontal airbag if the system detects a rear-facing child restraint, no system is fail-safe, and no one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off. We recommend that rear-facing child restraints be secured in a rear seat, even if the airbag is off.

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

See *Passenger Sensing System on page 1-62* for additional information.

If your child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH) on page 1-42* for how to install your child restraint using LATCH. If you secure a child restraint using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH) on page 1-42* for top tether anchor locations.

Downloaded from www.Manualslib.com manuals search engine

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

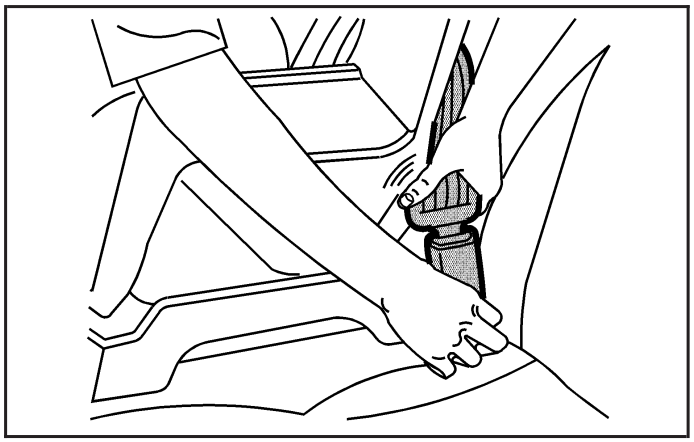
In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

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

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

   When the passenger sensing system has turned off the right front passenger's frontal airbag, the off indicator on the passenger airbag status indicator should light and stay lit when you start the vehicle. See *Passenger Airbag Status Indicator on page 3-30*.

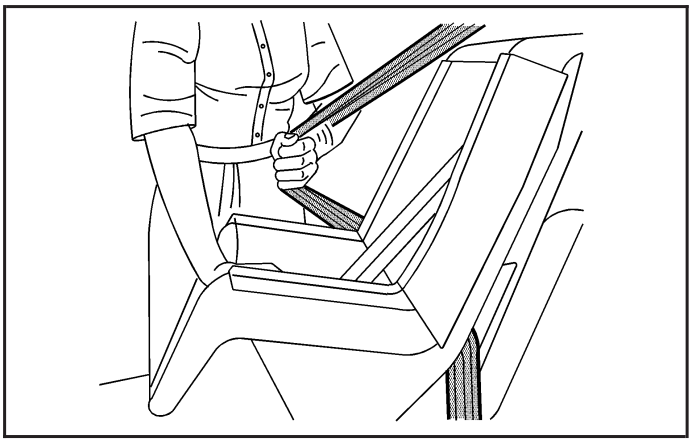
2. Put the child restraint on the seat.
3. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.



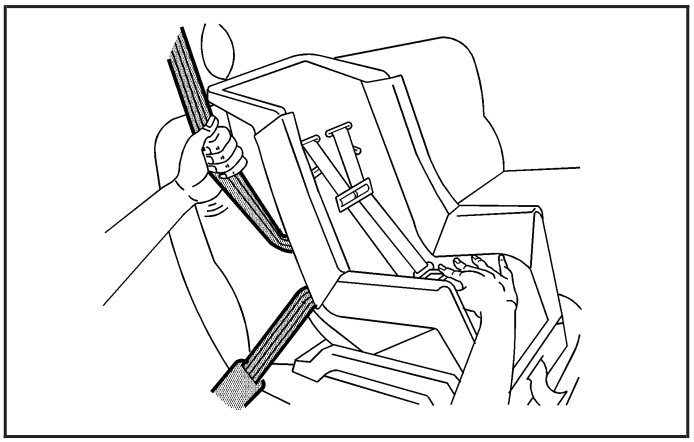
4. Push the latch plate into the buckle until it clicks.

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

Downloaded from www.Manualslib.com manuals search engine



5. Pull the rest of the shoulder belt all the way out of the retractor to set the lock.



6. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt and feed the shoulder belt back into the retractor. If you are using a forward-facing child restraint, you may find it helpful to use your knee to push down on the child restraint as you tighten the belt.
7. Push and pull the child restraint in different directions to be sure it is secure.

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

Downloaded from www.Manualslib.com manuals search engine

If a child restraint has been installed and the on indicator is lit, turn the vehicle off. Remove the child restraint from the vehicle and reinstall the child restraint.

If, after reinstalling the child restraint and restarting the vehicle, the on indicator is still lit, check to make sure that the vehicle's seatback is not pressing the child restraint into the seat cushion. If this happens, slightly recline the vehicle's seatback and adjust the seat cushion if possible. Also make sure the child restraint is not trapped under the vehicle head restraint. If this happens, adjust the head restraint.

Remove any additional material from the seat such as blankets, cushions, seat covers, seat heaters or seat massagers before reinstalling or securing the child restraint.

If the on indicator is still lit, secure the child in the child restraint in a rear seat position in the vehicle and check with your dealer/retailer.

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

Airbag System

Your vehicle has the following airbags:

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

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

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

With 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.

Downloaded from www.Manualslib.com manuals search engine

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

⚠ CAUTION:

You can be severely injured or killed in a crash if you are not wearing your safety belt — even if you have airbags. 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. All airbags are designed to work with safety belts, but do not replace them.

⚠ CAUTION:

Frontal airbags are designed to deploy in moderate to severe frontal and near frontal crashes. They are not designed to inflate in rollover, rear crashes, or in many side crashes.

Rollover capable roof-rail airbags are designed to inflate in moderate to severe crashes where something hits the side of your vehicle and in the event of a vehicle rollover. They are not designed to inflate in frontal or in rear crashes.

Everyone in your vehicle should wear a safety belt properly — whether or not there is an airbag for that person.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

Airbags inflate with great force, 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 the airbag, as you would be if you were sitting on the edge of your seat or leaning forward. Safety belts help keep you in position before and during a crash. Always wear your 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 roof-rail airbags.

⚠ CAUTION:

Airbags plus lap-shoulder belts offer the best protection for adults, but not for young children and infants. Neither the vehicle's 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 your vehicle. To read how, see *Older Children on page 1-30* or *Infants and Young Children on page 1-33*.

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 3-29* for more information.

Downloaded from www.Manualslib.com manuals search engine

Where Are the Airbags?

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

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

Downloaded from www.Manualslib.com manuals search engine

Driver Side shown, Passenger Side similar

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

⚠ CAUTION:

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

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

Downloaded from www.Manualslib.com manuals search engine

When Should an Airbag Inflate?

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

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

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

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

Thresholds can also vary with specific vehicle design.

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

In addition, your vehicle has dual-stage frontal airbags. Dual-stage airbags adjust the restraint according to crash severity. Your 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.

Downloaded from www.Manualslib.com manuals search engine

Your vehicle has roof-rail airbags. See *Airbag System on page 1-54*. 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. 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 frontal impacts, near-frontal impacts, or rear impacts. 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.

Your vehicle has a seat position sensor which enables the sensing system to monitor the position of the driver's seat. The sensor provides information that is used to determine if the airbags should deploy at a reduced level or at full deployment.

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 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 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. Roof-rail airbags distribute the force of the impact more evenly over the occupant's upper body.

Downloaded from www.Manualslib.com manuals search engine

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

But airbags would not help in many types of collisions, primarily because the occupant's motion is not toward those airbags. See *When Should an Airbag Inflate? on page 1-59* 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 inflate, they quickly deflate, so quickly that some people may not even realize an airbag inflated. Roof-rail airbags may still be at least partially inflated for some time after they deploy. Some components of the airbag module may be hot for several minutes. For location of the airbag modules, see *What Makes an Airbag Inflate? on page 1-60*.

The parts of the airbag that come into contact with you may be warm, but not too hot to touch. There may be some smoke and dust coming from the vents in the deflated airbags.

Airbag inflation does not prevent the driver from seeing out of the windshield or being able to steer the vehicle, nor does it prevent people from leaving the vehicle.

⚠ CAUTION:

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.

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

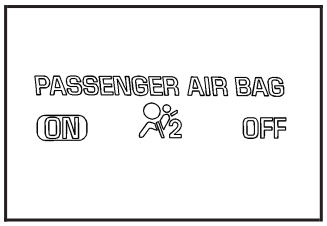
Downloaded from www.Manualslib.com manuals search engine

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

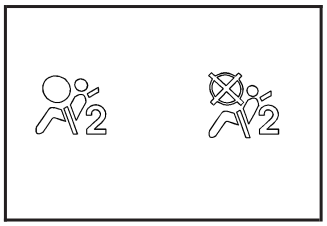
- Airbags are designed to inflate only once. After an airbag inflates, you will need some new parts for the airbag system. If you do not get them, the airbag system will not be there to help protect you in another crash. A new system will include airbag modules and possibly other parts. The service manual for your vehicle covers the need to replace other parts.
- Your vehicle has a crash sensing and diagnostic module which records information after a crash. See *Vehicle Data Recording and Privacy on page 7-16* and *Event Data Recorders on page 7-17*.
- Let only qualified technicians work on the airbag systems. Improper service can mean that an airbag system will not work properly. See your dealer/retailer for service.

Passenger Sensing System

Your vehicle has a passenger sensing system for the right front passenger's position. The passenger airbag status indicator will be visible in the instrument panel when you start your vehicle.



United States



Canada

The words ON and OFF, or the symbol for on and off, will be visible during the system check. When the system check is complete, either the word ON or the word OFF, or the symbol for on or the symbol for off, will be visible. See *Passenger Airbag Status Indicator on page 3-30*.

Downloaded from www.Manualslib.com manuals search engine

The passenger sensing system will turn off the right front passenger's frontal airbag under certain conditions. The driver's airbags are not part of the passenger sensing system.

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

Accident statistics show that children are safer if they are restrained in the rear rather than the front seat.

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

⚠ CAUTION:

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

Even though the passenger sensing system is designed to turn off the right front passenger's frontal airbag if the system detects a rear-facing child restraint, no system is fail-safe, and no one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off. We recommend that rear-facing child restraints be secured in a rear seat, even if the airbag is off.

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

Downloaded from www.Manualslib.com manuals search engine

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

- The right front passenger seat is unoccupied.
- The system determines that an infant is present in a rear-facing infant seat.
- The system determines that a small child is present in a child restraint.
- The system determines that a small child is present in a booster seat.
- A right front passenger takes his/her weight off of the seat for a period of time.
- The right front passenger seat is occupied by a smaller person, such as a child who has outgrown child restraints.
- Or, if there is a critical problem with the airbag system or the passenger sensing system.

When the passenger sensing system has turned off the right front passenger's 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 3-30*.

If a child restraint has been installed and the on indicator is lit, turn the vehicle off. Remove the child restraint from the vehicle and reinstall the child restraint following the child restraint manufacturer's directions and refer to *Securing a Child Restraint in the Right Front Seat Position on page 1-51*.

If, after reinstalling the child restraint and restarting the vehicle, the on indicator is still lit, check to make sure that the vehicle's seatback is not pressing the child restraint into the seat cushion. If this happens, slightly recline the vehicle's seatback and adjust the seat cushion if possible. 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 1-7*.

Downloaded from www.Manualslib.com manuals search engine

Remove any additional material from the seat such as blankets, cushions, seat covers, seat heaters, or seat massagers before reinstalling or securing the child restraint.

If the on indicator is still lit, secure the child in the child restraint in a rear seat position in the vehicle, and check with your dealer/retailer.

The passenger sensing system is designed to enable (may inflate) the right front passenger's frontal airbag anytime the system senses that a person of adult size is sitting properly in the right front passenger's 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 who have outgrown child restraints and for very small adults, the passenger sensing system may or may not turn off the right front passenger's 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.

If a person of adult-size is sitting in the right front passenger's seat, but the off indicator is lit, it could be because that person is not sitting properly in the seat. If this happens, turn the vehicle off, remove any additional material from the seat, such as blankets, cushions, seat covers, seat heaters or seat massagers and ask the person to place the seatback in the fully upright position, then sit upright in the seat, centered on the seat cushion, with the person's legs comfortably extended. Restart the vehicle and have the person remain in this position for two to three minutes. This will allow the system to detect that person and then enable the right front passenger's frontal airbag.

Downloaded from www.Manualslib.com manuals search engine

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

If you ever pull the shoulder portion of the belt out all the way, you will engage the child restraint locking feature. This may unintentionally cause the passenger sensing system to turn the airbag(s) off for some adult size occupants. If this happens, just let the belt go back all the way and start again.

⚠ CAUTION:

If the airbag readiness light in the instrument panel cluster ever comes on and stays on, it means that something may be wrong with the airbag system. If this ever happens, have the vehicle serviced promptly, because an adult-size person sitting in the right front passenger’s seat may not have the protection of the airbag(s). See *Airbag Readiness Light on page 3-29* for more on this, including important safety information.

Downloaded from www.Manualslib.com manuals search engine

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 other than any that GM has approved for your specific vehicle. See *Adding Equipment to Your Airbag-Equipped Vehicle on page 1-68* for more information about modifications that can affect how the system operates.

⚠ CAUTION:

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

Servicing Your Airbag-Equipped Vehicle

Airbags affect how your vehicle should be serviced. There are parts of the airbag system in several places around your vehicle. Your dealer/retailer and the service manual have information about servicing your vehicle and the airbag system. To purchase a service manual, see *Service Publications Ordering Information on page 7-15*.

⚠ CAUTION:

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

Downloaded from www.Manualslib.com manuals search engine

Adding Equipment to Your 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 your 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, rollover sensor module, or airbag wiring can affect the operation of the airbag system.

In addition, your vehicle has a passenger sensing system for the right front passenger's position, which includes sensors that are part of the passenger's seat. The passenger sensing system may not operate properly if the original seat trim is replaced with non-GM covers, upholstery or trim, or with GM covers, upholstery or trim designed for a different vehicle. Any object, such as an aftermarket seat heater or a comfort enhancing pad or device, installed under or on top of the seat fabric, could also interfere with the operation of the passenger sensing system. This could either prevent proper deployment of the passenger airbag(s) or prevent the passenger sensing system from properly turning off the passenger airbag(s). See *Passenger Sensing System on page 1-62*.

If you have any questions about this, you should contact Customer Assistance before you modify your vehicle. The phone numbers and addresses for Customer Assistance are in Step Two of the Customer Satisfaction Procedure in this manual. See *Customer Satisfaction Procedure on page 7-2*.

If your vehicle has rollover roof-rail airbags, see *Different Size Tires and Wheels on page 5-73* 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: If you have questions, call Customer Assistance. The phone numbers and addresses for Customer Assistance are in Step Two of the Customer Satisfaction Procedure in this manual. See *Customer Satisfaction Procedure on page 7-2*.

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

Downloaded from www.Manualslib.com manuals search engine

Restraint System Check

Checking the Restraint Systems

Safety Belts

Now and then, make sure the safety belt reminder light and all your belts, buckles, latch plates, retractors and anchorages are working properly.

Look for any other loose or damaged safety belt system parts. If you see anything that might keep a safety belt system from doing its job, 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 3-28* for more information.

Keep safety belts clean and dry. See *Care of Safety Belts on page 5-94*.

Airbags

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 3-29* for more information.

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 airbag modules, see *What Makes an Airbag Inflate? on page 1-60*. See your dealer/retailer for service.**

Downloaded from www.Manualslib.com manuals search engine

Replacing Restraint System Parts After a Crash

⚠ CAUTION:

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

If you have had a crash, do you need new belts or LATCH system (if equipped) parts?

After a very minor crash, nothing may be necessary. But the belt assemblies that were used during any crash may have been stressed or damaged. See your dealer/retailer to have your safety belt assemblies inspected or replaced.

If your vehicle has the LATCH system and it was being used during a crash, you may need new LATCH system parts.

New parts and repairs may be necessary even if the belt or LATCH system (if equipped), was not being used at the time of the crash.

If an airbag inflates, you will need to replace airbag system parts. See the part on the airbag system earlier in this section.

Have your safety belt pretensioners checked if your vehicle has been in a crash, if your airbag readiness light stays on after you start your vehicle, or while you are driving. See *Airbag Readiness Light on page 3-29*.

Downloaded from www.Manualslib.com manuals search engine

Section 2 Features and Controls

Keys 2-3
- Remote Keyless Entry (RKE) System 2-4
- Remote Keyless Entry (RKE) System Operation 2-5

Doors and Locks 2-7
- Door Locks 2-7
- Power Door Locks 2-8
- Programmable Automatic Door Locks 2-8
- Rear Door Security Locks 2-9
- Lockout Protection 2-9
- Swing-gate 2-10

Windows 2-11
- Power Windows 2-12
- Sun Visors 2-13

Theft-Deterrent Systems 2-14
- Content Theft-Deterrent 2-14
- Passlock® (U. S. Only) 2-15
- PASS-Key® III+ 2-16
- PASS-Key® III+ Operation (Canada Only) 2-16

Starting and Operating Your Vehicle 2-18
- New Vehicle Break-In 2-18
- Ignition Positions 2-18
- Retained Accessory Power (RAP) 2-20
- Starting the Engine 2-20
- Engine Coolant Heater 2-22
- Automatic Transmission Operation 2-23
- Manual Transmission Operation 2-26
- Full-Time Four-Wheel Drive 2-27
- Parking Brake 2-32
- Shifting Into PARK (P) (Automatic Transmission) 2-33
- Shifting Out of PARK (P) (Automatic Transmission) 2-35
- Parking Your Vehicle (Manual Transmission) 2-35
- Parking Over Things That Burn 2-36
- Engine Exhaust 2-36
- Running the Engine While Parked 2-37

Downloaded from www.Manualslib.com manuals search engine

Section 2 Features and Controls

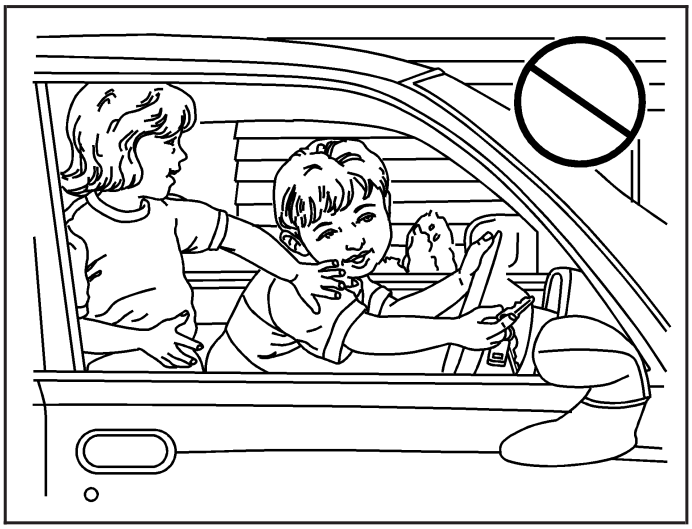
Mirrors 2-38
Automatic Dimming Rearview Mirror with OnStar®, Compass and Temperature Display 2-38
Automatic Dimming Rearview Mirror with Compass and Temperature Display 2-41
Outside Power Mirrors 2-43
Outside Convex Mirror 2-44
Object Detection Systems 2-44
Rear Vision Camera 2-44
OnStar® System 2-48
Universal Home Remote System 2-51
Universal Home Remote System Operation (With One Triangular LED) 2-52
Storage Areas 2-56
Glove Box 2-56
Cupholder(s) 2-56
Front Seat Storage Net 2-57
Front Armrest Storage Area 2-57
Luggage Carrier 2-57
Rear Storage Area 2-59
Convenience Net 2-59
Cargo Cover 2-59
Cargo Tie Downs 2-59
Sunroof 2-60

Downloaded from www.Manualslib.com manuals search engine

Keys

⚠ CAUTION:

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



Use the double-sided key for the ignition and driver's door lock.

When a new vehicle is delivered, the dealer/retailer provides the owner with a pair of identical keys and a key code number.

Downloaded from www.Manualslib.com manuals search engine

The key code number tells your dealer/retailer or a qualified locksmith how to make extra keys. Keep this number in a safe place. If you keys are lost, new keys can be made using this number. Your dealer/retailer should also have this number.

Notice: **If you ever lock your keys in your vehicle, you may have to damage the vehicle to get in. Be sure you have spare keys.**

If you are locked out of your vehicle, call the Roadside Assistance Center. See *Roadside Assistance Program on page 7-6*.

Remote Keyless Entry (RKE) System

Your Remote Keyless Entry (RKE) system operates on a radio frequency subject to Federal Communications Commission (FCC) Rules and with Industry Canada.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to this system by other than an authorized service facility could void authorization to use this equipment.

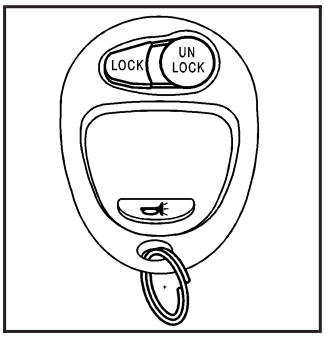
At times you may notice a decrease in operating range. This is normal for any RKE system. If the transmitter does not work or if you have to stand closer to your vehicle for the transmitter to work, try this:

- Check the distance. You may be too far from your vehicle. You may need to stand closer during rainy or snowy weather.
- Check the location. Other vehicles or objects may be blocking the signal. Take a few steps to the left or right, hold the transmitter higher, and try again.
- Check to determine if battery replacement is necessary. See “Battery Replacement” later in this section.
- If you are still having trouble, see your dealer/retailer or a qualified technician for service.

Downloaded from www.Manualslib.com manuals search engine

Remote Keyless Entry (RKE) System Operation

You can lock and unlock the vehicle's doors and disarm or arm the theft-deterrent system from about 3 feet (1 m) up to 30 feet (9 m) away using the Remote Keyless Entry (RKE) transmitter. See *Content Theft-Deterrent on page 2-14* for additional information.



UNLOCK: Press this button to unlock the driver's door and turn on the interior lamps. The parking lamps may also flash, and the horn may chirp, when this button is pressed.

Press the unlock button again within three seconds and all of the doors will unlock.

LOCK: Press this button to lock all the doors. The parking lamps may also flash and the horn may chirp when this button is pressed.

If a door is open or ajar when the lock button is pressed, the doors will lock, but the theft-deterrent system will not arm until the open door is closed.

Different feedback modes can be programmed through the Driver Information Center (DIC). See "Remote Keyless Entry Feedback" under *DIC Operation and Displays on page 3-40*.

(Panic): Press this button to make the horn sound and the headlamps and taillamps flash for up to 30 seconds. To turn them off, do one of these three things: wait for 30 seconds; press the panic button again; or start the vehicle.

Downloaded from www.Manualslib.com manuals search engine

Matching Transmitter(s) to Your Vehicle

Each RKE transmitter is coded to prevent another transmitter from unlocking your vehicle. If a transmitter is lost or stolen, a replacement can be purchased through your dealer/retailer. Remember to bring any remaining transmitters with you when you go to your dealer/retailer. When the dealer/retailer matches the replacement transmitter to your vehicle, any remaining transmitters must also be matched. Once your dealer/retailer has coded the new transmitter, the lost transmitter will not unlock your vehicle. Each vehicle can have a maximum of four transmitters matched to it.

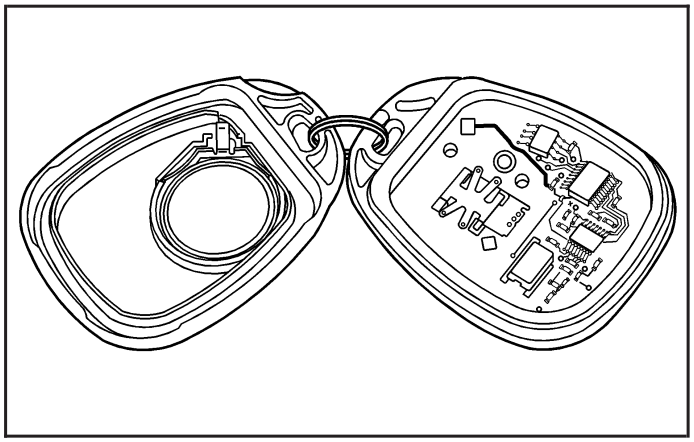
Battery Replacement

Under normal use, the battery in the RKE transmitter should last about two years.

The battery is weak if the transmitter will not work at the normal range in any location. If you have to get close to your vehicle before the transmitter works, it is probably time to change the battery.

Notice: **When replacing the battery, use care not to touch any of the circuitry. Static from your body transferred to these surfaces may damage the transmitter.**

To replace the battery:



1. Insert a coin, or similar object, in the slot between the covers of the transmitter housing. Gently pry the transmitter apart.
2. Remove and replace the battery with a three-volt CR2032 or equivalent battery.
3. Align the covers and snap them together.
4. Check the operation of the transmitter.

Downloaded from www.Manualslib.com manuals search engine

Doors and Locks

Door Locks

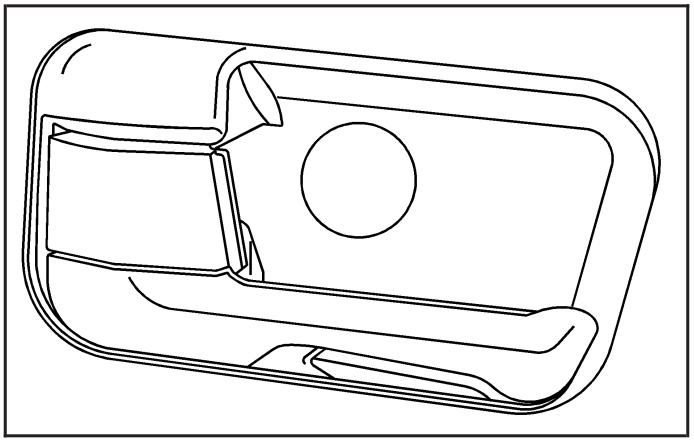
⚠ CAUTION:

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. You increase the chance of being thrown out of the vehicle in a crash if the doors are not locked. So, wear safety belts properly and lock the doors whenever you drive.**
- **Young children who get into unlocked vehicles may be unable to get out. A child can be overcome by extreme heat and can suffer permanent injuries or even death from heat stroke. Always lock your vehicle whenever you leave it.**
- **Outsiders can easily enter through an unlocked door when you slow down or stop your vehicle. Locking your doors can help prevent this from happening.**

There are several ways to lock and unlock your vehicle.

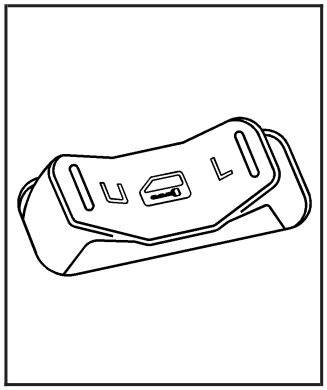
From the outside, use the key in the driver's door or use the remote keyless entry transmitter.



From the inside, use the manual lock levers or power door lock switch.

Downloaded from www.Manualslib.com manuals search engine

Power Door Locks



Driver's side shown

The power door lock switches are located on the driver's and the front passenger's doors.

Press L (lock) to lock all the doors at once. To unlock all the doors, press U (unlock).

Programmable Automatic Door Locks

If your vehicle has an automatic transmission, it is programmed from the factory to lock the doors automatically when the shift lever is moved out of PARK (P). All the doors will unlock when the shift lever is moved back into PARK (P).

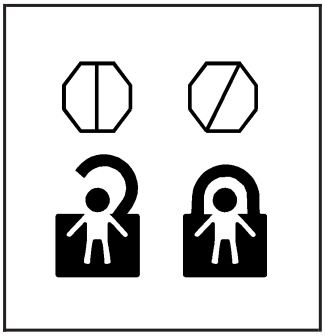
If your vehicle has a manual transmission, it is programmed from the factory to lock the doors automatically when the vehicle speed is greater than 15 mph (24 km/h). The doors will unlock when the key is removed from the ignition.

To personalize the automatic door locks, see "Automatic Door Locks" under *DIC Operation and Displays on page 3-40*.

Downloaded from www.Manualslib.com manuals search engine

Rear Door Security Locks

With this feature, you can lock the rear doors so they cannot be opened from the inside.



The rear door security lock is located on the inside edge of each rear door.

To engage the security locks, do the following:

1. Open one of the rear doors.
2. Using your ignition key, turn the lock toward the front of the vehicle.
3. Close the door.
4. Repeat these steps on the other rear door.

If you want to open a rear door when the security lock is on, unlock the door and open the door from the outside.

To disengage the security locks, do the following:

1. Open one of the rear doors.
2. Using your ignition key, turn the lock to the vertical position.
3. Close the door.
4. Repeat these steps on the other rear door.

Lockout Protection

This feature protects you from locking your key in the vehicle when the key is in the ignition and a door is open.

If the power door lock switch is pressed when a door is open and the key is in the ignition, all of the doors will lock and then the driver's door will unlock. A chime will sound to indicate that the key has been left in the ignition.

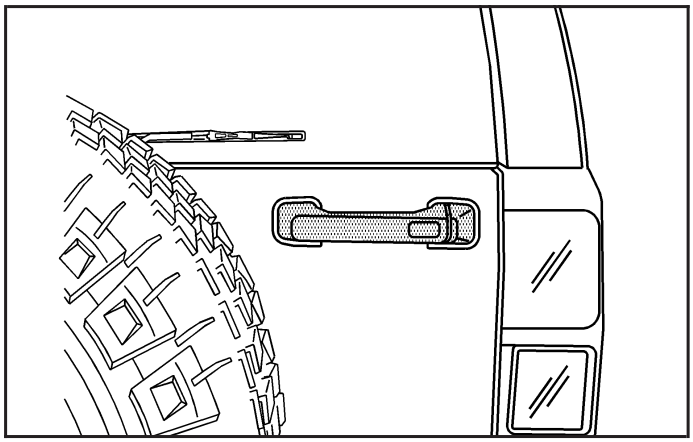
Downloaded from www.Manualslib.com manuals search engine

Swing-gate

To lock or unlock the swing-gate, use the power door lock switch or the remote keyless entry transmitter.

⚠ CAUTION:

Make sure the swing-gate is completely closed. Driving with the swing-gate open could injure pedestrians or damage the vehicle.



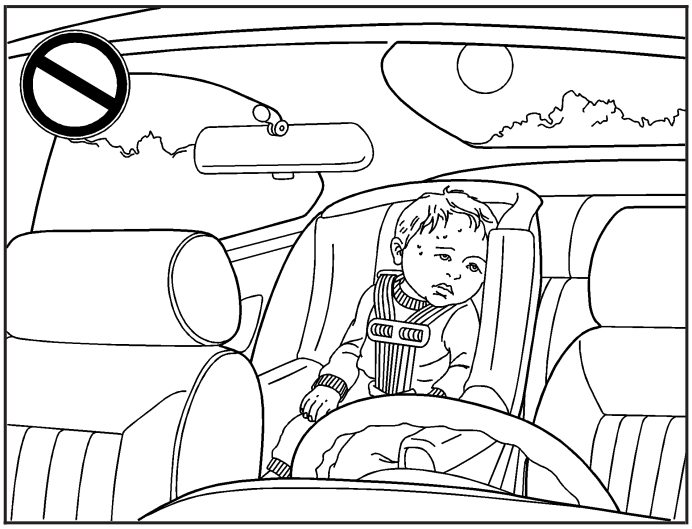
To open the swing-gate, pull the door handle. Pull the swing-gate rearward slightly and it will automatically open.

Downloaded from www.Manualslib.com manuals search engine

Windows

⚠ CAUTION:

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



Downloaded from www.Manualslib.com manuals search engine

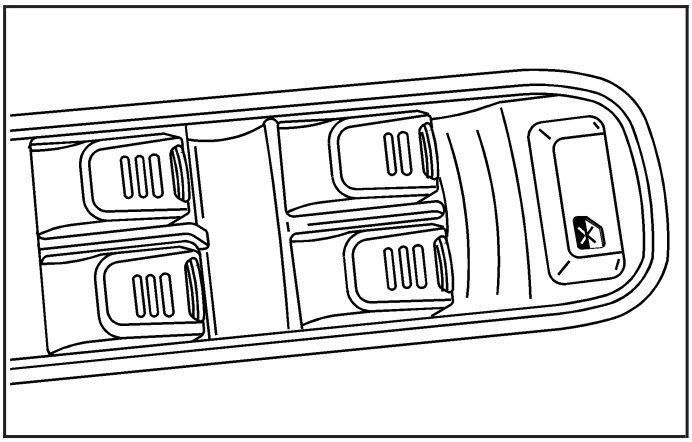
Power Windows

⚠ CAUTION:

Leaving children, helpless adults, or pets in a vehicle with the windows closed is dangerous. They can be overcome from extreme heat in warm or hot weather and suffer permanent injuries or even death from heat stroke.

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

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



The power window controls are located on each door.

The driver's door has switches for the passenger windows as well. Your power windows will work when the ignition is in ACC (Accessory) or ON, or when Retained Accessory Power (RAP) is active. See *Retained Accessory Power (RAP) on page 2-20*.

Pull up the front edge of the control to raise the window.

Press the front edge of the control down to lower the window.

Downloaded from www.Manualslib.com manuals search engine

Express-Down Window

The driver's window has an express-down feature that allows you to lower the window without holding the switch. Press the front edge of the switch past the first position to activate the express-down mode. The express-down mode can be canceled at any time by pulling up on the switch. To open the window partway, press the front of the switch to the first position until the window is at the desired level.

Window Lockout

(Window Lockout): The window lockout button is located forward of the window switches. This feature disables the passenger's window switches when the button is pressed. Press the button again to turn the lockout off. A red band on the side of the button can be seen when the windows are not locked out.

Sun Visors

To block glare, pull the visor down. It can also be detached from the center mount and moved to the side to block glare from that direction. There are extenders that can be pulled out for further coverage.

Visor Vanity Mirror

Your vehicle has a vanity mirror located on the driver's and passenger's visor.

Illuminated Visor Vanity Mirror

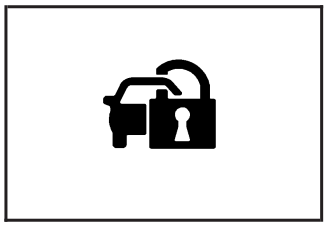
Your vehicle may have an illuminated vanity mirror on both visors. Lift the cover on the mirror and the lights will automatically come on.

Downloaded from www.Manualslib.com manuals search engine

Theft-Deterrent Systems

Vehicle theft is big business, especially in some cities. Although your vehicle has a number of theft-deterrent features, we know that nothing we put on it can make it impossible to steal.

Content Theft-Deterrent



Your vehicle has a content theft-deterrent alarm system.

To activate the content theft-deterrent system:

1. Close all the doors.
2. Lock the doors with the remote keyless entry transmitter. The security light, located on the instrument panel cluster, will flash.

If the lock button on the remote keyless entry transmitter is pressed, but a door is open, the doors will lock, the lights may flash and the horn may sound. Close the open door and the alarm system will arm.

If a locked door is not opened using the remote keyless entry transmitter, or by OnStar®, the alarm will go off. First, a pre-alarm will sound the horn at reduced intensity for 10 seconds. Then, the front turn signal lamps will flash for two minutes, and the horn will sound for two minutes. The alarm will then turn off to save battery power.

Starting the engine with the correct key will shut off the pre-alarm or alarm at any time.

Remember, the theft-deterrent system will not activate if you lock the doors with the key, the manual door lock, or power door lock switch. The system can only be activated using the remote keyless entry transmitter, or by OnStar®. See *OnStar® System on page 2-48* for additional information. You should also remember that you can start your vehicle with the correct key if the alarm has been set off.

Here is how to avoid setting off the alarm by accident:

- If you do not want to arm the theft-deterrent system, the vehicle should be locked with the manual door lock lever, the power door lock switch, or the key, after the doors are closed.
- If the content theft-deterrent system is armed, unlock the doors by pressing the unlock button on the remote keyless entry transmitter or by OnStar®. Unlocking a door any other way will activate the alarm.

Downloaded from www.Manualslib.com manuals search engine

If you set off the alarm by accident, you can turn it off by pressing unlock on the remote keyless entry transmitter, starting the vehicle with the correct key, or by having OnStar® unlock the doors. 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, activate the system by locking the doors with the remote keyless entry transmitter.
2. Unlock the door with the manual door lock and open the door. This should set off the pre-alarm. Wait 10 seconds for the full alarm to activate.
3. To turn the alarm off, press the unlock button on the remote keyless entry transmitter or start the engine.

If the alarm does not sound when it should but the lights 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 5-102*.

If the alarm does not sound or the front turn signal lamps do not flash, see your dealer/retailer for service.

Passlock® (U. S. Only)

Your vehicle has the Passlock® theft-deterrent system.

Passlock® is a passive theft-deterrent system. Passlock® enables fuel if the ignition lock cylinder is turned with a valid key. If an incorrect key is used or the ignition lock cylinder is tampered with, the fuel system is disabled and the vehicle will not start.

During normal operation, the security light will turn off approximately five seconds after the engine is started. See *Security Light on page 3-39*.

If the engine stalls and the security light flashes, wait about 10 minutes until the light stops flashing before trying to restart the engine. Remember to release the key from START as soon as the engine starts.

If the engine does not start after three tries, the vehicle needs service.

If the engine is running and the security light comes on, you will be able to restart the engine if you turn the engine off. However, your Passlock® system is not working properly and must be serviced by your dealer/retailer. Your vehicle is not protected by Passlock® at this time. See your dealer/retailer for service.

In an emergency, call the Roadside Assistance Center. See *Roadside Assistance Program on page 7-6*.

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

Downloaded from www.Manualslib.com manuals search engine

PASS-Key® III+

The PASS-Key® III+ system operates on a radio frequency subject to Federal Communications Commission (FCC) Rules and with Industry Canada.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to this system by other than an authorized service facility could void authorization to use this equipment.

PASS-Key® III+ uses a radio frequency transponder in the key that matches a decoder in your vehicle.

PASS-Key® III+ Operation (Canada Only)

Your vehicle has 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.

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.

The key uses a transponder that matches an immobilizer control unit in your vehicle. Only the correct key will start the vehicle. If the key is ever damaged, you may not be able to start your vehicle.

When trying to start the vehicle, if the engine does not start and the security light comes on, there may be a problem with your 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 5-102*.

Downloaded from www.Manualslib.com manuals search engine

If the engine still does not start with the other key, your vehicle needs service. If your vehicle does start, the first key may be faulty. See your dealer/retailer who can service the theft-deterrent system and have a new key made.

It is possible for the theft-deterrent system decoder to learn the transponder value of a new or replacement key. Up to 10 keys can be programmed for the vehicle. The following procedure is for programming additional keys only.

Canadian Owners: If you lose or damage your keys, only a dealer/retailer can service the theft-deterrent system to have new keys made. To program additional keys you will require two current driver's keys.

To program a new key do the following:

1. Verify that the new key has PK3+ stamped on it.
2. Insert the current driver's key in the ignition and start the engine. If the engine will not start see your dealer/retailer for service.
3. After the engine has started, turn the key to LOCK/OFF, and remove the key.
4. Insert the second current driver's key in the ignition and start the engine within ten seconds of removing the previous key. If the engine will not start see your dealer/retailer for service.
5. After the engine has started, turn the key to LOCK/OFF, and remove the key. Insert the key to be programmed and turn it to ON/RUN within ten seconds of removing the previous key.

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

If the security light comes on and stays on while driving, you will be able to restart the engine if you turn it off. The theft-deterrent system, however, is not working properly and must be serviced by your dealer/retailer. Your vehicle is not protected by the theft-deterrent system at this time.

In an emergency, contact Roadside Assistance. See *Roadside Assistance Program on page 7-6*.

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

Downloaded from www.Manualslib.com manuals search engine

Starting and Operating Your Vehicle

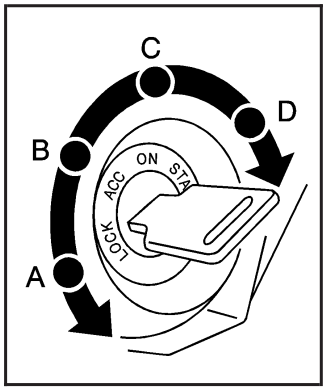
New Vehicle Break-In

Notice: **Your vehicle does not need an elaborate break-in. But it will perform better in the long run if you follow these guidelines:**

- **Keep your speed at 55 mph (88 km/h) or less for the first 500 miles (805 km).**
- **Do not drive at any one constant speed, fast or slow, for the first 500 miles (805 km). Do not make full-throttle starts. Avoid downshifting to brake or slow the vehicle.**
- **Avoid making hard stops for the first 200 miles (322 km) or so. During this time the new brake linings are not yet broken in. Hard stops with new linings can mean premature wear and earlier replacement. Follow this breaking-in guideline every time you get new brake linings.**
- **Do not tow a trailer during break-in. See *Towing a Trailer on page 4-50* for the trailer towing capabilities of your vehicle and more information.**

Following break-in, engine speed and load can be gradually increased.

Ignition Positions



With the key in the ignition switch, you can turn to four different positions.

To shift out of PARK (P), the ignition must be in ON/RUN and the regular brake pedal must be applied.

Notice: **Using a tool to force the key from the ignition switch could cause damage or break the key. Use the correct key and turn the key only with your hand. Make sure the key is all the way in. If none of this works, then your vehicle needs service.**

(A) LOCK/OFF: This position locks the ignition. It also locks the transmission on automatic transmission vehicles. It locks the steering wheel on manual transmission vehicles when the key is removed. It is a theft-deterrent feature. You will only be able to remove your key when the ignition is turned to LOCK/OFF.

Downloaded from www.Manualslib.com manuals search engine

If you have an automatic transmission, the ignition switch cannot be turned to LOCK/OFF unless the shift lever is in PARK (P).

If the steering wheel is locked, move it from right to left and turn the key to ACC/ACCESSORY. If none of this works, then your vehicle needs service.

(B) ACC/ACCESSORY: This is the position in which you can operate your electrical accessories or items plugged into the accessory power outlets. On automatic transmission vehicles, this position unlocks the ignition. On manual transmission vehicles, it unlocks the ignition and steering wheel. Use this position if your vehicle must be pushed or towed.

(C) ON/RUN: This is the position that the switch returns to after you start your engine and release the switch. The switch stays in ON when the engine is running. But even when the engine is not running, you can use ON/RUN to operate the electrical accessories and to display some instrument panel cluster warning and indicator lights. The transmission is also unlocked in this position on automatic transmission vehicles.

The battery could be drained if you leave the key in the ACC/ACCESSORY or ON/RUN position with the engine off. You may not be able to start your vehicle if the battery is allowed to drain for an extended period of time.

START (D): This is the position that starts the engine. When the engine starts, release the key. The ignition switch returns to ON/RUN for driving.

When the engine is not running, ACC/ACCESSORY and ON/RUN allows you to operate the electrical accessories, such as the radio or items plugged into the accessory power outlets.

A warning tone will sound if you open the driver's door when the ignition is in ACC/ACCESSORY or LOCK/OFF and the key is in the ignition.

Key In the Ignition

Never leave your vehicle with the keys inside, as it is an easy target for joy riders or thieves. If you leave the key in the ignition and park your vehicle, a chime will sound, when you open the driver's door. Always remember to remove your key from the ignition and take it with you. This will lock your ignition and transmission. Also, always remember to lock the doors.

The battery could be drained if you leave the key in the ignition while your vehicle is parked. You may not be able to start your vehicle after it has been parked for an extended period of time.

Downloaded from www.Manualslib.com manuals search engine

Retained Accessory Power (RAP)

These vehicle accessories can be used for up to 20 minutes after the engine is turned off:

- Audio System
- Front Wipers
- Power Windows
- Sunroof (if equipped)

These features will work when the key is in ON/RUN or ACC/ACCESSORY. Once the key is turned from ON/RUN to LOCK/OFF, these features continue working for up to 20 minutes or until a door is opened.

Starting the Engine

Place the transmission in the proper gear.

Automatic Transmission

Move the shift lever to PARK (P) or NEUTRAL (N). The engine will not start in any other position -- this is a safety feature. To restart when you are already moving, use NEUTRAL (N) only.

Notice: **Do not try to shift to PARK (P) if your vehicle is moving. If you do, you could damage the transmission. Shift to PARK (P) only when your vehicle is stopped.**

Manual Transmission

The shift lever should be in neutral position and the parking brake engaged. Hold the clutch pedal down to the floor and start the engine. Your vehicle will not start if the clutch pedal is not all the way down. That is a safety feature.

Downloaded from www.Manualslib.com manuals search engine

Starting Procedure

1. With your foot off the accelerator pedal, turn the ignition key to START. When the engine starts, let go of the key. The idle speed will go down as your engine gets warm. Do not race the engine immediately after starting it. Operate the engine and transmission gently to allow the oil to warm up and lubricate all moving parts.

   Your 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 for many seconds, 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 ACC/ACCESSORY or LOCK/OFF.

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 0°F or –18°C), it could be flooded with too much gasoline. Try pushing the accelerator pedal all the way to the floor and holding it there as you hold the key in START for up to a maximum of 15 seconds. Wait at least 15 seconds between each try, to allow the cranking motor to cool down. When the engine starts, let go of the key and accelerator. If the vehicle starts briefly but then stops again, do the same thing. This clears the extra gasoline from the engine. Do not race the engine immediately after starting it. Operate the engine and transmission gently until the oil warms up and lubricates all moving parts.

Notice: **The engine is designed to work with the electronics in your vehicle. If you add electrical parts or accessories, you could change the way the engine operates. Before adding electrical equipment, check with your dealer/retailer. If you do not, your engine might not perform properly. Any resulting damage would not be covered by your vehicle's warranty.**

Downloaded from www.Manualslib.com manuals search engine

Engine Coolant Heater

The engine coolant heater, if available, can help in cold weather conditions at or below 0°F (–18°C) for easier starting and better fuel economy during engine warm-up. Plug in the coolant heater at least four hours before starting your vehicle. An internal thermostat in the plug-end of the cord may exist which will prevent engine coolant heater operation at temperatures above 0° F (–18°C).

To Use the Engine Coolant Heater

1. Turn off the engine.
2. Open the hood and unwrap the electrical cord. The cord is located in the engine compartment behind the underhood fuse block on the driver's side of the vehicle.
3. Plug it into a normal, grounded 110-volt AC outlet.

⚠ CAUTION:

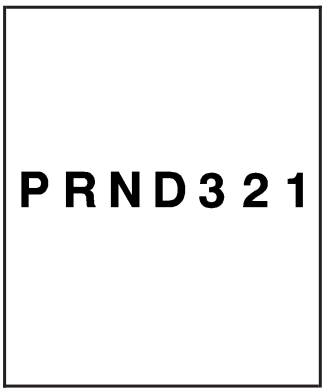
Plugging the cord into an ungrounded outlet could cause an electrical shock. Also, the wrong kind of extension cord could overheat and cause a fire. You could be seriously injured. Plug the cord into a properly grounded three-prong 110-volt AC outlet. If the cord will not reach, use a heavy-duty three-prong extension cord rated for at least 15 amps.

4. Before starting the engine, be sure to unplug and store the cord as it was before to keep it away from moving engine parts. If you do not, it could be damaged.

How long should you keep the coolant heater plugged in? The answer depends on the outside temperature, the kind of oil you have, and some other things. Instead of trying to list everything here, we ask that you contact your dealer/retailer in the area where you will be parking your vehicle. The dealer/retailer can give you the best advice for that particular area.

Downloaded from www.Manualslib.com manuals search engine

Automatic Transmission Operation



The automatic transmission has a shift lever on the console.

It features an electronic shift position indicator within the instrument cluster. This display must be powered anytime the shift lever is capable of being moved out of PARK (P). This means that if your key is turned off, but not in LOCK, there will be a small current drain on your battery which could discharge your battery over a period of time. If you need to leave your key in the ignition but not in LOCK for an extended period, it is recommended that you disconnect the battery cable from the battery to prevent discharging your battery.

There are several different positions for your shift lever.

PARK (P): This position locks your rear wheels. It is the best position to use when you start the engine because your vehicle cannot move easily.

⚠ CAUTION:

It is dangerous to get out of your vehicle if the shift lever is not fully in PARK (P) with the parking brake firmly set. Your vehicle can roll.

Do not leave your vehicle when the engine is running unless you have to. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure your vehicle will not move, even when you are on fairly level ground, always set your parking brake and move the shift lever to PARK (P). See *Shifting Into PARK (P) (Automatic Transmission) on page 2-33*. If you are pulling a trailer, see *Towing a Trailer on page 4-50*.

Make sure the shift lever is fully in PARK (P) before starting the engine. Your vehicle has an automatic transmission shift lock control system. You must fully apply your regular brakes first and then press the shift lever button before you can shift from PARK (P) when the ignition key is in ON.

Downloaded from www.Manualslib.com manuals search engine

If you cannot shift out of PARK (P), ease pressure on the shift lever and push the shift lever all the way into PARK (P) as you maintain brake application. Then press the shift lever button and move the shift lever into another gear. See *Shifting Out of PARK (P) (Automatic Transmission) on page 2-35*

REVERSE (R): Use this gear to back up.

Notice: **Shifting to REVERSE (R) while your vehicle is moving forward could damage the transmission. The repairs would not be covered by your warranty. Shift to REVERSE (R) only after your vehicle is stopped.**

To rock your vehicle back and forth to get out of snow, ice, or sand without damaging your transmission, see *If Your Vehicle is Stuck in Sand, Mud, Ice, or Snow on page 4-39*

NEUTRAL (N): In this position, your engine does not connect with the wheels. To restart when you are already moving, use NEUTRAL (N) only.

⚠ CAUTION:

Shifting into a drive gear while the engine is running at high speed is dangerous. Unless your foot is firmly on the brake pedal, your vehicle could move very rapidly. You could lose control and hit people or objects. Do not shift into a drive gear while your engine is running at high speed.

Notice: **Shifting out of PARK (P) or NEUTRAL (N) with the engine running at high speed may damage the transmission. The repairs would not be covered by your warranty. Be sure the engine is not running at high speed when shifting your vehicle.**

Downloaded from www.Manualslib.com manuals search engine

DRIVE (D): This position is for normal driving. It provides the best fuel economy for your vehicle. If you need more power for passing, and you are:

- Going less than about 35 mph (55 km/h), push your accelerator pedal about halfway down.
- Going about 35 mph (55 km/h) or more, push the accelerator all the way down.

Downshifting the transmission in slippery road conditions could result in skidding, see “Skidding” under *Loss of Control on page 4-10*.

DRIVE (D) can be used when towing a trailer. You may want to shift the transmission to THIRD (3) or, if necessary, a lower gear if the transmission shifts too often under heavy loads and/or hilly conditions.

THIRD (3): This position is also used for normal driving. However it reduces vehicle speed more than DRIVE (D) without using your brakes. You might choose THIRD (3) instead of DRIVE (D) when driving on hilly, winding roads, when towing a trailer, so there is less shifting between gears and when going down a steep hill.

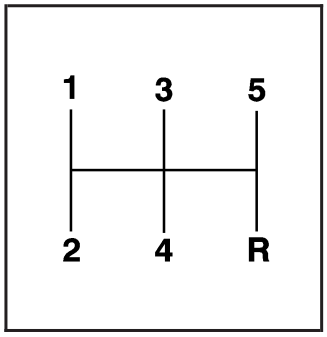
SECOND (2): This position reduces vehicle speed even more than THIRD (3) without using your brakes. You can use SECOND (2) on hills. It can help control your speed as you go down steep mountain roads, but then you would also want to use your brakes off and on.

FIRST (1): This position reduces vehicle speed even more than SECOND (2) without using your brakes. You can use it on very steep hills, or in deep snow or mud. If the shift lever is put in FIRST (1) while the vehicle is moving forward, the transmission will not shift into first gear until the vehicle is going slowly enough.

Notice: **Spinning the tires or holding the vehicle in one place on a hill using only the accelerator pedal may damage the transmission. The repair will not be covered by your warranty. If you are stuck, do not spin the tires. When stopping on a hill, use the brakes to hold the vehicle in place.**

Downloaded from www.Manualslib.com manuals search engine

Manual Transmission Operation



This is your shift pattern.

Here is how to operate your manual transmission:

FIRST (1): Press the clutch pedal and shift into FIRST (1). Then, slowly let up on the clutch pedal as you slowly press down on the accelerator pedal.

You can shift into FIRST (1) when you are going less than 20 mph (30 km/h). If you have come to a complete stop and it is hard to shift into FIRST (1), put the shift lever in NEUTRAL and let up on the clutch. Then press the clutch pedal back down and shift into FIRST (1).

SECOND (2): Press the clutch pedal as you let up on the accelerator pedal and shift into SECOND (2). Then, slowly let up on the clutch pedal as you press the accelerator pedal.

THIRD, FOURTH AND FIFTH (3, 4 and 5): Shift into THIRD (3), FOURTH (4) and FIFTH (5) the same way you do for SECOND (2). Slowly let up on the clutch pedal as you press the accelerator pedal.

To stop, let up on the accelerator pedal and press the brake pedal. Just before the vehicle stops, press the clutch pedal and the brake pedal, and shift to NEUTRAL.

NEUTRAL: Use this position when you start or idle your engine.

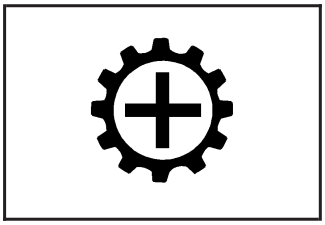
REVERSE (R): To back up, press the clutch pedal. After the vehicle stops, shift into REVERSE (R). Slowly let up on the clutch pedal as you press the accelerator pedal. If it is hard to shift, let the shift lever return to NEUTRAL and release the clutch pedal. Then press the clutch again and shift into REVERSE (R). Do not attempt to shift into the fifth gear position prior to shifting into REVERSE (R). Your transmission has a lock out feature which prevents a fifth gear to reverse gear shift.

Notice: **Shifting to REVERSE (R) while your vehicle is moving forward could damage the transmission. The repairs would not be covered by your warranty. Shift to REVERSE (R) only after your vehicle is stopped.**

Use REVERSE (R), along with the parking brake, for parking your vehicle.

Downloaded from www.Manualslib.com manuals search engine

Up-Shift Light



This light will show you when to shift to the next higher gear for best fuel economy.

When this light comes on, you can shift to the next higher gear if weather, road and traffic conditions permit. For the best fuel economy, accelerate slowly and shift when the light comes on.

While you accelerate, it is normal for the light to go on and off if you quickly change the position of the accelerator. Ignore the shift light when you downshift.

If your vehicle has four-wheel drive and has a manual transmission, disregard the shift light when the transfer case is in four-wheel low.

For more information, see *Up-Shift Light on page 3-32*.

Shift Speeds

⚠ CAUTION:

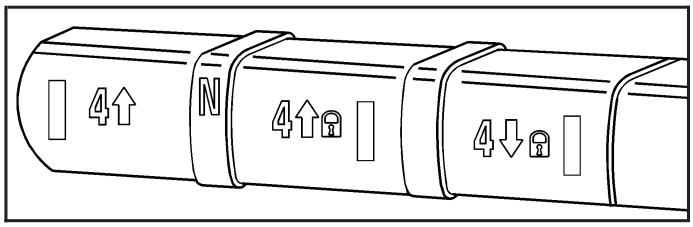
If you skip a gear when you downshift, you could lose control of your vehicle. You could injure yourself or others. Do not shift down more than one gear at a time when you downshift.

Full-Time Four-Wheel Drive

Full-Time Four-Wheel Drive sends your engine's driving power to all four wheels for extra traction. To get the most out of Full-Time Four-Wheel Drive, you must be familiar with its operation.

Downloaded from www.Manualslib.com manuals search engine

Transfer Case Buttons



The transfer case buttons are located to the right of the instrument panel cluster. Use these switches to shift into and out of the different Full-Time Four-Wheel Drive modes.

You can choose between four modes:

4 ↑ (Four-Wheel High): This setting is used for driving in most street and highway situations. You can also use this setting for light or variable off-road conditions.

N (NEUTRAL): Shift the vehicle's transfer case to NEUTRAL only when towing your vehicle. See *Recreational Vehicle Towing on page 4-48* or *Towing Your Vehicle on page 4-48* for more information.

Notice: **Driving on pavement in Four-Wheel High Lock or Four Wheel Low Lock for extended periods may cause premature wear on your vehicle's powertrain and tires. Do not drive in Four-Wheel High Lock or Four-Wheel Low Lock on pavement for extended periods.**

4 ↑ (Four-Wheel-High Lock): Use this mode when you need extra traction in most off-road situations such as sand, mud, snow or level, rocky trails.

Notice: **Operating your vehicle in Four-Wheel-Low Lock above 30 mph (48 km/h) for any extended period of time could cause damage to the transfer case. Do not operate your vehicle in Four-Wheel-Low Lock above 30 mph (48 km/h) for extended periods.**

4 ↓ (Four-Wheel-Low Lock): This mode delivers extra torque to all four wheels and is used for extreme off-road conditions. You might choose 4-Wheel-Low Lock if you are driving in off-road situations, such as, deep sand, mud, or snow and climbing or descending steep hills.

If the vehicle has a locking rear axle, when in this mode you can also choose to lock the rear axle for additional traction in extreme off-road situations. See *Locking Rear Axle on page 4-6*.

Downloaded from www.Manualslib.com manuals search engine

Indicator lights in the buttons show which mode you are in. The indicator lights will come on briefly when you turn on the ignition the mode the vehicle is in will stay on. If the lights do not come on, you should take your vehicle to your dealer for service. An indicator light will flash while shifting the transfer case. It will remain lit when the shift is complete. If for some reason the transfer case cannot make a requested shift, it will return to the last chosen setting.

If the SERV 4WD message on the Driver Information Center (DIC) stays on, you should take your vehicle to your dealer for service. See Service 4WD message under *DIC Warnings and Messages on page 3-43*.

Shifting between Four-Wheel High and Four-Wheel-High Lock

With the vehicle traveling less than 45 mph (72 km/h), press and release the Four-Wheel High or Four-Wheel-High Lock button. The indicator light will flash while shifting. It will remain lit when the shift is complete.

It may be necessary to drive backwards while turning for a distance of 25 feet (7.5 m) to get the lock feature to disengage.

Shifting into Four-Wheel Low Lock

Notice: **Shifting the transmission into gear before the indicator light stops flashing could cause damage to the transfer case. Always wait until the indicator light stops flashing before putting the transmission back in gear.**

To shift into Four-Wheel-Low Lock, the ignition must be in ON and the vehicle must be stopped or moving less than 3 mph (5 km/h) with the transmission in NEUTRAL (N). The preferred method for shifting into Four-Wheel Low is to have your vehicle moving 1 to 2 mph (1.6 to 3.2 km/h). Press and release the Four-Wheel-Low Lock button. If your vehicle has a manual transmission, the clutch pedal must be pressed to the floor while you press the Four-Wheel-Low Lock button, or the shift will not be completed. You must wait for the Four-Wheel-Low Lock indicator light to stop flashing and remain lit before shifting your transmission in gear.

It is normal for your vehicle to have engagement noise and bump when shifting between Four-Wheel Low and Four-Wheel High ranges or from NEUTRAL with the engine running.

If the Four-Wheel-Low Lock button is pressed when your vehicle is in gear and/or moving too fast, the Four-Wheel-Low Lock indicator light will flash for 15 seconds and not complete the shift unless your vehicle is moving less than 3 mph (5 km/h) and the transmission is in NEUTRAL (N). After 15 seconds the transfer case will return to the last chosen setting.

Downloaded from www.Manualslib.com manuals search engine

Shifting Out of Four-Wheel-Low Lock

Notice: **Shifting the transmission into gear before the indicator light stops flashing could cause damage to the transfer case. Always wait until the indicator light stops flashing before putting the transmission back in gear.**

To shift out of Four-Wheel-Low Lock, your vehicle must be stopped or moving less than 3 mph (5 km/h) with the transmission in NEUTRAL (N) and the ignition in ON. The preferred method for shifting out of Four-Wheel-Low Lock is to have your vehicle moving 1 to 2 mph (1.6 to 3.2 km/h). Press and release the Four-Wheel High or Four-Wheel-High Lock button. If your vehicle has a manual transmission, the clutch pedal must be pressed to the floor while you press the Four-Wheel High or Four-Wheel-High Lock button, or the shift will not be completed. You must wait for the Four-Wheel High or Four-Wheel-High Lock indicator light to stop flashing and remain lit before shifting your transmission into gear.

It is normal for your vehicle to have engagement noise and bump when shifting between Four-Wheel Low and Four-Wheel High ranges or from NEUTRAL with the engine running.

If the Four-Wheel High or Four-Wheel-High Lock button is pressed when your vehicle is in gear and/or moving too fast, the Four-Wheel High or Four-Wheel-High Lock indicator light will flash for 15 seconds but will not complete the shift unless your vehicle is moving less than 3 mph (5 km/h) and the transmission is in NEUTRAL (N).

Shifting Into NEUTRAL

To shift the transfer case to NEUTRAL, do the following:

1. Set the parking brake.
2. Start the vehicle by turning the ignition to START.
3. Put the transmission in NEUTRAL (N). If your vehicle has a manual transmission, press and hold the clutch pedal down while you perform Steps 5 through 9.
4. Shift the transfer case to Four-Wheel High.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

Shifting an all-wheel-drive vehicle's transfer case into NEUTRAL can cause your vehicle to roll even if the automatic transmission is in PARK (P) or the manual transmission is in any gear. You or others could be injured. Make sure the parking brake is firmly set before you shift the transfer case to NEUTRAL.

5. Simultaneously press and hold the Four-Wheel High and Four-Wheel-Low Lock buttons for 10 seconds. The NEUTRAL light will come on when the transfer case shift to NEUTRAL is complete.
6. Press and hold the regular brake pedal and Shift the transmission to REVERSE (R) for one second, then shift the transmission for one second to DRIVE (D) for an automatic transmission, or FIRST (1) for vehicles have a manual transmission and then let out the clutch. This is to ensure the transfer case is in NEUTRAL. If not, repeat this procedure starting at Step 3.
7. Turn the engine off, by turning the key to ACC.
8. Place the transmission shift lever in PARK (P) for an automatic transmission, or FIRST (1) for vehicles that have a manual transmission.
9. Turn the ignition to LOCK/OFF.

Shifting Out of NEUTRAL

To shift out of NEUTRAL:

1. Set the parking brake and apply the regular brake pedal.
2. Shift the transmission to NEUTRAL (N) for an automatic transmission, or press the clutch pedal for vehicles that have a manual transmission. Then turn the ignition to ON with the engine off.
3. Press the button for the desired transfer case shift position (Four-Wheel High, Four-Wheel-High Lock or Four-Wheel-Low Lock).

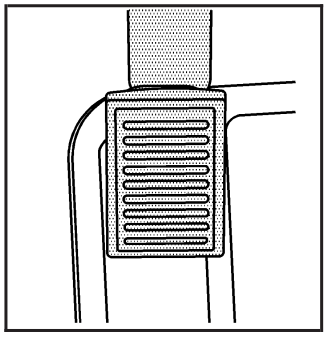
   After the transfer case has shifted out of NEUTRAL the light will go out.
4. Release the parking brake.

Notice: **Shifting the transmission into gear before the indicator light stops flashing could cause damage to the transfer case. Always wait until the indicator light stops flashing before putting the transmission back in gear.**

5. You may start the engine and shift the transmission to the desired position.

Downloaded from www.Manualslib.com manuals search engine

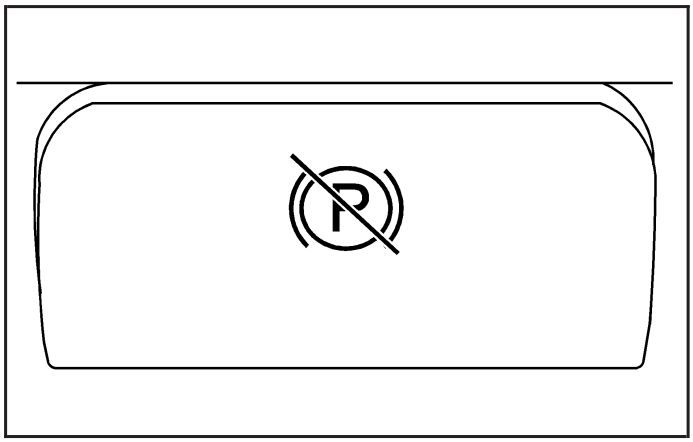
Parking Brake



The parking brake pedal is located to the left of the regular brake pedal, near the driver's door.

To set the parking brake, hold the regular brake pedal down with your right foot. Push the parking brake pedal down to its fully-applied position with your left foot.

A chime will activate and the brake warning light, located on the instrument panel, will flash when the parking brake is applied and the vehicle is moving at least 3 mph (5 km/h) for at least three seconds. The chime will deactivate and the light will turn off when the parking brake is set and the vehicle is moving below 3 mph (5 km/h). See *Brake System Warning Light on page 3-33*.



To release the parking brake, hold the regular brake pedal down. Pull the bottom edge of the lever, located above the parking brake pedal, with the parking brake symbol, directly rearward to release the parking brake.

If the ignition is on when the parking brake is released, the brake system warning light will go off.

Notice: **Driving with the parking brake on can overheat the brake system and cause premature wear or damage to brake system parts. Make sure that the parking brake is fully released and the brake warning light is off before driving.**

If you are towing a trailer and are parking on any hill, see *Towing a Trailer on page 4-50*.

Downloaded from www.Manualslib.com manuals search engine

Shifting Into PARK (P) (Automatic Transmission)

⚠ CAUTION:

It can be dangerous to get out of your vehicle if the shift lever is not fully in PARK (P) with the parking brake firmly set. Your vehicle can roll. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure your vehicle will not move, even when you are on fairly level ground, use the steps that follow. If you are pulling a trailer, see *Towing a Trailer on page 4-50*.

1. Hold the brake pedal down with your right foot and set the parking brake.

   See *Parking Brake on page 2-32* for more information.

⚠ CAUTION:

With all-wheel drive, your vehicle will be free to roll — even if your shift lever is in PARK (P) — if your transfer case is in NEUTRAL. So, be sure the transfer case is in a drive gear, four-wheel high (4H) or four-wheel low (4L) — not in NEUTRAL.

2. Move the shift lever into PARK (P) by pressing the shift lever button and moving the lever as far forward 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 your vehicle with the key, your vehicle is in PARK (P).

Downloaded from www.Manualslib.com manuals search engine

Leaving Your Vehicle With the Engine Running (Automatic Transmission)

⚠ CAUTION:

It can be dangerous to leave your vehicle with the engine running. Your vehicle could move suddenly if the shift lever is not fully in PARK (P) with the parking brake firmly set. And, if you leave the vehicle with the engine running, it could overheat and even catch fire. You or others could be injured. Do not leave your vehicle with the engine running.

If you have to leave your vehicle with the engine running, be sure your vehicle is in PARK (P) and your parking brake is firmly set before you leave it. After you have moved the shift lever into PARK (P), hold the regular brake pedal down. Then, see if you can move the shift lever away from PARK (P) without first pressing the shift lever button. If you can, it means that the shift lever was not fully locked into PARK (P).

Torque Lock (Automatic Transmission)

If you are parking on a hill and you do not shift your transmission into PARK (P) properly, the weight of the vehicle may put too much force on the parking pawl in the transmission. You may find it difficult to pull the shift lever out of PARK (P). This is called “torque lock.” To prevent torque lock, set the parking brake and then shift into PARK (P) properly before you leave the driver’s seat. To find out how, see *Shifting Into PARK (P) (Automatic Transmission) on page 2-33*.

When you are ready to drive, move the shift lever out of PARK (P) before you release the parking brake.

If torque lock does occur, you may need to have another vehicle push yours a little uphill to take some of the pressure from the parking pawl in the transmission, so you can pull the shift lever out of PARK (P).

Downloaded from www.Manualslib.com manuals search engine

Shifting Out of PARK (P) (Automatic Transmission)

Your vehicle has an automatic transaxle shift lock control system. You have to fully apply your regular brakes before you can shift from PARK (P) when the ignition is RUN. See *Automatic Transmission Operation on page 2-23*.

The shift lock control system is designed to do the following:

- Prevent the ignition key from being removed unless the shift lever is in PARK (P).
- Prevent movement of the shift lever out of PARK (P), unless the ignition is in ON/RUN and the regular brake pedal is applied.

The shift lock control system is always functional except in the case of a dead battery or low voltage (less than 9 V) battery.

If your vehicle has an uncharged battery or a battery with low voltage, try charging or jump starting the battery. See *Jump Starting on page 5-42* for more information.

To shift out of PARK (P) use the following:

1. Apply the brake pedal.
2. Move the shift lever to the desired position.

If you still are unable to shift out of PARK (P):

1. Ease the pressure on the shift lever.
2. While holding down the brake pedal, push the shift lever all the way into PARK (P)
3. Move the shift lever to the desired position.

If you are still having a problem shifting, then have your vehicle serviced soon.

Parking Your Vehicle (Manual Transmission)

Your vehicle has a manual transmission. Before you get out of your vehicle, move the shift lever into REVERSE (R), and firmly apply the parking brake. Once the shift lever has been placed into REVERSE (R) with the clutch pedal pressed in, turn the ignition key to LOCK, remove the key and release the clutch.

If you are parking on a hill, or if your vehicle is pulling a trailer, see *Towing a Trailer on page 4-50*.

Downloaded from www.Manualslib.com manuals search engine

Parking Over Things That Burn

⚠ CAUTION:

Things that can burn could touch hot exhaust parts under your vehicle and ignite. Do not park over papers, leaves, dry grass, or other things that can burn.

Engine Exhaust

⚠ CAUTION:

Engine exhaust can kill. It contains the gas carbon monoxide (CO), which you cannot see or smell. It can cause unconsciousness and death.

You might have exhaust coming in if:

- **The exhaust system sounds strange or different.**
- **Your vehicle gets rusty underneath.**
- **Your vehicle was damaged in a collision.**
- **Your vehicle was damaged when driving over high points on the road or over road debris.**
- **Repairs were not done correctly.**
- **Your vehicle or the exhaust system has been modified improperly.**

If you ever suspect exhaust is coming into your vehicle:

- **Drive it only with all the windows down to blow out any CO; and**
- **Have your vehicle fixed immediately.**

Downloaded from www.Manualslib.com manuals search engine

Running the Engine While Parked

It is better not to park with the engine running.
But if you ever have to, here are some things to know.

⚠ CAUTION:

Idling the engine with the climate control system off could allow dangerous exhaust into your vehicle. See the earlier caution under *Engine Exhaust on page 2-36*.

Also, idling in a closed-in place can let deadly carbon monoxide (CO) into your vehicle even if the climate control fan is at the highest setting. One place this can happen is a garage. Exhaust — with CO — can come in easily. NEVER park in a garage with the engine running.

Another closed-in place can be a blizzard. See *Winter Driving on page 4-35*.

⚠ CAUTION:

It can be dangerous to get out of your vehicle if the automatic transmission shift lever is not fully in PARK (P) with the parking brake firmly set. Your vehicle can roll. Do not leave your vehicle when the engine is running unless you have to. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure your vehicle will not move, even when it is on fairly level ground, always set the parking brake and move the automatic transmission shift lever to PARK (P), or the manual transmission shift lever to NEUTRAL.

Follow the proper steps to be sure your vehicle will not move. See *Shifting Into PARK (P) (Automatic Transmission) on page 2-33* and *Parking Your Vehicle (Manual Transmission) on page 2-35*.

If you are pulling a trailer with your vehicle, see *Towing a Trailer on page 4-50*.

Downloaded from www.Manualslib.com manuals search engine

Mirrors

Automatic Dimming Rearview Mirror with OnStar®, Compass and Temperature Display

Your vehicle may have this feature. When on, the automatic dimming mirror dims to the proper level to minimize glare from lights behind you after dark.

The mirror has a dual display in the upper right corner of the mirror face that shows the compass reading and the outside temperature.

Control buttons for the OnStar® system are at the bottom of the mirror. See *OnStar® System on page 2-48* for more information about the services OnStar® provides.

: This button is used as a toggle for changing displays and as an on/off toggle during a function.

Your vehicle may also have a Rear Vision Camera. See *Rear Vision Camera on page 2-44* for more information.

Slide-Out Video Feature Enable

Press and hold for three seconds to toggle the slide-out video feature on/off. An indicator light will turn on at the time the slide-out video is enabled. If the slide-out video feature is on, each time the vehicle is put into reverse, the slide-out video screen will extend. See *Rear Vision Camera on page 2-44* for more information.

The slide-out video feature will remain in the current on/off state each time the ignition goes through its cycle.

Slide-Out Video Cleaning

The slide-out video has to be enabled before the cleaning process can take place.

- Press and hold for six seconds or until the lower indicator light turns on.
- While extended for cleaning, neither the screen nor the camera will have power.
- Press briefly or wait 30 seconds to end cleaning. The screen will then retract.

Downloaded from www.Manualslib.com manuals search engine

Automatic Dimming Mirror Operation

The automatic dimming mirror comes on each time the ignition is turned to start. To turn the automatic dimming feature off or back on, press and hold for nine seconds. The indicator light on the mirror is lit when the automatic dimming feature is on.

Temperature Display

To adjust between Fahrenheit and Celsius:

- Press for approximately four seconds to toggle the display from F (Fahrenheit) to C (Celsius) to OFF.

  The temperature display will remain in its current state each time the ignition goes through its cycle.
- At start up, if the vehicle has been off for less than two and a half hours, and the last stored temperature was less than the current termperature, the sensor will increase 1°F every two minutes until the correct temperature is displayed.
- If the vehicle has been off more than two and a half hours, or the last stored temperature is greater than the current temperature, the current temperature immediately displays.
- If the temperature is 37°F (3°C) or lower, ICE will flash on the temperature display. This display will flash every two seconds for a period of one minute.

If an abnormal temperature reading is displayed for an extended period of time, see your dealer/retailer. Under certain circumstances, a delay in updating the temperature is normal.

Compass Display

Press the button, located at the bottom of the mirror, next to the OnStar® control buttons to turn the compass/temperature display on or off.

If CAL is not displayed, press and hold for 15 seconds, or until CAL is displayed. The compass is now in calibration mode. For more information, see “Compass Calibration” following.

The mirror can be calibrated in one of two ways:

- Drive the vehicle in circles at less than 5 mph (8 km/h) until the CAL is no longer displayed in the compass window. Then continue to drive to make sure all eight directions are available.
- Drive the vehicle under normal operating conditions.

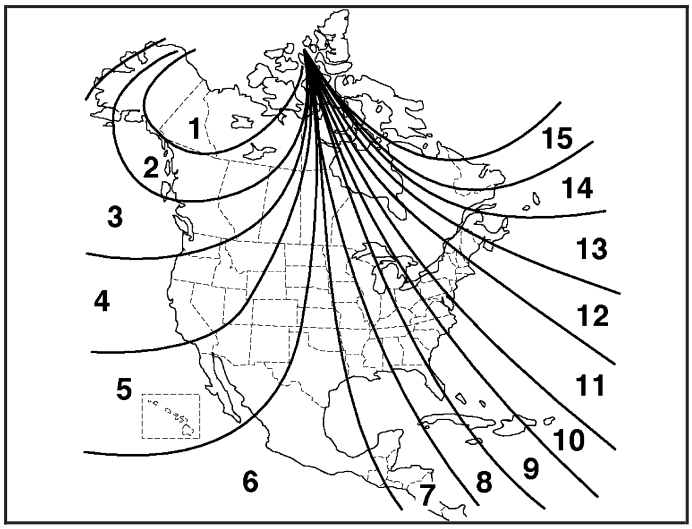
Downloaded from www.Manualslib.com manuals search engine

Compass Variance

The mirror is set in zone eight upon leaving the factory. It will be necessary to adjust the compass to compensate for compass variance if the vehicle is outside of zone eight. Under certain circumstances, as during a long distance cross-country trip, it will be necessary to adjust for compass variance. Compass variance is the difference between earth's magnetic north and true geographic north. If not adjusted to account for compass variance, the compass could give false readings.

To adjust for compass variance:

1. Find your current location and variance zone number on the following zone map.



2. Press and hold (N) for 12 seconds until a zone number appears in the display. The compass is now in zone mode.
3. Keep pressing the (N) until the desired zone number appears in the display. Release the button. After approximately four seconds of inactivity, the new zone number will be locked in and the compass/temperature display will return.

Downloaded from www.Manualslib.com manuals search engine

Cleaning the Mirror

Use a paper towel or similar material dampened with glass cleaner. Do not spray glass cleaner directly on the mirror as that could cause the liquid cleaner to enter the mirror housing.

Automatic Dimming Rearview Mirror with Compass and Temperature Display

Your vehicle may have this mirror. When on, an automatic dimming mirror will dim to the proper level to minimize glare from lights behind you after dark.

The mirror also includes a dual display in the upper right corner of the mirror with the compass reading and the outside temperature.

: Briefly press this button to turn the display on or off.

Your vehicle may also have a Rear Vision Camera. See *Rear Vision Camera on page 2-44* for more information.

Temperature Display

The temperature can be displayed by pressing the compass/temperature button. Pressing the compass/temperature button once briefly, will toggle the display reading on and off. To alternate the temperature reading between Fahrenheit and Celsius, press and hold the compass/temperature button for approximately three seconds until the display blinks F and C. After approximately five seconds of inactivity, the display will stop blinking and display the last selection made.

If an abnormal reading is displayed, see your dealer/retailer.

Automatic Dimming Mirror Operation

: Press this button to turn the automatic dimming feature on or off. The indicator light to the left of the button will turn on to indicate when the feature is on. Once the mirror is turned off, it will remain off until it is turned back on, or until the vehicle is restarted.

Compass Operation

Press the compass/temperature button once briefly to turn the display on or off.

Downloaded from www.Manualslib.com manuals search engine

Compass Calibration

The compass may need calibration if one of the following occurs:

- If CAL is displayed while driving in the vehicle.
- After approximately five seconds, the display does not show a compass heading, N for North, for example, there may be a strong magnetic field interfering with the compass. Such interference may be caused by a magnetic antenna mount, magnetic note pad holder, or a similar magnetic item.
- The compass does not display the correct heading and the compass zone variance is set correctly.

In order to calibrate, CAL must be displayed in the mirror compass windows. If CAL is not displayed, push in the compass/temperature button for approximately nine seconds or until CAL is displayed.

The compass can be calibrated by driving the vehicle in circles at 5 mph (8 km/h) or less until the display reads a direction.

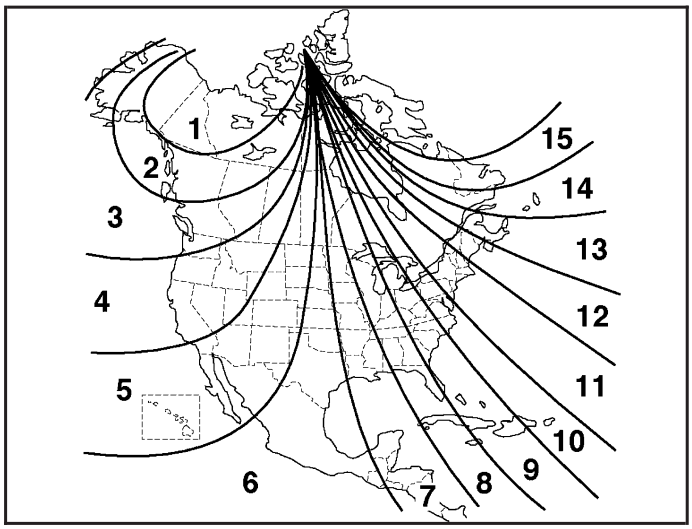
Compass Variance

The mirror is set in zone eight upon leaving the factory. It will be necessary to adjust the compass to compensate for compass variance if the vehicle is outside zone eight. Under certain circumstances, as during a long distance cross-country trip, it will be necessary to adjust for compass variance.

Compass variance is the difference between earth's magnetic north and true geographic north. If not adjusted to account for compass variance, your compass could give false readings.

To adjust for compass variance:

1. Find your current location and variance zone number on the following zone map.



2. Press and hold the compass/temperature button for six seconds until a zone number appears in the display.

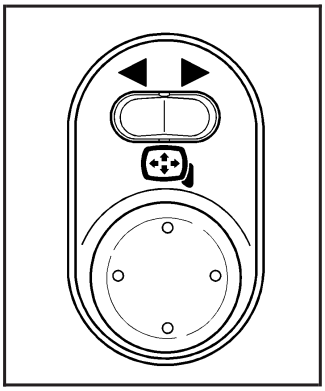
Downloaded from www.Manualslib.com manuals search engine

3. Press the compass/temperature button on the bottom of the mirror until the new zone number appears in the display. After you stop pressing the button, the display will show a compass direction within a few seconds.

Cleaning the Mirror

Use a paper towel or similar material dampened with glass cleaner. Do not spray glass cleaner directly on the mirror as that may cause the liquid cleaner to enter the mirror housing.

Outside Power Mirrors



The outside power mirror controls are located on the driver's door.

To adjust the power mirrors, do the following:

1. Press the left side of the selector switch to choose the driver side mirror. Press the right side of the selector switch to choose the passenger side mirror.
2. Use the round, four-way control pad to move the mirror in the desired direction.

If the mirror begins making a ratcheting sound, the mirror has reached the end of its travel and can go no farther in that direction. To stop the sound, reverse the mirror direction using the control pad.

The mirrors can be manually folded inward to prevent damage when going through an automatic car wash or confined space. Pull the mirror toward the vehicle to fold. To return the mirror to its original position, push outward. Be sure to return both mirrors to the unfolded position before driving.

Downloaded from www.Manualslib.com manuals search engine

Outside Convex Mirror

⚠ CAUTION:

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 your right. Check your inside mirror or glance over your shoulder before changing lanes.

The passenger side mirror is convex. A convex mirror's surface is curved so more can be seen from the driver seat. It also makes things, like other vehicles, look farther away than they really are.

Object Detection Systems

Rear Vision Camera

Your vehicle may be equipped with a rear vision camera system. Read this entire section before using the camera system.

The rear vision camera system is designed to help the driver when backing up by displaying a view of the area behind the vehicle. When the driver shifts the vehicle into REVERSE (R), the video screen will automatically slide out from the rear view mirror. Once the driver shifts out of REVERSE (R), the video screen will slide back into the rear view mirror after a delay.

The display has a guideline overlay that can help the driver align the vehicle when backing into a parking spot.

To turn off the rear vision camera system, do the following:

1. Place the vehicle shift lever in PARK (P).
2. Turn the ignition key to the ACCESSORY position.
3. Press the right mirror button briefly; the right green light indicator will turn off. The rear camera vision display is now disabled.

Downloaded from www.Manualslib.com manuals search engine

To turn on the rear camera vision feature again, press the right mirror button briefly. The green light indicator will illuminate. The rear camera vision system is now enabled and the display will slide out from the mirror normally.

To manually slide out the rear camera screen for cleaning, do the following:

1. Place the vehicle shift lever in PARK (P).
2. Turn the ignition key to the ACCESSORY or RUN position.
3. Press and hold the right mirror button for five seconds. The display will slide out from the mirror for 30 seconds; the right green LED indicator will remain illuminated. The camera screen will not be on when it slides out of the mirror.
4. If additional time is required for cleaning, repeat step 3.

To resume normal operation, press the right button momentarily while the rear camera screen is out or wait 30 seconds for screen to slide back into the mirror.

For more information on the automatic dimming, compass, and temperature features of the mirror, see *Automatic Dimming Rearview Mirror with Compass and Temperature Display on page 2-41*.

⚠ CAUTION:

The Rear Vision Camera (RVC) system does not replace driver vision. RVC does not:

- **Detect objects that are outside the camera's field of view, below the bumper, or underneath the vehicle.**
- **Detect children, pedestrians, bicyclists, or pets.**

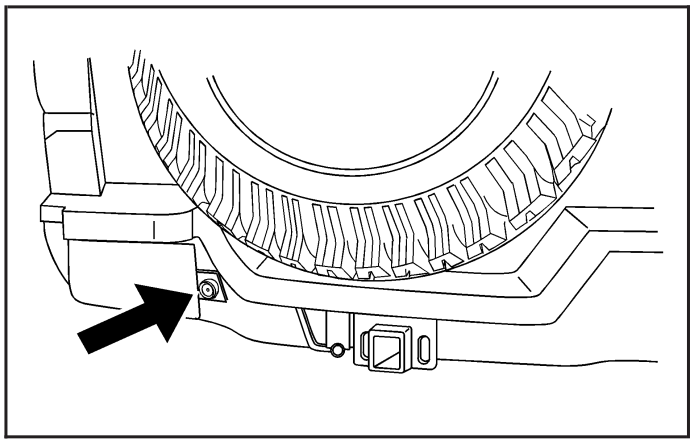
Do not back the vehicle by only looking at the rear vision camera screen, or use the screen during longer, higher speed backing maneuvers or where there could be cross-traffic. Your judged distances using the screen will differ from actual distances.

So if you do not use proper care before backing up, you could hit a vehicle, child, pedestrian, bicyclist, or pet, resulting in vehicle damage, injury, or death. Even though the vehicle has the RVC system, always check carefully before backing up by checking behind your vehicle.

Downloaded from www.Manualslib.com manuals search engine

Area Displayed On Screen

The image is provided by the camera located on the rear bumper.



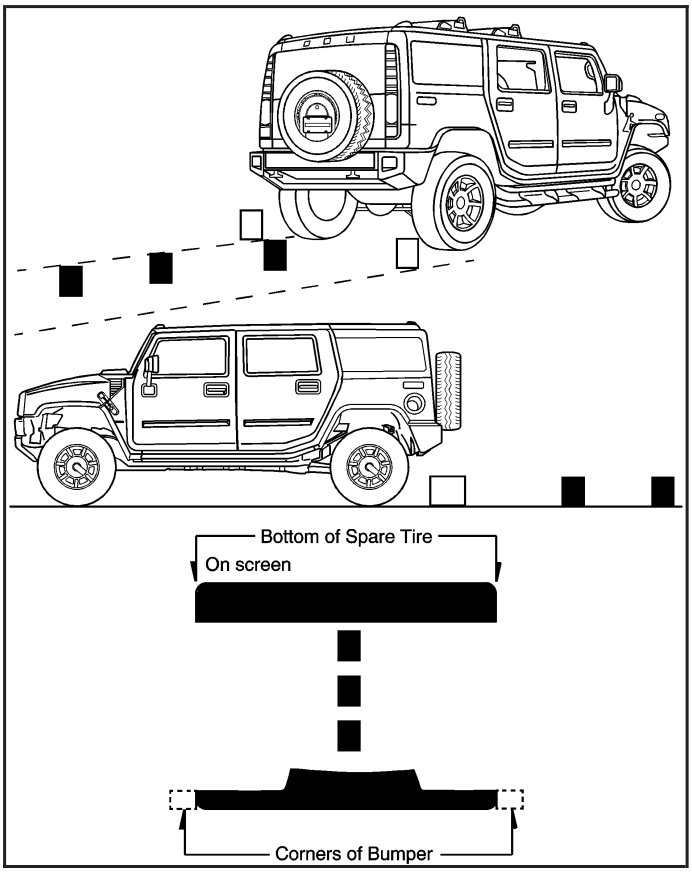
The camera uses a special lens. The distance of the image that appears on the screen differs from the actual distance. The area displayed by the camera is limited.

The camera does not display objects which are close to either corner of the bumper or under the bumper. The spare tire and carrier extends rearward of the rear bumper. The area displayed on the screen may vary according to vehicle orientation or road conditions.

Notice: **The spare tire extends farther away from rear of the vehicle than the trailer hitch shown on rear vision camera display. Your spare tire could hit an object even though there appears to be enough distance on the display between the trailer hitch and objects behind you causing vehicle or property damage. Do not use this system to judge the distance between the spare tire and objects behind you.**

The following illustration shows the field of view that the camera provides.

Downloaded from www.Manualslib.com manuals search engine



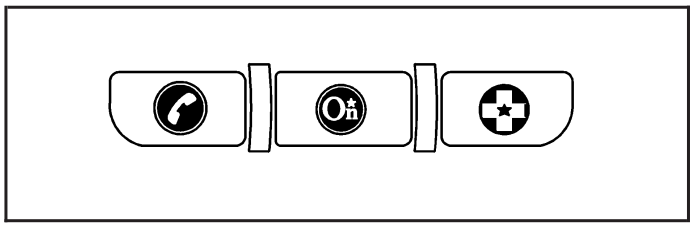
When the System Does Not Seem To Work Properly

The rear vision camera system may not work properly or display a clear image in the following situations:

- In the dark.
- When the sun or the beam of headlights is shining directly into the camera lens.
- If 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.
- If the back of the vehicle is in an accident, the position and mounting angle of the camera may change or the camera may be affected. Be sure to have the camera and its position and mounting angle checked at your dealer.
- Extreme high or low temperatures or extreme temperature changes can affect the image displayed.

Downloaded from www.Manualslib.com manuals search engine

OnStar® System



OnStar uses several innovative technologies and live advisors to provide you with a wide range of safety, security, information, and convenience services. If your airbags deploy, the system is designed to make an automatic call to OnStar Emergency advisors who can request emergency services be sent to your location. If you lock your keys in the vehicle, call OnStar at 1-888-4-ONSTAR and they can send a signal to unlock your doors. If you need roadside assistance, press the OnStar button and they can contact Roadside Service for you.

OnStar service is provided to you subject to the OnStar Terms and Conditions. You may cancel your OnStar service at any time by contacting OnStar as provided below. A complete OnStar Owner's Guide and the OnStar Terms and Conditions are included in the vehicle's OnStar Subscriber glove box literature.

For more information, visit onstar.com or onstar.ca, contact OnStar at 1-888-4-ONSTAR (1-888-466-7827) or TTY 1-877-248-2080, or press the OnStar button to speak with an OnStar advisor 24 hours a day, 7 days a week.

Not all OnStar features are available on all vehicles. To check if your vehicle is equipped to provide the services described below, or for a full description of OnStar services and system limitations, see the OnStar Owner's Guide in your glove box or visit onstar.com.

OnStar Services

For new vehicles equipped with OnStar, the Safe & Sound Plan, or the Directions & Connections Plan is included for one year from the date of purchase. You can extend this plan beyond the first year, or upgrade to the Directions & Connections Plan. For more information, press the OnStar button to speak with an advisor. Some OnStar services (such as Remote Door Unlock or Stolen Vehicle Location Assistance) may not be available until you register with OnStar.

Downloaded from www.Manualslib.com manuals search engine

Available Services with Safe & Sound Plan

- Automatic Notification of Airbag Deployment
- Advanced Automatic Crash Notification (AACN) (If equipped)
- Link to Emergency Services
- Roadside Assistance
- Stolen Vehicle Location Assistance
- AccidentAssist
- Remote Door Unlock/Vehicle Alert
- OnStar Vehicle Diagnostics
- GM Goodwrench® On Demand Diagnostics
- OnStar Hands-Free Calling with 30 complimentary minutes
- OnStar Virtual Advisor (U.S. Only)

Available Services included with Directions & Connections Plan

- All Safe and Sound Plan Services
- Driving Directions - Advisor delivered or OnStar Turn-by-Turn Navigation (If equipped)
- RideAssist
- Information and Convenience Services

OnStar Hands-Free Calling

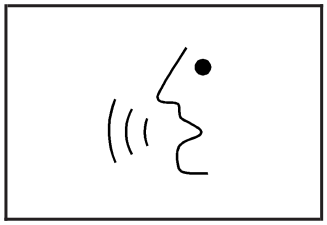
OnStar Hands-Free Calling allows eligible OnStar subscribers to make and receive calls using voice commands. Hands-Free Calling is fully integrated into the vehicle, and can be used with OnStar Pre-Paid Minute Packages. Hands-Free Calling may also be linked to a Verizon Wireless service plan in the U.S. or a Bell Mobility service plan in Canada, depending on eligibility. To find out more, refer to the OnStar Owner's Guide in the vehicle's glove box, visit www.onstar.com or www.onstar.ca, or speak with an OnStar advisor by pressing the OnStar button or calling 1-888-4-ONSTAR (1-888-466-7827).

OnStar Virtual Advisor

OnStar Virtual Advisor is a feature of OnStar Hands-Free Calling that uses your minutes to access location-based weather, local traffic reports, and stock quotes. By pressing the phone button and giving a few simple voice commands, you can browse through the various topics. See the OnStar Owner's Guide for more information. (Only available in the continental U.S.)

Downloaded from www.Manualslib.com manuals search engine

Additional OnStar Controls



Your vehicle may have a button, located on the driver's side of the instrument panel, that can be used to interact with OnStar.

Use this button to dial numbers into voicemail systems or to dial phone number extensions. See the OnStar Owner's Guide for more information.

How OnStar Service Works

In order to provide you with OnStar services, your vehicle's OnStar system has the capability of recording and transmitting vehicle information. This information is automatically sent to an OnStar Call Center at the time of an OnStar button press, Emergency button press or if your airbags or AACN system deploys. The vehicle information usually includes your GPS location and, in the event of a crash, additional information regarding the accident that your vehicle has been involved in (e.g. the direction from which your vehicle was hit). When you use the Virtual Advisor feature of OnStar Hands-Free Calling, your vehicle also sends OnStar your GPS location so that we can provide you with location-based services.

OnStar service cannot work unless your vehicle is in a place where OnStar has an agreement with a wireless service provider for service in that area. OnStar service also cannot work unless you are in a place where the wireless service provider OnStar has hired for that area has coverage, network capacity and reception when the service is needed, and technology that is compatible with the OnStar service. Not all services are available everywhere, particularly in remote or enclosed areas, or at all times.

OnStar service that involves location information about your vehicle cannot work unless GPS satellite signals are unobstructed and available in that place as well.

Your vehicle must have a working electrical system (including adequate battery power) for the OnStar equipment to operate. There are other problems OnStar cannot control that may prevent OnStar from providing OnStar service to you at any particular time or place. Some examples are damage to important parts of your vehicle in an accident, hills, tall buildings, tunnels, weather or wireless phone network congestion.

Downloaded from www.Manualslib.com manuals search engine

Your Responsibility

You may need to increase the volume of your radio to hear the OnStar advisor. If the light next to the OnStar buttons is red, this means that your system is not functioning properly and should be checked by a dealer. If the light appears clear (no light is appearing), your OnStar subscription has expired. You can always press the blue OnStar button to confirm that your OnStar equipment is active.

Universal Home Remote System

The Universal Home Remote System provides a way to replace up to three hand-held radio-frequency (RF) transmitters used to activate devices such as garage door openers, security systems, and home lighting.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

The FCC Grant of Equipment Authorization Certificate number is CB2SAHL3.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

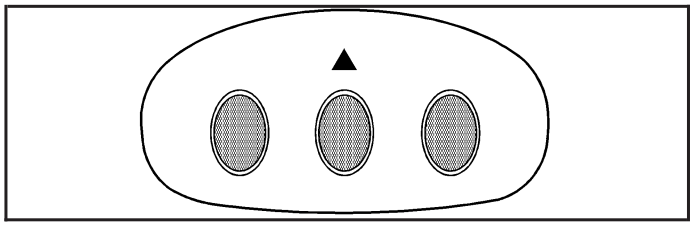
1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

The Canadian Registration ID number is 2791021849A.

Changes or modifications to this system by other than an authorized service facility could void authorization to use this equipment.

Downloaded from www.Manualslib.com manuals search engine

Universal Home Remote System Operation (With One Triangular LED)



If there is one triangular Light Emitting Diode (LED) indicator light above the Universal Home Remote buttons, follow the instructions below.

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

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

Read the instructions completely before attempting to program the Universal Home Remote. Because of the steps involved, it may be helpful to have another person available to assist you in the programming the Universal Home Remote.

Keep the original hand-held transmitter for use in other vehicles as well as for future Universal Home Remote programming. It is also recommended that upon the sale of the vehicle, the programmed Universal Home Remote buttons should be erased for security purposes. See “Erasing Universal Home Remote Buttons” later in this section.

When programming a garage door, park outside of the garage. Park directly in line with and facing the garage door opener motor-head or gate motor-head. Be sure that people and objects are clear of the garage door or gate you are programming.

It is recommended that a new battery be installed in your hand-held transmitter for quicker and more accurate transmission of the radio-frequency signal.

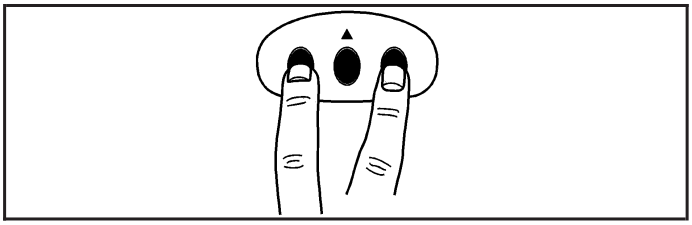
Downloaded from www.Manualslib.com manuals search engine

Programming the Universal Home Remote System

If you have questions or need help programming the Universal Home Remote System, call 1-800-355-3515 or go to www.homelink.com.

Programming a garage door opener involves time-sensitive actions, so read the entire procedure before you begin. If you do not follow these actions, the device will time out and you will have to repeat the procedure.

To program up to three devices:



1. From inside the vehicle, press and hold down the two outside buttons at the same time, releasing only when the Universal Home Remote indicator light begins to flash, after 20 seconds. This step will erase the factory settings or all previously programmed buttons.

   Do not hold down the buttons for longer than 30 seconds and do not repeat this step to program the remaining two Universal Home Remote buttons.

2. Hold the end of your hand-held transmitter about 1 to 3 inches (3 to 8 cm) away from the Universal Home Remote buttons while keeping the indicator light in view. The hand-held transmitter was supplied by the manufacturer of your garage door opener receiver (motor head unit).

3. At the same time, press and hold both the Universal Home Remote button that you would like to use to control the garage door and the hand-held transmitter button. Do not release the Universal Home Remote button or the hand-held transmitter button until Step 4 has been completed.

   Some entry gates and garage door openers may require you to substitute Step 3 with the procedure noted in “Gate Operator and Canadian Programming” later in this section.

4. The indicator light on the Universal Home Remote will flash slowly at first and then rapidly after Universal Home Remote successfully receives the frequency signal from the hand-held transmitter. Release both buttons.

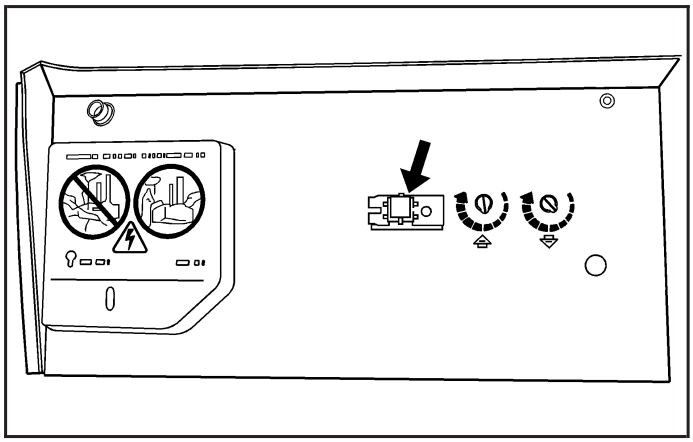
Downloaded from www.Manualslib.com manuals search engine

5. Press and hold the newly-trained Universal Home Remote button and observe the indicator light.

   If the indicator light stays on continuously, the programming is complete and your garage door should move when the Universal Home Remote button is pressed and released. You do not need to continue the programming Steps 6 through 8 and can stop here.

   If the Universal Home Remote indicator light blinks rapidly for two seconds and then turns to a constant light, continue with the programming Steps 6 through 8.

   It may be helpful to have another person available to assist with the remaining steps.



6. After Steps 1 through 5 have been completed, locate inside the garage the garage door opener receiver (motor-head unit). Locate the “Learn” or “Smart” button. The name and color of the button may vary by manufacturer.

Downloaded from www.Manualslib.com manuals search engine

7. Firmly press and release the “Learn” or “Smart” button. After you press this button, you will have 30 seconds to complete Step 8.
8. Immediately return to the vehicle. Firmly press and hold the Universal Home Remote button, chosen in Step 3 to control the garage door, for two seconds, and then release it. If the garage door does not move, press and hold the same button a second time for two seconds, and then release it. Again, if the door does not move, press and hold the same button a third time for two seconds, and then release.

   The Universal Home Remote should now activate the garage door.

To program the remaining two Universal Home Remote buttons, begin with Step 2 of “Programming the Universal Home Remote System.” Do not repeat Step 1, as this will erase all previous programming from the Universal Home Remote buttons.

Gate Operator and Canadian Programming

If you have questions or need help programming the Universal Home Remote System, call 1-800-355-3515 or go to www.homelink.com.

Canadian radio-frequency laws require transmitter signals to time out or quit after several seconds of transmission. This may not be long enough for Universal Home Remote to pick up the signal during programming. Similarly, some U.S. gate operators are manufactured to time out in the same manner.

If you live in Canada, or you are having difficulty programming a gate operator or garage door opener by using the “Programming Universal Home Remote” procedures, regardless of where you live, replace Step 3 under “Programming Universal Home Remote” with the following:

Continue to press and hold the Universal Home Remote button while you press and release every two seconds (cycle) the hand-held transmitter button until the frequency signal has been successfully accepted by the Universal Home Remote. The Universal Home Remote indicator light will flash slowly at first and then rapidly. Proceed with Step 4 under “Programming Universal Home Remote” to complete.

Downloaded from www.Manualslib.com manuals search engine

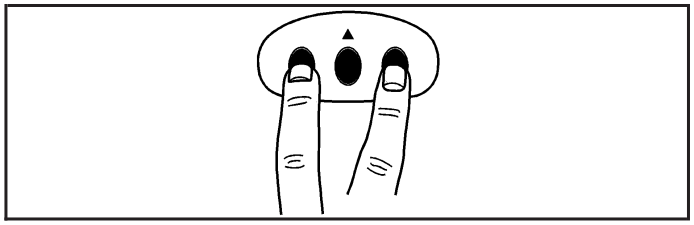
Using Universal Home Remote

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

Erasing Universal Home Remote Buttons

Erase the programmed buttons when you sell or terminate your lease.

To erase all programmed buttons on the Universal Home Remote device:



1. Press and hold down the two outside buttons until the indicator light begins to flash, after 20 seconds.
2. Release both buttons.

Reprogramming a Single Universal Home Remote Button

To reprogram any of the three Universal Home Remote buttons, repeat the programming instructions earlier in this section, beginning with Step 2.

For help or information on the Universal Home Remote System, call the customer assistance phone number under *Customer Assistance Offices on page 7-5*.

Storage Areas

Glove Box

Open the glove box by pulling the bottom of the handle upward.

Cupholder(s)

Your vehicle may have two cupholders in front of the front armrest storage area. You may also have a cupholder in the center of the rear bench seat. Pull down on the lid to open the cupholder.

Downloaded from www.Manualslib.com manuals search engine

Front Seat Storage Net

Your vehicle has storage nets located on the back of the front seats. To remove these nets, pull out on each of the four clips located on the net.

Front Armrest Storage Area

Your vehicle has a front armrest storage area. To open, lift the latch on the front of the armrest and pull up.

Luggage Carrier

If your vehicle has this feature, you can load cargo on your vehicle.

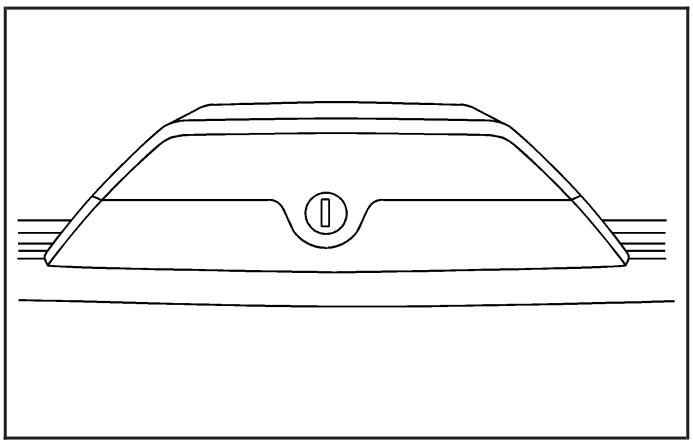
The luggage carrier consists of siderails attached to the roof. The crossrails attach into the siderails and can be moved back and forth to accommodate various cargo sizes.

Notice: **Loading cargo on the luggage carrier that weighs more than 250 lbs. (113 kg) or hangs over the rear or sides of the vehicle may damage your vehicle. Load cargo only on top of the crossrails and tie the cargo down to the crossrail support cargo tie-down loops, making sure to fasten it securely**

Do not exceed the maximum vehicle capacity when loading your vehicle. For more information on vehicle capacity and loading, see *Loading Your Vehicle on page 4-42*.

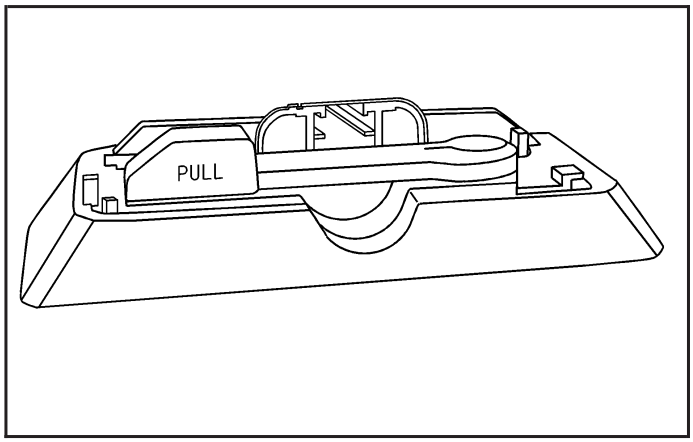
Adjusting the Crossrails

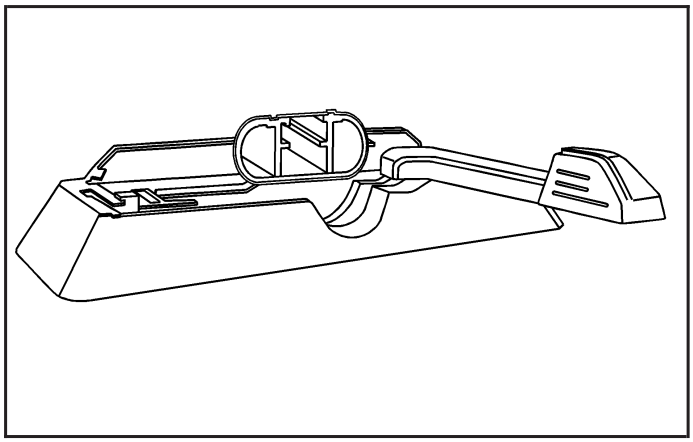
To adjust the crossrails to fit your load:



1. Use the provided crossrail key to unlock the crossrail end cap by turning it counterclockwise.

Downloaded from www.Manualslib.com manuals search engine





2. Remove the end cap.

3. Pull the lever labeled “PULL” from left to right to loosen the crossrail.
4. Repeat Steps 1 through 3 to the opposite end of the crossrail.
5. Once both sides of the crossrail are loose, adjust the crossrail to the desired position.
6. Push the lever labeled “PULL” from right to left to lock the crossrail in place.
7. Reinstall end cap and lock by turning the key clockwise.
8. Repeat Steps 5 through 7 to the opposite end of the crossrail.

Downloaded from www.Manualslib.com manuals search engine

Stop Tabs

If your vehicle has a sunroof, it will have a crossrail stop tab placed in the siderail. This tab prevents you from moving the crossrails past the opening of the sunroof and loading cargo too far forward.

Your vehicle may have cargo tie downs. Once you load the cargo onto the crossrails, secure it by tying it down to the cargo tie downs. Do not load cargo directly on the roof of your vehicle. See *Cargo Tie Downs on page 2-59* for more information.

Rear Storage Area

Your vehicle has a rear storage area located on the passenger's side of the cargo area. To open, pull the two tabs out and open lid.

Convenience Net

Your vehicle may have a convenience net in the rear of the vehicle. Put small loads behind the net. The net is not for heavier loads. Store them as far forward as you can.

Cargo Cover

Notice: **If you put items onto the cargo cover, the weight of the items could cause the attachment clips to break. You would no longer be able to attach and use the cargo cover. The repairs would not be covered by your warranty. Never put anything on top of the cargo cover.**

If your vehicle has a cargo cover, you can use it to cover items in the rear of the vehicle. Remove the cover from its pouch and place the loops found on each corner of the cover, over the two pegs in each corner of the rear if the vehicle. When it is not in use, fold up the cover and return it to the pouch.

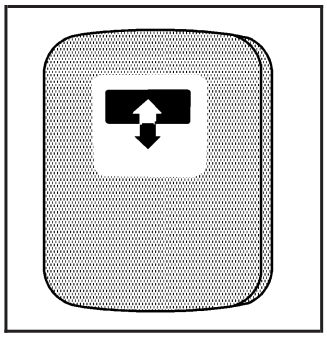
Cargo Tie Downs

Your vehicle may have four cargo tie-downs. These tie-downs are located in tracks on the roof of the vehicle. Each tie-down can be moved to anywhere on the track. To loosen, turn the tie-down counterclockwise until it moves freely in the track. To tighten, turn the tie-down clockwise.

Downloaded from www.Manualslib.com manuals search engine

Sunroof

To operate a power sliding sunroof, the ignition must be on, or Retained Accessory Power (RAP) must be active. See *Retained Accessory Power (RAP) on page 2-20*.



The switch used to operate the sunroof is located in the headliner.

Open/Close: Press and release the back of the switch to fully open the sunroof. If the sunshade is in the closed position, it automatically opens with the sunroof. To stop the sunroof before it reaches the full open position press and release the front or back of the switch. An air deflector raises when the sunroof is fully opened.

Press the front of the switch to close the sunroof.

Vent: With the sunroof closed, press and hold the front of the switch to vent the sunroof. To stop the sunroof before it reaches its full vent position, release the switch. Press and hold the back of the switch to close.

Do not keep the sunroof open for long periods of time. Debris may collect in the tracks.

Sunshade Operation

The sunshade automatically opens with the sunroof, but can be manually pulled shut after the sunroof is closed.

To adjust the sunshade, push it backward or pull it forward to the desired position. The sunshade cannot be adjusted further than the current closed position of the sunroof.

Downloaded from www.Manualslib.com manuals search engine

Section 3 Instrument Panel

Instrument Panel Overview 3-4
- Hazard Warning Flashers 3-6
- Other Warning Devices 3-6
- Horn 3-6
- Tilt Wheel 3-7
- Turn Signal/Multifunction Lever 3-7
- Turn and Lane-Change Signals 3-8
- Headlamp High/Low-Beam Changer 3-9
- Flash-to-Pass 3-9
- Windshield Wipers 3-10
- Windshield Washer 3-10
- Rear Window Wiper/Washer 3-11
- Cruise Control 3-11
- Exterior Lamps 3-15
- Headlamps on Reminder 3-16
- Daytime Running Lamps (DRL) 3-17
- Automatic Headlamp System 3-17
- Off-Road Lamps 3-18
- Fog Lamps 3-19
- Instrument Panel Brightness 3-19
- Dome Lamp 3-19
- Dome Lamp Override 3-20
- Exit Lighting 3-20
- Reading Lamps 3-20
- Electric Power Management 3-20
- Battery Run-Down Protection 3-20
- Accessory Power Outlet(s) 3-21
- Ashtray(s) and Cigarette Lighter 3-22

Climate Controls 3-22
- Climate Control System 3-22
- Outlet Adjustment 3-24

Warning Lights, Gages, and Indicators 3-25
- Instrument Panel Cluster 3-26
- Speedometer and Odometer 3-27
- Trip Odometer 3-27
- Tachometer 3-27
- Safety Belt Reminders 3-28
- Airbag Readiness Light 3-29
- Passenger Airbag Status Indicator 3-30
- Charging System Light 3-32
- Up-Shift Light 3-32
- Brake System Warning Light 3-33
- Antilock Brake System Warning Light 3-34
- Traction Off Light 3-34
- StabiliTrak® Not Ready Light 3-34
- Engine Coolant Temperature Gage 3-35
- Tire Pressure Light 3-35

Downloaded from www.Manualslib.com manuals search engine

Section 3 Instrument Panel

Malfunction Indicator Lamp 3-36
Oil Pressure Light 3-38
Security Light 3-39
Cruise Control Light 3-39
Highbeam On Light 3-39
Fuel Gage 3-40

Driver Information Center (DIC) 3-40
DIC Operation and Displays 3-40
DIC Warnings and Messages 3-43

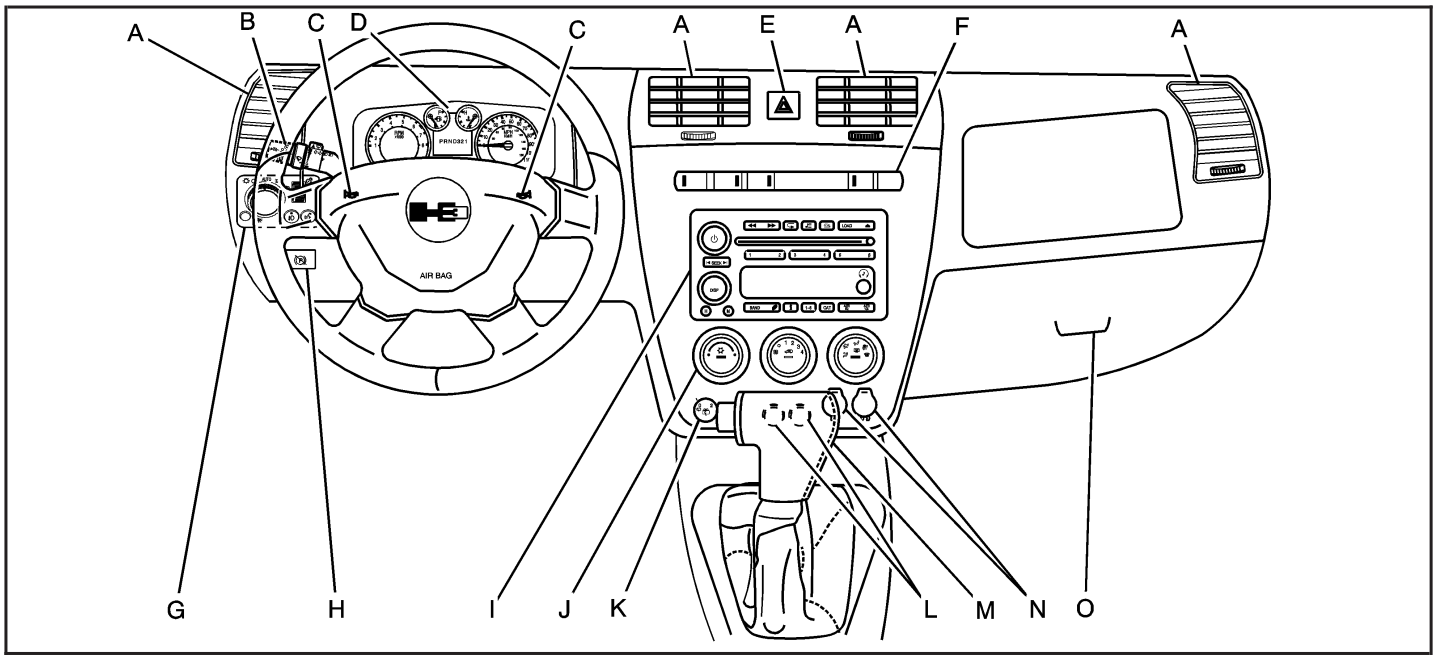
Audio System(s) 3-48
Setting the Time 3-48
Radio(s) 3-49
XM Radio Messages 3-60
Navigation/Radio System 3-61
Theft-Deterrent Feature 3-61
Radio Reception 3-61
Fixed Mast Antenna 3-62
XM™ Satellite Radio Antenna System 3-62

Downloaded from www.Manualslib.com manuals search engine

NOTES

Downloaded from www.Manualslib.com manuals search engine

Instrument Panel Overview



Automatic Transmission shown, Manual Transmission similar

Downloaded from www.Manualslib.com manuals search engine

The main components of your instrument panel are the following:

A. Air Outlets. See *Outlet Adjustment on page 3-24*.

B. Turn Signal/Multifunction Lever. See *Turn Signal/ Multifunction Lever on page 3-7*. Windshield Washer/Wiper. See *Windshield Wipers on page 3-10* and *Windshield Washer on page 3-10*. Cruise Controls. See *Cruise Control on page 3-11*.

C. Horn. See *Horn on page 3-6*.

D. Instrument Panel Cluster. See *Instrument Panel Cluster on page 3-26*.

E. Hazard Warning Flasher Button. See *Hazard Warning Flashers on page 3-6*.

F. All-Wheel Drive, Passenger Air Bag Status Indicator, Locking Rear Axle, and Traction Control System/ StabiliTrak® Buttons. See *Full-Time Four-Wheel Drive on page 2-27*,*Passenger Airbag Status Indicator on page 3-30*, *Locking Rear Axle on page 4-6*, *Traction Control System (TCS) on page 4-5* and *StabiliTrak® System on page 4-7*.

G. Exterior Lamps Control, Dome Override Button, Instrument Panel Brightness Control, Fog Lamp Button, and OnStar® Button. See *Exterior Lamps on page 3-15*, *Dome Lamp Override on page 3-20*, *Instrument Panel Brightness on page 3-19*, *Fog Lamps on page 3-19*, and *OnStar® System on page 2-48*.

H. Parking Brake Release. See *Parking Brake on page 2-32*.

I. Audio System. See *Audio System(s) on page 3-48*.

J. Climate Control System. See *Climate Control System on page 3-22*.

K. Rear Washer/Wiper Control. See *Rear Window Wiper/Washer on page 3-11*.

L. Off-Road Lamps Buttons. See *Off-Road Lamps on page 3-18*.

M. Shift Lever. See *Automatic Transmission Operation on page 2-23* or *Manual Transmission Operation on page 2-26*.

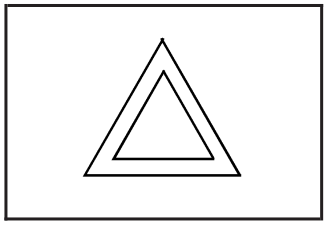
N. Accessory Power Outlets. See *Accessory Power Outlet(s) on page 3-21*.

O. Glove Box. See *Glove Box on page 2-56*.

Downloaded from www.Manualslib.com manuals search engine

Hazard Warning Flashers

The hazard warning flashers let you warn the police and others that you have a problem. The front and rear turn signal lamps will flash on and off.



The hazard warning flasher button is located towards the center of the instrument panel.

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

While the hazard warning flashers are on, the turn signals do not work.

The hazard warning flashers work no matter what position the key is in, and even if the key is not in the ignition switch.

Other Warning Devices

If you carry reflective triangles, you can set one up at the side of the road about 300 feet (100 m) behind your vehicle.

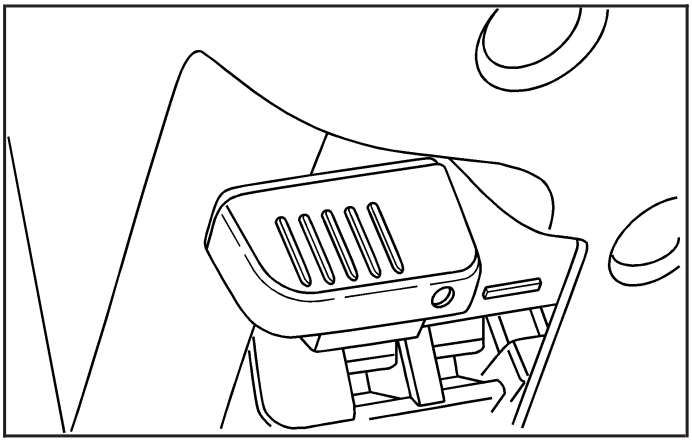
Horn

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

Downloaded from www.Manualslib.com manuals search engine

Tilt Wheel

A tilt wheel allows the steering wheel to be adjusted before driving. It can be raised to allow more room for the driver to enter and exit the vehicle.

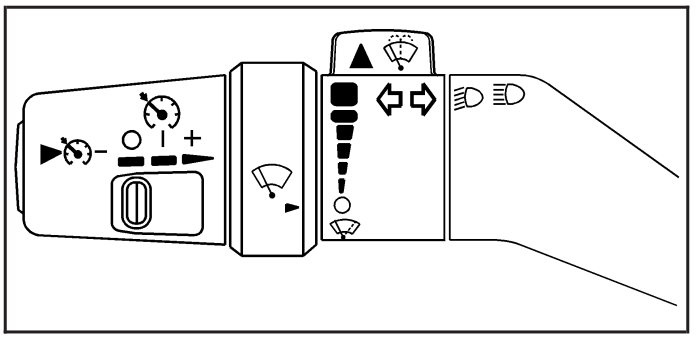


The tilt lever is located on the left side of the steering column, under the turn signal lever.

To tilt, hold the steering wheel and pull the tilt lever toward you. Move the wheel to a comfortable level, then release the tilt lever to lock the wheel in place.

Do not adjust the steering wheel while driving.

Turn Signal/Multifunction Lever



The lever on the left side of the steering column includes the following:

- Turn and Lane Change Signals. See *Turn Signal/Multifunction Lever on page 3-7*.
- Headlamp High/Low-Beam Changer. See *Headlamp High/Low-Beam Changer on page 3-9*.
- Flash-to-Pass. See *Flash-to-Pass on page 3-9*.
- Windshield Wipers. See *Windshield Wipers on page 3-10*.
- Windshield Washer. See *Windshield Washer on page 3-10*.
- Cruise Control. See *Cruise Control on page 3-11*.

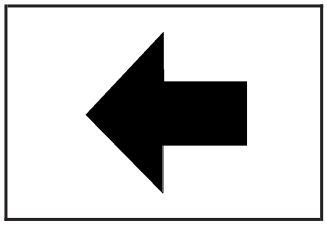
Downloaded from www.Manualslib.com manuals search engine

Turn and Lane-Change Signals

The turn signal has one upward (for right) and one downward (for left) positions. These positions allow you to signal a turn or a lane change.

To signal a turn, move the lever all the way up or down. When the turn is finished, the lever will automatically return to the off position.

To signal a lane change, raise or lower the lever until the arrow starts to flash. Hold it there until the change is completed. The lever will return by itself when released.



An arrow on the instrument panel cluster will flash in the direction of the turn or lane change.

As you signal a turn or a lane change, if the arrows flash more quickly than normal, a signal bulb may be burned out and other drivers will not see your vehicle's turn signal.

If a bulb is burned out, replace it to help avoid an accident. If the arrows do not go on at all when signaling a turn, check for a burned-out bulb or a blown fuse. For bulb replacement, see *Taillamps, Turn Signal, Stoplamps and Back-up Lamps on page 5-50*. For a blown fuse or circuit breaker, see *Fuses and Circuit Breakers on page 5-102*

Turn Signal On Chime

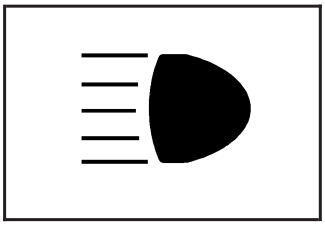
If a turn signal is left on for more than 3/4 of a mile (1.2 km), a chime will sound at each flash of the turn signal and the message TURN SIGNAL will also appear in the DIC. To turn the chime and message off, move the turn signal lever to the off position.

See "TURN SIGNAL" under *DIC Warnings and Messages on page 3-43* DIC Warnings and Messages for more information.

Downloaded from www.Manualslib.com manuals search engine

Headlamp High/Low-Beam Changer

(Headlamp High/Low Beam Changer): To change the headlamps from low to high beam, push the lever toward the instrument panel. To return to low-beam headlamps, pull the multifunction lever toward you. Then release it.



When the high beams are on, this indicator light on the instrument panel cluster will also be on.

Flash-to-Pass

This feature lets you use the high-beam headlamps to signal a driver in front of you that you want to pass. It works even if the headlamps are in the automatic position.

To use it, pull the turn signal lever toward you, then release it.

If your headlamps are in the automatic position or on low beam, your high-beam headlamps will turn on. They will stay on as long as you hold the lever toward you. The high-beam indicator on the instrument panel cluster will come on. Release the lever to return to normal operation.

Downloaded from www.Manualslib.com manuals search engine

Windshield Wipers

You control the windshield wipers by turning the band with the wiper symbol on it.

(Mist): Turn the band to mist for a single wiping cycle. Hold it there until the wipers start. Then let go. The wipers will stop after one wipe. Hold the band on mist longer, if more wipes are needed.

(Delay): The wiper speed can be set for long or short delays between wipes. This can be very useful in light rain or snow. Turn the band to choose the delay time. The closer to the top of the lever, the shorter the delay.

(Low Speed): For steady wiping at low speed, turn the band away from you to the first solid position past the delay settings.

(High Speed): For high-speed wiping, turn the band to the second solid position past the delay settings.

(Off): Move the band to off, to stop the wipers.

Be sure to clear ice and snow from the wiper blades before using them. If they are frozen to the windshield, carefully loosen or thaw them. If your blades do become worn or damaged, get new blades or blade inserts.

Windshield wipers work in all power modes, except when set to LOCK. After the engine is turned off, wipers will work in Retained Accessory Power (RAP) mode until a door is opened. See *Retained Accessory Power (RAP) on page 2-20*.

Windshield Washer

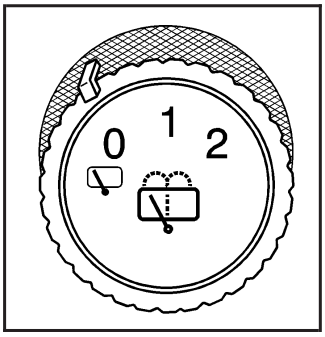
(Washer Fluid): There is a paddle marked with the windshield washer symbol at the top of the multifunction lever. To spray washer fluid on the windshield, push the paddle. The wipers will clear the window and then either stop or return to your preset speed.

⚠ CAUTION:

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

Downloaded from www.Manualslib.com manuals search engine

Rear Window Wiper/Washer



This knob is located on the instrument panel below the climate controls.

(Rear Wiper): Turn the knob to 1 for a slower wiping speed or to 2 for a faster wiping speed.

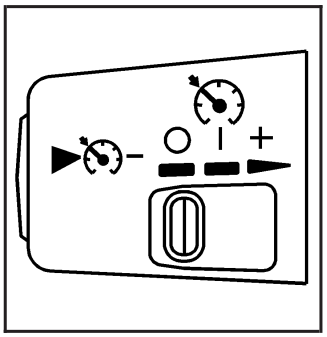
0 (Off): Turn the knob to 0 for off.

(Washer Fluid): To wash and wipe the window, press the button within the knob with this symbol.

The rear window washer uses the same fluid bottle as the windshield washer. However, the rear window washer will run out of fluid before the windshield washer. If the windshield can be washed, but not the rear windows, check the fluid level.

Cruise Control

With cruise control, you can maintain a speed of about 25 mph (40 km/h) or more without keeping your foot on the accelerator. This can really help on long trips. Cruise control does not work at speeds below about 25 mph (40 km/h).



(Off): This position turns the system off.

(On): This position activates the system.

+ (Resume/Accelerate): Move the lever to this symbol to make the vehicle accelerate or resume to a previously set speed.

(Set): Press this button to set the speed.

Downloaded from www.Manualslib.com manuals search engine

Cruise control will not work if your parking brake is set, or if the master cylinder brake fluid level is low.

If you apply your brakes, the cruise control shuts off.

⚠ CAUTION:

Cruise control can be dangerous where you cannot drive safely at a steady speed. So, do not use your cruise control on winding roads or in heavy traffic.

Cruise control can be dangerous on slippery roads. On such roads, fast changes in tire traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.

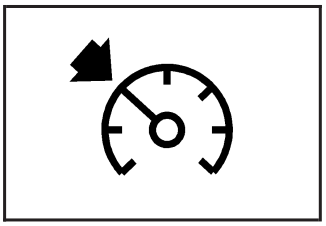
The cruise control disengages, if the vehicle has the Traction Control System (TCS) and it begins to limit wheel spin. See *Traction Control System (TCS) on page 4-5*. When road conditions allow you to safely use it again, you can turn cruise control back on.

Setting Cruise Control

⚠ CAUTION:

If you leave your cruise control on when you are not using cruise, you might hit a button and go into cruise when you do not want to. You could be startled and even lose control. Keep the cruise control switch off until you want to use cruise control.

1. Move the cruise control switch to on.
2. Get up to the speed desired.
3. Press in the set button at the end of the lever and release it.
4. Take your foot off the accelerator pedal.



The cruise symbol on the instrument panel comes on when the cruise control is engaged.

Downloaded from www.Manualslib.com manuals search engine

Resuming a Set Speed

Suppose you set your cruise control at a desired speed and then you apply the brake or step on the clutch. This, of course, disengages the cruise control. But you do not need to reset it.

Once you are going about 25 mph (40 km/h) or more, you can move the cruise control switch briefly from on to resume/accelerate.

The vehicle will go back to the chosen speed and stays there.

If you hold the switch at resume/accelerate the vehicle will keep going faster until you release the switch or apply the brake. Do not hold the switch at resume/accelerate, unless you want the vehicle to go faster.

Increasing Speed While Using Cruise Control

There are two ways to go to a higher speed:

- Use the accelerator pedal to get to the higher speed. Press the set button at the end of the lever, then release the button and the accelerator pedal. You will now cruise at the higher speed. If the accelerator pedal is held longer than 60 seconds, cruise control will turn off.
- Move the cruise switch from on to resume/accelerate. Hold it there until you get up to the speed you want, and then release the switch. To increase your speed in very small amounts, move the switch briefly to resume/accelerate. Each time you do this, your vehicle goes about 1 mph (1.6 km/h) faster.

Downloaded from www.Manualslib.com manuals search engine

Reducing Speed While Using Cruise Control

- Press and hold the set button until you reach the desired lower speed, then release it.
- To slow down in very small amounts, briefly press the set button. Each time you do this, you will go about 1 mph (1.6 km/h) slower.

Passing Another Vehicle While Using Cruise Control

Use the accelerator pedal to increase your speed. When you take your foot off the pedal, your vehicle slows down to the cruise control speed you set earlier.

Using Cruise Control on Hills

How well your cruise control works on hills depends upon your speed, load, and the steepness of the hills. When going up steep hills, you might want to step on the accelerator pedal to maintain the vehicle speed.

When going downhill, you might have to brake or shift to a lower gear to keep the vehicle speed down. Of course, applying the brake turns off the cruise control. Many drivers find this to be too much trouble and do not use cruise control on steep hills.

Ending Cruise Control

To turn off the cruise control, do one of the following:

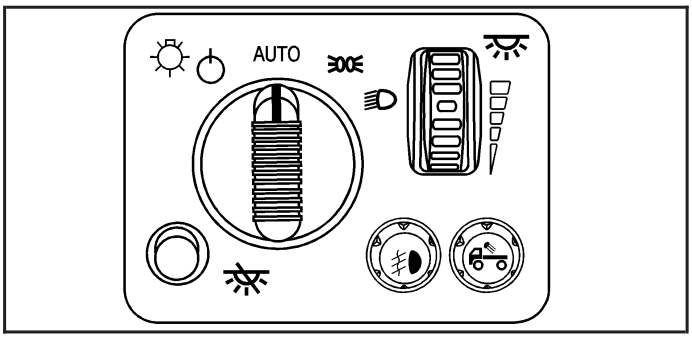
- Step lightly on the brake pedal.
- Move the cruise control switch to off.
- Lightly tap or press the clutch, if you have a manual transmission.

Erasing Speed Memory

When you turn off the cruise control or the ignition, the cruise control set speed memory is erased.

Downloaded from www.Manualslib.com manuals search engine

Exterior Lamps



The control on the driver's side of your instrument panel operates the exterior lamps.

(Exterior Lamps): Turn the knob, located to the right of this symbol, to choose one of the four exterior lamp positions.

(Off): Turn the knob to this position to turn off all exterior lamps, including the Daytime Running Lamps (DRL). This is a momentary control that springs back to AUTO when released. Vehicles first sold in Canada do not have the DRL disable feature available.

Vehicles first sold in Canada cannot turn off the DRL unless the following conditions are met:

- The vehicle has an automatic transmission.
- The gear position is in PARK (P).
- The headlamp switch is turned to the Off position.

AUTO (Automatic): Turn the knob to this position to automatically turn on the headlamps at normal brightness, together with the following:

- Sidemarker Lamps
- Taillamps
- Parking Lamps
- Instrument Panel Lights

Due to the momentary switch design, the automatic headlamps may be disabled even if the control is in the AUTO position.

To enable automatic lighting, do any of the following:

- Turn the headlamp control from AUTO to off and release the control. It will return back to the AUTO position by itself.
- Turn the headlamp control from the parking lamp or headlamp position to AUTO.

Downloaded from www.Manualslib.com manuals search engine

To disable automatic lighting, do any of the following:

- Turn the headlamp control from AUTO to off and release the control. It will return back to the AUTO position by itself.
- Turn the headlamp control from AUTO to the parking lamp or headlamp position.

See *Automatic Headlamp System on page 3-17* for more information.

Vehicles first sold in Canada with an automatic transmission cannot turn off automatic headlamps unless the gear position is in PARK (P) and the headlamp switch is turned to the Off position. Vehicles first sold in Canada with a manual transmission can turn off the automatic headlamps with the headlamp control; however, the parking lamps will remain on.

(Parking Lamps): Turn the knob to this position to turn on the parking lamps, together with the following:

- Sidemarker Lamps
- Taillamps
- License Plate Lamps
- Instrument Panel Lights

(Headlamps): Turn the knob to this position to turn on the headlamps, together with the previously listed lamps and lights.

The headlamps can be switched from low to high beam by pushing the turn signal/multifunction lever toward the instrument panel.

Headlamps on Reminder

A headlamp reminder chime will sound if the following conditions are met:

- The driver door is open.
- Parking lamps or headlamps are manually turned on.
- The key is either not in the ignition switch, or it is in the LOCK position of the ignition switch.

The headlamp reminder cannot be turned off if the conditions listed above are met.

In the automatic mode, the headlamps turn off once the ignition is in ACC.

Downloaded from www.Manualslib.com manuals search engine

Daytime Running Lamps (DRL)

Daytime Running Lamps (DRL) can make it easier for others to see the front of your vehicle during the day. DRL can be helpful in many different driving conditions, but they can be especially helpful in the short periods after dawn and before sunset. Fully functional daytime running lamps are required on all vehicles first sold in Canada.

The DRL system will come on when the following conditions are met:

- The ignition is on.
- The exterior lamps control is in AUTO.
- The transmission is not in PARK (P) if you have an automatic transmission.
- The light sensor determines it is daytime.

When the DRL are on, no other lamps are on. The instrument panel will not be lit up either. For vehicles first sold in Canada, if parking lamps are manually turned on, DRL will stay on.

When it begins to get dark, the automatic headlamp system will switch from DRL to the headlamps.

As with any vehicle, you should turn on the regular headlamp system when you need it.

To turn off the DRL, see *Exterior Lamps on page 3-15*.

Vehicles first sold in Canada cannot turn off DRL unless certain conditions are met. See *Exterior Lamps on page 3-15*.

Automatic Headlamp System

When it is dark enough outside, the automatic headlamp system will turn on after the transmission has been shifted from PARK (P) to DRIVE (D). The headlamps, taillamps, sidemarker, parking lamps, roof marker lamps, and the instrument panel lights will turn on at normal brightness. The radio lights will become more dim when the headlights are off compared to when the headlights are on.

Your vehicle has a light sensor located on the top of the instrument panel. Be sure it is not covered, or the system will be on whenever the ignition is on.

The system may also turn on the headlamps when driving through a parking garage, heavy overcast weather, or a tunnel. This is normal.

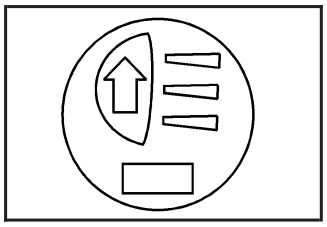
There is a delay in the transition between the daytime and nighttime operation of the Daytime Running Lamps (DRL) and the automatic headlamp system so that driving under bridges or bright overhead street lights does not affect the system. The DRL and automatic headlamp system will only be affected when the light sensor detects a change in lighting lasting longer than the delay.

Downloaded from www.Manualslib.com manuals search engine

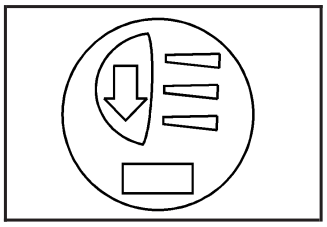
If you start your vehicle in a dark garage, the automatic headlamp system will come on immediately. Once you leave the garage, it will take about one minute for the automatic headlamp system to change to DRL if it is light outside. During that delay, the instrument panel cluster may not be as bright as usual. Make sure the instrument panel brightness control is in the full bright position. See *Instrument Panel Brightness on page 3-19*.

Off-Road Lamps

The off-road lamps, if the vehicle has them, provide auxiliary lighting when the vehicle is used off road. These lamps are not intended to be used in place of existing vehicle lighting. The lamps are not to be used on any public street or highway and are to be covered when not in use. Check your state and local laws before installing or using any auxiliary lighting. In some states it may be necessary to remove the roof lamps when operating the vehicle on the highway.



Roof Mounted Off-Road Light Switch



Lower Grille Off-Road Light Switch

The switches for the off-road lamps are located in the center of the instrument panel below the climate controls. One switch is used for the front lower-grille mounted off-road lamps, if the vehicle has them, and the other switch is used for the roof-mounted off-road lamps, if the vehicle has them.

To use the lamps, remove the covers from the lamps and press the switch to turn them on or off. An indicator light on the switch will turn on when the lamps are on.

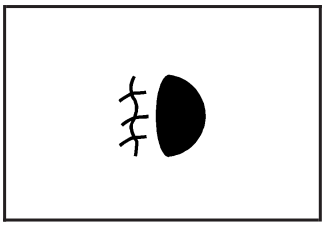
Notice: **Turning on the off-road lamps before removing the lamp covers could damage the off-road lamps and the covers. Always remove the covers before turning on the off-road lamps.**

The off-road lamps remain on even after the ignition is turned off. The off-road lamp switch must be pressed to turn them off.

Downloaded from www.Manualslib.com manuals search engine

Fog Lamps

Your vehicle has fog lamps. You can use them for better vision in foggy or misty conditions. Your parking lamps and/or low-beam headlamps must be on for your fog lamps to work.



The fog lamp button is located in the exterior lamps control.

Press the button to turn the fog lamps on while the headlamps or parking lamps are on. Press the button again to turn them off. An indicator light will glow in the button when the fog lamps are on.

Remember, fog lamps alone will not give off as much light as your headlamps. Never use your fog lamps in the dark without turning on the headlamps.

The fog lamps will go off whenever your high-beam headlamps come on. When the high beams 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.

Instrument Panel Brightness

(Instrument Panel Brightness): This feature controls the brightness of the instrument panel lights.

The thumbwheel for this feature is located next to the exterior lamp control.

Turn the thumbwheel up or down to brighten or dim the instrument panel lights and the radio display. The instrument panel lights, cluster, and radio display do not dim to complete darkness. Turn the thumbwheel all the way up to turn the dome lamps on.

Dome Lamp

The dome and footwell lamps come on when any door is opened. The dome lamps are located in the cargo and front area of the vehicle.

The dome and footwell lamps can be turned on by turning the thumbwheel, located next to the exterior lamps control, all the way up. In this position, the lamps remain on whether a door is opened or closed.

Downloaded from www.Manualslib.com manuals search engine

Dome Lamp Override

(Dome Lamp Override): You can use the dome override button, located below the exterior lamps control, to set the dome and footwell lamps to come on automatically when a door is opened, or to remain off. To turn the lamps off, press the button into the in position. With the button in this position, the dome lamps will remain off when the doors are open. To return the lamps to automatic operation, press the button again and return it to the out position. With the button in this position, the dome lamps will come on when you open a door.

Exit Lighting

With exit lighting, the interior lamps will come on when you remove the key from the ignition. The lamps will not come on if the dome override button is pressed in.

Reading Lamps

Your vehicle has reading lamps. Press the button located next to the lamp to turn them on or off.

These lamps will not come on with the dome lamps.

Electric Power 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 put the charge back in. When the state of charge is high, the voltage is lowered slightly to prevent overcharging. If the vehicle has a voltmeter gage, 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 loads are on: 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.

Battery Run-Down Protection

This feature shuts off the dome lamp if it is left on for more than 20 minutes when the ignition is in LOCK. This will help prevent your battery from running down.

Downloaded from www.Manualslib.com manuals search engine

Accessory Power Outlet(s)

Your vehicle has accessory power outlets.

With accessory power outlets you can plug in auxiliary electrical equipment such as a cellular telephone or CB radio.

Your vehicle has two accessory power outlets located on the lower part of the instrument panel below the climate control system and there may be one located in the rear cargo area. A small cap must be pulled down to access an accessory power outlet. When not using an outlet, be sure to cover it with the protective cap.

Notice: **Leaving electrical equipment on for extended periods will drain the battery. Always unplug electrical equipment when not in use and do not plug in equipment that exceeds the maximum amperage rating of 20 amperes.**

Certain electrical accessories may not be compatible with the accessory power outlet and could result in blown vehicle or adapter fuses. If you experience a problem, see your dealer for additional information on accessory power outlets.

Notice: **Adding any electrical equipment to your vehicle may damage it or keep other components from working as they should. The repairs would not be covered by your warranty. Do not use equipment exceeding maximum amperage rating of 20 amperes. Check with your dealer/retailer before adding electrical equipment.**

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

Notice: **Improper use of the power outlet can cause damage not covered by your warranty. Do not hang any type of accessory or accessory bracket from the plug because the power outlets are designed for accessory power plugs only.**

Downloaded from www.Manualslib.com manuals search engine

Ashtray(s) and Cigarette Lighter

Your vehicle may have an ashtray and cigarette lighter.

Your ashtray is located in your center console area. The ashtray can be removed for cleaning. When the ashtray is removed, this area can also be used as a cupholder.

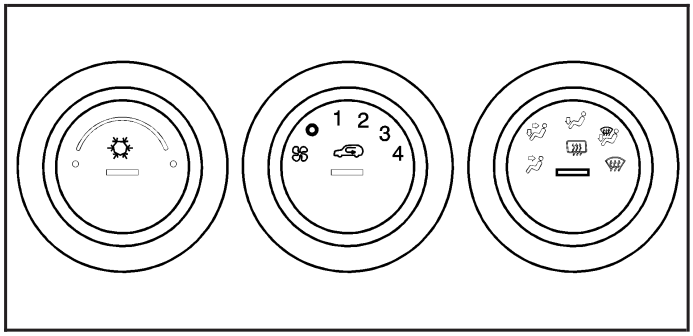
Notice: **If you put papers, pins, or other flammable items in the ashtray, hot cigarettes or other smoking materials could ignite them and possibly damage your vehicle. Never put flammable items in the ashtray.**

To use the lighter, press it in all the way, and let go. When it's 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.**

Climate Controls

Climate Control System



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

Temperature: Turn the left knob on the control panel to adjust the temperature of the air in the vehicle. Turn the knob clockwise or counterclockwise to increase or decrease the temperature.

(Air Conditioning): Press the center of the left knob on the control panel to turn the air conditioning system on or off. An indicator light on the button will be lit when the air conditioning is turned on. This system cools and dehumidifies the air entering the vehicle.

Downloaded from www.Manualslib.com manuals search engine

The air conditioning will not function if the fan is turned off. If air conditioning is selected with fan off, the indicator light flashes three times and then turns off.

A slight change in engine performance may occur when the air conditioning compressor shuts off and turns on again. This is normal. The system is designed to make adjustments to help with fuel economy while still maintaining the selected temperature.

The air conditioning system removes moisture from the air, so sometimes there may be a small amount of water dripping underneath the vehicle while idling or after turning off the engine. This is normal.

(Fan): Turn the center knob on the control panel to control the fan speed. Turn the knob clockwise or counterclockwise to increase or decrease the fan speed.

(Off): Turn the center knob to this position to turn the fan off. With the fan off, you may still experience airflow from the system that increases with vehicle speed depending on the mode and temperature settings. Enable recirculation mode to stop this airflow from occurring.

(Recirculation): Press the center of the fan control knob to recirculate air inside the vehicle and prevent outside air from coming in. It can be used to prevent outside odors from entering the vehicle and cool the air inside the vehicle more quickly. Press this button to turn the recirculation mode on or off. An indicator light on the button comes on to show that the recirculation mode is activated.

Recirculation is available in the bi-level, and vent modes. Recirculation is not available while in floor, floor/defog and defrost mode. If recirculation is selected in these modes, the indicator flashes three times indicating it is not available in that mode. When the recirculation mode is turned on, the air conditioning turns on automatically.

When it is hot enough outside, the recirculation mode may turn on automatically to help improve cooling performance. The indicator light will be lit to show this mode is active. If the recirculation button is pressed while in this mode, the light will flash three times and stay on to indicate that recirculation may not be shut off.

The right knob on the control panel is used to direct the airflow inside the vehicle. In-between modes are available by moving the right control knob between modes with symbols. The in-between mode is a combination of the two modes that the control is centered between.

Turn the right knob to select one of the following modes:

(Vent): This mode directs air to the instrument panel outlets.

Downloaded from www.Manualslib.com manuals search engine

(Bi-Level): This mode directs air to the instrument panel outlets, and the remaining air to the floor outlets and the defroster and side window outlets. Cooler air is directed to the upper outlets and warmer air to the floor outlets.

(Floor): This mode directs air to the floor outlets, side window outlets, and defroster. Recirculation is not available in this mode.

Defogging and Defrosting

Fog on the inside of windows is a result of high humidity (moisture) condensing on the cool window glass. This can be minimized if the climate control system is used properly. There are two modes to clear fog or frost from the windshield and side windows. Use the defog mode to clear the windows of fog or moisture and warm the passengers. Use the defrost mode to remove fog or frost from the windshield more quickly. For best results, clear all snow and ice from the windshield before defrosting.

(Floor/Defog): This mode directs the air to the windshield, the side window outlets, and to the floor outlets. When this mode is selected, the system runs the air conditioning system unless the outside temperature is near freezing or below. Recirculation is not available in this mode.

(Defrost): This mode directs most of the air to the windshield, and the side window outlets. When this mode is selected, the system runs the air conditioning system unless the outside temperature is near or below freezing. Recirculation is not available in this mode.

Do not drive the vehicle until all the windows are clear.

Rear Window Defogger

The rear window defogger uses a warming grid to remove fog or frost from the rear window when the key is in the ignition and turned to ON/RUN.

(Rear Defogger): Press the center of the right knob on the control panel to turn the rear window defogger on or off. First press of this button activates the rear window defogger for 15 minutes and each subsequent activation lasts seven and one-half minutes.

Notice: **Do not use anything sharp on the inside of the rear window. If you do, you could cut or damage the warming grid, and the repairs would not be covered by your warranty. Do not attach a temporary vehicle license, tape, a decal or anything similar to the defogger grid.**

Outlet Adjustment

Use the air outlets located in the center and on the side of your instrument panel to direct the airflow.

Your vehicle has air outlets that allow you to adjust the direction and amount of airflow inside the vehicle.

Downloaded from www.Manualslib.com manuals search engine

Move the louvers up or down to change the direction of the airflow. Use the thumbwheel under the outlets to change the direction of the airflow from left to right.

Operation Tips

- Enable recirculation mode for maximum air conditioning performance.
- Clear away any ice, snow or leaves from the air inlets at the base of the windshield that may block the flow of air into your vehicle.
- Use of non-GM approved hood deflectors may adversely affect the performance of the system.
- Keep the path under the front seats clear of objects to help circulate the air inside of your vehicle more effectively.

Warning Lights, Gages, and Indicators

This part describes the warning lights and gages on your vehicle. The pictures help to locate them.

Warning lights and gages 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 gages could also save you or others from injury.

Warning lights come on when there may be or is a problem with one of your vehicle's functions. As the details show on the next few pages, some warning lights come on briefly when you start the engine just to let you know they are working. If you are familiar with this section, you should not be alarmed when this happens.

Gages can indicate when there may be or is a problem with one of your vehicle's functions. Often gages and warning lights work together to let you know when there is a problem with your vehicle.

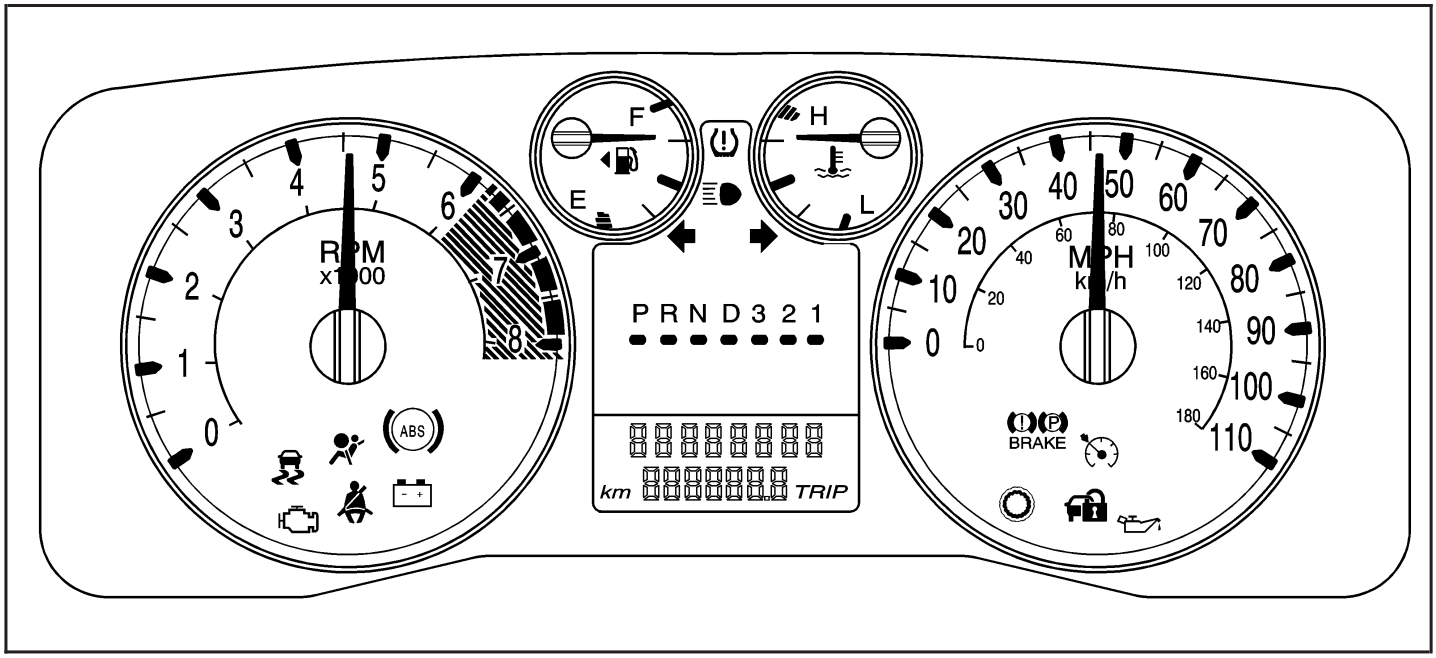
When one of the warning lights comes on and stays on as you are driving, or when one of the gages shows there may be a problem, check the section that tells you what to do about it. Please follow this manual's advice. Waiting to do repairs can be costly and even dangerous. So please get to know your vehicle's warning lights and gages. They can be a big help.

Your vehicle may also have a Driver Information Center (DIC) that works along with the warning lights and gages. See *Driver Information Center (DIC) on page 3-40* for more information.

Downloaded from www.Manualslib.com manuals search engine

Instrument Panel Cluster

Your instrument panel cluster is designed to let you know at a glance how your vehicle is running. You will know how fast you are going, about how much fuel you have used, and many other things you will need to know to drive safely and economically.



United States 3.7L L5 Automatic Transmission version shown, 5.3L V8, Canada and Manual Transmission similar

Downloaded from www.Manualslib.com manuals search engine

Speedometer and Odometer

The speedometer lets you see your speed in both miles per hour (mph) and kilometers per hour (km/h).

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

The odometer mileage can be checked without the vehicle running by pressing the trip information stem. See “Odometer” under *DIC Operation and Displays on page 3-40* for more information.

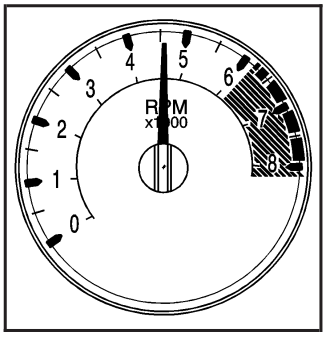
If the cluster is replaced the new one will automatically detect and update the vehicle’s accumulated mileage.

Trip Odometer

Your vehicle has a trip odometer that can tell you how far your vehicle has been driven since you last set the trip odometer to zero.

See “Trip Odometer” under *DIC Operation and Displays on page 3-40* for more information.

Tachometer



**3.7L L5 Shown,
5.3L V8 Similar**

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

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

Downloaded from www.Manualslib.com manuals search engine

Safety Belt Reminders

Safety Belt Reminder Light

When the engine is started, a chime will come on for several seconds to remind people to fasten their safety belts, unless the driver's safety belt is already buckled.

The safety belt light will also come on and stay on for several seconds, then it will flash for several more.

This chime and light is repeated if the driver remains unbuckled and the vehicle is in motion. If the driver's belt is already buckled, neither the chime nor the light will come on.

Passenger Safety Belt Reminder Light

Several seconds after the engine is started, a chime will sound for several seconds to remind the front passenger to buckle their safety belt. This would only occur if the passenger airbag is enabled. See *Passenger Sensing System on page 1-62* for more information. The passenger safety belt light, located on the instrument panel, will come on and stay on for several seconds and then flash for several more.

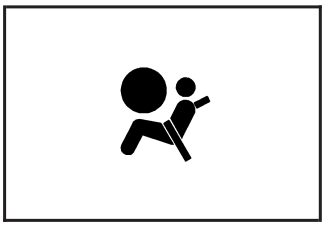
This chime and light are repeated if the passenger remains unbuckled and the vehicle is in motion.

If the passenger's safety belt is buckled, neither the chime nor the light will come on.

Downloaded from www.Manualslib.com manuals search engine

Airbag Readiness Light

There is an airbag readiness light on the instrument panel cluster, which shows the airbag symbol. The system checks the airbag's electrical system for malfunctions. The light tells you if there is an electrical problem. The system check includes the airbag sensor, 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 1-54*.



This light will come on when you start your vehicle, and it will flash for a few seconds. The light should go out and the system is ready.

If the airbag readiness light stays on after you start the vehicle or comes on when you are driving, your airbag system may not work properly. Have your vehicle serviced right away.

⚠ CAUTION:

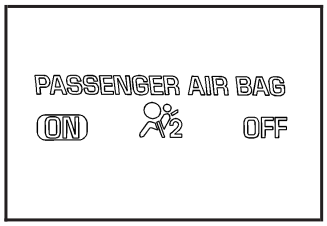
If the airbag readiness light stays on after you start your vehicle, it means the airbag system may not be working properly. The airbags in your vehicle may not inflate in a crash, or they could even inflate without a crash. To help avoid injury to yourself or others, have your vehicle serviced right away if the airbag readiness light stays on after you start your vehicle.

The airbag readiness light should flash for a few seconds when you start the engine. If the light does not come on then, have it fixed immediately. If there is a problem with the airbag system, an airbag Driver Information Center (DIC) message may also come on. See *DIC Warnings and Messages on page 3-43* for more information.

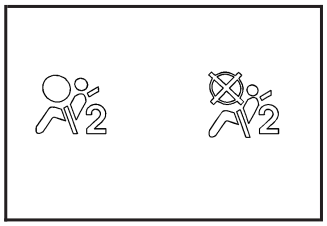
Downloaded from www.Manualslib.com manuals search engine

Passenger Airbag Status Indicator

Your vehicle has the passenger sensing system. Your instrument panel has a passenger airbag status indicator.



United States



Canada

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

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

⚠ CAUTION:

If the on indicator comes on when you have a rear-facing child restraint installed in the right front passenger's seat, it means that the passenger sensing system has not turned off the passenger's frontal airbag. A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger's airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. Do not use a rear-facing child restraint in the right front passenger's seat if the airbag is turned on.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

Even though the passenger sensing system is designed to turn off the right front passenger's frontal airbag if the system detects a rear-facing child restraint, no system is fail-safe, and no one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off. We recommend that rear-facing child restraints be secured in the rear seat, even if the airbag is off.

If the word OFF or the off symbol is lit on the airbag status indicator, it means that the passenger sensing system has turned off the right front passenger's frontal airbag. See *Passenger Sensing System on page 1-62* for more on this, including important safety information.

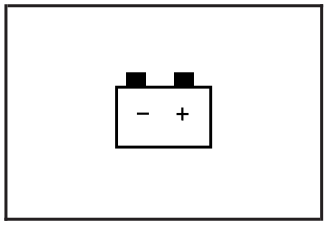
If, after several seconds, both status indicator lights remain on, or if there are no lights at all, there may be a problem with the lights or the passenger sensing system. See your dealer/retailer for service.

⚠ CAUTION:

If the airbag readiness light in the instrument panel cluster ever comes on and stays on, it means that something may be wrong with the airbag system. If this ever happens, have the vehicle serviced promptly, because an adult-size person sitting in the right front passenger's seat may not have the protection of the airbag(s). See *Airbag Readiness Light on page 3-29* for more on this, including important safety information.

Downloaded from www.Manualslib.com manuals search engine

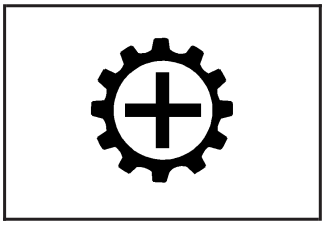
Charging System Light



This light will come on briefly when you turn on the ignition, but the engine is not running, as a check to show you it is working.

It should go out once the engine is running. If it stays on, or comes on while you are driving, you may have a problem with the charging system. A charging system Driver Information Center (DIC) message may also appear. See *DIC Warnings and Messages on page 3-43* for more information. This light could indicate that you have problems with a generator drive belt, or another electrical problem. Have it checked right away. If you must drive a short distance with the light on, be certain to turn off all your accessories, such as the radio and air conditioner.

Up-Shift Light



Your vehicle may have an up-shift light.

When this light comes on, you should shift to the next higher gear if weather, road, and traffic conditions allow you to.

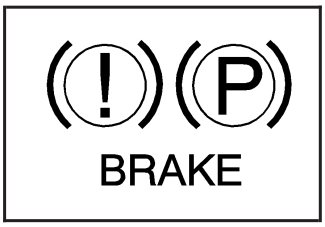
See *Manual Transmission Operation on page 2-26* for more information.

Downloaded from www.Manualslib.com manuals search engine

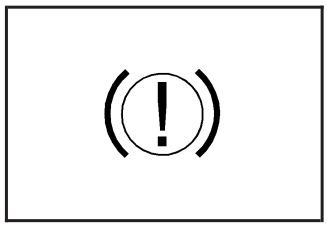
Brake System Warning Light

Your vehicle's hydraulic brake system is divided into two parts. If one part is not working, the other part can still work and stop you. For good braking, though, you need both parts working well.

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



United States



Canada

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

When the ignition is on, the brake system warning light will also come on when you set your parking brake. See *Parking Brake on page 2-32* for more information. The light will stay on if your parking brake does not release fully. If it stays on after your parking brake is fully released, it means you have a brake problem.

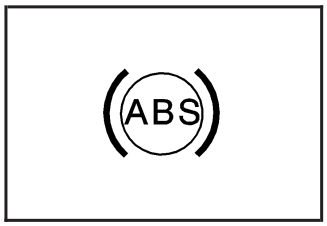
If the light comes on while you are driving, pull off the road and stop carefully. You may notice that the pedal is harder to push, or the pedal may go closer to the floor. It may take longer to stop. If the light is still on, have the vehicle towed for service. See *Towing Your Vehicle on page 4-48*.

⚠ CAUTION:

Your brake system may not be working properly if the brake system warning light is on. Driving with the brake system warning light on can lead to an accident. If the light is still on after you have pulled off the road and stopped carefully, have the vehicle towed for service.

Downloaded from www.Manualslib.com manuals search engine

Antilock Brake System Warning Light



For vehicles with the Antilock Brake System (ABS), this light will come on briefly when you start the engine.

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

If the ABS light stays on, turn the ignition off, if the light comes on when you are 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 still stays on, or comes on again while you are driving, your vehicle needs service. If the regular brake system warning light is not on, you still have brakes, but you do not have antilock brakes. If the regular brake system warning light is also on, you do not have antilock brakes and there is a problem with your regular brakes. See *Brake System Warning Light on page 3-33*

For vehicles with a Driver Information Center (DIC), see *DIC Warnings and Messages on page 3-43* for all brake related DIC messages.

Traction Off Light

If you have the Traction Control System (TCS), this light will come on when the TCS has been turned off.

This light will come on briefly when the ignition is turned to ON, if it does not the system may require service.

For more information on the traction off light, see *Traction Control System (TCS) on page 4-5*.

StabiliTrak® Not Ready Light

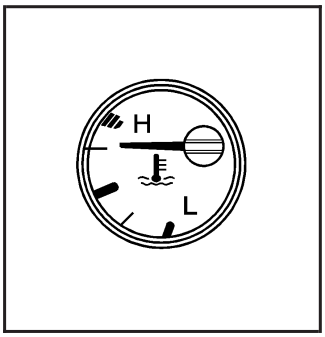
If you have the StabiliTrak® system, this light will come on when the StabiliTrak® system has been turned off.

This light will come on briefly when the ignition is turned to ON, if it does not the system may require service.

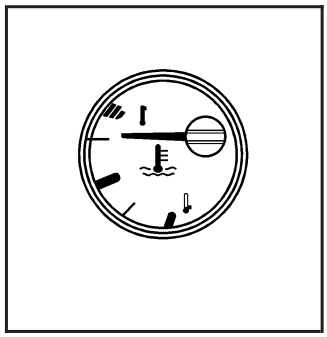
For more information, see *StabiliTrak® System on page 4-7*.

Downloaded from www.Manualslib.com manuals search engine

Engine Coolant Temperature Gage



United States



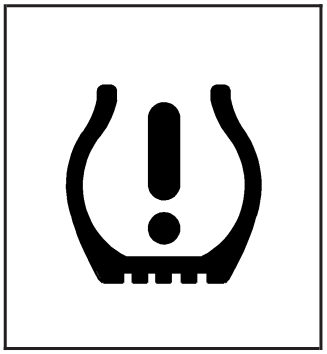
Canada

This gage shows the engine coolant temperature.

If the gage pointer is in the shaded area of the gage, the engine is too hot. It means that your engine coolant has overheated. If you have been operating your vehicle under normal driving conditions, you should pull off the road, stop your vehicle and turn off the engine as soon as possible.

See *Engine Overheating on page 5-29* for more information.

Tire Pressure Light



This light comes on briefly when the engine is started.

This light will also come on when one or more of your tires are significantly underinflated.

A tire pressure message in the Driver Information Center (DIC), may accompany the light. See *DIC Warnings and Messages on page 3-43* for more information.

Stop and check your tires as soon as it is safe to do so. If underinflated, inflate to the proper pressure. See *Tires on page 5-54* for more information.

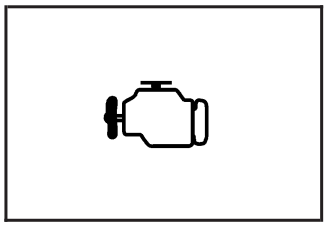
If a problem is detected with the Tire Pressure Monitor System, this light will flash for approximately 60 seconds and then stay on solid for the remainder of the ignition cycle. See *Tire Pressure Monitor System on page 5-63* for more information.

Downloaded from www.Manualslib.com manuals search engine

Malfunction Indicator Lamp

Check Engine Light

A computer system called OBD II (On-Board Diagnostics-Second Generation) monitors operation of the fuel, ignition, and emission control systems. It makes sure that emissions are at acceptable levels for the life of the vehicle, helping to produce a cleaner environment.



The check engine light comes on to indicate that there is an OBD II problem and service is required.

Malfunctions often are indicated by the system before any problem is apparent. This can prevent more serious damage to your vehicle. This system is also designed to assist your service technician in correctly diagnosing any malfunction.

Notice: **If you keep driving your vehicle with this light on, after a while, the emission controls might not work as well, your vehicle's fuel economy might not be as good, and the engine might not run as smoothly. This could lead to costly repairs that might not be covered by your warranty.**

Notice: **Modifications made to the engine, transmission, exhaust, intake, or fuel system of your vehicle or the replacement of the original tires with other than those of the same Tire Performance Criteria (TPC) can affect your vehicle's emission controls and can cause this light to come on. Modifications to these systems could lead to costly repairs not covered by your warranty. This could also result in a failure to pass a required Emission Inspection/Maintenance test. See *Accessories and Modifications on page 5-3*.**

This light comes on, as a check to show it is working, when the ignition is turned ON/RUN but the engine is not running. If the light does not come on, have it repaired. This light also 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 your vehicle. Diagnosis and service might be required.
- **Light On Steady** — An emission control system malfunction has been detected on your vehicle. Diagnosis and service might be required.

Downloaded from www.Manualslib.com manuals search engine

If the Light is Flashing

The following can prevent more serious damage to your vehicle:

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

If the light stops flashing and remains on steady, see “If the Light Is On Steady” following.

If the light continues to flash, when it is safe to do so, stop the vehicle. Find a safe place to park the vehicle. Turn the ignition off, wait at least 10 seconds, and restart the engine. If the light remains on steady, see “If the Light Is On Steady” following. If the light is still flashing, follow the previous steps and see your dealer/retailer for service as soon as possible.

If the Light Is On Steady

You might be able to correct the emission system malfunction by considering the following:

Did you recently put fuel into your vehicle?

If so, reinstall the fuel cap, making sure to fully install the cap. See *Filling the Tank on page 5-8*. 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.

Did you just drive through a deep puddle of water?

If so, your vehicle’s electrical system might be wet. The condition is usually corrected when the electrical system dries out. A few driving trips should turn the light off.

Have you recently changed brands of fuel?

If so, be sure to fuel your vehicle with quality fuel. See *Gasoline Octane on page 5-5*. Poor fuel quality causes the engine not to run as efficiently as designed. You might notice this as stalling after start-up, stalling when you put the vehicle into gear, misfiring, hesitation on acceleration, or stumbling on acceleration — these conditions might go away once the engine is warmed up. This will be detected by the system and cause the light to turn on.

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

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

Downloaded from www.Manualslib.com manuals search engine

Emissions Inspection and Maintenance Programs

Some state/provincial and local governments have or might begin programs to inspect the emission control equipment on your vehicle. Failure to pass this inspection could prevent you from getting a vehicle registration.

Here are some things you need to know to help your vehicle pass an inspection:

Your vehicle will not pass this inspection if the check engine light is on or not working properly.

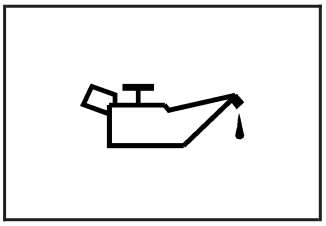
Your vehicle will not pass this inspection if the OBD (on-board diagnostic) system determines that critical emission control systems have not been completely diagnosed by the system. The vehicle would be considered not ready for inspection. This can happen if you have recently replaced the battery or if the battery has 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 you have done this and your vehicle still does not pass the inspection for lack of OBD system readiness, your dealer/retailer can prepare the vehicle for inspection.

Oil Pressure Light

⚠ CAUTION:

Do not keep driving if the oil pressure is low. If you do, your engine can become so hot that it catches fire. You or others could be burned. Check your oil as soon as possible and have your vehicle serviced.

Notice: **Lack of proper engine oil maintenance may damage the engine. The repairs would not be covered by your warranty. Always follow the maintenance schedule in this manual for changing engine oil.**

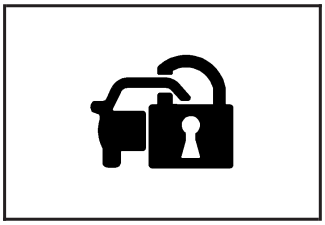


This light will come on briefly when you start your engine. If it does not, have your vehicle serviced.

When the light comes on and stays on, it means that oil is not flowing through your engine properly. You could be low on oil and you might have some other system problem.

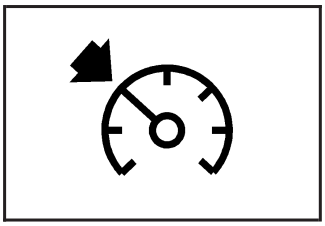
Downloaded from www.Manualslib.com manuals search engine

Security Light



For information regarding this light and the vehicle's security system, see *Content Theft-Deterrent on page 2-14*.

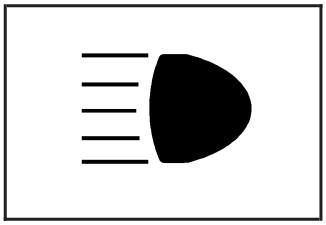
Cruise Control Light



This light comes on whenever you set the cruise control.

The light goes out when the cruise control is turned off. See *Cruise Control on page 3-11* for more information.

Highbeam On Light

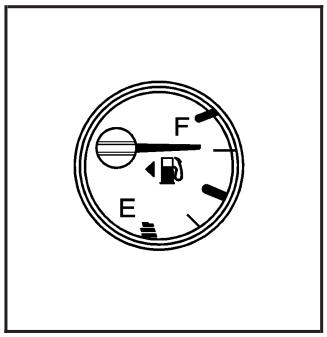


This light comes on when the high-beam headlamps are in use.

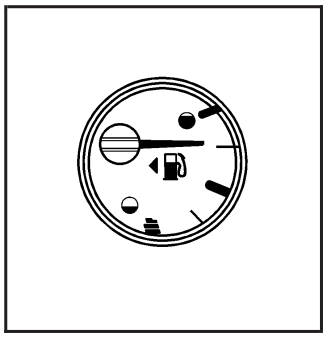
See *Headlamp High/Low-Beam Changer on page 3-9* for more information.

Downloaded from www.Manualslib.com manuals search engine

Fuel Gage



United States



Canada

When the ignition is on, the fuel gage tells you about how much fuel you have remaining in the fuel tank.

Here are three things that some owners ask about. None of these indicate a problem with your fuel gage:

- At the gas station, the gas pump shuts off before the gage reads full.
- It takes a little more or less fuel to fill up than the gage indicated. For example, the gage 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 gage moves a little when you turn a corner or speed up.

When the fuel in the fuel tank is low, you will see a LOW FUEL message on the Driver Information Center (DIC) display. See *DIC Warnings and Messages on page 3-43* for more information.

Driver Information Center (DIC)

The Driver Information Center (DIC) displays information such as the trip odometer, personalization features, and warning messages. The DIC display is located on the instrument panel cluster.

DIC Operation and Displays

The Driver Information Center (DIC) comes on when the ignition is on.

If a problem is detected, a warning message appears on the display. Pressing and releasing the trip odometer reset stem on the DIC acknowledges some current warnings or service messages. Some messages only clear after the required action has been taken.

The DIC has different modes which can be accessed by pressing the trip odometer reset stem on the DIC. These modes are explained in the following section. The DIC trip odometer reset stem is located on the instrument panel cluster next to the DIC display. To scroll through the available functions, press and release the reset stem.

Downloaded from www.Manualslib.com manuals search engine

Trip Information

Odometer

The odometer is automatically displayed on the DIC when you start the vehicle. The odometer shows the total distance the vehicle has been driven in either miles for the United States or kilometers for Canada.

Trip Odometer

Press and release the reset stem until TRIP appears on the DIC display. The trip odometer shows the current distance traveled since the last reset of the trip odometer in either miles for the United States or kilometers for Canada.

To reset the trip odometer, press and hold the reset stem until the display returns to zero.

Engine Oil Life System

With the engine off, turn the key to ON/RUN and then press the reset stem until OIL LIFE RESET appears — alternating between OIL LIFE and RESET — on the DIC display. The CHANGE OIL message alerts you to change the oil on a schedule consistent with your driving conditions. Always reset the OIL LIFE message after an oil change. To reset the message, see *Engine Oil Life System on page 5-18*.

In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended in the Maintenance Schedule in this manual. See *Engine Oil on page 5-15* and *Scheduled Maintenance on page 6-4* for more information.

Language

This feature allows you to choose the language in which the DIC display shows information.

To set your choice for this feature:

1. With the engine off, turn the key to ON/RUN, but do not start the engine.
2. Close all doors so the DOORS message does not display in the DIC.
3. Momentarily press and release the reset stem until the current language is displayed: English (default), Spanish, or French.
4. To select a different language, press and hold the reset stem until the next language appears.
5. Repeat Step 4 until the desired language is displayed. Once the desired language is shown on the DIC display, the language is set.
6. To exit the language selection, momentarily press and release the reset stem. All DIC messages will now display in the language selected.

Downloaded from www.Manualslib.com manuals search engine

Automatic Door Locks

This feature allows you to program the door locks to a preferred setting.

To set your choice for this feature:

1. With the engine off, turn the key to LOCK/OFF. Do not remove the key from the ignition.
2. Press and hold the power door lock button until the DIC display shows the current door lock mode.
3. To view the next available mode, press and hold the reset stem until the mode appears. Release the reset stem and press and hold again to view the next mode.
4. Once the desired mode is shown on the DIC display, briefly press the reset stem to set your choice. The DIC display then clears.

The following are the available modes:

Lock 1 (default): On vehicles with an automatic transmission, this mode locks all of the doors when the vehicle is shifted out of PARK (P) and unlocks all of the doors when the vehicle is shifted into PARK (P).

On vehicles with a manual transmission, this mode locks all of the doors when the vehicle speed is greater than 15 mph (24 km/h) and unlocks all of the doors when the key is removed from the ignition.

Lock 2: On vehicles with an automatic transmission, this mode locks all of the doors when the vehicle is shifted out of PARK (P) and unlocks the driver's door when the vehicle is shifted into PARK (P).

On vehicles with a manual transmission, this mode locks all of the doors when the vehicle speed is greater than 15 mph (24 km/h) and unlocks the driver's door when the key is removed from the ignition.

Lock 3: On vehicles with an automatic transmission, this mode locks all of the doors when the vehicle is shifted out of PARK (P). The doors will not automatically unlock.

On vehicles with a manual transmission, this mode locks all of the doors when the vehicle speed is greater than 15 mph (24 km/h). The doors will not automatically unlock.

Remote Keyless Entry (RKE) Feedback

This feature allows you to program the Remote Keyless Entry (RKE) feedback to a preferred setting.

To set your choice for this feature:

1. With the engine off, turn the key to LOCK/OFF. Do not remove the key from the ignition.
2. Press and hold the lock and unlock buttons on the RKE transmitter at the same time. Hold both buttons until the DIC display shows the current RKE feedback mode.

Downloaded from www.Manualslib.com manuals search engine

3. To view the next available mode, press and hold the reset stem until the mode appears. Release the reset stem and press and hold again to view the next mode.
4. Once the desired mode is shown on the DIC display, briefly press the reset stem to set your choice. The DIC display then clears.

The following are the available modes:

RFA 1 (default): This mode flashes the parking lamps when you press the lock or unlock buttons on the RKE transmitter.

RFA 2: This mode flashes the parking lamps and sounds the horn when you press the lock button on the RKE transmitter. This mode also flashes the parking lamps when you press the unlock button on the RKE transmitter.

RFA 3: This mode flashes the parking lamps and sounds the horn when you press the lock or unlock buttons on the RKE transmitter.

RFA 4: This mode disables RKE feedback. There will be no feedback when you press the lock or unlock buttons on the RKE transmitter.

DIC Warnings and Messages

Messages are displayed on the DIC to notify the driver that the status of the vehicle has changed and that some action may be needed by the driver to correct the condition. Multiple messages may appear one after another. The messages are displayed for several seconds each.

Some messages may not require immediate action, but you should press and release the trip odometer reset stem to acknowledge that you received the messages and to clear them from the display. Each message must be acknowledged individually.

Some messages cannot be cleared from the DIC display because they are more urgent. These messages require action before they can be cleared. You should take any messages that appear on the display seriously and remember that clearing the messages only makes the messages disappear, not correct the problem.

The following are the possible messages that can be displayed and some information about them.

Downloaded from www.Manualslib.com manuals search engine

AC (Air Conditioning) OFF

This message displays when the engine coolant temperature is too high and the air conditioning in your vehicle needs to be turned off. See *Engine Overheating on page 5-29* and *Climate Control System on page 3-22* for more information. This message displays along with the ENG HOT message.

ABS (Antilock Brake System) FAULT

This message displays if there is a problem with the Antilock Brake System (ABS). Check the ABS as soon as possible and have your vehicle serviced by your dealer/retailer. See *Brakes on page 5-38* and *Antilock Brake System Warning Light on page 3-34* for more information. Press and release the reset stem to acknowledge the message and clear it from the display.

BRAKES

This message displays if there is a problem with the brakes. Check the brakes as soon as possible and have your vehicle serviced by your dealer/retailer. See *Brakes on page 5-38* and *Brake System Warning Light on page 3-33* for more information. Press and release the reset stem to acknowledge the message and clear it from the display.

CHANGE OIL

This message displays when the oil needs to be changed. Check the oil in your vehicle as soon as possible and have your vehicle serviced by your dealer/retailer. See *Engine Oil on page 5-15* and *Scheduled Maintenance on page 6-4* for more information. Press and release the reset stem to acknowledge the message and clear it from the display.

DOORS

This message displays when one or more of the doors is ajar. Check all the doors on your vehicle to make sure they are closed. The message clears from the display after all of the doors are closed.

ENG (Engine) HOT

This message displays when the engine coolant temperature is hot. Check the engine coolant temperature gage. See *Engine Coolant Temperature Gage on page 3-35*. Have your vehicle serviced by your dealer/retailer as soon as possible if you suspect the engine is overheating. See *Engine Overheating on page 5-29* for more information.

Downloaded from www.Manualslib.com manuals search engine

FLUID

This message displays if the brake fluid is low. Check the brake fluid as soon as possible and have your vehicle serviced by your dealer/retailer. See *Brakes on page 5-38* for more information. Press and release the reset stem to acknowledge the message and clear it from the display.

FUEL CAP

This message displays if the vehicle's fuel cap is either off or loose. Pull over as soon as possible and check to see if the fuel cap is secure. You may also see the check engine light on the instrument panel cluster. If the check engine light does come on when the fuel cap was loose, it may take a few driving trips before the light turns off. See *Malfunction Indicator Lamp on page 3-36* for more information if the light still remains on. Press and release the reset stem to acknowledge the message and clear it from the display.

LOW FUEL

This message displays if the level of fuel in the vehicle is low. Also check the fuel gage. See *Fuel Gage on page 3-40* for more information. Refill the fuel tank as soon as possible.

LOW TIRE

This message displays if a low tire pressure is detected in any of the vehicle's tires. Press and release the reset stem to acknowledge the message and clear it from the display. The message appears at each ignition cycle until the tires are inflated to the correct inflation pressure. See *Tires on page 5-54* and *Inflation - Tire Pressure on page 5-62* for more information on tires and the correct inflation pressures.

OIL

This message displays when the oil pressure is low. See *Oil Pressure Light on page 3-38* and *Engine Oil on page 5-15* for more information.

PARK BRK (Brake)

This message displays when the parking brake is set. See *Parking Brake on page 2-32* and *Brake System Warning Light on page 3-33* for more information. The message clears from the display after the parking brake is released or by pressing and releasing the reset stem.

Downloaded from www.Manualslib.com manuals search engine

REDUCED POWER

This message displays when the vehicle's engine power is reduced. Reduced engine power can affect the vehicle's ability to accelerate. If this message is on, but there is no reduction in performance, proceed to your destination. The performance may be reduced the next time the vehicle is driven. The vehicle may be driven at a reduced speed while this message is on, but acceleration and speed may be reduced. Anytime this message stays on, the vehicle should be taken to your dealer/retailer for service as soon as possible. Press and release the reset stem to acknowledge the message and clear it from the display.

SERV (Service) 4WD (Four-Wheel Drive)

This message displays when there is a problem with the transfer case control system. Check the transfer case on your vehicle and have it serviced by your dealer/retailer. See *Full-Time Four-Wheel Drive on page 2-27* for more information about the transfer case. Press and release the reset stem to acknowledge the message and clear it from the display.

SERV (Service) TPM (Tire Pressure Monitor)

This message displays if a part on the Tire Pressure Monitor System (TPMS) is not working properly. The tire pressure light also flashes and then remains on during the same ignition cycle. See *Tire Pressure Light on page 3-35*. Several conditions may cause this message to appear. See *Tire Pressure Monitor Operation on page 5-65* for more information. If the warning comes on and stays on, there may be a problem with the TPMS. See your dealer/retailer.

SERV (Service) VEH (Vehicle)

This message displays if your vehicle needs service. Have your vehicle serviced by your dealer/retailer as soon as possible.

Downloaded from www.Manualslib.com manuals search engine

SERVICE CHARG (Charge) SYS (System)

This message displays if there is a problem with the battery charging system. Under certain conditions, the battery warning light may also turn on in the instrument panel cluster. See *Charging System Light on page 3-32*. The battery will not be charging at an optimal rate and the vehicle will lose the ability to enter the fuel economy mode. The vehicle is safe to drive, however have the electrical system checked by your dealer/retailer. Press and release the reset stem to acknowledge the message and clear it from the display.

SERVICE STAB (Stability) SYS (System)

This message displays if there is a problem with the StabiliTrak® system. Have your vehicle serviced by your dealer/retailer. See *StabiliTrak® System on page 4-7* for more information.

STAB (Stability) SYS (System) OFF

This message displays when the StabiliTrak® system is turned off. See *StabiliTrak® System on page 4-7* for more information.

TRAC (Traction) OFF

This message along with the traction off light displays when the Traction Control System (TCS) is turned off by pressing the TCS button. See *Traction Off Light on page 3-34* and *Traction Control System (TCS) on page 4-5* for more information.

TRACTION FAULT

This message displays if there is a problem with the Traction Control System (TCS). Check the TCS as soon as possible and have your vehicle serviced by your dealer/retailer. See *Traction Control System (TCS) on page 4-5* for more information. Press and release the reset stem to acknowledge the message and clear it from the display.

TURN SIGNAL

This message displays when the turn signal is on for about 0.75 miles (1.2 km) of travel. Press and release the reset stem to acknowledge the message and clear it from the display.

Downloaded from www.Manualslib.com manuals search engine

Audio System(s)

Determine which radio your vehicle has and then read the pages following to familiarize yourself with its features.

⚠ CAUTION:

This system provides you with far greater access to audio stations and song listings. Giving extended attention to entertainment tasks while driving can cause a crash and you or others can be injured or killed. Always keep your eyes on the road and your mind on the drive — avoid engaging in extended searching while driving.

Keeping your mind on the drive is important for safe driving. See *Defensive Driving on page 4-2*. Here are some ways in which you can help avoid distraction while driving.

While your vehicle is parked:

- Familiarize yourself with all of its controls.
- Familiarize yourself with its operation.
- Set up your audio system by presetting your favorite radio stations, setting the tone, and adjusting the speakers. Then, when driving conditions permit, you can tune to your favorite radio stations using the presets and steering wheel controls if the vehicle has them.

Notice: **Before adding any sound equipment to your 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/retailer. Also, check federal rules covering mobile radio and telephone units. If sound equipment can be added, it is very important to do it properly. Added sound equipment may interfere with the operation of your vehicle's engine, radio, or other systems, and even damage them. Your vehicle's systems may interfere with the operation of sound equipment that has been added.**

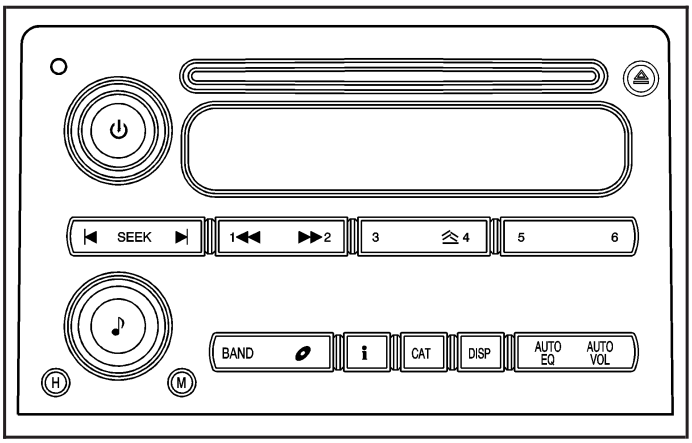
Your vehicle has a feature called Retained Accessory Power (RAP). With RAP, the audio system can be played even after the ignition is turned off. See *Retained Accessory Power (RAP) on page 2-20* for more information.

Setting the Time

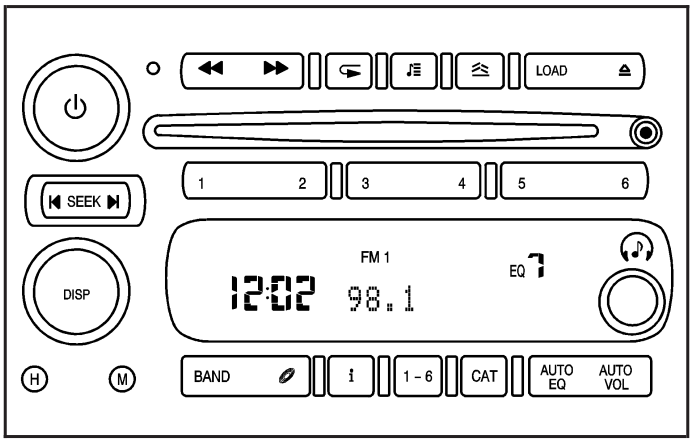
Press and hold H until the correct hour and AM or PM displays. Press and hold M until the correct minute displays. The time can be set with the ignition on or off.

Downloaded from www.Manualslib.com manuals search engine

Radio(s)



Radio with Single CD



Radio with Six-Disc CD Player

Your vehicle has one of these radios as its audio system.

Downloaded from www.Manualslib.com manuals search engine

Playing the Radio

(Power/Volume): Press to turn the system on and off.

Turn clockwise or counterclockwise to increase or to decrease the volume.

DISP (Display): Press to switch the display between the radio station frequency and the time. When the ignition is turned off, press to display the time.

For XM™ (if equipped), press the DISP button while in XM™ mode to retrieve four different categories of information related to the current song or channel: Artist, Song Title, Category or PTY (program type), Channel Number/Channel Name.

To change the default on the display, press the DISP button until you see the desired display, then hold this knob for two seconds. The radio produces one beep and the selected display becomes the default.

AUTO VOL (Automatic Volume): With automatic volume, the audio system adjusts automatically to make up for road and wind noise as you drive.

Set the volume at the desired level. Press to select LOW, MEDIUM, or HIGH. Each higher setting allows for more volume compensation at faster vehicle speeds. Then as you drive, automatic volume increases the volume, as necessary, to overcome noise at any speed. The volume level should always sound the same to you as you drive. NONE displays if the radio cannot determine the vehicle speed. To turn automatic volume off, press until AVOL OFF displays.

Finding a Station

BAND: Press to switch between FM1, FM2, AM, or XM1 or XM2 (if equipped). The selection displays.

(Tune): Turn to select radio stations.

SEEK : Press and release the arrows to go to the next or to the previous station and stay there.

To scan stations, press and hold either arrow for more than two seconds. SCN or SCAN displays and the radio produces one beep. The radio goes to a station, plays for a few seconds, then goes to the next station. Press either arrow again or one of the pushbuttons to stop scanning presets.

To scan preset stations, press and hold either arrow for more than four seconds. PSC or PSCN displays and the radio produces two beeps. The radio goes to a preset station, plays for a few seconds, then goes to the next preset station. Press either arrow again or one of the pushbuttons to stop scanning presets.

The radio only seeks and scans stations with a strong signal that are in the selected band.

Downloaded from www.Manualslib.com manuals search engine

i (Information) (XM™ Satellite Radio Service): If the current station has a message, the information symbol displays. Press to see the message. The message can display the artist, song title, call in phone numbers, etc.

If the entire message is not displayed, parts of the message appears every three seconds. To scroll through the message, press and release this button. A new group of words display after every press of this button. Once the complete message has displayed, the information symbol disappears from the display until another new message is received. The last message can be displayed by pressing the i button. You can view the last message until a new message is received or a different station is tuned to.

When a message is not available from a station, NO INFO displays.

1-6 (Preset Pushbuttons) (Radio with Six-Disc CD Player): Press to play stations that are programmed on the radio preset pushbuttons.

The radio only seeks preset stations with a strong signal that are in the selected band.

Setting Preset Stations

Up to 30 stations (six FM1, six FM2, and six AM, six XM1 and six XM2 (if equipped)), can be programmed on the six numbered pushbuttons, by performing the following steps:

1. Turn the radio on.
2. Press BAND to select FM1, FM2, AM, or XM1 or XM2.
3. Tune in the desired station.
4. Press AUTO EQ to select the equalization.
5. Press and hold one of the six numbered pushbuttons until a beep sounds. When that numbered pushbutton is pressed, the station that was set, returns and the equalization that was selected, is stored for that pushbutton.
6. Repeat the steps for each pushbutton.

Downloaded from www.Manualslib.com manuals search engine

Setting the Tone (Bass/Treble)

♪ **(Bass/Treble):** Press and release until BAS/BASS, or TRE/TREB displays. Turn to increase or to decrease. The display shows the bass or the treble level. If a station is weak or has static, decrease the treble.

To adjust the bass and the treble to the middle position, press and hold this knob. The radio produces one beep.

To adjust all tone and speaker controls to the middle position, press and hold when no tone or speaker control is displayed. CEN or ALL CENTERED displays and a beep sounds.

AUTO EQ (Automatic Equalization): Press to select customized equalization settings designed for country/western, jazz, talk, pop, rock, and classical.

To return the bass and treble to the manual mode, press and release the ♪ knob until MANUAL displays.

For the Radio with Six-Disc CD Player, the equalization one through seven options are included only if your vehicle is equipped with the Bose® system. Press the AUTO EQ button to select equalization settings designed for equalization one through seven.

To return the bass and treble to the manual mode, push and release this knob until BASS and TREB displays.

Adjusting the Speakers (Balance/Fade)

♪ **(Balance/Fade):** To adjust the balance between the right and the left speakers, press and release until BAL displays. Turn to move the sound toward the right or the left speakers.

To adjust the fade between the front and the rear speakers, press and release until FAD or FADE displays. Turn to move the sound toward the front or the rear speakers.

To adjust the balance and the fade to the middle position, press this knob, then press it again and hold it until one beep sounds.

To adjust all tone and speaker controls to the middle position, press and hold when no tone or speaker control is displayed. CEN or ALL CENTERED displays and a beep sounds.

Downloaded from www.Manualslib.com manuals search engine

Finding a Category (CAT) Station (XM™ Satellite Radio Service Only)

To select and find a desired category perform the following:

1. Press the CAT button to activate program type select mode. A category displays.
2. Press the CAT button to select a category.
   - For the Radio with Six-Disc CD Player, turn the ♪ knob to select a category.
3. Once the desired category is displayed, press either SEEK arrow to select and to take you to the categories first station.
4. To go to another station within that category and the category is displayed, press the CAT button once. If the category is not displayed, press the CAT button twice to display the category and then to go to another station.
   - For the Radio with Six-Disc CD Player, press either SEEK arrow to go to another station within that category and the category is displayed.
5. Press CAT to exit program type select mode.

   If CAT times out and is no longer on the display, go back to Step 1.

If the radio cannot find the desired program type, NONE or NOT FOUND displays and the radio returns to the last station you were listening to.

BAND (Alternate Frequency) (Radio with Single CD): Alternate frequency allows the radio to switch to a stronger station with the same category. To turn alternate frequency on, press and hold BAND for two seconds. AF ON displays. The radio can switch to stations with a stronger frequency.

To turn alternate frequency off, press and hold BAND again for two seconds. AF OFF displays. The radio does not switch to other stations.

This function does not apply for XM™ Satellite Radio Service.

Radio Messages

CAL ERR (Calibration Error): The audio system has been calibrated for your vehicle from the factory. If CAL ERR displays it means that the radio has not been configured properly for your vehicle and it must be returned to your dealer/retailer for service.

LOC (Locked): This message is displayed when the THEFTLOCK® system has locked up. Take your vehicle to your dealer/retailer for service.

If any error occurs repeatedly or if an error cannot be corrected, contact your dealer/retailer.

Downloaded from www.Manualslib.com manuals search engine

XM™ Satellite Radio Service

XM™ is a satellite radio service that is based in the 48 contiguous United States and 10 Canadian provinces. XM™ Satellite Radio has a wide variety of programming and commercial-free music, coast-to-coast, and in digital-quality sound. During your trial or when you subscribe, you will get unlimited access to XM™ Radio Online for when you are not in your vehicle. A service fee is required to receive the XM™ service. For more information, contact XM™ at www.xmradio.com or call 1-800-929-2100 in the U.S. and www.xmradio.ca or call 1-877-438-9677 in Canada.

Radio Messages for XM™ Only

See *XM Radio Messages on page 3-60* later in this section for further detail.

Playing a CD

Insert a CD partway into the slot, label side up. The player pulls it in and the CD should begin playing. If you want to insert a CD with the ignition off, first press the ⏏ (eject) button or the DISP knob.

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 to play where it stopped, if it was the last selected audio source.

When the CD is inserted, the CD symbol displays. As each new track starts to play, the track number displays.

The CD player can play the smaller 3 inch (8 cm) single CDs with an adapter ring. Full-size CDs and the smaller CDs are loaded in the same manner.

Care of Your CDs

If playing a CD-R, the sound quality can be reduced due to CD-R quality, the method of recording, the quality of the music that has been recorded, and the way the CD-R has been handled. Handle them carefully. Store CD-R(s) in their original cases or other protective cases and away from direct sunlight and dust. The CD player scans the bottom surface of the disc. If the surface of a CD is damaged, such as cracked, broken, or scratched, the CD does not play properly or not at all. Do not touch the bottom side of a CD while handling it; this could damage the surface. Pick up CDs by grasping the outer edges or the edge of the hole and the outer edge.

If the surface of a CD is soiled, take a soft, lint free cloth or dampen a clean, soft cloth in a mild, neutral detergent solution mixed with water, and clean it. Make sure the wiping process starts from the center to the edge.

Downloaded from www.Manualslib.com manuals search engine

Care of Your CD Player

Do not add any label to a CD, it could get caught in the CD player. If a CD is recorded on a personal computer and a description label is needed, try labeling the top of the recorded CD with a marking pen.

The use of CD lens cleaners for CDs is not advised, due to the risk of contaminating the lens of the CD optics with lubricants internal to the CD player mechanism.

Notice: **If a label is added to a CD, or more than one CD is inserted into the slot at a time, or an attempt is made to play scratched or damaged CDs, the CD player could be damaged. While using the CD player, use only CDs in good condition without any label, load one CD at a time, and keep the CD player and the loading slot free of foreign materials, liquids, and debris.**

If an error displays, see “CD Messages” later in this section.

For vehicles that have a radio with a Six-Disc CD player, see the following:

LOAD: Press to load CDs into the CD player. This CD player holds up to six CDs.

To insert one CD, do the following:

1. Turn the ignition on.
2. Press and release the LOAD button.
3. Wait for the indicator light, located to the right of the slot, to turn green.
4. Load a CD. Insert the CD partway into the slot, label side up. The player pulls the CD in.

To insert multiple CDs, do the following:

1. Turn the ignition on.
2. Press and hold the LOAD button for two seconds.

   A beep sounds and the indicator light, located to the right of the slot, begins to flash and LOAD # displays.
3. Once the light stops flashing and turns green, INSERT CD # displays, load a CD. Insert the CD partway into the slot, label side up. The player pulls the CD in.

   Once the CD is loaded, the indicator light begins flashing again. Once the light stops flashing and turns green, you can load another CD. The CD player takes up to six CDs.

To load more than one CD but less than six, complete Steps 1 through 3. When finished loading CDs, press the LOAD button to cancel the loading function. The radio begins to play the last CD loaded.

If more than one CD has been loaded, a number for each CD displays.

Downloaded from www.Manualslib.com manuals search engine

Playing a Specific Loaded CD

For every CD loaded, a number displays. To play a specific CD, first press the CD button, then press the numbered pushbutton that corresponds to the CD. A small bar appears under the CD number that is playing and the track number displays.

If an error displays, see “CD Messages” later in this section.

⏏ **(Eject):** Press to eject CD(s).

To eject the CD that is currently playing, press and release this button.

To eject multiple CDs, do the following:

1. Press and hold for five seconds.

   A beep sounds and the indicator light, located to the right of the slot, begins to flash and EJECT ALL displays.

2. Once the light stops flashing and turns green, REMOVE CD # displays. The CD ejects and can be removed.

   Once the CD is removed, the indicator light begins flashing again and another CD ejects.

   To stop ejecting the CDs, press the LOAD or the eject button.

If the CD is not removed, after 25 seconds, the CD automatically pulls back into the player. If CD is pushed back into the player, before the 25 second time period is complete, the player senses an error and tries to eject the CD several times before stopping.

Do not repeatedly press the CD eject button to eject a CD after you have tried to push it in manually. The player’s 25-second eject timer resets at each press of the eject button, causing the player to not eject the CD until the 25-second time period has elapsed.

⏏ **(Eject) (Radio with Single CD):** Press to eject a CD. Eject can be activated with either the ignition or radio off. CDs can be loaded with the ignition and radio off if this button is pressed first.

1 ⏮ **(Previous) (Radio with Single CD):** Press to go to the start of the current track if more than eight seconds have played. The previous symbol and the track number displays. If this button is held or pressed more than once, the player continues moving backward through the CD.

⏮ **(Reverse) (Radio with Six-Disc CD Player):** Press to reverse within the track.

2 ⏭ **(Next) (Radio with Single CD):** Press to go to the next track. The next symbol and the track number displays. If this button is held or pressed more than once, the player continues moving forward through the CD.

Downloaded from www.Manualslib.com manuals search engine

(Fast Forward) (Radio with Six-Disc CD Player): Press to fast forward within the track.

(Repeat): With repeat, one track or an entire CD can be repeated.

To use repeat, do the following:

- To repeat the track you are listening to, press and release this button. RPT ON displays. Press again to turn off repeat play. RPT OFFdisplays.
- To repeat the CD you are listening to, press and hold this button for two seconds. RPT ON displays. Press again to turn off repeat play. RPT OFF displays.

4 (Random) (Radio with Single CD): Press to hear the tracks in random, rather than sequential, order. The random symbol displays. Press again to turn off random play.

(Random) (Radio with Six-Disc CD Player): With random, you can listen to the tracks in random, rather than sequential, order, on one CD or on all of the CDs. To use random, do one of the following:

- To play the tracks on the CD you are listening to in random order, press and release this button. RANDOM ONE displays. Press again to turn off random play.
- To play the tracks on all of the CDs that are loaded in random order, press and hold this button for more than two seconds. A beep sounds and RANDOM ALL displays. Press again to turn off random play.

SEEK (Radio with Single CD): Press the left arrow to go to the start of the current or the previous track. Press the right arrow to go to the start of the next track. Pressing either arrow for more than two seconds searches the previous or next tracks at two tracks per second. Release either arrow to stop searching and to play the track.

SEEK (Radio with Six-Disc CD Player): Press the left arrow to go to the start of the current track, if more than ten seconds have played. Press the right arrow to go to the next track. If either arrow is held or pressed more than once, the player continues moving backward or forward through the CD.

To scan one CD, press and hold either arrow for more than two seconds until SCAN displays and a beep sounds. The radio goes to the next track, plays for 10 seconds, then goes to the next track. Press either arrow again, to stop scanning.

Downloaded from www.Manualslib.com manuals search engine

To scan all loaded CDs, press and hold either arrow for more than four seconds until CD SCAN displays and a beep sounds. Use this feature to listen to 10 seconds of the first track of each loaded CD. Press either arrow again, to stop scanning.

DISP (Display): Press to see how long the current track has been playing. The elapsed time of the track displays. To change the default on the display, track or elapsed time, press until you see the desired display, then hold for two seconds. The radio produces one beep and the selected display becomes the default.

BAND: Press to listen to the radio when a CD is playing. The inactive CD(s) remains inside the radio for future listening.

(CD): Press to play a CD while listening to the radio. The CD symbol displays when a CD is loaded.

AUTO EQ (Automatic Equalization): Press to select an equalization setting while playing a CD. The equalization is set when a CD is played. See “AUTO EQ” listed previously for more information. If you select an EQ setting for your CD, it is activated each time you play a CD.

Using Song List Mode (Radio with Six-Disc CD Player)

(Song List): The six-disc CD changer has a feature called song list. This feature is capable of saving 20 track selections.

To save tracks into the song list feature, perform the following steps:

1. Turn the CD player on and load it with at least one CD. See “LOAD CD” listed previously in this section for more information.
2. Check to see that the CD changer is not in song list mode. S-LIST should not display. If S-LIST is present, press the button to turn it off.
3. Select the desired CD by pressing the numbered pushbutton and then use the right SEEK arrow to locate the track to be saved. The track begins to play.
4. Press and hold the button to save the track into memory. When this button is pressed, one beep sounds. After two seconds of continuously pressing this button, two beeps sounds to confirm the track has been saved.
5. Repeat Steps 3 and 4 for saving other selections.

Downloaded from www.Manualslib.com manuals search engine

S-LIST FULL displays if you try to save more than 20 selections.

To play the song list, press the button. One beep sounds and S-LIST displays. The recorded tracks begins to play in the order they were saved.

Seek through the song list by using the SEEK arrows. Seeking past the last saved track returns to the first saved track.

To delete tracks from the song list, perform the following steps:

1. Turn the CD player on.
2. Press the button to turn song list on. S-LIST displays.
3. Press either SEEK arrow to select the desired track to be deleted.
4. Press and hold the button for two seconds. When this button is pressed, one beep sounds. After two seconds of continuously pressing this button, two beeps sound to confirm that the track has been deleted.

After a track has been deleted, the remaining tracks are moved up the list. When another track is added to the song list, the track is added to the end of the list.

To delete the entire song list, perform the following steps:

1. Turn the CD player on.
2. Press the button to turn song list on. S-LIST displays.
3. Press and hold the button for more than four seconds. One beep sounds, followed by two beeps after two seconds, and a final beep sounds after four seconds. S-LIST EMPTY displays indicating the song list has been deleted.

If a CD is ejected, and the song list contains saved tracks from that CD, those tracks are automatically deleted from the song list. Any tracks saved to the song list again are added to the bottom of the list.

To end song list mode, press the button. One beep sounds and S-LIST is removed from the display.

Downloaded from www.Manualslib.com manuals search engine

CD Messages

CHECK CD: If this message displays and/or the CD comes out, it could be for one of the following reasons:

- 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 should play.
- The CD is dirty, scratched, wet, or upside down.
- The air is very humid. If so, wait about an hour and try again.
- The format of the CD might not be compatible.
- There could have been a problem while burning the CD.
- The label could be caught in the CD player.

If the CD is not playing correctly, for any other reason, try a known good CD.

If any error occurs repeatedly or if an error cannot be corrected, contact your dealer/retailer. If the radio displays an error message, write it down and provide it to your dealer/retailer when reporting the problem.

XM Radio Messages

xL (Explicit Language Channels): These channels, or any others, can be blocked at a customer's request, by calling 1-800-852-XMXM (9696).

Updating: The encryption code in the receiver is being updated, and no action is required. This process should take no longer than 30 seconds.

No Signal: The system is functioning correctly, but the vehicle is in a location that is blocking the XM™ signal. When the vehicle is moved into an open area, the signal should return.

Loading XM: The audio system is acquiring and processing audio and text data. No action is needed. This message should disappear shortly.

CH Off Air: This channel is not currently in service. Tune in to another channel.

CH Unavail: This previously assigned channel is no longer assigned. Tune to another station. If this station was one of the presets, choose another station for that preset button.

No Info: No artist, song title, category, or text information is available at this time on this channel. The system is working properly.

Downloaded from www.Manualslib.com manuals search engine

Not Found: There are no channels available for the selected category. The system is working properly.

XM Locked: The XM™ receiver in your vehicle may have previously been in another vehicle. For security purposes, XM™ receivers cannot be swapped between vehicles. If this message is received after having your vehicle serviced, check with your dealer/retailer.

Radio ID: If tuned to channel 0, this message will alternate with the XM Radio 8 digit radio ID label. This label is needed to activate the service.

Unknown: If this message is received when tuned to channel 0, there may be a receiver fault. Consult with your dealer/retailer.

Chk XMRcvr: If this message does not clear within a short period of time, the receiver may have a fault. Consult with your dealer/retailer.

Navigation/Radio System

Your vehicle may have a navigation radio system.

The navigation system has built-in features intended to minimize driver distraction. Technology alone, no matter how advanced, can never replace your own judgment. See the Navigation System manual for some tips to help you reduce distractions while driving.

Theft-Deterrent Feature

THEFTLOCK® is designed to discourage theft of your vehicle's radio. The feature works automatically by learning a portion of the Vehicle Identification Number (VIN). If the radio is moved to a different vehicle, it does not operate and LOCKED displays.

When the radio and vehicle are turned off, the blinking red light indicates that THEFTLOCK® is armed.

With THEFTLOCK® activated, the radio does not operate if stolen.

Radio Reception

Frequency interference and static during normal radio reception can occur if items such as cellphone 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.

Downloaded from www.Manualslib.com manuals search engine

AM

The range for most AM stations is greater than for FM, especially at night. The longer range can cause station frequencies to interfere with each other. For better radio reception, most AM radio stations boost the power levels during the day, and then reduce these levels during the night. Static can also occur when things like storms and power lines interfere with radio reception. When this happens, try reducing the treble on your radio.

FM Stereo

FM stereo gives the best sound, but FM signals reach only about 10 to 40 miles (16 to 65 km). Tall buildings or hills can interfere with FM signals, causing the sound to fade in and out.

XM™ Satellite Radio Service

XM™ Satellite Radio Service gives digital radio reception from coast-to-coast in the 48 contiguous United States, and in Canada. Just as with FM, tall buildings or hills can interfere with satellite radio signals, causing the sound to fade in and out. In addition, traveling or standing under heavy foliage, bridges, garages, or tunnels may cause loss of the XM™ signal for a period of time. The radio may display NO SIGNAL to indicate interference.

Fixed Mast Antenna

The fixed mast antenna can withstand most car washes without being damaged. If the mast should ever become slightly bent, straighten it out by hand. If the mast is badly bent, replace it.

Check occasionally to make sure the mast is still tightened to its base. If tightening is required, tighten by hand, then with a wrench one quarter turn.

XM™ Satellite Radio Antenna System

The XM™ Satellite Radio antenna is located on the roof of your vehicle. Keep this antenna clear of snow and ice build up for clear radio reception.

If your vehicle has a sunroof, the performance of the XM™ system may be affected if the sunroof is open.

Loading items onto the roof of your vehicle can interfere with the performance of the XM™ system. Make sure the XM™ Satellite Radio antenna is not obstructed.

Downloaded from www.Manualslib.com manuals search engine

Section 4 Driving Your Vehicle

Your Driving, the Road, and Your Vehicle 4-2
- Defensive Driving 4-2
- Drunk Driving 4-2
- Control of a Vehicle 4-3
- Braking 4-3
- Antilock Brake System (ABS) 4-4
- Braking in Emergencies 4-5
- Traction Control System (TCS) 4-5
- Locking Rear Axle 4-6
- StabiliTrak® System 4-7
- Steering 4-8
- Off-Road Recovery 4-10
- Passing 4-10
- Loss of Control 4-10
- Off-Road Driving 4-12
- Assist Steps 4-31
- Driving at Night 4-32
- Driving in Rain and on Wet Roads 4-33
- Before Leaving on a Long Trip 4-34
- Highway Hypnosis 4-34
- Hill and Mountain Roads 4-34
- Winter Driving 4-35
- If Your Vehicle is Stuck in Sand, Mud, Ice, or Snow 4-39
- Rocking Your Vehicle to Get It Out 4-40
- Recovery Loops 4-40
- Loading Your Vehicle 4-42

Towing 4-48
- Towing Your Vehicle 4-48
- Recreational Vehicle Towing 4-48
- Towing a Trailer 4-50
- Trailer Recommendations 4-62

Downloaded from www.Manualslib.com manuals search engine

Your Driving, the Road, and Your Vehicle

Defensive Driving

Defensive driving means “always expect the unexpected.” The first step in driving defensively is to wear your safety belt — See *Safety Belts: They Are for Everyone on page 1-10*.

⚠ CAUTION:

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. In addition:

- **Allow enough following distance between you and the driver in front of you.**
- **Focus on the task of driving.**

Driver distraction can cause collisions resulting in injury or possible death. These simple defensive driving techniques could save your life.

Drunk Driving

⚠ CAUTION:

Drinking and then driving is very dangerous. Your reflexes, perceptions, attentiveness, and judgment can be affected by even a small amount of alcohol. You can have a serious — or even fatal — collision if you drive after drinking. Do not drink and drive or ride with a driver who has been drinking. Ride home in a cab; or if you are with a group, designate a driver who will not drink.

Death and injury associated with drinking and driving is a global tragedy.

Alcohol affects four things that anyone needs to drive a vehicle: judgment, muscular coordination, vision, and attentiveness.

Police records show that almost 40 percent of all motor vehicle-related deaths involve alcohol. In most cases, these deaths are the result of someone who was drinking and driving. In recent years, more than 17,000 annual motor vehicle-related deaths have been associated with the use of alcohol, with about 250,000 people injured.

Downloaded from www.Manualslib.com manuals search engine

For persons under 21, it is against the law in every U.S. state to drink alcohol. There are good medical, psychological, and developmental reasons for these laws.

The obvious way to eliminate the leading highway safety problem is for people never to drink alcohol and then drive.

Medical research shows that alcohol in a person's system can make crash injuries worse, especially injuries to the brain, spinal cord, or heart. This means that when anyone who has been drinking — driver or passenger — is in a crash, that person's chance of being killed or permanently disabled is higher than if the person had not been drinking.

Control of a Vehicle

The following three systems help to control your vehicle while driving — brakes, steering, and accelerator. At times, as when driving on snow or ice, it is easy to ask more of those control systems than the tires and road can provide. Meaning, you can lose control of your vehicle. See *Traction Control System (TCS) on page 4-5*.

Adding non-dealer/non-retailer accessories can affect your vehicle's performance. See *Accessories and Modifications on page 5-3*.

Braking

See *Brake System Warning Light on page 3-33*.

Braking action involves perception time and reaction time. First, you have to decide to push on the brake pedal. That is perception time. Then you have to bring up your foot and do it. That is reaction time.

Average reaction time is about three-fourths of a second. But that is only an average. It might be less with one driver and as long as two or three seconds or more with another. Age, physical condition, alertness, coordination, and eyesight all play a part. So do alcohol, drugs, and frustration. But even in three-fourths of a second, a vehicle moving at 60 mph (100 km/h) travels 66 feet (20 m). That could be a lot of distance in an emergency, so keeping enough space between your vehicle and others is important.

And, of course, actual stopping distances vary greatly with the surface of the road, whether it is pavement or gravel; the condition of the road, whether it is wet, dry, or icy; tire tread; the condition of the brakes; the weight of the vehicle; and the amount of brake force applied.

Avoid needless heavy braking. Some people drive in spurts — heavy acceleration followed by heavy braking — rather than keeping pace with traffic.

Downloaded from www.Manualslib.com manuals search engine

This is a mistake. The brakes might not have time to cool between hard stops. The brakes will wear out much faster if you do a lot of heavy braking. If you keep pace with the traffic and allow realistic following distances, you will eliminate a lot of unnecessary braking. That means better braking and longer brake life.

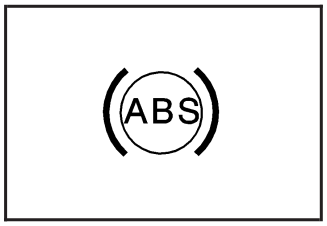
If your vehicle ever loses electrical power while you are driving, brake normally but do not pump the brakes. If you do, the pedal could get harder to push down. If your vehicle loses electrical power, you will still have some power brake assist. But you will use it when you brake. Once the power assist is used up, it can take longer to stop, the brake pedal will be harder to push, and you might experience longer pedal travel.

Adding non-dealer/non-retailer accessories can affect your vehicle's performance. See *Accessories and Modifications on page 5-3*.

Antilock Brake System (ABS)

Your vehicle has the Antilock Brake System (ABS), an advanced electronic braking system that will help prevent a braking skid.

When you start the engine and begin to drive away, ABS will check itself. You might hear a momentary motor or clicking noise while this test is going on. This is normal.



If there is a problem with ABS, this warning light will stay on. See *Antilock Brake System Warning Light on page 3-34*.

Let us say the road is wet and you are driving safely. Suddenly, an animal jumps out in front of you. You slam on the brakes and continue braking. Here is what happens with ABS:

A computer senses that wheels are slowing down. If one of the wheels is about to stop rolling, the computer will separately work the brakes at each wheel.

Downloaded from www.Manualslib.com manuals search engine

ABS can change the brake pressure faster than any driver could. The computer is programmed to make the most of available tire and road conditions. This can help you steer around the obstacle while braking hard.

As you brake, the computer keeps receiving updates on wheel speed and controls braking pressure accordingly.

Remember: ABS does not change the time you need to get your foot up to the brake pedal or always decrease stopping distance. If you get too close to the vehicle in front of you, you will not have time to apply the brakes if that vehicle suddenly slows or stops. Always leave enough room up ahead to stop, even though you have ABS.

Using ABS

Do not pump the brakes. Just hold the brake pedal down firmly and let antilock work for you. You might feel the brakes vibrate or notice some noise, but this is normal.

Braking in Emergencies

With ABS, you can steer and brake at the same time. In many emergencies, steering can help you more than even the very best braking.

Traction Control System (TCS)

Your vehicle has a Traction Control System (TCS) that limits wheel spin. This is especially useful in slippery road conditions. The system operates only if it senses that any of the wheels are spinning or beginning to lose traction. When this happens, the system applies the brakes to limit wheel spin and also reduces engine power. You may feel or hear the system working, but this is normal.

The Traction Control System may operate on dry roads under some conditions. When this happens, you may notice a reduction in acceleration or a pumping sound. This is normal and doesn't mean there's a problem with your vehicle. Examples of these conditions include hard acceleration in a turn, an abrupt upshift or downshift of the transmission or driving on rough roads.

If your vehicle is in cruise control when the TCS begins to limit wheel spin, the cruise control will automatically disengage. When road conditions allow you to safely use it again, you may re-engage the cruise control. See *Cruise Control on page 3-11*.

If your vehicle has a Driver information Center (DIC), a TRACTION FAULT message will appear when a Traction Control System or Anti-Lock Brake System problem has been detected and the vehicle needs service. See *DIC Warnings and Messages on page 3-43* for more information.

Downloaded from www.Manualslib.com manuals search engine

When this message is on, the system will not limit wheel spin. Adjust your driving accordingly.

The traction control system automatically comes on whenever you start your vehicle. To limit wheel spin, especially in slippery road conditions, you should always leave the system on. But you can turn the traction control system off if you ever need to.

To turn the system off, press and hold the TCS button for five seconds.

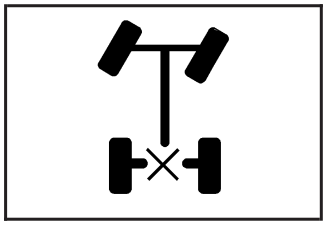
This light will come on steady when the traction control system has been turned off. This light flashes when TCS is active.

If you press and hold the TC button for five seconds, the traction control system will turn off and a TRAC OFF message will appear on the DIC. Press the TC button again to turn the system back on. The TRAC OFF message will then go off. The traction control system will reset itself at each ignition cycle.

Adding non-dealer/non-retailer accessories can affect your vehicle's performance. See *Accessories and Modifications on page 5-3* for more information.

Locking Rear Axle

Your vehicle may have this feature. The locking rear axle can give your vehicle additional traction from the rear wheels when traveling in off-road situations such as mud, snow, sand, steep hills and uneven terrain.



The button used to turn this feature on or off is located to the right of the transfer case buttons on the center of the instrument panel.

Downloaded from www.Manualslib.com manuals search engine

To lock the rear axle, do the following:

1. Place the transfer case in the 4LO Lock mode. This is the only mode which will allow the rear axle to lock. See *Full-Time Four-Wheel Drive on page 2-27* for more information regarding the transfer case and 4LO Lock mode.
2. Press the button with the vehicle stopped or moving less than 2 mph (3 km/h).

You must wait for the light in the button to stop flashing and remain illuminated before the rear axle is locked.

Notice: **If you try to lock the rear axle while your vehicle is stuck and the tires are spinning, you could damage your vehicle's drivetrain. The repairs would not be covered by your warranty. Always lock the rear axle before attempting situations and/or navigating terrain which could possibly cause the vehicle to become stuck.**

The locking rear axle will be disengaged when the wheel speed is greater than 20 mph (32 km/h), if the vehicle's battery is low and/or the transfer case is shifted out of 4LO Lock mode.

Notice: **If you lock the rear axle while driving on pavement, you could damage your vehicle's drivetrain. The repairs would not be covered by your warranty. Do not use the locking rear axle on pavement. If you need four-wheel drive when traveling on pavement, use only 4HI.**

StabiliTrak® System

Your vehicle has a vehicle stability enhancement system called StabiliTrak®. It is an advanced computer controlled system that assists you with directional control of the vehicle in difficult driving conditions.

StabiliTrak® activates when the computer senses a discrepancy between your intended path and the direction the vehicle is actually traveling. 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.

When you first start your vehicle and begin to drive away, the system performs several diagnostic checks to insure there are no problems. You may hear or feel the system working. This is normal and does not mean there is a problem with your vehicle.

If there is a problem detected with StabiliTrak®, a SERVICE STAB SYS message will be displayed on the Driver Information Center (DIC). See *DIC Warnings and Messages on page 3-43* for more information. When this message is displayed, the system is not operational. Adjust your driving accordingly.

Downloaded from www.Manualslib.com manuals search engine

StabiliTrak® comes on automatically whenever you start your vehicle. However, when the transfer case is placed in Four-Wheel-Low Lock mode, StabiliTrak® is automatically disabled. See *Full-Time Four-Wheel Drive on page 2-27* for more information. To help assist you with directional control of the vehicle, you should always leave the system on. You can turn StabiliTrak® off if you ever need to using the TC (traction control) on/off button. If you press and hold the TC button for five seconds, the StabiliTrak® system and the traction control system will turn off. When this is done, the STAB SYS OFF message will be displayed on the DIC. Press the TC button again to turn StabiliTrak® back on. See *Traction Control System (TCS) on page 4-5*.

If your vehicle is in cruise control when the StabiliTrak® activates, the cruise control will automatically disengage. When road conditions allow you to safely use it again, you may reengage the cruise control. See *Cruise Control on page 3-11* for more information.

Steering

Power Steering

If you lose power steering assist because the engine stops or the system is not functioning, you can steer but it will take much more effort.

Steering Tips

It is important to take curves at a reasonable speed.

A lot of the “driver lost control” accidents mentioned on the news happen on curves. Here is why:

Experienced driver or beginner, each of us is subject to the same laws of physics when driving on curves. The traction of the tires against the road surface makes it possible for the vehicle to change its path when you turn the front wheels. If there is no traction, inertia will keep the vehicle going in the same direction. If you have ever tried to steer a vehicle on wet ice, you will understand this.

The traction you can get in a curve depends on the condition of the tires and the road surface, the angle at which the curve is banked, and your speed. While you are in a curve, speed is the one factor you can control.

Suppose you are steering through a sharp curve. Then you suddenly accelerate. Both control systems — steering and acceleration — have to do their work where the tires meet the road. Adding the sudden acceleration can demand too much of those places. You can lose control. See *Traction Control System (TCS) on page 4-5* and *StabiliTrak® System on page 4-7*.

What should you do if this ever happens? Ease up on the accelerator pedal, steer the vehicle the way you want it to go, and slow down.

Downloaded from www.Manualslib.com manuals search engine

Speed limit signs near curves warn that you should adjust your speed. Of course, the posted speeds are based on good weather and road conditions. Under less favorable conditions you will want to go slower.

If you need to reduce your speed as you approach a curve, do it before you enter the curve, while the front wheels are straight ahead.

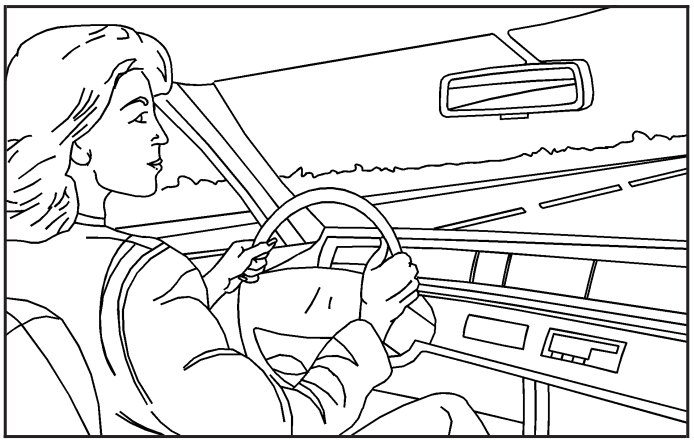
Try to adjust your speed so you can drive through the curve. Maintain a reasonable, steady speed. Wait to accelerate until you are out of the curve, and then accelerate gently into the straightaway.

Adding non-dealer/non-retailer accessories can affect your vehicle's performance. See *Accessories and Modifications on page 5-3*.

Steering in Emergencies

There are times when steering can be more effective than braking. For example, you come over a hill and find a truck stopped in your lane, or a car suddenly pulls out from nowhere, or a child darts out from between parked cars and stops right in front of you. You can avoid these problems by braking — if you can stop in time. But sometimes you cannot; there is not room. That is the time for evasive action — steering around the problem.

Your vehicle can perform very well in emergencies like these. First apply the brakes. See *Braking on page 4-3*. It is better to remove as much speed as you can from a possible collision. Then steer around the problem, to the left or right depending on the space available.



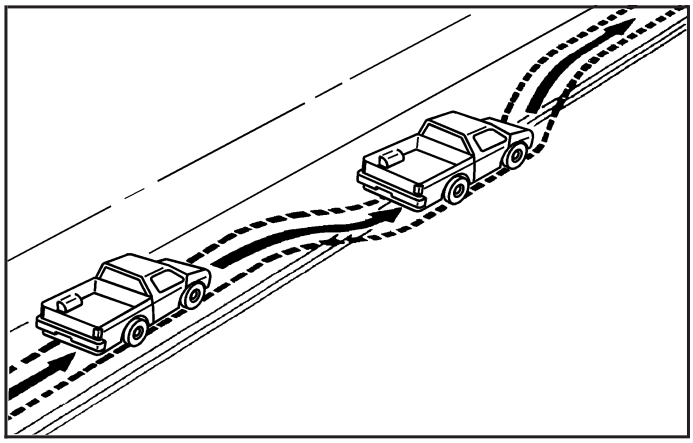
An emergency like this requires close attention and a quick decision. If you are holding the steering wheel at the recommended 9 and 3 o'clock positions, you can turn it a full 180 degrees very quickly without removing either hand. But you have to act fast, steer quickly, and just as quickly straighten the wheel once you have avoided the object.

The fact that such emergency situations are always possible is a good reason to practice defensive driving at all times and wear safety belts properly.

Downloaded from www.Manualslib.com manuals search engine

Off-Road Recovery

You may find that your right wheels have dropped off the edge of a road onto the shoulder while you are driving.



If the level of the shoulder is only slightly below the pavement, recovery should be fairly easy. Ease off the accelerator and then, if there is nothing in the way, steer so that your vehicle straddles the edge of the pavement. You can turn the steering wheel up to one-quarter turn until the right front tire contacts the pavement edge. Then turn the steering wheel to go straight down the roadway.

Passing

Passing another vehicle on a two-lane road can be dangerous. To reduce the risk of danger while passing, we suggest the following tips:

- Look down the road, to the sides, and to crossroads for situations that might affect a successful pass. If in doubt, wait.
- Watch for traffic signs, pavement markings, and lines that could indicate a turn or an intersection. Never cross a solid or double-solid line on your side of the lane.
- Do not get too close to the vehicle you want to pass. Doing so can reduce your visibility.
- Wait your turn to pass a slow vehicle.
- When you are being passed, ease to the right.

Loss of Control

Let us review what driving experts say about what happens when the three control systems — brakes, steering, and acceleration — do not have enough friction where the tires meet the road to do what the driver has asked.

In any emergency, do not give up. Keep trying to steer and constantly seek an escape route or area of less danger.

Downloaded from www.Manualslib.com manuals search engine

Skidding

In a skid, a driver can lose control of the vehicle. Defensive drivers avoid most skids by taking reasonable care suited to existing conditions, and by not overdriving those conditions. But skids are always possible.

The three types of skids correspond to your vehicle's three control systems. In the braking skid, the wheels are not rolling. In the steering or cornering skid, too much speed or steering in a curve causes tires to slip and lose cornering force. And in the acceleration skid, too much throttle causes the driving wheels to spin.

A cornering skid is best handled by easing your foot off the accelerator pedal.

Remember: Any traction control system helps avoid only the acceleration skid. If your traction system is off, then an acceleration skid is also best handled by easing your foot off the accelerator pedal.
See *Traction Control System (TCS) on page 4-5* and *StabiliTrak® System on page 4-7*.

If your vehicle starts to slide, ease your foot off the accelerator pedal and quickly steer the way you want the vehicle to go. If you start steering quickly enough, your vehicle may straighten out. Always be ready for a second skid if it occurs.

Of course, traction is reduced when water, snow, ice, gravel, or other material is on the road. For safety, you will want to slow down and adjust your driving to these conditions. It is important to slow down on slippery surfaces because stopping distance will be longer and vehicle control more limited.

While driving on a surface with reduced traction, try your best to avoid sudden steering, acceleration, or braking, including reducing vehicle speed by shifting to a lower gear. Any sudden changes could cause the tires to slide. You may not realize the surface is slippery until your vehicle is skidding. Learn to recognize warning clues — such as enough water, ice, or packed snow on the road to make a mirrored surface — and slow down when you have any doubt.

Remember: Any Antilock Brake System (ABS) helps avoid only the braking skid.

Downloaded from www.Manualslib.com manuals search engine

Off-Road Driving

This off-road guide is meant to provide advice for when you drive your vehicle off paved roads. Also, see *Braking on page 4-3*.

Off-road driving can be great fun. But it does have some definite hazards. The greatest of these is the terrain itself.

The airbag system is designed to work properly under a wide range of conditions, including off-road usage. Observe safe driving speeds, especially on rough terrain. As always, wear your safety belt.

“Off-roading” means you have left the great North American road system behind. Traffic lanes are not marked. Curves are not banked. There are no road signs. Surfaces can be slippery, rough, uphill or downhill. In short, you have gone right back to nature.

Off-road driving involves some new skills. And that is why it is very important that you read this guide. You will find many driving tips and suggestions. These will help make your off-road driving safer and more enjoyable.

Before You Go Off-Roading

There are some things to do before you go out. For example, be sure to have all necessary maintenance and service work done. Check to make sure all underbody shields are properly attached. Make sure any equipment you may need — first aid kit, cell phone, flashlight, etc. — is securely stored in the vehicle. Be sure you read all the information about your four-wheel-drive vehicle in this manual. Is there enough fuel? Is the spare tire fully inflated? Are the fluid levels up where they should be? What are the local laws that apply to off-roading where you will be driving? If you do not know, you should check with law enforcement people in the area. Will you be on someone’s private land? If so, be sure to get the necessary permission.

Downloaded from www.Manualslib.com manuals search engine

Loading Your Vehicle for Off-Road Driving

⚠ CAUTION:

- **Cargo on the load floor piled higher than the seatbacks can be thrown forward during a sudden stop. You or your passengers could be injured. Keep cargo below the top of the seatbacks.**
- **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.**
- **Heavy loads on the roof raise the vehicle's center of gravity, making it more likely to roll over. You can be seriously or fatally injured if the vehicle rolls over. Put heavy loads inside the cargo area, not on the roof. Keep cargo in the cargo area as far forward and low as possible.**

There are some important things to remember about how to load your vehicle.

- The heaviest things should be on the load floor and forward of your rear axle. Put heavier items in the rear area, as far forward as you can.
- Be sure the load is secured properly, so driving on the off-road terrain does not toss things around.

You will find other important information in this manual. See *Loading Your Vehicle on page 4-42* and *Tires on page 5-54*.

Downloaded from www.Manualslib.com manuals search engine

Environmental Concerns

Off-road driving can provide wholesome and satisfying recreation. However, it also raises environmental concerns. We recognize these concerns and urge every off-roader to follow these basic rules for protecting the environment:

- Always use established trails, roads, and areas that have been specially set aside for public off-road recreational driving; obey all posted regulations.
- Avoid any driving practice that could damage the environment — shrubs, flowers, trees, grasses — or disturb wildlife. This includes wheel-spinning, breaking down trees, or unnecessary driving through streams or over soft ground.
- Always carry a litter bag — make sure all refuse is removed from any campsite before leaving.
- Take extreme care with open fires (where permitted), camp stoves, and lanterns.
- Never park your vehicle over dry grass or other combustible materials that could catch fire from the heat of the vehicle's exhaust system.

Traveling to Remote Areas

It makes sense to plan your trip, especially when going to a remote area. Know the terrain and plan your route. You are much less likely to get bad surprises. Get accurate maps of trails and terrain. Try to learn of any blocked or closed roads.

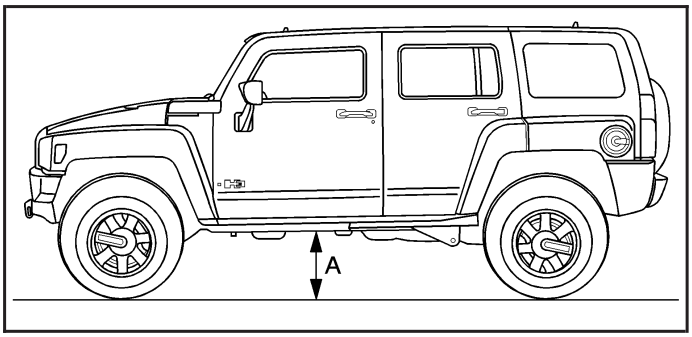
It is also a good idea to travel with at least one other vehicle. If something happens to one of them, the other can help quickly.

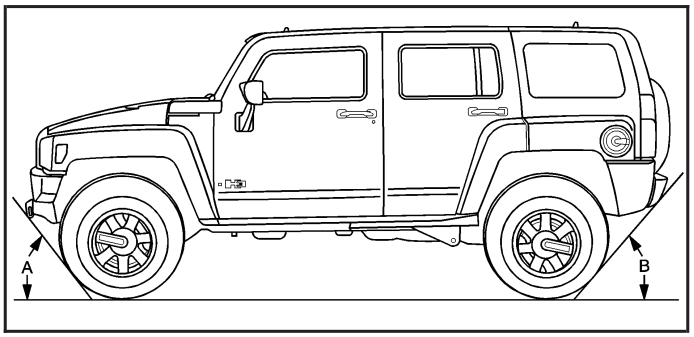
Does your vehicle have a winch? If so, be sure to read the winch instructions. In a remote area, a winch can be handy if you get stuck. But you will want to know how to use it properly.

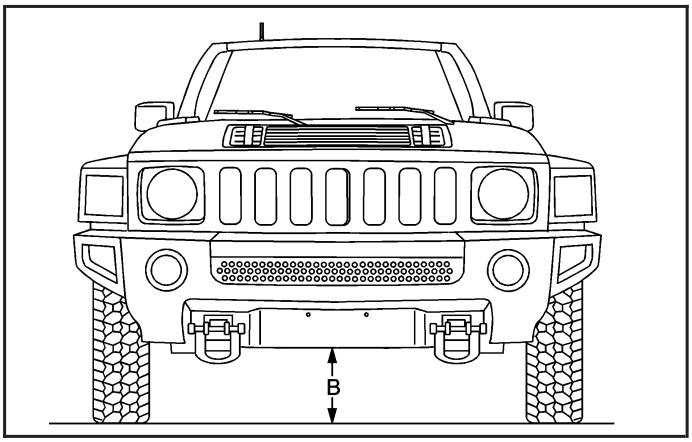
High Mobility Characteristics

Your vehicle has a 10 inch (25.4 cm) running ground clearance (A), a 9 inch (22.8 cm) axle to ground clearance (B), and a low center of gravity.

Downloaded from www.Manualslib.com manuals search engine

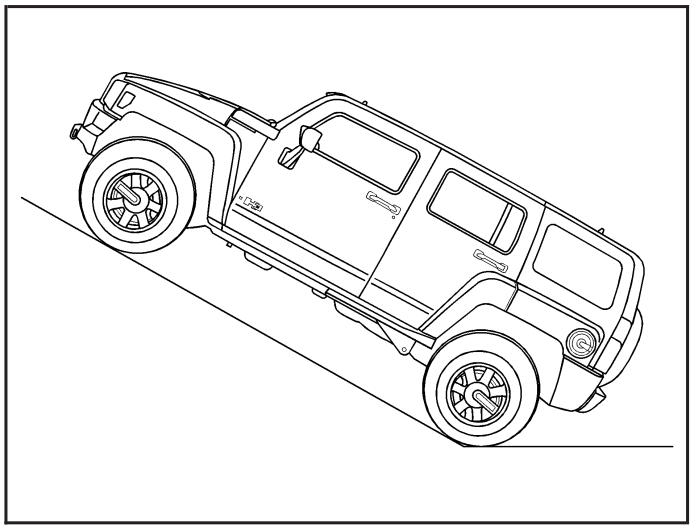




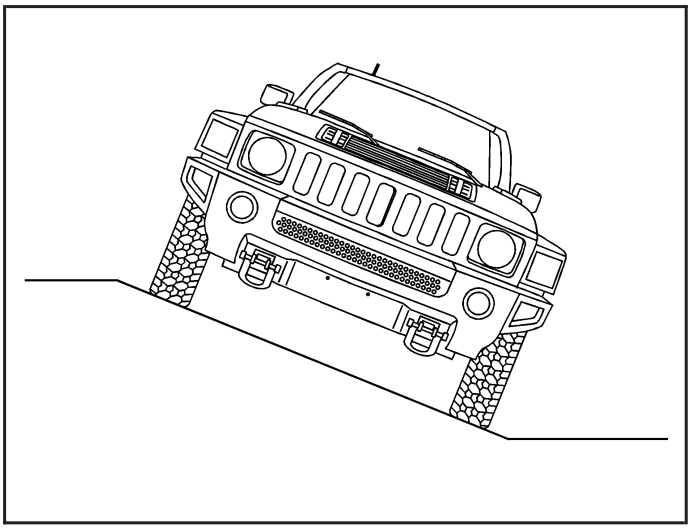


Your vehicle has an approximate approach angle (A) of 37.5 degrees and a departure angle (B) of 35.5 degrees, depending on suspension packages.

Downloaded from www.Manualslib.com manuals search engine

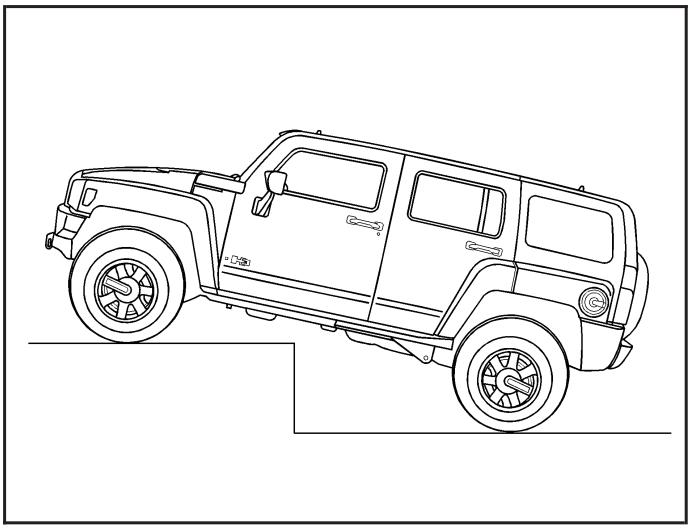


Design specifications required a minimum gradeability of 60% (31 degrees) slope, with the vehicle fully loaded, on high friction surfaces with maximum vehicle speed not to exceed 6 mph (9.7 km/h). The vehicle is expected to traverse this grade only for short durations. Never stop and idle the vehicle or park it on this grade.



Also, your vehicle should be able to traverse a 40% (22 degrees) side slope at 6 mph (9.7 km/h) while fully loaded on high friction surfaces.

Downloaded from www.Manualslib.com manuals search engine



Your vehicle can climb a 16 inch (40.6 cm) vertical step. Step climbing is best done by approaching the step at an angle rather than straight on.

Brake and Accelerator Operation Techniques for Off-Road Driving

For logs, walls, rocks, severe ditches, hills, sand, etc.

1. Bring the vehicle to a complete stop. Do not rev the engine.
2. Select the proper transmission and transfer case gear range; usually FIRST (1) gear, Four-Wheel-Low Lock for such obstacles.
3. If wheel spin is experienced, maintain steady throttle, with your foot off the brake pedal, to allow the Traction Control System (TCS) to control the wheel spin. TCS might not operate if the brakes are applied.
4. If wheel spin cannot be controlled by the TCS system, fully press the brake pedal with your left foot so all wheel spin is stopped.
5. Back away from the obstacle so that a new approach can be tried.
6. As the first wheel crosses the obstacle, be prepared to alternate the brake and accelerator pedal to maintain control and avoid tire drop-off from obstacles. Repeat this process for the other wheels.

Downloaded from www.Manualslib.com manuals search engine

For mounds, washouts, loose up-hill slopes, ditches, etc.

When wheel spin occurs as the vehicle is moving, the driver may notice a slight shaking or shuddering of the vehicle. This should be stopped as soon as possible to prevent damage to vehicle components. This is the indication that a loss of traction is occurring on this terrain. The operator should:

1. Reduce speed and apply the brakes.
2. Assess the terrain properly and adjust vehicle speed and gear ranges accordingly: Four-Wheel High position for higher speeds and Four-Wheel-Low Lock for more torque and lower speeds. Transmission FIRST (1) gear is generally recommended.
3. Apply slight pressure to the brake when the shaking or shuddering sensation is felt, keeping the vehicle moving in a controlled manner.
4. Be prepared to alternate between braking and accelerating through the adverse terrain.

Getting Familiar with Off-Road Driving

It is a good idea to practice in an area that is safe and close to home before you go into the wilderness. Off-road driving does require some new and different skills. Here is what we mean.

Tune your senses to different kinds of signals. Your eyes, for example, need to constantly sweep the terrain for unexpected obstacles. Your ears need to listen for unusual tire or engine sounds. With your arms, hands, feet, and body, you will need to respond to vibrations and vehicle bounce.

Controlling your vehicle is the key to successful off-road driving. One of the best ways to control your vehicle is to control your speed. Here are some things to keep in mind. At higher speeds:

- You approach things faster and you have less time to scan the terrain for obstacles.
- You have less time to react.
- You have more vehicle bounce when you drive over obstacles.
- You will need more distance for braking, especially since you are on an unpaved surface.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

When you are 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. So, whether you are driving on or off the road, you and your passengers should wear safety belts.

Scanning the Terrain

Off-road driving can take you over many different kinds of terrain. You need to be familiar with the terrain and its many different features. Here are some things to consider.

Surface Conditions: Off-roading can take you over hard-packed dirt, gravel, rocks, grass, sand, mud, snow, or ice. Each of these surfaces affects the steering, acceleration, and braking of your vehicle in different ways. Depending upon the kind of surface you are on, you may experience slipping, sliding, wheel spinning, delayed acceleration, poor traction, and longer braking distances.

Surface Obstacles: Unseen or hidden obstacles can be hazardous. A rock, log, hole, rut, or bump can startle you if you are not prepared for them. Often these obstacles are hidden by grass, bushes, snow, or even the rise and fall of the terrain itself. Here are some things to consider:

- Is the path ahead clear?
- Will the surface texture change abruptly up ahead?
- Does the travel take you uphill or downhill? There is more discussion of these subjects later.
- Will you have to stop suddenly or change direction quickly?

When you drive over obstacles or rough terrain, keep a firm grip on the steering wheel. Ruts, troughs, or other surface features can jerk the wheel out of your hands if you are not prepared.

When possible, it is a good practice to survey the landscape ahead on foot prior to driving to observe hidden obstacles.

When you drive over bumps, rocks, or other obstacles, the wheels can leave the ground. If this happens, even with one or two wheels, you cannot control the vehicle as well or at all.

Downloaded from www.Manualslib.com manuals search engine

Because you will be on an unpaved surface, it is especially important to avoid sudden acceleration, sudden turns, or sudden braking.

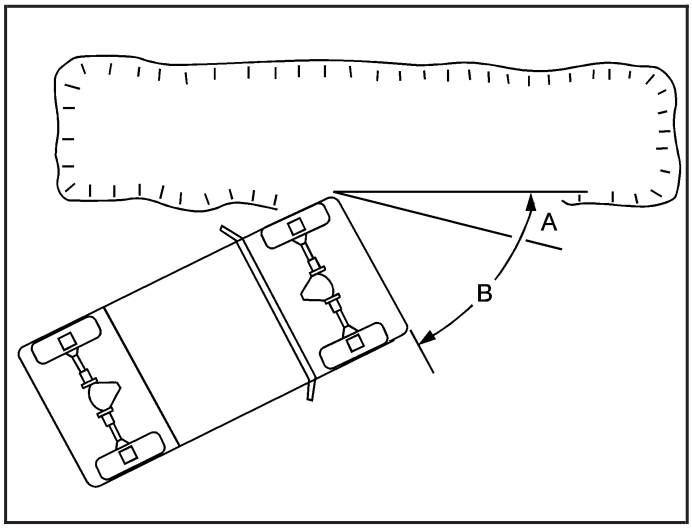
In a way, off-road driving requires a different kind of alertness from driving on paved roads and highways. There are no road signs, posted speed limits, or signal lights. You have to use your own good judgment about what is safe and what is not.

Drinking and driving can be very dangerous on any road. And this is certainly true for off-road driving. At the very time you need special alertness and driving skills, your reflexes, perceptions, and judgment can be affected by even a small amount of alcohol. You could have a serious — or even fatal — accident if you drink and drive or ride with a driver who has been drinking. See *Drunk Driving on page 4-2*.

Crossing Obstacles

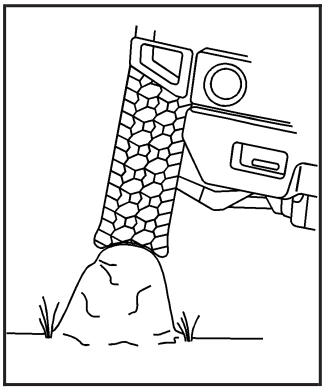
Approach Angle — a Key to Mobility

If you encounter a large dip in the terrain, do not enter straight on; enter at an angle — 15 degrees minimum approach (A), 75 degrees maximum approach angle (B). For very large dips, ditches, or small washes, coast in, using the engine as a brake (transmission and transfer case lowest gears). Then, use the low ranges in the transmission and transfer case to power out.



Downloaded from www.Manualslib.com manuals search engine

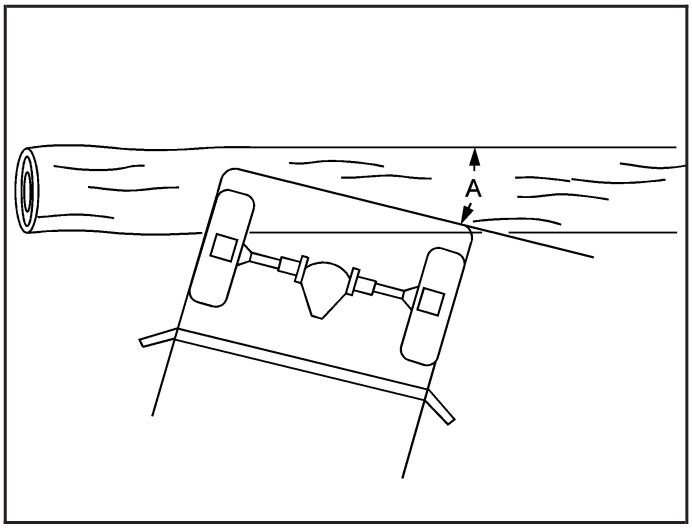
Roll Your Tires Over Large Rocks



Do not straddle large rocks; drive over them, letting the tire cover the rock. The tread of the tire is thicker and tougher than the sidewall of the tire and is more resilient to impact than underbody components.

Log Crossing

Using the proper technique, your vehicle will cross logs up to 10 inches (25.4 cm) in diameter. Approach the log at approximately a 15 degree angle (A) with the transmission in FIRST (1) and the transfer case in Four-Wheel-Low Lock and “walk” your vehicle over, one tire at a time. It may be necessary to modulate your brake pedal and accelerator to avoid spin-out. Ease the vehicle down from the log with your brake.



Downloaded from www.Manualslib.com manuals search engine

Driving on Off-Road Hills

Off-road driving often takes you up, down, or across a hill. Driving safely on hills requires good judgment and an understanding of what your vehicle can and cannot do. There are some hills that simply cannot be driven, no matter how well built the vehicle.

⚠ CAUTION:

Many hills are simply too steep for any vehicle. If you drive up them, you will stall. If you drive down them, you cannot control your speed. If you drive across them, you will roll over. You could be seriously injured or killed. If you have any doubt about the steepness, do not drive the hill.

Approaching a Hill

When you approach a hill, you need to decide if it is one of those hills that is just too steep to climb, descend, or cross. Steepness can be hard to judge. On a very small hill, for example, there may be a smooth, constant incline with only a small change in elevation where you can easily see all the way to the top. On a large hill, the incline may get steeper as you near the top, but you may not see this because the crest of the hill is hidden by bushes, grass, or shrubs.

Here are some other things to consider as you approach a hill:

- Is there a constant incline, or does the hill get sharply steeper in places?
- Is there good traction on the hillside, or will the surface cause tire slipping?
- Is there a straight path up or down the hill so you will not have to make turning maneuvers?
- Are there obstructions on the hill that can block your path, such as boulders, trees, logs, or ruts?
- What is beyond the hill? Is there a cliff, an embankment, a drop-off, a fence? Get out and walk the hill if you do not know. It is the smart way to find out.
- Is the hill simply too rough? Steep hills often have ruts, gullies, troughs, and exposed rocks because they are more susceptible to the effects of erosion.

Downloaded from www.Manualslib.com manuals search engine

Driving Uphill

Once you decide you can safely drive up the hill, you need to take some special steps:

- Use transmission and transfer case low gear and get a firm grip on the steering wheel.
- Get a smooth start up the hill and try to maintain your speed. Do not use more power than you need, because you do not want the wheels to start spinning or sliding.
- Let the traction system work to control any wheel slippage. The traction control system allows for moderate wheel spin with some capability to dig in and power up the hill.
- Do not continue if the vehicle shudders or exhibits suspension hopping. This can cause damage to the driveline or suspension components. Improper driving technique is not covered by your vehicle warranty.

⚠ CAUTION:

Turning or driving across steep hills can be dangerous. You could lose traction, slide sideways, and possibly roll over. You could be seriously injured or killed. When driving up hills, always try to go straight up.

- Try to drive straight up the hill if at all possible. If the path twists and turns, you might want to find another route.
- Ease up on your speed as you approach the top of the hill.
- Attach a flag to the vehicle to make you more visible to approaching traffic on trails or hills.

Downloaded from www.Manualslib.com manuals search engine

- Sound the horn as you approach the top of the hill to let opposing traffic know you are there.
- Use your headlamps even during the day. They make your vehicle more visible to oncoming traffic.

⚠ CAUTION:

Driving to the top (crest) of a hill at full 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.

There are some things you should do if the vehicle stalls, or is about to stall, and you cannot make it up the hill:

- Push the brake pedal to stop the vehicle and keep it from rolling backwards. Also, apply the parking brake.
- If your engine is still running, shift the transmission to REVERSE (R), release the parking brake, and slowly back down the hill in REVERSE (R).
- If your engine has stopped running, you will need to restart it. With the brake pedal pressed, apply the parking brake. If you have an automatic transmission, shift the transmission to PARK (P). Restart the engine. Then, shift to REVERSE (R), release the parking brake, and slowly back down the hill as straight as possible in REVERSE (R).
- As you are backing down the hill, put your left hand on the steering wheel at the 12 o'clock position. This way, you will be able to tell if your wheels are straight and maneuver as you back down. It is best that you back down the hill with your wheels straight rather than in the left or right direction. Turning the wheel too far to the left or right will increase the possibility of a rollover.

Downloaded from www.Manualslib.com manuals search engine

There are also some things you must not do if you stall, or are about to stall, when going up a hill:

- Never attempt to prevent a stall by shifting into NEUTRAL (N) to rev-up the engine and regain forward momentum. This will not work. Your vehicle will roll backwards very quickly and you could go out of control.

  Instead, apply the regular brake to stop the vehicle. Then apply the parking brake. Shift to REVERSE (R), release the parking brake, and slowly back straight down.

- Never attempt to turn around if you are about to stall when going up a hill. If the hill is steep enough to stall your vehicle, it is steep enough to cause you to roll over if you turn around. If you cannot make it up the hill, you must back straight down the hill.

If, after stalling, you try to back down the hill and decide you just cannot do it, set the parking brake. If you have an automatic transmission, shift to PARK (P). Turn off the engine. Leave the vehicle and go get some help. Exit on the uphill side and stay clear of the path the vehicle would take if it rolled downhill. Do not shift the transfer case to NEUTRAL when you leave the vehicle. Leave it in some gear.

⚠ CAUTION:

Shifting the transfer case to NEUTRAL can cause your vehicle to roll even if the transmission is in PARK (P), or, if you have a manual transmission, even if you are in gear. This is because the NEUTRAL position on the transfer case overrides the transmission. You or someone else could be injured. If you are going to leave your vehicle, set the parking brake and shift the transmission to PARK (P), or, put the manual transmission in FIRST (1). But do not shift the transfer case to NEUTRAL. Leave the transfer case in the Four-Wheel High, Four-Wheel-High Lock, or Four-Wheel-Low Lock position.

Downloaded from www.Manualslib.com manuals search engine

Driving Downhill

When off-roading takes you downhill, you will want to consider a number of things:

- How steep is the downhill? Will I be able to maintain vehicle control?
- What is the surface like? Smooth? Rough? Slippery? Hard-packed dirt? Gravel?
- Are there hidden surface obstacles? Ruts? Logs? Boulders?
- What is at the bottom of the hill? Is there a hidden creek bank or even a river bottom with large rocks?

If you decide you can go down a hill safely, then try to keep your vehicle headed straight down, and use a low gear. This way, engine drag can help your brakes and they will not have to do all the work. Descend slowly, keeping your vehicle under control at all times.

⚠ CAUTION:

Heavy braking when going down a hill can cause your brakes to overheat and fade. This could cause loss of control and a serious accident. Apply the brakes lightly when descending a hill and use a low gear to keep vehicle speed under control.

Downloaded from www.Manualslib.com manuals search engine

There some things not to do when driving down a hill. These are important because, if you ignore them, you could lose control and have a serious accident:

- When driving downhill, avoid turns that take you across the incline of the hill. A hill that is not too steep to drive down may be too steep to drive across. You could roll over if you do not drive straight down.
- Never go downhill with the transmission in NEUTRAL (N). This is called “free-wheeling.” Your brakes will have to do all the work and could overheat and fade.

Your vehicle is much more likely to stall when going uphill. But if it happens when going downhill:

1. Stop your vehicle by applying the regular brakes. Apply the parking brake.
2. If you have an automatic transmission, shift to PARK (P). While still braking, restart the engine.
3. Shift back to a low gear, release the parking brake, and drive straight down.
4. If the engine will not start, get out and get help.

Driving Across an Incline

Sooner or later, an off-road trail will probably go across the incline of a hill. If this happens, you have to decide whether to try to drive across the incline. Here are some things to consider:

⚠ CAUTION:

Driving across an incline that is too steep will make your vehicle roll over. You could be seriously injured or killed. If you have any doubt about the steepness of the incline, do not drive across it. Find another route instead.

- A hill that can be driven straight up or down may be too steep to drive across. When you go straight up or down a hill, the length of the wheel base — the distance from the front wheels to the rear wheels — reduces the likelihood the vehicle will tumble end over end. But when you drive across an incline, the much more narrow track width — the distance between the left and right wheels — may not prevent the vehicle from tilting and rolling over. Also, driving across an incline puts more weight on the downhill wheels. This could cause a downhill slide or a rollover.

Downloaded from www.Manualslib.com manuals search engine

- Surface conditions can be a problem when you drive across a hill. Loose gravel, muddy spots, or even wet grass can cause your tires 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.
- Hidden obstacles can make the steepness of the incline even worse. If you drive across a rock with the uphill wheels, or if the downhill wheels drop into a rut or depression, your vehicle can tilt even more.

For reasons like these, you need to decide carefully whether to try to drive across an incline. Just because the trail goes across the incline does not mean you have to drive it. The last vehicle to try it might have rolled over.

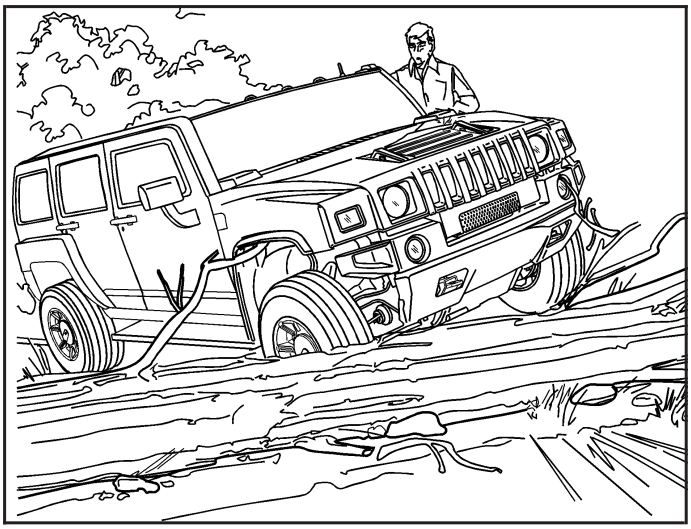
When driving across an incline that is not too steep, the vehicle can hit some loose gravel and start to slide downhill. If you feel your vehicle starting to slide sideways, turn downhill. This should help straighten out the vehicle and prevent the side slipping. However, a much better way to prevent this is to get out and "walk the course" so you know what the surface is like before you drive it.

Stalling on an Incline

⚠ CAUTION:

Getting out on the downhill (low) side of a vehicle stopped across an incline is dangerous. If the vehicle rolls over, you could be crushed or killed. Always get out on the uphill (high) side of the vehicle and stay well clear of the rollover path.

Downloaded from www.Manualslib.com manuals search engine



If your vehicle stalls when you are crossing an incline, be sure you, and any passengers, get out on the uphill side, even if the door there is harder to open. If you get out on the downhill side and the vehicle starts to roll over, you will be right in its path.

If you have to walk down the slope, stay out of the path the vehicle will take if it does roll over.

Driving in Mud, Sand, Snow, or Ice

When you drive in mud, snow, or sand, your wheels will not get good traction. You cannot accelerate as quickly, turning is more difficult, and you will need longer braking distances.

It is best to use a low gear when you are in mud — the deeper the mud, the lower the gear. In really deep mud, the idea is to keep your vehicle moving so you do not get stuck. Be careful to keep mud from building up and washing onto the engine cooling system.

When you drive on sand, you will sense a change in wheel traction. But it will depend upon how loosely packed the sand is. On loosely packed sand, such as on beaches or sand dunes, your tires will tend to sink into the sand. This has an effect on steering, accelerating, and braking. Drive at a reduced speed and avoid sharp turns or abrupt maneuvers.

Downloaded from www.Manualslib.com manuals search engine

Hard packed snow and ice offer the worst tire traction. On these surfaces, it is very easy to lose control. On wet ice, for example, the traction is so poor that you will have difficulty accelerating. And if you do get moving, poor steering and difficult braking can cause you to slide out of control.

⚠ CAUTION:

Driving on frozen lakes, ponds, or rivers can be dangerous. Underwater springs, currents under the ice, or sudden thaws can weaken the ice. Your vehicle could fall through the ice and you and your passengers could drown. Drive your vehicle on safe surfaces only.

Driving in Water

⚠ CAUTION:

Driving through rushing water can be dangerous. Deep water can sweep your vehicle downstream and you and your passengers could drown. If it is only shallow water, it can still wash away the ground from under your tires, and you could lose traction and roll the vehicle over. Do not drive through rushing water.

Heavy rain can mean flash flooding, and flood waters demand extreme caution.

Find out how deep the water is before you drive through it. If it is deep enough to cover your wheel hubs, axles, or exhaust pipe, do not try it — you probably will not get through. Also, water that deep can damage your axle and other vehicle parts. Your vehicle is capable of depths up to 20 inches (50 cm). Know how to judge whether the water is deeper than this before proceeding into it.

Downloaded from www.Manualslib.com manuals search engine

If the water is not too deep, drive slowly through it. At faster speeds, water splashes on your ignition system and your vehicle can stall. Stalling can also occur if you get your tailpipe under water. And, as long as your tailpipe is under water, you will never be able to start your engine. When you go through water, remember that when your brakes get wet, it may take you longer to stop.

See *Driving in Rain and on Wet Roads on page 4-33* for more information on driving through water.

After Off-Road Driving

Remove any brush or debris that has collected on the underbody, chassis, or under the hood. These accumulations can be a fire hazard.

After operation in mud or sand, have the brake linings cleaned and checked. These substances can cause glazing and uneven braking. Check the engine and oil coolers and underbody skid shields for mud accumulation. Thoroughly and carefully clean these devices to allow proper cooling. Check the body structure, steering, suspension, underbody shields, wheels, tires, and exhaust system for damage. Also, check the fuel lines and cooling system for any leakage.

Your vehicle will require more frequent service due to off-road use. See the Maintenance Schedule for additional information.

Assist Steps

If your vehicle has removable side steps, remove the steps prior to off-roading to give your vehicle more ground clearance and to prevent damage to the vehicle from the side steps dragging and/or catching on obstacles.

Notice: **Do not drive off-road with the side steps attached to your vehicle. You can damage the side steps and/or your vehicle's frame if they get caught or drag against an obstacle. This damage would not be covered by your vehicle's warranty. Always remove the side steps prior to any off-road driving.**

Downloaded from www.Manualslib.com manuals search engine

Driving at Night

Night driving is more dangerous than day driving because some drivers are likely to be impaired — by alcohol or drugs, with night vision problems, or by fatigue.

Night driving tips include:

- Drive defensively.
- Do not drink and drive.
- Reduce headlamp glare by adjusting the inside rearview mirror.
- Slow down and keep more space between you and other vehicles because your headlamps can only light up so much road ahead.
- Watch for animals.
- When tired, pull off the road.
- Do not wear sunglasses.
- Avoid staring directly into approaching headlamps.
- Keep the windshield and all glass on your vehicle clean — inside and out.
- Keep your eyes moving, especially during turns or curves.

No one can see as well at night as in the daytime. But, as we get older, these differences increase. A 50-year-old driver might need at least twice as much light to see the same thing at night as a 20-year-old.

Downloaded from www.Manualslib.com manuals search engine

Driving in Rain and 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.

⚠ CAUTION:

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 your vehicle to be carried away. If this happens, you and other vehicle occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

Hydroplaning

Hydroplaning is dangerous. Water can build up under your vehicle's tires so they actually ride on the water. This can happen if the road is wet enough and you are going fast enough. When your vehicle is hydroplaning, it has little or no contact with the road.

There is no hard and fast rule about hydroplaning. The best advice is to slow down when the road is wet.

Other Rainy Weather Tips

Besides slowing down, other wet weather driving tips include:

- Allow extra following distance.
- Pass with caution.
- Keep windshield wiping equipment in good shape.
- Keep the windshield washer fluid reservoir filled.
- Have good tires with proper tread depth. See *Tires on page 5-54*.

Downloaded from www.Manualslib.com manuals search engine

Before Leaving on a Long Trip

To prepare your vehicle for a long trip, consider having it serviced by your dealer/retailer before departing.

Things to check on your own include:

- *Windshield Washer Fluid:* Reservoir full? Windows clean — inside and outside?
- *Wiper Blades:* In good shape?
- *Fuel, Engine Oil, Other Fluids:* All levels checked?
- *Lamps:* Do they all work and are lenses clean?
- *Tires:* Are treads good? Are tires inflated to recommended pressure?
- *Weather and Maps:* Safe to travel? Have up-to-date maps?

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 your vehicle and rest.

Other driving tips include:

- Keep the vehicle well ventilated.
- Keep 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 your vehicle serviced and in good shape.
- Check all fluid levels and brakes, tires, cooling system, and transmission.
- Going down steep or long hills, shift to a lower gear.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

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.

⚠ CAUTION:

Coasting downhill in NEUTRAL (N) or with the ignition off is dangerous. The brakes will have to do all the work of slowing down and they could get so hot that they would not work well. You would then have poor braking or even none going down a hill. You could crash. Always have the engine running and your vehicle in gear when you go downhill.

- Stay in your own lane. Do not swing wide or cut across the center of the road. Drive at speeds that let you stay in your own lane.
- Top of hills: Be alert — something could be in your lane (stalled car, accident).
- Pay attention to special road signs (falling rocks area, winding roads, long grades, passing or no-passing zones) and take appropriate action.

See *Off-Road Driving on page 4-12* for information about driving off-road.

Winter Driving

Here are some tips for winter driving:

- Have your vehicle in good shape for winter.
- You might want to put winter emergency supplies in your vehicle.

Include an ice scraper, a small brush or broom, a supply of windshield washer fluid, a rag, some winter outer clothing, a small shovel, a flashlight, a red cloth, and a couple of reflective warning triangles. And, if you will be driving under severe conditions, include a small bag of sand, a piece of old carpet, or a couple of burlap bags to help provide traction. Be sure you properly secure these items in your vehicle.

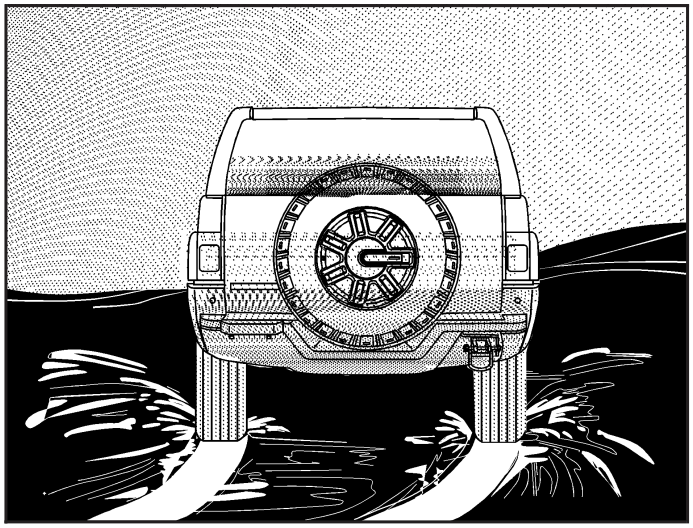
Also see *Tires on page 5-54*.

Downloaded from www.Manualslib.com manuals search engine

Driving on Snow or Ice

Most of the time, those places where the tires meet the road probably have good traction.

However, if there is snow or ice between the tires and the road, you can have a very slippery situation. You have a lot less traction, or grip, and need to be very careful.



What is the worst time for this? Wet ice. Very cold snow or ice can be slick and hard to drive on. But wet ice can be even more trouble because it can offer the least traction of all. You can get wet ice when it is about freezing, 32°F (0°C), and freezing rain begins to fall. Try to avoid driving on wet ice until salt and sand crews can get there.

Whatever the condition — smooth ice, packed, blowing, or loose snow — drive with caution.

The Traction Control System (TCS) improves your ability to accelerate when driving on a slippery road. TCS improves your ability to accelerate. See *If Your Vehicle is Stuck in Sand, Mud, Ice, or Snow on page 4-39*. Even though you have TCS, slow down and adjust your driving to the road conditions. Under certain conditions, you might want to turn the TCS off, such as when driving through deep snow and loose gravel, to help maintain vehicle motion at lower speeds. See *Traction Control System (TCS) on page 4-5* and *StabiliTrak® System on page 4-7*.

Downloaded from www.Manualslib.com manuals search engine

The Antilock Brake System (ABS) improves your vehicle's stability when you make a hard stop on a slippery road. Even though you have ABS, begin stopping sooner than you would on dry pavement. See *Antilock Brake System (ABS) on page 4-4*.

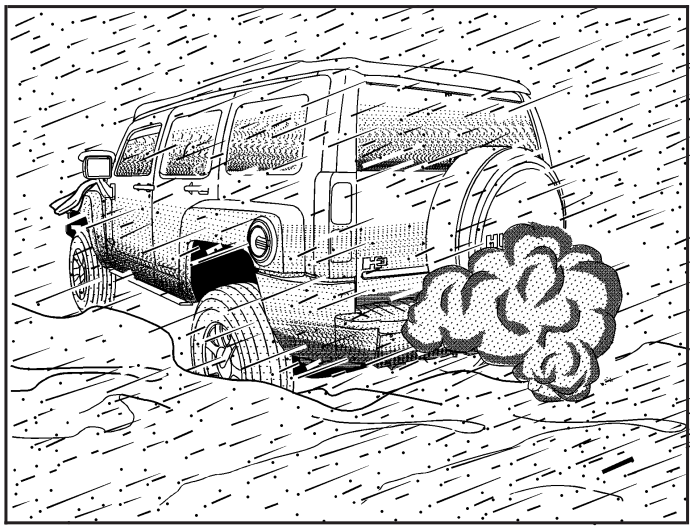
- Allow greater following distance on any slippery road.
- Watch for slippery spots. The road might be fine until you hit a spot that is covered with ice. On an otherwise clear road, ice patches can appear in shaded areas where the sun cannot reach, such as around clumps of trees, behind buildings, or under bridges. Sometimes the surface of a curve or an overpass can remain icy when the surrounding roads are clear. If you see a patch of ice ahead of you, brake before you are on it. Try not to brake while you are actually on the ice, and avoid sudden steering maneuvers.

If You Are Caught in a Blizzard

If you are stopped by heavy snow, you could be in a serious situation. You should probably stay with your vehicle unless you know for sure that you are near help and you can hike through the snow. Here are some things to do to summon help and keep yourself and your passengers safe:

- Turn on the hazard warning flashers.
- Tie a red cloth to your vehicle to alert police that you have been stopped by the snow.
- Put on extra clothing or wrap a blanket around you. If you do not have blankets or extra clothing, make body insulators from newspapers, burlap bags, rags, floor mats — anything you can wrap around yourself or tuck under your clothing to keep warm.

Downloaded from www.Manualslib.com manuals search engine



You can run the engine to keep warm, but be careful.

⚠ CAUTION:

Snow can trap exhaust gases under your vehicle. This can cause deadly CO (carbon monoxide) gas to get inside. CO could overcome you and kill you. You cannot see it or smell it, so you might not know it is in your vehicle. Clear away snow from around the base of your vehicle, especially any that is blocking the exhaust pipe. And check around again from time to time to be sure snow does not collect there.

Open a window just a little on the side of the vehicle that is away from the wind. This will help keep CO out.

Run your engine only as long as you must. This saves fuel. When you run the engine, make it go a little faster than just idle. That is, push the accelerator slightly. This uses less fuel for the heat that you get and it keeps the battery charged. You will need a well-charged battery to restart the vehicle, and possibly for signaling later on with the headlamps. Let the heater run for a while.

Downloaded from www.Manualslib.com manuals search engine

Then, shut the engine off and close the window almost all the way to preserve the heat. Start the engine again and repeat this only when you feel really uncomfortable from the cold. But do it as little as possible. Preserve the fuel as long as you can. To help keep warm, you can get out of the vehicle and do some fairly vigorous exercises every half hour or so until help comes.

If Your Vehicle is Stuck in Sand, Mud, Ice, or Snow

Slowly and cautiously spin the wheels to free your vehicle when stuck in sand, mud, ice, or snow. See *Rocking Your Vehicle to Get It Out on page 4-40*.

If your vehicle has a traction system, it can often help to free a stuck vehicle. Refer to your vehicle's traction system in the Index. If the stuck condition is too severe for the traction system to free the vehicle, turn the traction system off and use the rocking method.

⚠ CAUTION:

If you let your vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 35 mph (55 km/h) as shown on the speedometer.

For information about using tire chains on your vehicle, see *Tire Chains on page 5-77*.

Downloaded from www.Manualslib.com manuals search engine

Rocking Your Vehicle to Get It Out

First, turn the steering wheel left and right to clear the area around the front wheels. The traction control system activates when the system senses that the wheels are spinning. Turn off any traction or stability system. See *Traction Control System (TCS) on page 4-5* and *StabiliTrak® System on page 4-7*. Then, with the wheels straight ahead, shift back and forth between REVERSE (R) and a forward gear, or with a manual transmission, between FIRST (1) or SECOND (2) and REVERSE (R), 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 you shift, and press lightly on the accelerator pedal when the transmission is in gear. By slowly spinning the wheels in the forward and reverse directions, you will cause a rocking motion that could free your vehicle. If that does not get your vehicle out after a few tries, it might need to be towed out. Or, you can use the recovery loops. If your vehicle does need to be towed out, see *Towing Your Vehicle on page 4-48*.

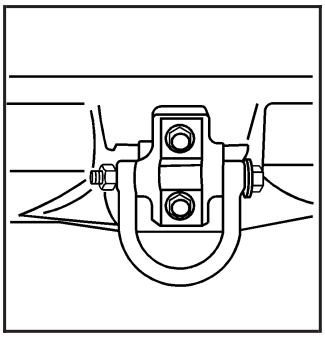
Recovery Loops

⚠ CAUTION:

These loops, when used, are under a lot of force. Keep people away from the vicinity of the loops and any chains or cables during use. Always pull the vehicle straight out. Never pull on the loops at a sideways angle. The loops could break off and you or others could be injured from the chain or cable snapping back.

Notice: **Never use the recovery loops to tow the vehicle. Your vehicle could be damaged and it would not be covered by warranty.**

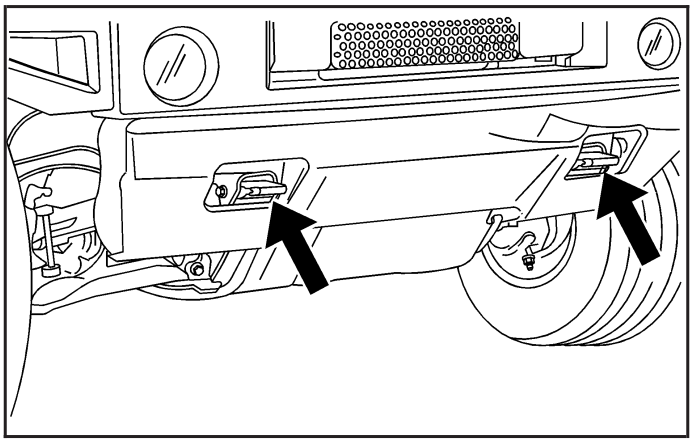
Downloaded from www.Manualslib.com manuals search engine



Rear of Vehicle

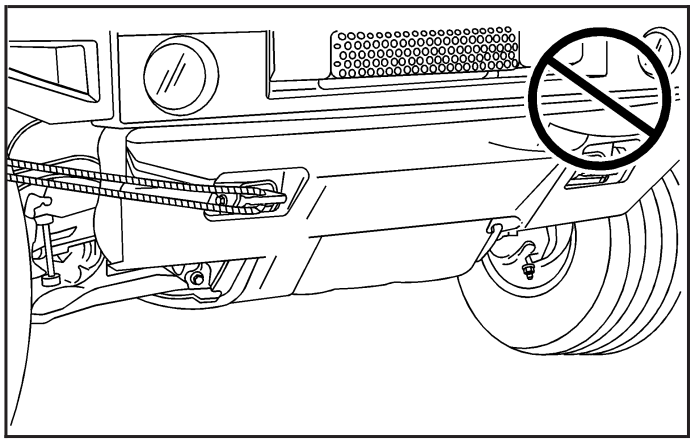
Your vehicle has two recovery loops at the front of the vehicle and one at the rear of the vehicle.

You may need to use them if you are stuck off-road and need to be pulled to some place where you can continue driving.



Front of Vehicle

Downloaded from www.Manualslib.com manuals search engine



If your vehicle has a brush guard, never tow or apply any loads onto the brush guard.

Loading Your Vehicle

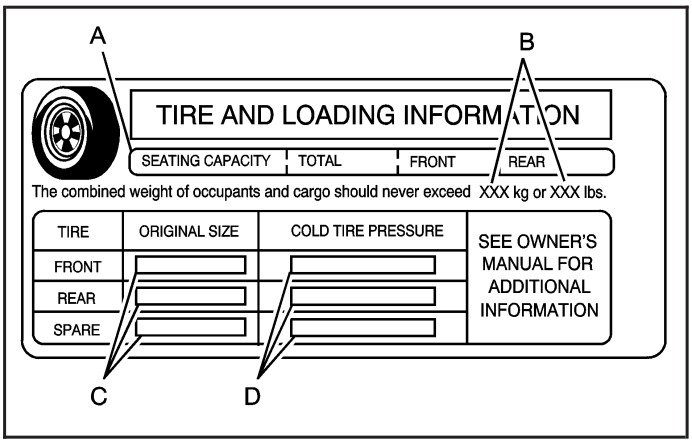
It is very important to know how much weight your vehicle can carry. This weight is called the vehicle capacity weight and includes the weight of all occupants, cargo and all nonfactory-installed options. Two labels on your vehicle show how much weight it may properly carry, the Tire and Loading Information label and the Certification/Tire label.

⚠ CAUTION:

Do not load your vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). If you do, parts on your vehicle can break, and it can change the way your vehicle handles. These could cause you to lose control and crash. Also, overloading can shorten the life of your vehicle.

Downloaded from www.Manualslib.com manuals search engine

Tire and Loading Information Label



Label Example

A vehicle specific Tire and Loading Information label is attached to the vehicle's center pillar (B-pillar). With the driver's door open, you will find the label attached below the door latch post. The Tire and Loading Information label shows the number of occupant seating positions (A), and the maximum vehicle capacity weight (B) in kilograms and pounds.

The Tire and Loading Information label also shows the size of your vehicle's original equipment tires (C) and the recommended cold tire inflation pressures (D). For more information on tires and inflation see *Tires on page 5-54* and *Inflation - Tire Pressure on page 5-62*.

There is also important information on the Certification/Tire 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/Tire Label" later in this section.

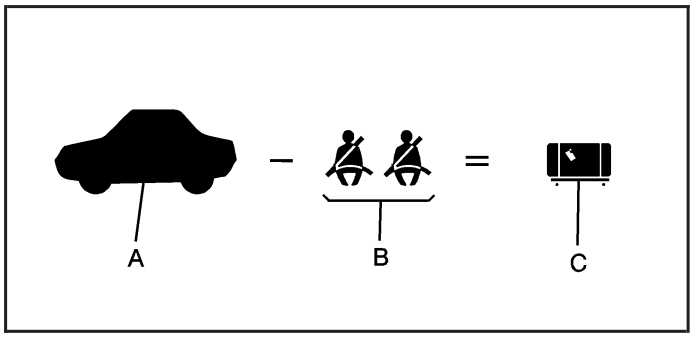
Steps for Determining Correct Load Limit

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs" on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.

Downloaded from www.Manualslib.com manuals search engine

4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the “XXX” amount equals 1400 lbs and there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs (1400 – 750 (5 x 150) = 650 lbs).
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, the load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

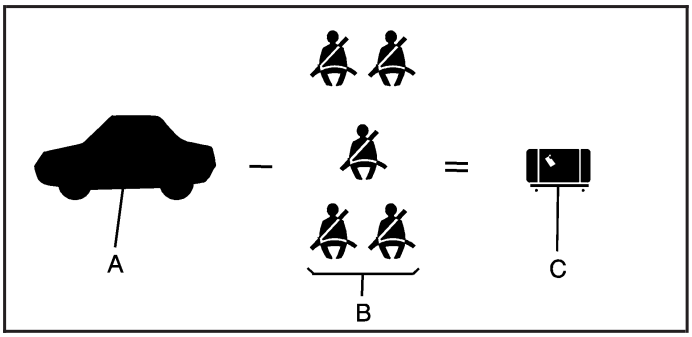
   See *Towing a Trailer on page 4-50* for important information on towing a trailer, towing safety, and trailering tips.



Example 1

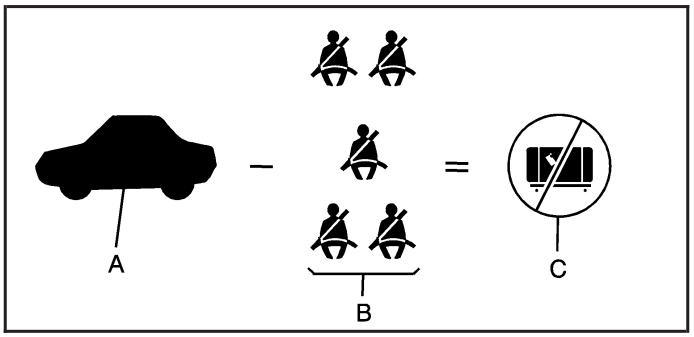
Item	Description	Total
A	Vehicle Capacity Weight for Example 1 =	1,000 lbs (453 kg)
B	Subtract Occupant Weight 150 lbs (68 kg) x 2 =	300 lbs (136 kg)
C	Available Cargo Weight =	700 lbs (317 kg)

Downloaded from www.Manualslib.com manuals search engine



Example 2

Item	Description	Total
A	Vehicle Capacity Weight for Example 2 =	1,000 lbs (453 kg)
B	Subtract Occupant Weight 150 lbs (68 kg) x 5 =	750 lbs (340 kg)
C	Available Cargo Weight =	250 lbs (113 kg)



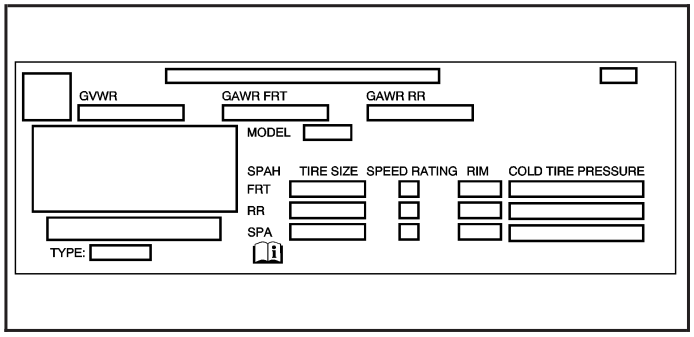
Example 3

Item	Description	Total
A	Vehicle Capacity Weight for Example 3 =	1,000 lbs (453 kg)
B	Subtract Occupant Weight 200 lbs (91 kg) x 5 =	1,000 lbs (453 kg)
C	Available Cargo Weight =	0 lbs (0 kg)

Downloaded from www.Manualslib.com manuals search engine

Refer to your vehicle's Tire and Loading Information label for specific information about your vehicle's capacity weight and seating positions. The combined weight of the driver, passengers, cargo and any accessories or equipment added to your vehicle after it left the factory should never exceed your vehicle's capacity weight.

Certification/Tire Label



Label Example

A vehicle specific Certification/Tire label is attached to the bottom section of the center pillar (B-pillar), on the driver's side of the vehicle.

The label shows the Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, cargo and trailer tongue weight, if pulling a trailer.

The Certification/Tire 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 centerline.

Never exceed the GVWR for your vehicle, or the GAWR for either the front or rear axle.

If you do have a heavy load, you should spread it out.

Similar appearing vehicles may have different GVWRs and capacity weights. Please note your vehicle's Certification/Tire label or consult your dealer for additional details.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

Do not load your vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). If you do, parts on your vehicle can break, and it can change the way your vehicle handles. These could cause you to lose control and crash. Also, overloading can shorten the life of your vehicle.

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.

Notice: **Overloading your vehicle may cause damage. Repairs would not be covered by your warranty. Do not overload your vehicle.**

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.

⚠ CAUTION:

Things you put inside your vehicle can strike and injure people in a sudden stop or turn, or in a crash.

- **Put things in the cargo area of your vehicle. Try to spread the weight evenly.**
- **Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.**
- **Do not leave an unsecured child restraint in your 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 4-12*.

Downloaded from www.Manualslib.com manuals search engine

Towing

Towing Your Vehicle

Consult your dealer/retailer or a professional towing service if you need to have your disabled vehicle towed. See *Roadside Assistance Program on page 7-6*.

If you want to tow your vehicle behind another vehicle for recreational purposes (such as behind a motorhome), see “Recreational Vehicle Towing” following.

Recreational Vehicle Towing

Recreational vehicle towing means towing your vehicle behind another vehicle – such as behind a motorhome. The two most common types of recreational vehicle towing are known as “dinghy towing” (towing your vehicle with all four wheels on the ground) and “dolly towing” (towing your vehicle with two wheels on the ground and two wheels up on a device known as a “dolly”).

With the proper preparation and equipment, many vehicles can be towed in these ways. See “Dinghy Towing” and “Dolly Towing,” following.

Here are some important things to consider before you do recreational vehicle towing:

- What’s the towing capacity of the towing vehicle? Be sure you read the tow vehicle manufacturer’s recommendations.
- How far will you tow? Some vehicles have restrictions on how far and how long they can tow.
- Do you have the proper towing equipment? See your dealer/retailer or trailering professional for additional advice and equipment recommendations.
- Is your vehicle ready to be towed? Just as you would prepare your vehicle for a long trip, you’ll want to make sure your vehicle is prepared to be towed. See *Before Leaving on a Long Trip on page 4-34*.

Downloaded from www.Manualslib.com manuals search engine

Dinghy Towing

Use the following procedure to tow your vehicle:

1. Shift the transmission to NEUTRAL (N).
2. Turn the engine off, but leave the ignition in ON.
3. Firmly set the parking brake.
4. Securely attach the vehicle being towed to the tow vehicle.

⚠ CAUTION:

Shifting a full-time four-wheel-drive vehicle's transfer case into NEUTRAL can cause your vehicle to roll even if the automatic transmission is in PARK (P) or the manual transmission is in any gear. You or others could be injured. Make sure the parking brake is firmly set before you shift the transfer case to NEUTRAL.

5. Shift the transfer case to NEUTRAL (N). See *Full-Time Four-Wheel Drive on page 2-27* for the proper procedure to select the NEUTRAL position for your vehicle.
6. Put the transmission in PARK (P) for an automatic transmission or in FIRST (1) for a manual transmission.
7. Release the parking brake only after the vehicle being towed is firmly attached to the towing vehicle.
8. Turn the ignition off.

After towing, see "Shifting Out of NEUTRAL" under *Full-Time Four-Wheel Drive on page 2-27*.

Dolly Towing

Notice: **Dolly towing your vehicle will damage drivetrain components. Do not dolly tow your vehicle.**

Your vehicle cannot be dolly towed. If you must tow your vehicle behind another, use the dinghy towing procedure listed previously.

Downloaded from www.Manualslib.com manuals search engine

Towing a Trailer

⚠ CAUTION:

If you do not use the correct equipment and drive properly, you can lose control when you pull a trailer. For example, if the trailer is too heavy, the brakes may not work well — or even at all. You and your passengers could be seriously injured. You may also damage your vehicle; the resulting repairs would not be covered by your warranty. Pull a trailer only if you have followed all the steps in this section. Ask your dealer/retailer for advice and information about towing a trailer with your vehicle.

Notice: **Pulling a trailer improperly can damage your vehicle and result in costly repairs not covered by your warranty. To pull a trailer correctly, follow the advice in this part, and see your dealer for important information about towing a trailer with your vehicle.**

To identify the trailering capacity of your vehicle, you should read the information in “Weight of the Trailer” that appears later in this section.

Trailering is different than just driving your 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.

That’s the reason for this part. In it are 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 you pull a trailer.

Downloaded from www.Manualslib.com manuals search engine

If You Do Decide To Pull A Trailer

If you do, here are some important points:

- There are many different laws, including speed limit restrictions, having to do with trailering. Make sure your rig will be legal, not only where you live but also where you'll be driving. A good source for this information can be state or provincial police.
- Consider using a sway control. See "Hitches" later in this section.
- Don't tow a trailer at all during the first 500 miles (800 km) your new vehicle is driven. Your engine, axle or other parts could be damaged.
- Then, during the first 500 miles (800 km) that you tow a trailer, don't drive over 50 mph (80 km/h) and don't make starts at full throttle. This helps your engine and other parts of your vehicle wear in at the heavier loads.
- If you have an automatic transmission, you can tow in DRIVE (D). You may want to shift the transmission to THIRD (3) or, if necessary, a lower gear if the transmission shifts too often under heavy loads and/or hilly conditions. If you have a manual transmission and you are towing a trailer, it is better not to use the highest gear.

Three important considerations have to do with weight:

- The weight of the trailer
- The weight of the trailer tongue
- And the weight on your vehicle's tires

Downloaded from www.Manualslib.com manuals search engine

Weight of the Trailer

How heavy can a trailer safely be?

It depends on how you plan to use your rig. For example, speed, altitude, road grades, outside temperature and how much your vehicle is used to pull a trailer are all important. It can depend on any special equipment that you have on your vehicle, and the amount of tongue weight the vehicle can carry. See “Weight of the Trailer Tongue” later in this section for more information.

Maximum trailer weight is calculated assuming only the driver is in the tow vehicle and it has all the required trailering equipment. The weight of additional optional equipment, passengers and cargo in the tow vehicle must be subtracted from the maximum trailer weight.

Use the following chart to determine how much your vehicle can weigh, based upon your vehicle model and options.

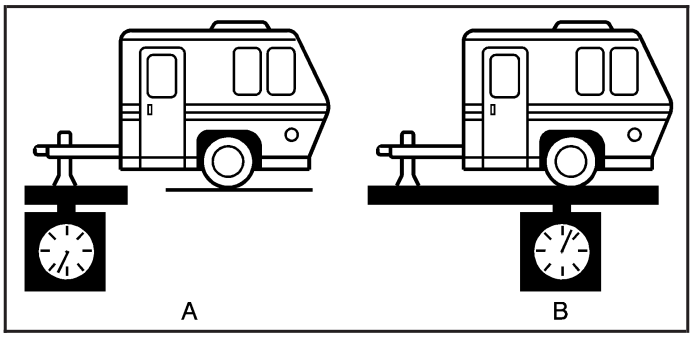
Engine	Axle Ratio	Maximum Trailer Weight	*GCWR
Automatic Transmission, 3.7L Engine	4.56	4,500 lbs (2 041 kg)	9,500 lbs (4 309 kg)
Automatic Transmission, 5.3L Engine	4.10	6,000 lbs (2 721 kg)	11,400 lbs (5 171 kg)
Manual Transmission	4.56	3,000 lbs (1 364 kg)	8,000 lbs (3 629 kg)
*The Gross Combination Weight Rating (GCWR) in the total allowable weight of the completely loaded vehicle and trailer including any passengers, cargo, equipment and conversions. The GCWR for your vehicle should not be exceeded.			

Ask your dealer/retailer for our trailering information or advice, or write us at our Customer Assistance Offices. See *Customer Assistance Offices on page 7-5* for more information.

Downloaded from www.Manualslib.com manuals search engine

Weight of the Trailer Tongue

The tongue load (A) of any trailer is an important weight to measure because it affects the total gross weight of your vehicle. The Gross Vehicle Weight (GVW) includes the curb weight of the vehicle, any cargo you may carry in it, and the people who will be riding in the vehicle. If you have a lot of options, equipment, passengers or cargo in your vehicle, it will reduce the tongue weight your vehicle can carry, which will also reduce the trailer weight your vehicle can tow. If you will tow a trailer, you must add the tongue load to the GVW because your vehicle will be carrying that weight, too. See *Loading Your Vehicle on page 4-42* for more information about your vehicle's maximum load capacity.



The trailer tongue weight (A) should be 10 percent to 15 percent of the total loaded trailer weight (B), up to a maximum of 500 lbs (227 kg) with a weight carrying hitch or a weight distributing hitch.

Do not exceed the maximum allowable tongue weight for your 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.

Your spare tire carrier is behind the tailgate. If your hitch extension is too short, the spare tire may interfere with trailer coupling or trailer tongue jack operation on some types of trailers.

Downloaded from www.Manualslib.com manuals search engine

After you've loaded your trailer, weigh the trailer and then the tongue, separately, to see if the weights are proper. If they aren't, you may be able to get them right simply by moving some items around in the trailer.

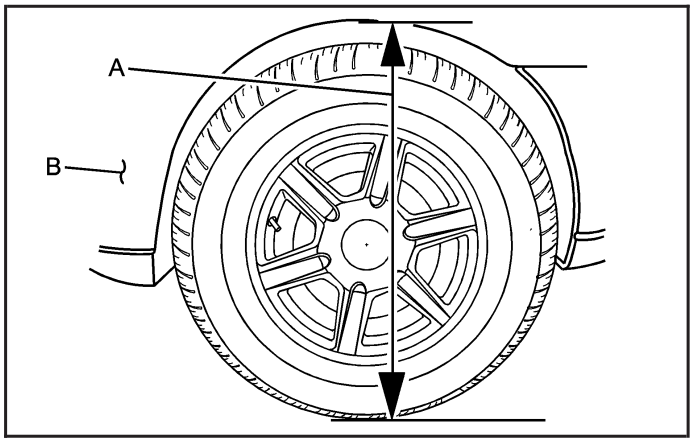
Total Weight on Your Vehicle's Tires

Be sure your vehicle's tires are inflated to the upper limit for cold tires. You'll find these numbers on the Certification/Tire Label located on the B-pillar below the door latch or see *Loading Your Vehicle on page 4-42*. Then be sure you don't go over the GVW limit for your vehicle, or the GAWR, including the weight of the trailer tongue. If you use a weight distributing hitch, make sure you don't go over the rear axle limit before you apply the weight distribution spring bars.

Hitches

It's important to have the correct hitch equipment. Crosswinds, large trucks going by and rough roads are a few reasons why you'll need the right hitch.

Weight-Distributing Hitches and Weight Carrying Hitches



(A) Body-to-Ground Distance (B) Front of Vehicle

When using a weight-distributing hitch, the hitch must be adjusted so that the distance (A) remains the same both before and after coupling the trailer to the tow vehicle.

Trailering may also be limited by the vehicle's ability to carry tongue weight. Tongue weight cannot cause the vehicle to exceed the GVWR (Gross Vehicle Weight Rating) or the RGAWR (Rear Gross Axle Weight Rating). The effect of additional weight may reduce your trailering capacity more than the total of the additional weight.

Downloaded from www.Manualslib.com manuals search engine

Consider the following example:

A vehicle model base weight is 5,500 lbs (2 495 kg); 2,800 lbs (1 270 kg) at the front axle and 2,700 lbs (1 225 kg) at the rear axle. It has a GVWR of 7,200 lbs (3 266 kg), a RGAWR of 4,000 lbs (1 814 kg) and a GCWR (Gross Combination Weight Rating) of 14,000 lbs (6 350 kg). The trailer rating should be:

14,000 lbs (6350 kg)	GCWR
−5,500 lbs (2495 kg)	Vehicle Weight
8,500 lbs (3855 kg)	Trailer Rating

You can expect tongue weight to be at least 10 percent of trailer weight (850 lbs (386 kg)) and because the weight is applied well behind the rear axle, the effect on the rear axle will be greater than just the weight itself, as much as 1.5 times as much. The weight at the rear axle could be 850 lbs (386 kg) X 1.5 = 1,275 lbs (578 kg). Since the rear axle already weighs 2,700 lbs (1 225 kg), adding 1,275 lbs (578 kg) brings the total to 3,975 lbs (1 803 kg). This is very close to, but within the limit for RGAWR as well. The vehicle is set to trailer up to 8,500 lbs (3 856 kg).

But let's say your specific vehicle is equipped with some of the latest options and you have a front seat passenger and two rear seat passengers with some luggage and gear in the vehicle as well. You may add 300 lbs (136 kg) to the front axle weight and 400 lbs (181 kg) to the rear axle weight. Your vehicle now weighs:

2,800 lbs (1270 kg)	+	300 lbs (136 kg)	Front
2,700 lbs (1225 kg)	+	400 lbs (181 kg)	Rear
6,200 lbs (2812 kg)			Total

Weight is still below 7,200 lbs (3 266 kg) and you may think that you should subtract 700 additional pounds (318 kg) from your trailering capacity to stay within GCWR limits. Your maximum trailer would only be 7,800 lbs (3 538 kg). You may go further and think you must limit tongue weight to less than 1,000 lbs (454 kg) to avoid exceeding GVWR. But, you must still consider the effect on the rear axle. Because your rear axle now weighs 3,100 lbs (1 406 kg), you can only put 900 lbs (408 kg) on the rear axle without exceeding RGAWR.

Downloaded from www.Manualslib.com manuals search engine

The effect of tongue weight is about 1.5 times the actual weight. Dividing the 900 lbs (408 kg) by 1.5 leaves you with being able to handle only 600 lbs (272 kg) of tongue weight. Since tongue weight is usually at least 10 percent of total loaded trailer weight, you can expect that the largest trailer your vehicle can properly handle is 6,000 lbs (2 721 kg).

It is important that you make sure your vehicle does not exceed any of its ratings — GCWR, GVWR, RGAWR, Maximum Trailer Rating or Tongue Weight. The only way to be sure you are not exceeding any of these ratings is to weigh your vehicle and trailer.

Safety Chains

You should always attach chains between your vehicle and your trailer. Cross the safety chains under the tongue of the trailer to help prevent the tongue from contacting the road if it becomes separated from the hitch. Always leave just enough slack so you can turn with your rig. Never allow safety chains to drag on the ground.

Trailer Brakes

If your trailer weighs more than 1,500 lbs (680 kg) loaded, then it needs its own brakes – and they must be adequate. Be sure to read and follow the instructions for the trailer brakes so you'll be able to install, adjust and maintain them properly.

Driving with a Trailer

Towing a trailer requires a certain amount of experience. Before setting out for the open road, you'll want to get to know your rig. Acquaint yourself with the feel of handling and braking with the added weight of the trailer. And always keep in mind that the vehicle you are driving is now a good deal longer and not nearly as responsive as your vehicle is by itself.

Before you start, check all trailer hitch parts and attachments, safety chains, electrical connector, lamps, tires and mirror adjustment. If the trailer has electric brakes, start your vehicle and trailer moving and then apply the trailer brake controller by hand to be sure the brakes are working. This lets you check your electrical connection at the same time.

During your trip, check occasionally to be sure that the load is secure, and that the lamps and any trailer brakes are still working.

Downloaded from www.Manualslib.com manuals search engine

Following Distance

Stay at least twice as far behind the vehicle ahead as you would when driving your vehicle without a trailer. This can help you avoid situations that require heavy braking and sudden turns.

Passing

You'll need more passing distance up ahead when you're towing a trailer. Because you're a good deal longer, you'll need to go much farther beyond the passed vehicle before you can return to your lane.

Backing Up

Hold the bottom of the steering wheel with one hand. Then, to move the trailer to the left, just move that hand to the left. To move the trailer to the right, move your hand to the right. Always back up slowly and, if possible, have someone guide you.

Making Turns

Notice: **Making very sharp turns while trailering could cause the trailer to come in contact with the vehicle. Your vehicle could be damaged. Avoid making very sharp turns while trailering.**

When you're turning with a trailer, make wider turns than normal. Do this so your trailer won't strike soft shoulders, curbs, road signs, trees or other objects. Avoid jerky or sudden maneuvers. Signal well in advance.

Turn Signals When Towing a Trailer

The arrows on your instrument panel will flash whenever you signal a turn or lane change. Properly hooked up, the trailer lamps will also flash, telling other drivers you're about to turn, change lanes or stop.

When towing a trailer, the arrows on your instrument panel will flash for turns even if the bulbs on the trailer are burned out. Thus, you may think drivers behind you are seeing your signal when they are not. It's important to check occasionally to be sure the trailer bulbs are still working.

Downloaded from www.Manualslib.com manuals search engine

Driving On Grades

Reduce speed and shift to a lower gear *before* you start down a long or steep downgrade. If you don't shift down, you might have to use your brakes so much that they would get hot and no longer work well.

If you have an automatic transmission, you can tow in DRIVE (D). You may want to shift the transmission to THIRD (3) or, if necessary, a lower gear selection if the transmission shifts too often under heavy loads and/or hilly conditions.

If you have a manual transmission and you are towing a trailer, it is better not to use the highest gear.

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 you turn your engine off immediately after towing at high altitude on steep uphill grades, your 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 PARK (P) for a few minutes before turning the engine off. For manual transmissions, let the engine run while parked, preferably on level ground, with the transmission out of gear and the parking brake applied, for a few minutes before turning the engine off. If you do get the overheat warning, see *Engine Overheating on page 5-29*.

Parking on Hills

⚠ CAUTION:

You really should not park your vehicle, with a trailer attached, on a hill. If something goes wrong, your rig could start to move. People can be injured, and both your vehicle and the trailer can be damaged.

But if you ever have to park your rig on a hill, here's how to do it:

1. Apply your regular brakes, but don't shift into PARK (P) yet for an automatic transmission, or into gear for a manual transmission. Turn your 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 regular brakes. Then apply your parking brake and shift into PARK (P) for an automatic transmission or into gear for a manual transmission.
5. Release the regular brakes.

Downloaded from www.Manualslib.com manuals search engine

When You Are Ready to Leave After Parking on a Hill

1. Apply your regular brakes and hold the pedal down while you:
   - start your engine,
   - shift into a gear, and
   - release the parking brake.
2. Let up on the brake pedal.
3. Drive slowly until the trailer is clear of the chocks.
4. Stop and have someone pick up and store the chocks.

Maintenance When Trailer Towing

Your vehicle will need service more often when you're pulling a trailer. See the Maintenance Schedule for more on this. Things that are especially important in trailer operation are automatic transmission fluid, engine oil, axle lubricant, belts, cooling system and brake system. Each of these is covered in this manual, and the Index will help you find them quickly. If you're trailering, it's a good idea to review these sections before you start your trip.

Check periodically to see that all hitch nuts and bolts are tight.

Trailer Wiring Harness

Light-Duty Trailer Wiring Package

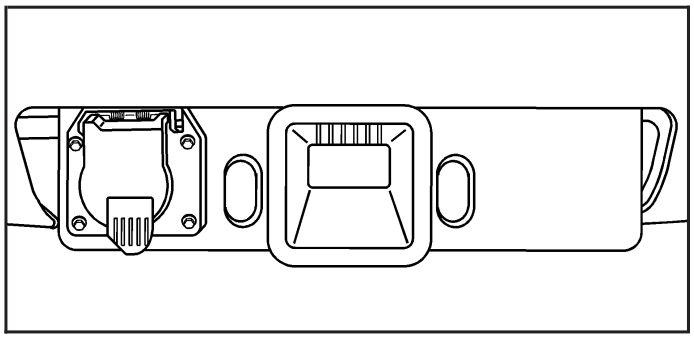
If your vehicle is not equipped with a trailer towing package, the chassis harness will contain the following blunt cut circuits:

- Yellow: Left Stop/Turn Signal
- Dark Green: Right Stop/Turn Signal
- White: Ground
- Brown: Tail Lamps

If you want to add on a trailer tow, it should be installed by your dealer/retailer or a qualified service center. Also, see *Add-On Electrical Equipment on page 5-101* for more information.

Downloaded from www.Manualslib.com manuals search engine

Heavy-Duty Trailer Wiring Package



If your vehicle is equipped with a trailer towing package, the rear bumper harness will have a seven-pin universal heavy-duty trailer connector attached to a bracket on the hitch platform.

The trailer towing harness contains the following seven trailer circuits:

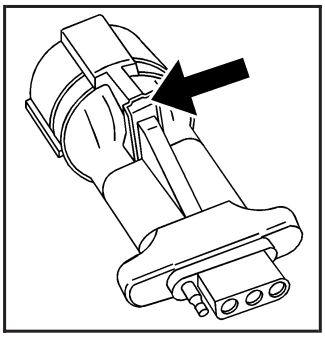
- Yellow: Left Stop/Turn Signal
- Dark Green: Right Stop/Turn Signal
- Brown: Taillamps
- White: Ground
- Light Green: Back-up Lamps
- Red: Battery Feed
- Dark Blue: Trailer Brake

If you are charging a remote (non-vehicle) battery, turn on the headlamps to boost the vehicle system voltage to properly charge the battery.

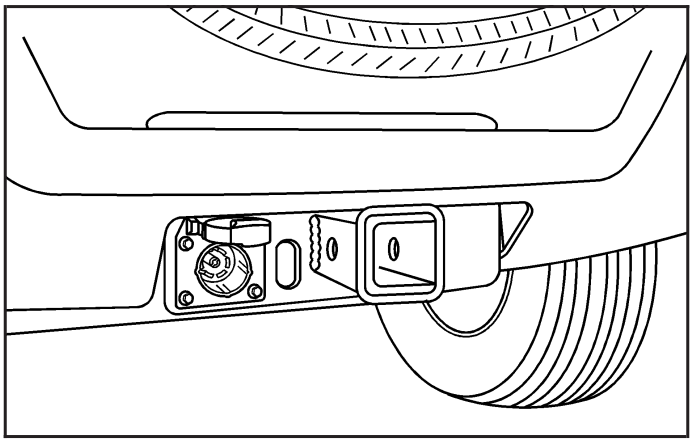
Downloaded from www.Manualslib.com manuals search engine

Four-Wire Harness Adapter

If you need to tow a light-duty trailer with a standard four-way, flat pin connector, an adapter is available from your dealer/retailer.



Use this adapter to connect a standard four-way pin connector to the seven-wire harness on your vehicle.



Connect the adapter with the tab pointing up. The flip cap on the vehicle's seven-wire harness will lock onto the tab (see arrow in the previous graphic) and help hold the adapter in place. Plug the four-way pin connector onto the adapter.

Downloaded from www.Manualslib.com manuals search engine

Trailer Brake Control Wiring Harness

The trailer brake control wiring harness is located under the instrument panel to the right of the steering column. The wires are taped to the harness that goes to the courtesy light under the instrument panel. The harness will contain the following wires:

- Red Wire: AUX B+
- Black Wire: Ground
- Light Blue Wire: Brake Signal
- Dark Blue Wire: Trailer Brakes

Trailer Recommendations

You must subtract your hitch loads from the Cargo Weight Rating (CWR). CWR is the maximum weight of the load your vehicle can carry. It doesn't include the weight of the people inside, but you can figure about 150 lbs. (68 kg) for each seat. The total cargo load must not be more than your vehicles CWR.

Weigh your vehicle with your trailer attached, so that you won't go over the GVWR or GAWR. If you are using a weight-distributing hitch, weigh the vehicle without the spring bars in place.

You'll get the best performance if you spread out the weight of your load the right way, and if you choose the correct hitch and trailer brakes.

For more information see *Towing a Trailer on page 4-50*.

Downloaded from www.Manualslib.com manuals search engine

Section 5 Service and Appearance Care

Service 5-3
- Accessories and Modifications 5-3
- California Proposition 65 Warning 5-4
- California Perchlorate Materials Requirements 5-4
- Doing Your Own Service Work 5-4
- Adding Equipment to the Outside of Your Vehicle 5-5

Fuel 5-5
- Gasoline Octane 5-5
- Gasoline Specifications 5-5
- California Fuel 5-6
- Additives 5-6
- Fuels in Foreign Countries 5-7
- Filling the Tank 5-8
- Filling a Portable Fuel Container 5-10

Checking Things Under the Hood 5-11
- Hood Release 5-11
- Engine Compartment Overview 5-12
- Engine Oil 5-15
- Engine Oil Life System 5-18
- Engine Air Cleaner/Filter 5-20
- Automatic Transmission Fluid 5-21
- Manual Transmission Fluid 5-24
- Hydraulic Clutch 5-26
- Engine Coolant 5-27
- Radiator Pressure Cap 5-29
- Engine Overheating 5-29
- Cooling System 5-31
- Engine Fan Noise 5-36
- Power Steering Fluid 5-36
- Windshield Washer Fluid 5-37
- Brakes 5-38
- Battery 5-41
- Jump Starting 5-42

Rear Axle 5-45

Four-Wheel Drive 5-46

Front Axle 5-46

Headlamp Aiming 5-46

Bulb Replacement 5-49
- Halogen Bulbs 5-49
- Headlamps 5-49
- Taillamps, Turn Signal, Stoplamps and Back-up Lamps 5-50
- License Plate Lamp 5-51
- Replacement Bulbs 5-52

Windshield Wiper Blade Replacement 5-52

Downloaded from www.Manualslib.com manuals search engine

Section 5 Service and Appearance Care

Tires 5-54
- Tire Sidewall Labeling 5-55
- Tire Terminology and Definitions 5-59
- Inflation - Tire Pressure 5-62
- Tire Pressure Monitor System 5-63
- Tire Pressure Monitor Operation 5-65
- Tire Inspection and Rotation 5-68
- When It Is Time for New Tires 5-70
- Buying New Tires 5-71
- Different Size Tires and Wheels 5-73
- Uniform Tire Quality Grading 5-74
- Wheel Alignment and Tire Balance 5-75
- Wheel Replacement 5-75
- Tire Chains 5-77
- If a Tire Goes Flat 5-78
- Changing a Flat Tire 5-79
- Removing the Spare Tire and Tools 5-81
- Removing the Flat Tire and Installing the Spare Tire 5-83
- Storing a Flat or Spare Tire and Tools 5-89
- Spare Tire 5-91

Appearance Care 5-91
- Interior Cleaning 5-91
- Fabric/Carpet 5-93
- Leather 5-93
- Instrument Panel, Vinyl, and Other Plastic Surfaces 5-94
- Care of Safety Belts 5-94
- Weatherstrips 5-94
- Washing Your Vehicle 5-95
- Cleaning Exterior Lamps/Lenses 5-95
- Finish Care 5-96
- Windshield, Backglass, and Wiper Blades 5-97
- Aluminum or Chrome-Plated Wheels and Trim ...5-97
- Tires 5-98
- Sheet Metal Damage 5-98
- Finish Damage 5-98
- Underbody Maintenance 5-98
- Chemical Paint Spotting 5-99
- Vehicle Care/Appearance Materials 5-99

Vehicle Identification 5-100
- Vehicle Identification Number (VIN) 5-100
- Service Parts Identification Label 5-101

Electrical System 5-101
- Add-On Electrical Equipment 5-101
- Windshield Wiper Fuses 5-101
- Power Windows and Other Power Options 5-102
- Fuses and Circuit Breakers 5-102
- Engine Compartment Fuse Block 5-103

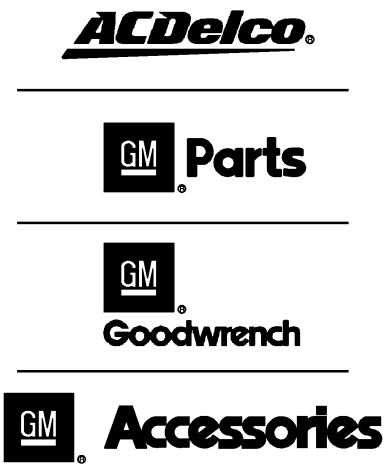
Capacities and Specifications 5-107
- Capacities and Specifications 5-107

Downloaded from www.Manualslib.com manuals search engine

Service

For service and parts needs, visit your dealer/retailer. You will receive genuine GM parts and GM-trained and supported service people.

Genuine GM parts have one of these marks:



Accessories and Modifications

When non-dealer/non-retailer accessories are added to your vehicle they can affect your vehicle's performance and safety, including such things as, airbags, braking, stability, ride and handling, emissions systems, aerodynamics, durability, and electronic systems like antilock brakes, traction control and stability control. Some of these accessories could even cause malfunction or damage not covered by warranty.

GM Accessories are designed to complement and function with other systems on your vehicle. Your GM dealer/retailer can accessorize your vehicle using genuine GM Accessories. When you go to your GM dealer/retailer and ask for GM Accessories, you will know that GM-trained and supported service technicians will perform the work using genuine GM Accessories.

Also, see *Adding Equipment to Your Airbag-Equipped Vehicle on page 1-68*.

Downloaded from www.Manualslib.com manuals search engine

California Proposition 65 Warning

Most motor vehicles, including this one, contain and/or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Engine exhaust, many parts and systems (including some inside the vehicle), many fluids, and some component wear by-products contain and/or emit these chemicals.

California Perchlorate Materials Requirements

Certain types of automotive applications, such as airbag initiators, seat belt pretensioners, and lithium batteries contained in remote keyless entry transmitters, may contain perchlorate materials. Special handling may be necessary. For additional information, see www.dtsc.ca.gov/hazardouswaste/perchlorate.

Doing Your Own Service Work

⚠ CAUTION:

You can be injured and your vehicle could be damaged if you try to do service work on a vehicle without knowing enough about it.

- **Be sure you have sufficient knowledge, experience, the proper replacement parts, and tools before you attempt any vehicle maintenance task.**
- **Be sure to use the proper nuts, bolts, and other fasteners. English and metric fasteners can be easily confused. If you use the wrong fasteners, parts can later break or fall off. You could be hurt.**

If you want to do some of your own service work, you should use the proper service manual. It tells you much more about how to service your vehicle than this manual can. To order the proper service manual, see *Service Publications Ordering Information on page 7-15*.

Downloaded from www.Manualslib.com manuals search engine

Your vehicle has an airbag system. Before attempting to do your own service work, see *Servicing Your Airbag-Equipped Vehicle on page 1-67*.

You should keep a record with all parts receipts and list the mileage and the date of any service work you perform. See *Maintenance Record on page 6-16*.

Adding Equipment to the Outside of Your Vehicle

Things you might add to the outside of your vehicle can affect the airflow around it. This can cause wind noise and can affect fuel economy and windshield washer performance. Check with your dealer/retailer before adding equipment to the outside of your vehicle.

Fuel

Use of the recommended fuel is an important part of the proper maintenance of your vehicle. To help keep the engine clean and maintain optimum vehicle performance, we recommend the use of gasoline advertised as TOP TIER Detergent Gasoline.

Gasoline Octane

Use regular unleaded gasoline with a posted octane rating of 87 or higher. If the octane rating is less than 87, you might notice an audible knocking noise when you drive, commonly referred to as spark knock. If this occurs, use a gasoline rated at 87 octane or higher as soon as possible. If you are using gasoline rated at 87 octane or higher and you hear heavy knocking, the engine needs service.

Gasoline Specifications

At a minimum, gasoline should meet ASTM specification D 4814 in the United States or CAN/CGSB-3.5 or 3.511 in Canada. Some gasolines contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT). We recommend against the use of gasolines containing MMT. See *Additives on page 5-6* for additional information.

Downloaded from www.Manualslib.com manuals search engine

California Fuel

If your vehicle is certified to meet California Emissions Standards, it is designed to operate on fuels that meet California specifications. See the underhood emission control label. If this fuel is not available in states adopting California emissions standards, your vehicle will operate satisfactorily on fuels meeting federal specifications, but emission control system performance might be affected. The malfunction indicator lamp could turn on and your vehicle might fail a smog-check test. See *Malfunction Indicator Lamp on page 3-36*. If this occurs, return to your authorized dealer/retailer for diagnosis. If it is determined that the condition is caused by the type of fuel used, repairs might not be covered by your warranty.

Additives

To provide cleaner air, all gasolines in the United States are now required to contain additives that help prevent engine and fuel system deposits from forming, allowing the emission control system to work properly. In most cases, you should not have to add anything to the fuel. However, some gasolines contain only the minimum amount of additive required to meet U.S. Environmental Protection Agency regulations. To help keep fuel injectors and intake valves clean, or if your vehicle experiences problems due to dirty injectors or valves, look for gasoline that is advertised as TOP TIER Detergent Gasoline. Also, your dealer/retailer has additives that will help correct and prevent most deposit-related problems.

Downloaded from www.Manualslib.com manuals search engine

Gasolines containing oxygenates, such as ethers and ethanol, and reformulated gasolines might be available in your area. We recommend that you use these gasolines, if they comply with the specifications described earlier. However, E85 (85% ethanol) and other fuels containing more than 10% ethanol must not be used in vehicles that were not designed for those fuels.

Notice: **Your vehicle was not designed for fuel that contains methanol. Do not use fuel containing methanol. It can corrode metal parts in the fuel system and also damage plastic and rubber parts. That damage would not be covered under your warranty.**

Some gasolines that are not reformulated for low emissions can contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT); ask the attendant where you buy gasoline whether the fuel contains MMT. We recommend against the use of such gasolines. Fuels containing MMT can reduce the life of spark plugs and the performance of the emission control system could be affected. The malfunction indicator lamp might turn on. If this occurs, return to your dealer/retailer for service.

Fuels in Foreign Countries

If you plan on driving in another country outside the United States or Canada, the proper fuel might be hard to find. Never use leaded gasoline or any other fuel not recommended in the previous text on fuel. Costly repairs caused by use of improper fuel would not be covered by your warranty.

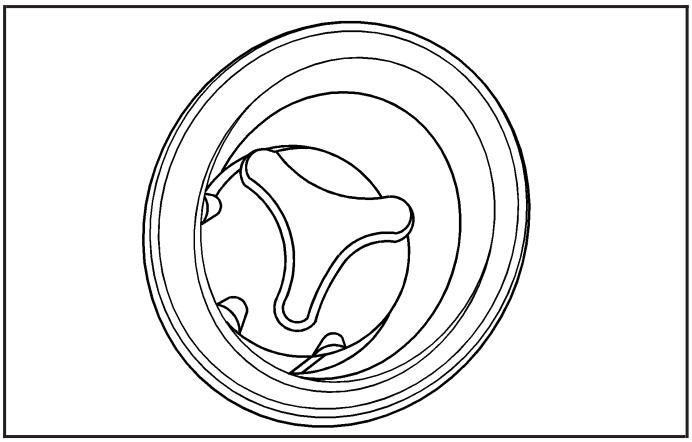
To check the fuel availability, ask an auto club, or contact a major oil company that does business in the country where you will be driving.

Downloaded from www.Manualslib.com manuals search engine

Filling the Tank

⚠ CAUTION:

Fuel vapor burns violently and a fuel fire can cause bad injuries. To help avoid injuries to you and others, read and follow all the instructions on the pump island. Turn off your engine when you are refueling. Do not smoke if you are near fuel or refueling your vehicle. Do not use cellular phones. Keep sparks, flames, and smoking materials away from fuel. Do not leave the fuel pump unattended when refueling your vehicle. This is against the law in some places. Do not re-enter the vehicle while pumping fuel. Keep children away from the fuel pump; never let children pump fuel.



The fuel cap is located on the driver's side of the vehicle.

Downloaded from www.Manualslib.com manuals search engine

To remove the fuel cap, turn it slowly counterclockwise. While refueling, let the fuel cap hang by the tether, if it has one.

⚠ CAUTION:

Fuel can spray out on you if you open the fuel cap too quickly. If you spill fuel and then something ignites it, you could be badly burned. This spray can happen if your tank is nearly full, and is more likely in hot weather. Open the fuel cap slowly and wait for any hiss noise to stop. Then unscrew the cap all the way.

Be careful not to spill fuel. Do not top off or overfill the tank and wait a few seconds after you have finished pumping before removing the nozzle. Clean fuel from painted surfaces as soon as possible. See *Washing Your Vehicle on page 5-95*.

When replacing the fuel cap, turn it clockwise until it clicks. Make sure the cap is fully installed. The diagnostic system can determine if the fuel cap has been left off or improperly installed. This would allow fuel to evaporate into the atmosphere. See *Malfunction Indicator Lamp on page 3-36*.

The FUEL CAP message will be displayed on the Driver Information Center (DIC) if the fuel cap is not properly installed. See *DIC Warnings and Messages on page 3-43* for more information.

⚠ CAUTION:

If a fire starts while you are refueling, do not remove the nozzle. Shut off the flow of fuel by shutting off the pump or by notifying the station attendant. Leave the area immediately.

Notice: **If you need a new fuel cap, be sure to get the right type. Your dealer/retailer can get one for you. If you get the wrong type, it may not fit properly. This may cause your malfunction indicator lamp to light and may damage your fuel tank and emissions system. See *Malfunction Indicator Lamp on page 3-36*.**

Downloaded from www.Manualslib.com manuals search engine

Filling a Portable Fuel Container

⚠ CAUTION:

Never fill a portable fuel container while it is in your vehicle. Static electricity discharge from the container can ignite the fuel vapor. You can be badly burned and your vehicle damaged if this occurs. To help avoid injury to you and others:

- **Dispense fuel only into approved containers.**
- **Do not fill a container while it is inside a vehicle, in a vehicle's trunk, pickup bed, or on any surface other than the ground.**

CAUTION: (Continued)

CAUTION: (Continued)

- **Bring the fill nozzle in contact with the inside of the fill opening before operating the nozzle. Contact should be maintained until the filling is complete.**
- **Do not smoke while pumping fuel.**
- **Do not use a cellular phone while pumping fuel.**

Downloaded from www.Manualslib.com manuals search engine

Checking Things Under the Hood

⚠ CAUTION:

An electric fan under the hood can start up and injure you even when the engine is not running. Keep hands, clothing, and tools away from any underhood electric fan.

⚠ CAUTION:

Things that burn can get on hot engine parts and start a fire. These include liquids like fuel, oil, coolant, brake fluid, windshield washer and other fluids, and plastic or rubber. You or others could be burned. Be careful not to drop or spill things that will burn onto a hot engine.

Hood Release

To open the hood, do the following:

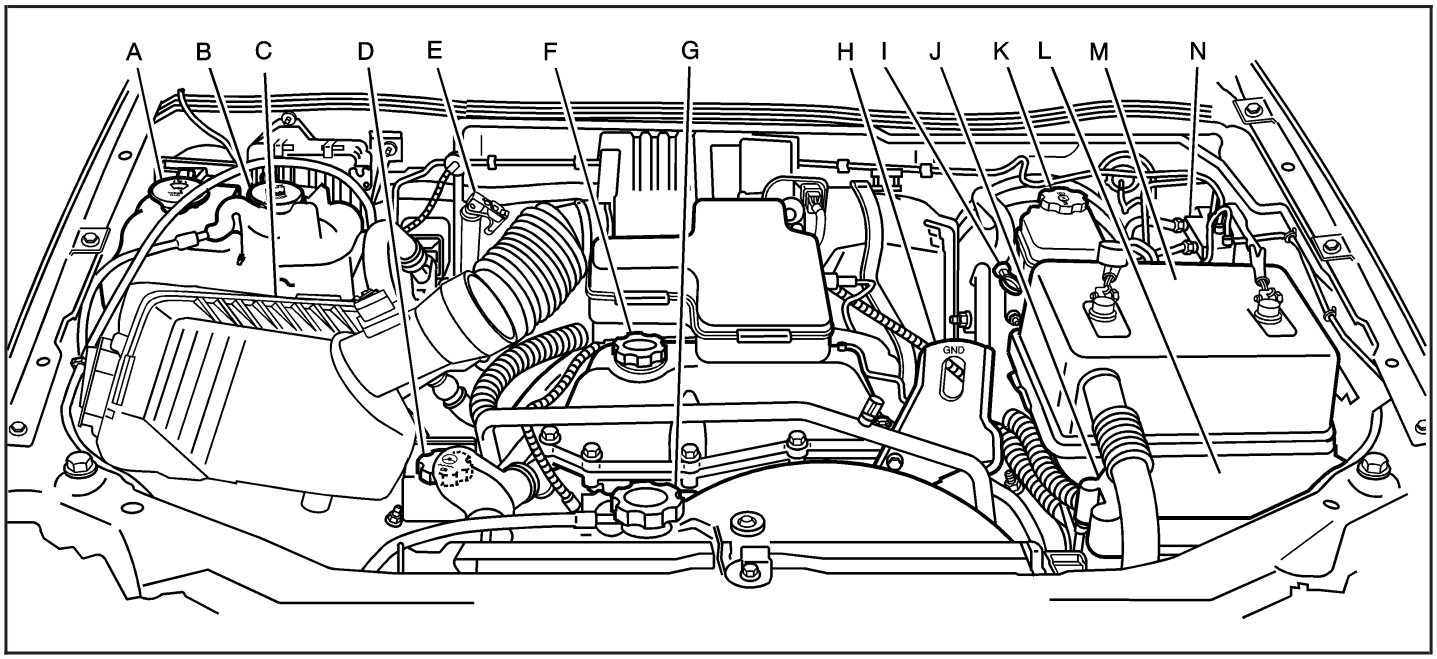
1. Pull the handle with this symbol on it. It is located inside the vehicle on the lower left side of the instrument panel.
2. Release the secondary latch on the hood. It is located below the front center of the hood.
3. Lift the hood.

Before closing the hood, be sure all the filler caps are on properly. Then pull the hood down and close it firmly.

Downloaded from www.Manualslib.com manuals search engine

Engine Compartment Overview

When you open the hood on the 3.7L engine, this is what you will see:



Downloaded from www.Manualslib.com manuals search engine

A. Windshield Washer Fluid Reservoir. See “Adding Washer Fluid” under *Windshield Washer Fluid on page 5-37*.

B. Engine Coolant Recovery Tank. See *Engine Coolant on page 5-27*.

C. Engine Air Cleaner/Filter. See *Engine Air Cleaner/Filter on page 5-20*.

D. Power Steering Fluid Reservoir. See *Power Steering Fluid on page 5-36*.

E. Automatic Transmission Fluid Dipstick (If Equipped). See “Checking the Fluid Level” under *Automatic Transmission Fluid on page 5-21*.

F. Engine Oil Fill Cap. See “When to Add Engine Oil” under *Engine Oil on page 5-15*.

G. Radiator Pressure Cap. See *Cooling System on page 5-31*.

H. Remote Negative (–) Terminal (GND). See *Jump Starting on page 5-42*.

I. Engine Oil Dipstick. See “Checking Engine Oil” under *Engine Oil on page 5-15*.

J. Positive (+) Battery Terminal. See *Jump Starting on page 5-42*.

K. Brake Fluid Reservoir. See “Brake Fluid” under *Brakes on page 5-38*.

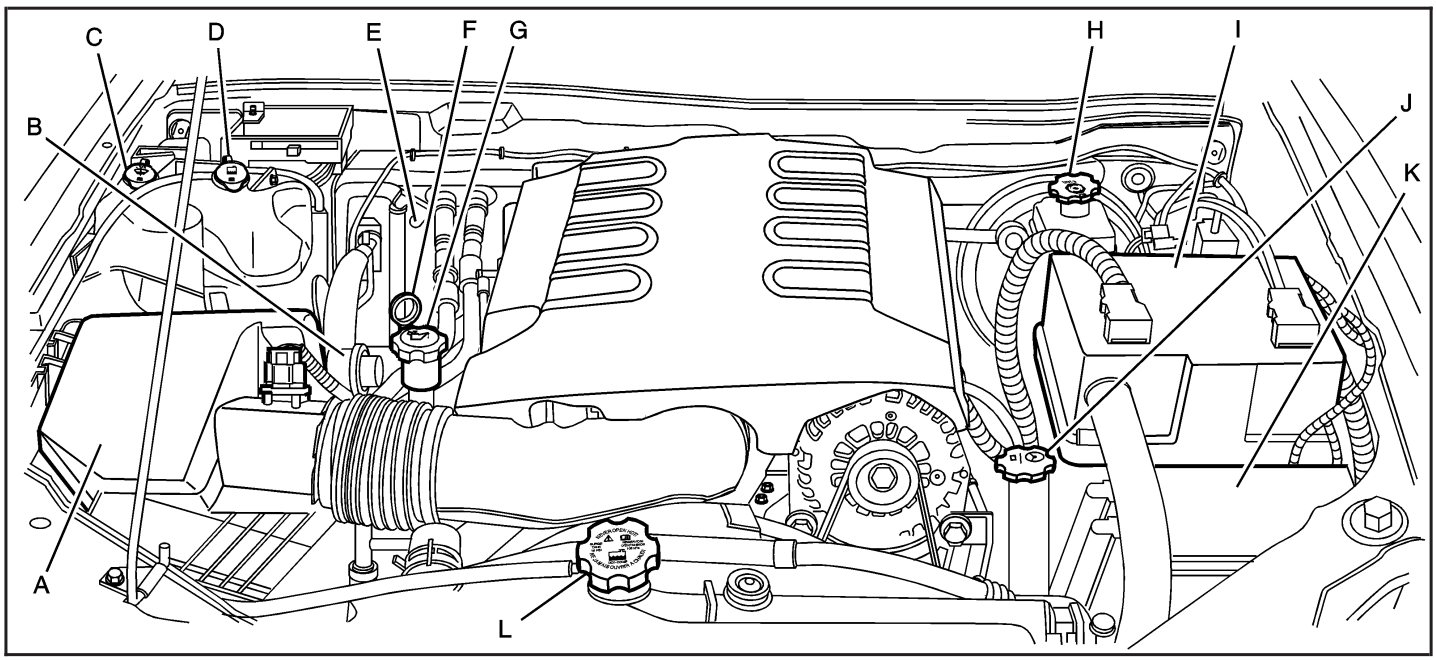
L. Engine Compartment Fuse Block. See *Engine Compartment Fuse Block on page 5-103*.

M. Battery. See *Battery on page 5-41*.

N. Hydraulic Clutch Fluid Reservoir (If Equipped). See *Hydraulic Clutch on page 5-26*.

Downloaded from www.Manualslib.com manuals search engine

When you open the hood on the 5.3L engine, this is what you will see:



Downloaded from www.Manualslib.com manuals search engine

A. Engine Air Cleaner/Filter. See *Engine Air Cleaner/Filter on page 5-20*.

B. Air Filter Restriction Indicator (If Equipped). See *Engine Air Cleaner/Filter on page 5-20*.

C. Windshield Washer Fluid Reservoir. See “Adding Washer Fluid” under *Windshield Washer Fluid on page 5-37*.

D. Engine Coolant Recovery Tank. See *Engine Coolant on page 5-27*.

E. Automatic Transmission Fluid Dipstick (If Equipped). See “Checking the Fluid Level” under *Automatic Transmission Fluid on page 5-21*.

F. Engine Oil Dipstick. See “Checking Engine Oil” under *Engine Oil on page 5-15*.

G. Engine Oil Fill Cap. See “When to Add Engine Oil” under *Engine Oil on page 5-15*.

H. Brake Fluid Reservoir. See “Brake Fluid” under *Brakes on page 5-38*.

I. Battery. See *Battery on page 5-41*.

J. Power Steering Fluid Reservoir. See *Power Steering Fluid on page 5-36*.

K. Radiator Pressure Cap. See *Cooling System on page 5-31*.

L. Engine Compartment Fuse Block. See *Engine Compartment Fuse Block on page 5-103*.

Engine Oil

Checking Engine Oil

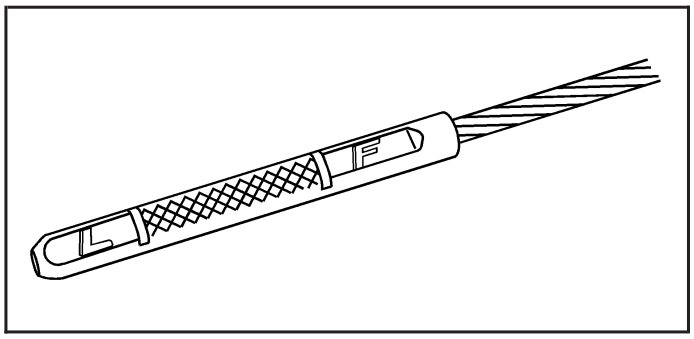
It is a good idea to check the engine oil every time you get fuel. In order to get an accurate reading, the oil must be warm and the vehicle must be on level ground.

The engine oil dipstick handle is a yellow loop. See *Engine Compartment Overview on page 5-12* for the location of the engine oil dipstick.

1. Turn off the engine and give the oil several minutes to drain back into the oil pan. If you do not do this, the oil dipstick might not show the actual level.
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.

Downloaded from www.Manualslib.com manuals search engine

When to Add Engine Oil



If the oil is below the cross-hatched area (L), add at least one quart/liter of the recommended oil. This section explains what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications on page 5-107*.

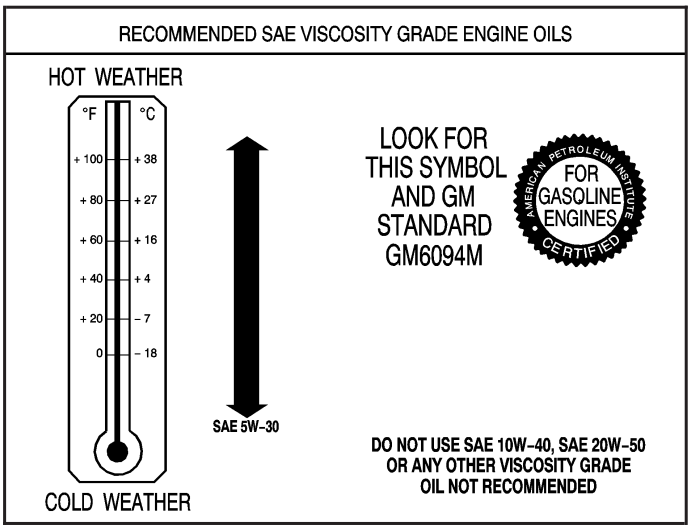
Notice: **Do not add too much oil. If the engine has so much oil that the oil level gets above the cross-hatched area that shows the proper operating range, the engine could be damaged.**

See *Engine Compartment Overview on page 5-12* for the location of the engine oil fill cap.

Be sure to add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back in when you are through.

Downloaded from www.Manualslib.com manuals search engine

What Kind of Engine Oil to Use



Look for three things:

- GM6094M

  Your vehicle's engine requires oil meeting GM Standard GM6094M. Look for and use only an oil that meets GM Standard GM6094M.

- SAE 5W-30

  As shown in the viscosity chart, SAE 5W-30 is best for your vehicle.

  These numbers on an oil container show its viscosity, or thickness. Do not use other viscosity oils such as SAE 20W-50.

- Oils meeting these requirements should have the starburst symbol on the container. This symbol indicates that the oil has been certified by the American Petroleum Institute (API).

Look for this information on the oil container, and use only those oils that are identified as meeting GM Standard GM6094M and have the starburst symbol on the front of the oil container.

Notice: **Use only engine oil identified as meeting GM Standard GM6094M and showing the American Petroleum Institute Certified For Gasoline Engines starburst symbol. Failure to use the recommended oil can result in engine damage not covered by your warranty.**

Downloaded from www.Manualslib.com manuals search engine

If you are in an area of extreme cold, where the temperature falls below –20°F (–29°C), it is recommended that you use either an SAE 5W-30 synthetic oil or an SAE 0W-30 oil. Both provide easier cold starting and better protection for the engine at extremely low temperatures.

Engine Oil Additives

Do not add anything to the oil. The recommended oils with the starburst symbol that meet GM Standard GM6094M are all you need for good performance and engine protection.

Engine Oil Life System

When to Change Engine Oil

Your vehicle has a computer system that lets you know when to change the engine oil and filter. This is based on engine revolutions and engine temperature, and not on mileage. Based on driving conditions, the mileage at which an oil change will be indicated can vary considerably. For the oil life system to work properly, you must reset the system every time the oil is changed.

When the system has calculated that oil life has been diminished, it will indicate that an oil change is necessary. A CHANGE OIL message will come on. See *DIC Warnings and Messages on page 3-43*. Change the oil as soon as possible within the next 600 miles (1 000 km). It is possible that, if you are driving under the best conditions, the oil life system might not indicate that an oil change is necessary for over a year. However, the engine oil and filter must be changed at least once a year and at this time the system must be reset. Your dealer/retailer has trained people who will perform this work using genuine parts and reset the system. It is also important to check the oil regularly and keep it at the proper level.

If the system is ever reset accidentally, you must change the oil at 3,000 miles (5 000 km) since your last oil change. Remember to reset the oil life system whenever the oil is changed.

Downloaded from www.Manualslib.com manuals search engine

How to Reset the Engine Oil Life System

The Engine Oil Life System calculates when to change the engine oil and filter based on vehicle use. Whenever the oil is changed, reset the system so it can calculate when the next oil change is required. If a situation occurs where you change the oil prior to a CHANGE OIL message being turned on, reset the system.

To reset the Engine Oil Life system:

1. With the engine off, turn the ignition to ON/RUN.
2. Press and release the stem in the lower center of the instrument cluster until the OIL LIFE message is displayed.
3. Once the alternating OIL LIFE and RESET messages appear, press and hold the stem until several beeps sound. This confirms that the oil life system has been reset.
4. Turn the key to LOCK/OFF.

If the CHANGE OIL message comes back on when you start your vehicle, the engine oil life system has not reset. Repeat the procedure. See *DIC Warnings and Messages on page 3-43*.

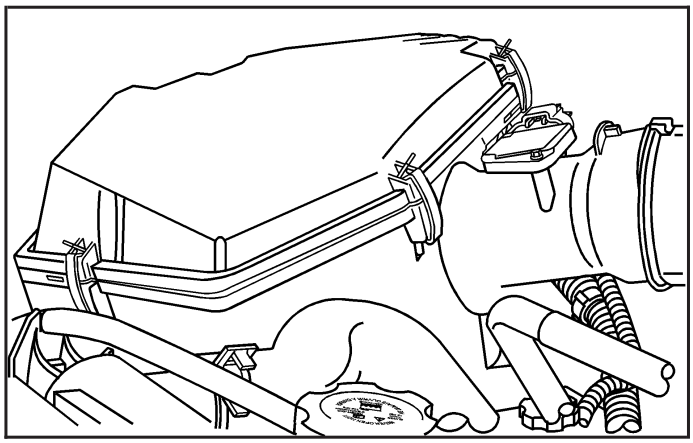
What to Do with Used Oil

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, pouring it on the ground, into sewers, or into streams or bodies of water. Instead, recycle it by taking it to a place that collects used oil. If you have a problem properly disposing of used oil, ask your dealer/retailer, a service station, or a local recycling center for help.

Downloaded from www.Manualslib.com manuals search engine

Engine Air Cleaner/Filter



The engine air cleaner/filter is located in the engine compartment on the passenger's side of the vehicle. See *Engine Compartment Overview on page 5-12* for more information on location.

When to Inspect the Engine Air Cleaner/Filter

Inspect the air cleaner/filter at the Maintenance II intervals and replace it at the first oil change after each 50,000 mile (80 000 km) interval. See *Scheduled Maintenance on page 6-4* for more information. If you are driving in dusty/dirty conditions, inspect the filter at each engine oil change.

How to Inspect the Engine Air Cleaner/Filter

To inspect or replace the engine air cleaner/filter, do the following:

1. Unfasten the clips that hold the cover on and remove the cover.
2. Lift out the engine air cleaner/filter.
3. Inspect or replace the air filter. See *Normal Maintenance Replacement Parts on page 6-14* to determine which filter to use.
4. Reinstall the engine air cleaner/filter cover. Fasten the clips to hold the cover in place.

Downloaded from www.Manualslib.com manuals search engine

⚠ CAUTION:

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. If it is not there and the engine backfires, you could be burned. Do not drive with it off, and be careful working on the engine with the air cleaner/filter off.

Notice: **If the air cleaner/filter is off, a backfire can cause a damaging engine fire. And, dirt can easily get into your engine, which will damage it. Always have the air cleaner/filter in place when you are driving.**

Automatic Transmission Fluid

When to Check and Change Automatic Transmission Fluid

A good time to check your automatic transmission fluid level is when the engine oil is changed.

Change the fluid and filter at the intervals listed in *Additional Required Services on page 6-6*, and be sure to use the transmission fluid listed in *Recommended Fluids and Lubricants on page 6-12*.

How to Check Automatic Transmission Fluid

Because this operation can be a little difficult, you may choose to have this done at the dealer/retailer service department.

Downloaded from www.Manualslib.com manuals search engine

If you do it yourself, be sure to follow all the instructions here, or you could get a false reading on the dipstick.

Notice: **Too much or too little fluid can damage your 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 you check your transmission fluid.**

Wait at least 30 minutes before checking the transmission fluid level if you have been driving:

- When outside temperatures are above 90°F (32°C).
- At high speed for quite a while.
- In heavy traffic — especially in hot weather.
- While pulling a trailer.

To get the right reading, the fluid should be at normal operating temperature, which is 180°F to 200°F (82°C to 93°C).

Get the vehicle warmed up by driving about 15 miles (24 km) when outside temperatures are above 50°F (10°C). If it is colder than 50°F (10°C), drive the vehicle in THIRD (3) until the engine temperature gage moves and then remains steady for 10 minutes.

A cold fluid check can be made after the vehicle has been sitting for eight hours or more with the engine off, but this is used only as a reference. Let the engine run at idle for five minutes if outside temperatures are 50°F (10°C) or more. If it is colder than 50°F (10°C), you may have to idle the engine longer. Should the fluid level be low during this cold check, you must check the fluid hot before adding fluid. Checking the fluid hot will give you a more accurate reading of the fluid level.

Checking the Fluid Level

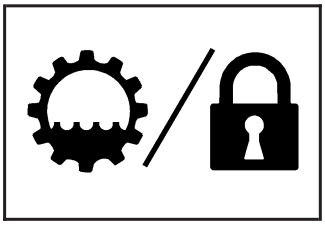
Prepare your vehicle as follows:

1. Park your vehicle on a level place. Keep the engine running.
2. With the parking brake applied, place the shift lever in PARK (P).
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, position the shift lever in PARK (P).
4. Let the engine run at idle for three minutes or more.

Downloaded from www.Manualslib.com manuals search engine

Then, without shutting off the engine, follow these steps:

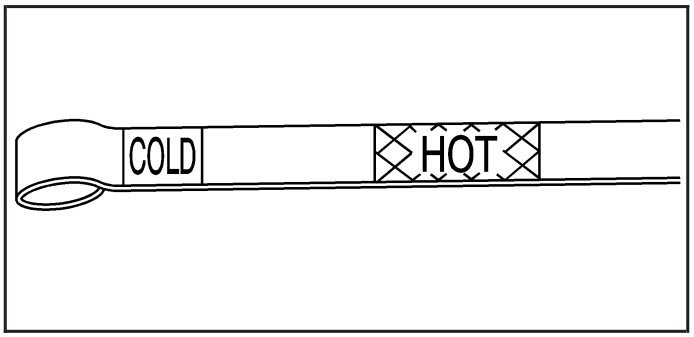
1. Flip the handle up and then pull out the dipstick and wipe it with a clean rag or paper towel.



The automatic transmission dipstick handle with this symbol on it is located in the engine compartment on the passenger's side of the vehicle.

See *Engine Compartment Overview on page 5-12* for more information on location.

2. Push it back in all the way, wait three seconds and then pull it back out again.



3. Check both sides of the dipstick, and read the lower level. The fluid level must be in the COLD area, below the cross-hatched area, for a cold check or in the HOT or cross-hatched area for a hot check. Be sure to keep the dipstick pointed down to get an accurate reading.
4. If the fluid level is in the acceptable range, push the dipstick back in all the way; then flip the handle down to lock the dipstick in place.

Downloaded from www.Manualslib.com manuals search engine

How to Add Automatic Transmission Fluid

Refer to the Maintenance Schedule to determine what kind of transmission fluid to use. See *Recommended Fluids and Lubricants on page 6-12*.

Add fluid only after checking the transmission fluid while it is hot. A cold check is used only as a reference. If the fluid level is low, add only enough of the proper fluid to bring the level up to the HOT area for a hot check. It does not take much fluid, generally less than one pint (0.5 L). Do not overfill.

Notice: **Use of the incorrect automatic transmission fluid may damage your vehicle, and the damages may not be covered by your warranty. Always use the automatic transmission fluid listed in *Recommended Fluids and Lubricants on page 6-12*.**

- After adding fluid, recheck the fluid level as described under “How to Check Automatic Transmission Fluid,” earlier in this section.
- When the correct fluid level is obtained, push the dipstick back in all the way; then flip the handle down to lock the dipstick in place.

Manual Transmission Fluid

When to Check

A good time to have it checked is when the engine oil is changed. However, the fluid in your manual transmission does not require changing.

How to Check

Because this operation can be a little difficult, you may choose to have this done at your GM dealer/retailer service department.

If you do it yourself, be sure to follow all the instructions here, or you could get a false reading.

Notice: **Too much or too little fluid can damage your transmission. Too little fluid could cause the transmission to overheat. Be sure to get an accurate reading if you check your transmission fluid.**

Check the fluid level only when your engine is off, the vehicle is parked on a level place and the transmission is cool enough for you to rest your fingers on the transmission case.

Downloaded from www.Manualslib.com manuals search engine

Then, follow these steps:

1. Remove the filler plug.
2. Check that the lubricant level is up to the bottom of the filler plug hole.
3. If the fluid level is good, install the plug and be sure it is fully seated. If the fluid level is low, add more fluid as described in the next steps.

How to Add Fluid

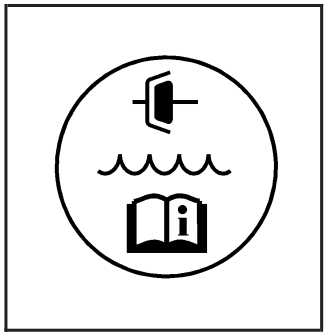
Here is how to add fluid. Refer to the Maintenance Schedule to determine what kind of fluid to use. See *Recommended Fluids and Lubricants on page 6-12*.

1. Remove the filler plug.
2. Add fluid at the filler plug hole. Add only enough fluid to bring the fluid level up to the bottom of the filler plug hole.
3. Install the filler plug. Be sure the plug is fully seated.

Downloaded from www.Manualslib.com manuals search engine

Hydraulic Clutch

The hydraulic clutch linkage in your vehicle is self-adjusting. The clutch master cylinder reservoir is filled with hydraulic clutch fluid.

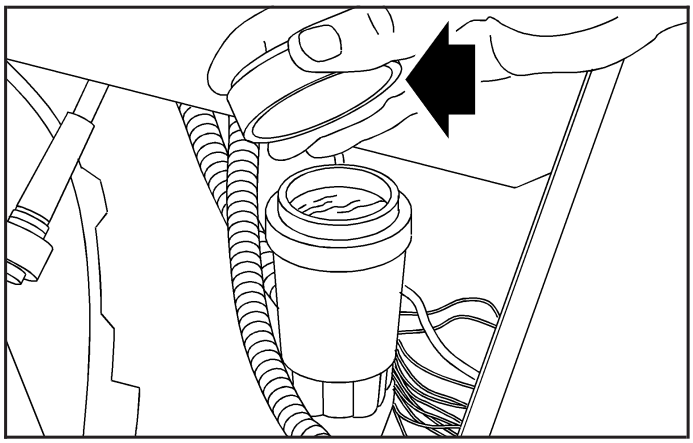


The hydraulic clutch fluid reservoir cap has this symbol on it. See *Engine Compartment Overview on page 5-12* for reservoir location.

It is not necessary to regularly check clutch fluid unless you suspect there is a leak in the system. Adding fluid will not correct a leak.

A fluid loss in this system could indicate a problem. Have the system inspected and repaired.

When to Check and What to Use



Refer to the Maintenance Schedule to determine how often you should check the fluid level in your clutch master cylinder reservoir and for the proper fluid. See *Recommended Fluids and Lubricants on page 6-12*.

Downloaded from www.Manualslib.com manuals search engine

How to Check and Add Fluid

The proper fluid should be added if the level does not reach the bottom of the diaphragm when it is in place in the reservoir. See the instructions on the reservoir cap.

Engine Coolant

The cooling system in your vehicle is filled with DEX-COOL® engine coolant. This coolant is designed to remain in your vehicle for five years or 150,000 miles (240 000 km), whichever occurs first, if you add only DEX-COOL® extended life coolant.

The following explains your cooling system and how to add coolant when it is low. If you have a problem with engine overheating, see *Engine Overheating on page 5-29*.

A 50/50 mixture of clean, drinkable water and DEX-COOL® coolant will:

- Give freezing protection down to –34°F (–37°C).
- Give boiling protection up to 265°F (129°C).
- Protect against rust and corrosion.
- Help keep the proper engine temperature.
- Let the warning lights and gages work as they should.

Notice: **Using coolant other than DEX-COOL® may cause premature engine, heater core, or radiator corrosion. In addition, the engine coolant may require changing sooner, at the first maintenance service after each 30,000 miles (50 000 km) or 24 months, whichever occurs first. Any repairs would not be covered by your warranty. Always use DEX-COOL® (silicate-free) coolant in your vehicle.**

Downloaded from www.Manualslib.com manuals search engine

What to Use

Use a mixture of one-half clean, drinkable water and one-half DEX-COOL® coolant which will not damage aluminum parts. If you use this coolant mixture, you do not need to add anything else.

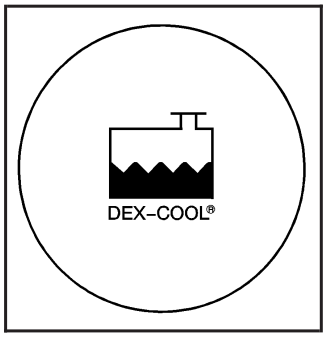
⚠ CAUTION:

Adding only plain water to your cooling system can be dangerous. Plain water, or some other liquid such as alcohol, can boil before the proper coolant mixture will. Your vehicle's coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, your engine could get too hot but you would not get the overheat warning. Your engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean, drinkable water and the proper coolant.

Notice: **If you use an improper coolant mixture, your engine could overheat and be badly damaged. The repair cost would not be covered by your warranty. Too much water in the mixture can freeze and crack the engine, radiator, heater core, and other parts.**

Notice: **If you use extra inhibitors and/or additives in your vehicle's cooling system, you could damage your vehicle. Use only the proper mixture of the engine coolant listed in this manual for the cooling system. See *Recommended Fluids and Lubricants on page 6-12* for more information.**

Checking Coolant



The coolant recovery tank cap has this symbol on it.

It is located toward the rear of the engine compartment on the passenger's side of the vehicle. See *Engine Compartment Overview on page 5-12* for more information on location.

The vehicle must be on a level surface. When your engine is cold, the coolant level should be at FULL COLD, or a little higher. When your engine is warm, the level could be above the FULL COLD level.

Downloaded from www.Manualslib.com manuals search engine

Adding Coolant

If you need more coolant, add the proper DEX-COOL® coolant mixture at the coolant recovery tank.

⚠ CAUTION:

Turning the radiator pressure cap when the engine and radiator are hot can allow steam and scalding liquids to blow out and burn you badly. With the coolant recovery tank, you will almost never have to add coolant at the radiator. Never turn the radiator pressure cap — even a little — when the engine and radiator are hot.

Add coolant mixture at the recovery tank, but be careful not to spill it.

⚠ CAUTION:

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.

Occasionally check the coolant level in the radiator. For information on how to add coolant to the radiator, see *Cooling System on page 5-31*.

Radiator Pressure Cap

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.**

See *Engine Compartment Overview on page 5-12* for more information on location.

Engine Overheating

A coolant temperature gage is on the instrument panel. See *Engine Coolant Temperature Gage on page 3-35*.

The air conditioning might stop working if the engine is too hot. This is normal and helps cool the engine.

Downloaded from www.Manualslib.com manuals search engine

If Steam Is Coming From Your Engine

⚠ CAUTION:

Steam from an overheated engine can burn you badly, even if you just open the hood. Stay away from the engine if you see or hear steam coming from it. Just turn it off and get everyone away from the vehicle until it cools down. Wait until there is no sign of steam or coolant before you open the hood.

If you keep driving when your engine is overheated, the liquids in it can catch fire. You or others could be badly burned. Stop your engine if it overheats, and get out of the vehicle until the engine is cool.

Notice: **If your engine catches fire because you keep driving with no coolant, your vehicle can be badly damaged. The costly repairs would not be covered by your warranty.**

If No Steam Is Coming From Your Engine

If you get 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 you:

- Climb a long hill on a hot day.
- Stop after high-speed driving.
- Idle for long periods in traffic.
- Tow a trailer. See “Driving on Grades” under *Towing a Trailer on page 4-50*.

If you get the overheat warning with no sign of steam, try this for a minute or so:

1. In heavy traffic, let the engine idle in NEUTRAL while stopped. If it is safe to do so, pull off the road, shift to PARK (P) or NEUTRAL and let the engine idle.
2. Turn off the air conditioning.
3. Turn on your heater to full hot at the highest fan speed and open the windows as necessary.

Downloaded from www.Manualslib.com manuals search engine

If you no longer have the overheat warning, you can drive. Just to be safe, drive slower for about 10 minutes. If the warning does not come back on, you can drive normally.

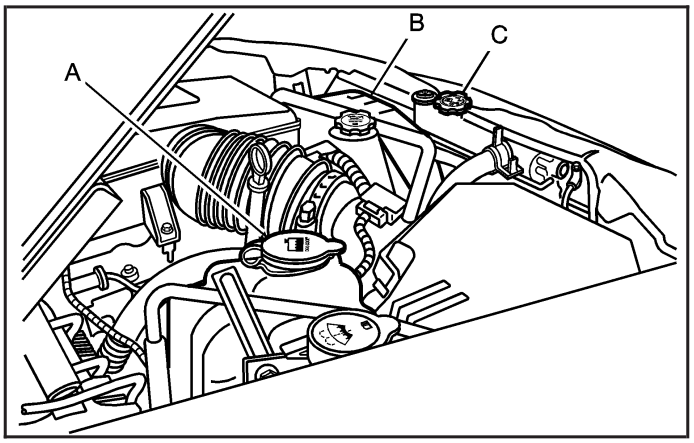
If the warning continues, pull over, stop, and park your vehicle right away.

If there is still no sign of steam, idle the engine for three minutes while you are parked. Push down the accelerator until the engine speed is about twice as fast as normal idle speed for at least three minutes while you are parked. If you still have the warning, turn off the engine and get everyone out of the vehicle until it cools down.

You may decide not to lift the hood but to get service help right away.

Cooling System

When you decide it is safe to lift the hood, here is what you will see:

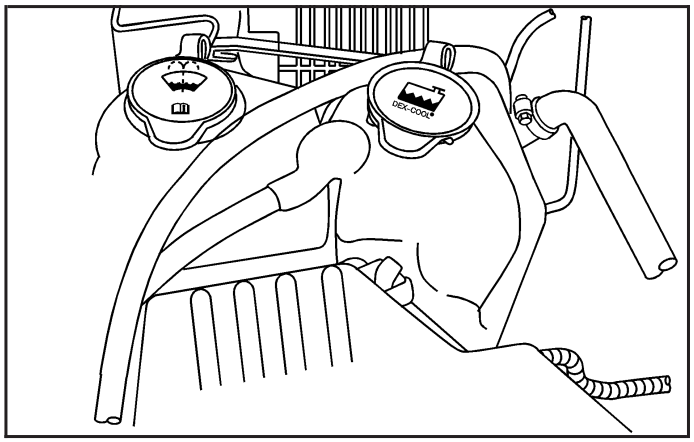


3.7L Engine shown, 5.3L Engine similar

A. Coolant Recovery Tank
B. Engine Cooling Fan
C. Radiator Pressure Cap

If the coolant inside the coolant recovery tank is boiling, do not do anything else until it cools down. The vehicle should be parked on a level surface.

Downloaded from www.Manualslib.com manuals search engine



When the engine is cold, the coolant level should be at least up to the FULL COLD mark. If it is not, you may have a leak at the pressure cap or in the radiator hoses, heater hoses, radiator, water pump or somewhere else in the cooling system.

⚠ CAUTION:

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.

If there seems to be no leak, start the engine again. The engine cooling fan speed should increase when idle speed is doubled by pushing the accelerator pedal down. If it does not, your vehicle needs service. Turn off the engine.

Notice: **Engine damage from running the engine without coolant is not covered by the warranty.**

Notice: **Using coolant other than DEX-COOL® may cause premature engine, heater core, or radiator corrosion. In addition, the engine coolant could require changing sooner, at 30,000 miles (50 000 km) or 24 months, whichever occurs first. Any repairs would not be covered by the warranty. Always use DEX-COOL® (silicate-free) coolant in the vehicle.**

Downloaded from www.Manualslib.com manuals search engine

How to Add Coolant to the Coolant Recovery Tank

If you have not found a problem yet, but the coolant level is not at the FULL COLD mark, add a 50/50 mixture of clean, drinkable water and DEX-COOL® engine coolant at the coolant recovery tank. See *Engine Coolant on page 5-27* for more information.

⚠ CAUTION:

Adding only plain water to the cooling system can be dangerous. Plain water, or some other liquid such as alcohol, can boil before the proper coolant mixture will. The vehicle's coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, the engine could get too hot but you would not get the 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.

Notice: **In cold weather, water can freeze and crack the engine, radiator, heater core and other parts. Use the recommended coolant and the proper coolant mixture.**

⚠ CAUTION:

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.

When the coolant in the coolant recovery tank is at the FULL COLD mark, start your vehicle.

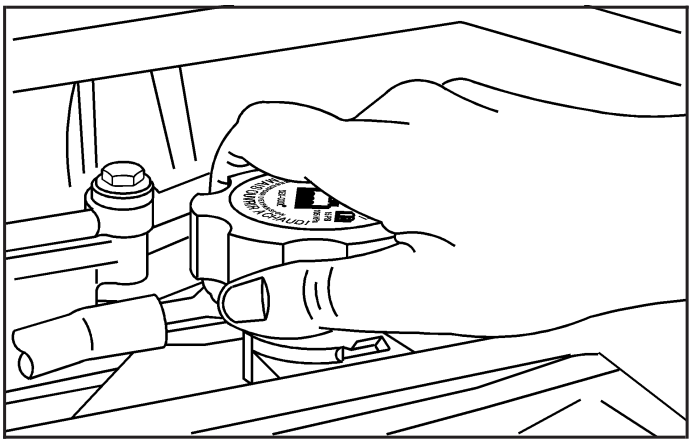
Downloaded from www.Manualslib.com manuals search engine

If the overheat warning continues, there is one more thing you can try. Add the proper mixture directly to the radiator, but be sure the cooling system is cool before you do it.

⚠ CAUTION:

Steam and scalding liquids from a hot cooling system can blow out and burn you badly. They are under pressure, and if you turn the radiator pressure cap — even a little — they can come out at high speed. Never turn the cap when the cooling system, including the radiator pressure cap, is hot. Wait for the cooling system and radiator pressure cap to cool if you ever have to turn the pressure cap.

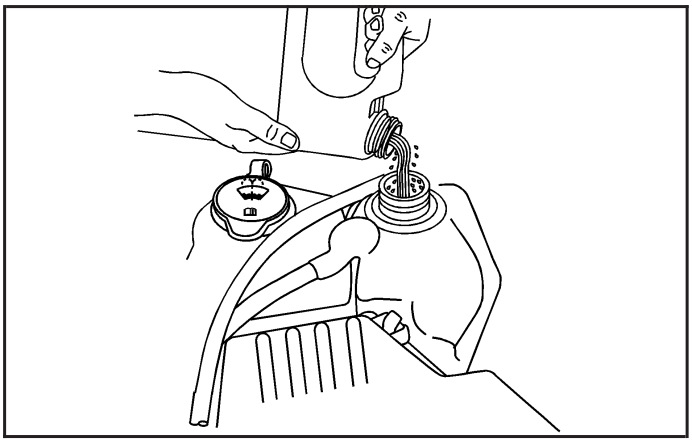
How to Add Coolant to the Radiator

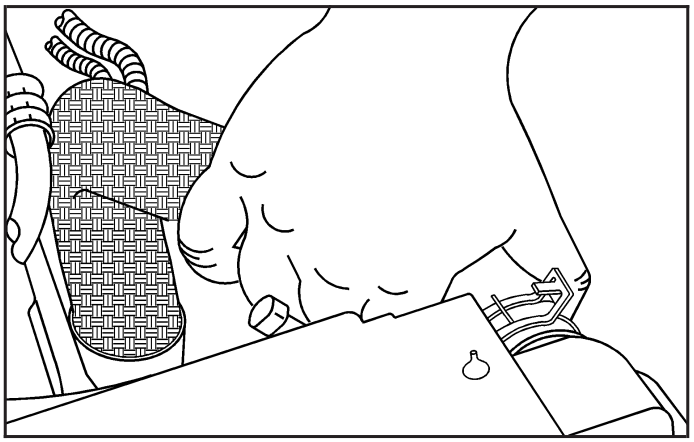


1. Remove the radiator pressure cap when the cooling system, including the upper radiator hose, is no longer hot. Turn the pressure cap slowly counterclockwise about one full turn.

   If you hear a hiss, wait for that to stop. A hiss means there is still some pressure left.
2. Keep turning the cap to remove it.
3. Fill the radiator with the proper DEX-COOL® coolant mixture, up to the base of the filler neck. See *Engine Coolant on page 5-27* for more information about the proper coolant mixture.

Downloaded from www.Manualslib.com manuals search engine





4. Fill the coolant recovery tank to the FULL COLD mark.
5. Reinstall the cap on the coolant recovery tank, but leave the radiator pressure cap off.
6. Start the engine and let it run until you can feel the upper radiator hose getting hot. Watch out for the engine cooling fan.
7. By this time, the coolant level inside the radiator filler neck might be lower. If the level is lower, add more of the proper DEX-COOL® coolant mixture through the filler neck until the level reaches the base of the filler neck.
8. Then replace the pressure cap.

At any time during this procedure if coolant begins to flow out of the filler neck, reinstall the pressure cap. Be sure to secure it tightly.

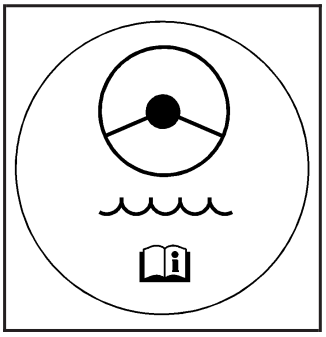
Downloaded from www.Manualslib.com manuals search engine

Engine Fan Noise

This vehicle has a clutched engine cooling fan. When the clutch is engaged, the fan spins faster to provide more air to cool the engine. In most everyday driving conditions, the clutch is not engaged. This improves fuel economy and reduces fan noise. Under heavy vehicle loading, trailer towing and/or high outside temperatures, the fan speed increases when the clutch engages. So you may hear an increase in fan noise. This is normal and should not be mistaken as the transmission slipping or making extra shifts. It is merely the cooling system functioning properly. The fan will slow down when additional cooling is not required and the clutch disengages.

You may also hear this fan noise when you start the engine. It will go away as the fan clutch disengages.

Power Steering Fluid



See *Engine Compartment Overview on page 5-12* for reservoir location.

When to Check Power Steering Fluid

It is not necessary to regularly check power steering fluid unless you suspect there is a leak in the system or you hear an unusual noise. A fluid loss in this system could indicate a problem. Have the system inspected and repaired.

How to Check 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.

Downloaded from www.Manualslib.com manuals search engine

4. Replace the cap and completely tighten it.
5. Then remove the cap again and look at the fluid level on the dipstick.

The level should be between the ADD and FULL marks. If necessary, add only enough fluid to bring the level up to the proper range.

What to Use

To determine what kind of fluid to use, see *Recommended Fluids and Lubricants on page 6-12*. Always use the proper fluid.

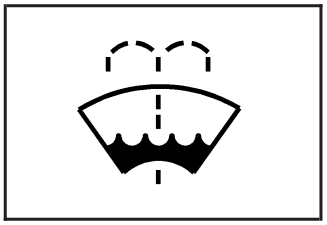
Notice: **Use of the incorrect fluid may damage your vehicle and the damages may not be covered by your warranty. Always use the correct fluid listed in *Recommended Fluids and Lubricants on page 6-12*.**

Windshield Washer Fluid

What to Use

When you need windshield washer fluid, be sure to read the manufacturer's instructions before use. If you will be operating your vehicle in an area where the temperature may fall below freezing, use a fluid that has sufficient protection against freezing.

Adding Washer Fluid



Open the cap with the washer symbol on it. Add washer fluid until the tank is full. See *Engine Compartment Overview on page 5-12* for reservoir location.

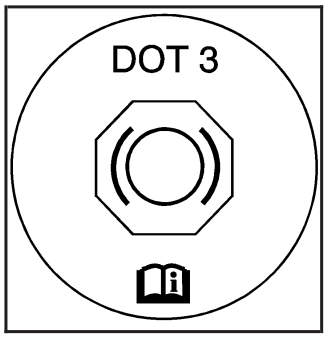
Notice:

- **When using concentrated washer fluid, follow the manufacturer's instructions for adding water.**
- **Do not mix water with ready-to-use washer fluid. Water can cause the solution to freeze and damage your washer fluid tank and other parts of the washer system. Also, water does not clean as well as washer fluid.**
- **Fill the washer fluid tank only three-quarters full when it is very cold. This allows for fluid expansion if freezing occurs, which could damage the tank if it is completely full.**
- **Do not use engine coolant (antifreeze) in your windshield washer. It can damage the vehicle's windshield washer system and paint.**

Downloaded from www.Manualslib.com manuals search engine

Brakes

Brake Fluid



The brake master cylinder reservoir is filled with DOT-3 brake fluid. See *Engine Compartment Overview on page 5-12* for the location of the reservoir.

There are only two reasons why the brake fluid level in the reservoir might go down. The first is that the brake fluid goes down to an acceptable level during normal brake lining wear. When new linings are put in, the fluid level goes back up. The other reason is that fluid is leaking out of the brake hydraulic system. If it is, you should have the brake hydraulic system fixed, since a leak means that sooner or later the brakes will not work well.

It is not a good idea to top off the brake fluid. Adding brake fluid will 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.

⚠ CAUTION:

If you have too much brake fluid, it can spill on the engine. The fluid will burn if the engine is hot enough. You or others could be burned, and your vehicle could be damaged. Add brake fluid only when work is done on the brake hydraulic system. See "Checking Brake Fluid" in this section.

Refer to the Maintenance Schedule to determine when to check your brake fluid. See *Scheduled Maintenance on page 6-4*.

Downloaded from www.Manualslib.com manuals search engine

Checking Brake Fluid

The brake fluid can be checked without taking off the cap by looking at the brake fluid reservoir.

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

When you do need brake fluid, use only DOT-3 brake fluid. Use new brake fluid from a sealed container only. See *Recommended Fluids and Lubricants on page 6-12*.

Always clean the brake fluid reservoir cap and the area around the cap before removing it. This helps keep dirt from entering the reservoir.

⚠ CAUTION:

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 you spill brake fluid on your vehicle's painted surfaces, the paint finish can be damaged. Be careful not to spill brake fluid on your vehicle. If you do, wash it off immediately. See *Washing Your Vehicle on page 5-95*.**

Downloaded from www.Manualslib.com manuals search engine

Brake Wear

Your 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 your vehicle is moving, except when you are pushing on the brake pedal firmly.

⚠ CAUTION:

The brake wear warning sound means that soon the brakes will not work well. That could lead to an accident. When you hear the brake wear warning sound, have your vehicle serviced.

Notice: **Continuing to drive with worn-out brake pads could result in costly brake repair.**

Some driving conditions or climates can cause a brake squeal when the brakes are first applied or lightly applied. This does not mean something is wrong with the brakes.

Properly torqued wheel nuts are necessary to help prevent brake pulsation. When tires are rotated, inspect brake pads for wear and evenly tighten wheel nuts in the proper sequence to torque specifications in *Capacities and Specifications on page 5-107*.

Brake linings should always be replaced as complete axle sets.

Brake Pedal Travel

See your dealer/retailer 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 you make a brake stop, the disc brakes adjust for wear.

Downloaded from www.Manualslib.com manuals search engine

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. Your vehicle was designed and tested with top-quality brake parts. When you replace parts of the braking system — for example, when the brake linings wear down and you need new ones put in — be sure you get new approved replacement parts. If you do not, the brakes might not work properly. For example, if someone puts in brake linings that are wrong for your vehicle, the balance between the front and rear brakes can change — for the worse. The braking performance you have come to expect can change in many other ways if someone puts in the wrong replacement brake parts.

Battery

Your vehicle has a maintenance free battery. When it is time for a new battery, see your dealer/retailer for one that has the replacement number shown on the original battery's label. See *Engine Compartment Overview on page 5-12* for battery location.

Warning: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Vehicle Storage

⚠ CAUTION:

Batteries have acid that can burn you and gas that can explode. You can be badly hurt if you are not careful. See *Jump Starting on page 5-42* for tips on working around a battery without getting hurt.

Infrequent Usage: If you drive your vehicle infrequently, remove the black, negative (–) cable from the battery. This will help keep the battery from running down.

Extended Storage: For extended storage of your vehicle, remove the black, negative (–) cable from the battery or use a battery trickle charger. This will help maintain the charge of the battery over an extended period of time.

Downloaded from www.Manualslib.com manuals search engine

Jump Starting

If your vehicle's battery has run down, you may want to use another vehicle and some jumper cables to start your vehicle. Be sure to use the following steps to do it safely.

⚠ CAUTION:

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 your vehicle that would not be covered by your warranty.**

Trying to start your vehicle by pushing or pulling it will not work, and it could damage your vehicle.

1. Check the other vehicle. It must have a 12-volt battery with a negative ground system.

Notice: **If the other vehicle's system is not a 12-volt system with a negative ground, both vehicles can be damaged. Only use vehicles with 12-volt systems with negative grounds to jump start your vehicle.**

2. Get the vehicles close enough so the jumper cables can reach, but be sure the vehicles are not touching each other. If they are, it could cause a ground connection you do not want. You would not be able to start your vehicle, and the bad grounding could damage the electrical systems.

   To avoid the possibility of the vehicles rolling, set the parking brake firmly on both vehicles involved in the jump start procedure. Put an automatic transmission in PARK (P) or a manual transmission in NEUTRAL before setting the parking brake. If you have a four-wheel-drive vehicle, be sure the transfer case is not in NEUTRAL.

Notice: **If you leave your radio or other accessories on during the jump starting procedure, they could be damaged. The repairs would not be covered by your warranty. Always turn off your radio and other accessories when jump starting your vehicle.**

3. Turn off the ignition on both vehicles. Unplug unnecessary accessories plugged into the cigarette lighter or the accessory power outlets. Turn off the radio and all lamps that are not needed. This will avoid sparks and help save both batteries. And it could save the radio!

Downloaded from www.Manualslib.com manuals search engine

4. Open the hoods and locate the batteries on both vehicles. You will use the positive (+) battery terminal and the remote negative (–) jump starting terminal to jump start your vehicle. To access the positive (+) battery terminal, open the terminal cover. See *Engine Compartment Overview on page 5-12* for more information on the terminal locations.

⚠ CAUTION:

Using a match near a battery can cause battery gas to explode. People have been hurt doing this, and some have been blinded. Use a flashlight if you need more light.

Be sure the batteries have enough water. You do not need to add water to the ACDelco® battery (or batteries) installed in your new vehicle. But if a battery has filler caps, be sure the right amount of fluid is there. If it is low, add water to take care of that first. If you do not, explosive gas could be present.

Battery fluid contains acid that can burn you. Do not get it on you. If you accidentally get it in your eyes or on your skin, flush the place with water and get medical help immediately.

⚠ CAUTION:

Fans or other moving engine parts can injure you badly. Keep your hands away from moving parts once the engine is running.

5. Check that the jumper cables do not have loose or missing insulation. If they do, you could get a shock. The vehicles could be damaged too.

   Before you connect the cables, here are some basic things you should know. Positive (+) will go to positive (+) or to a remote positive (+) terminal if the vehicle has one. Negative (–) will go to a heavy, unpainted metal engine part or to a remote negative (–) terminal if the vehicle has one.

   Do not connect positive (+) to negative (–) or you will get a short that would damage the battery and maybe other parts too. And do not connect the negative (–) cable to the negative (–) terminal on the dead battery because this can cause sparks.

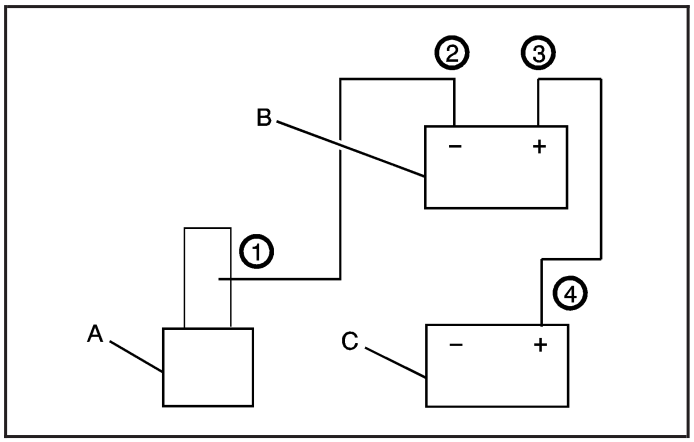
Downloaded from www.Manualslib.com manuals search engine

6. Connect the red positive (+) cable to the positive (+) terminal of 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 a remote negative (–) terminal on the vehicle with the dead battery.
9. Connect the other end of the negative (–) cable at least 18 inches (45 cm) away from the dead battery, but not near engine parts that move. The electrical connection is just as good there, and the chance of sparks getting back to the battery is much less.

   Your vehicle has a remote negative (–) terminal, marked GND (Ground), for this purpose.
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 jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by your warranty. Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.**



Jumper Cable Removal

A. Heavy, Unpainted Metal Engine Part or Remote Negative (–) Terminal
B. Good Battery or Remote Positive (+) and Remote Negative (–) Terminals
C. Dead Battery or Remote Positive (+) Terminal

Downloaded from www.Manualslib.com manuals search engine

To disconnect the jumper cables from both vehicles, do the following:

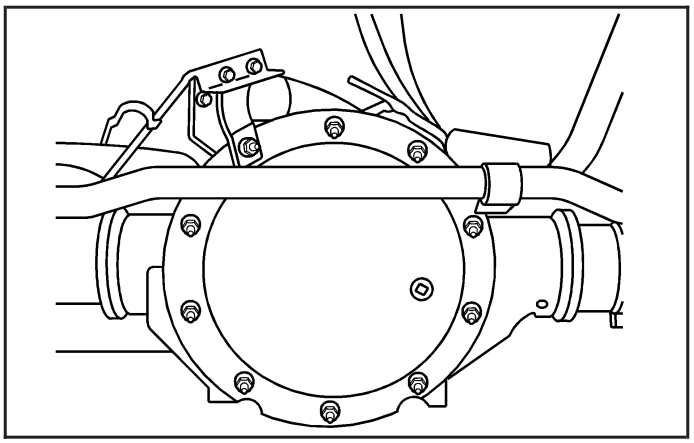
1. Disconnect the black negative (–) cable from the vehicle that had the dead battery.
2. Disconnect the black negative (–) cable from the vehicle with the good battery.
3. Disconnect the red positive (+) cable from the vehicle with the good battery.
4. Disconnect the red positive (+) cable from the other vehicle.
5. Return the positive (+) battery terminal cover to its original position.

Rear Axle

When to Check and Change Lubricant

It is not necessary to regularly check rear axle fluid unless you suspect there is a leak or you hear an unusual noise. 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.

The proper level is from 0 to 3/8 inch (0 mm to 10 mm) below the bottom of the filler plug hole, located on the rear axle.

What to Use

See *Recommended Fluids and Lubricants on page 6-12* to determine which kind of lubricant to use.

Downloaded from www.Manualslib.com manuals search engine

Four-Wheel Drive

It is recommended that the four-wheel drive transfer case fluid be checked and filled by your dealer.

Front Axle

It is not necessary to regularly check front axle fluid unless you suspect there is a leak or you hear an unusual noise. A fluid loss could indicate a problem.

It is recommended that the front axle fluid be checked and filled by your dealer.

Headlamp Aiming

The vehicle may have a visual optical headlamp aiming system. The aim has been preset at the factory and should need no further adjustment.

However, if the vehicle is damaged in a crash, the headlamp aim may be affected and adjustment may be necessary.

If oncoming vehicles flash their high beams at you, this may also mean the vertical aim needs to be adjusted.

It is recommended that the vehicle is taken to your dealer/retailer for service if the headlamps need to be re-aimed. It is possible however, to re-aim the headlamps as described.

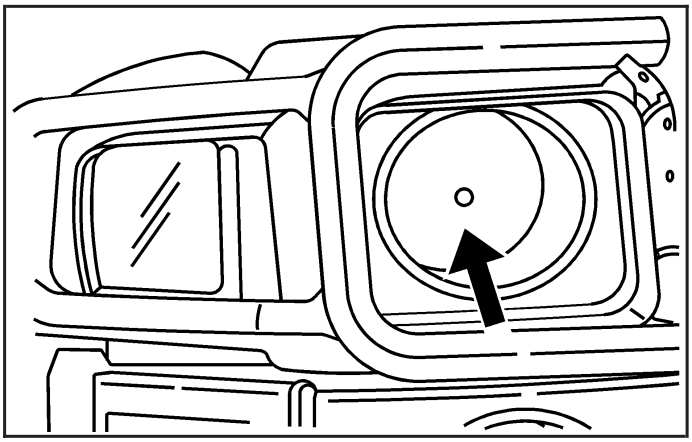
The vehicle should:

- Be placed so the headlamps are 25 ft. (7.6 m) from a light colored wall or other flat surface.
- Have all four tires on a level surface which is level all the way to a wall.
- Be placed so it is perpendicular to the wall or other flat surface.
- Not have any snow, ice, or mud on it.
- Be fully assembled and all other work stopped while headlamp aiming is being performed.
- Be normally loaded with a full tank of fuel and one person or 160 lbs (75 kg) sitting on the driver seat.
- Have the tires properly inflated.
- Have the spare tire is in its original location in the vehicle.

Downloaded from www.Manualslib.com manuals search engine

To adjust the vertical aim:

1. Open the hood. See *Hood Release on page 5-11* for more information.

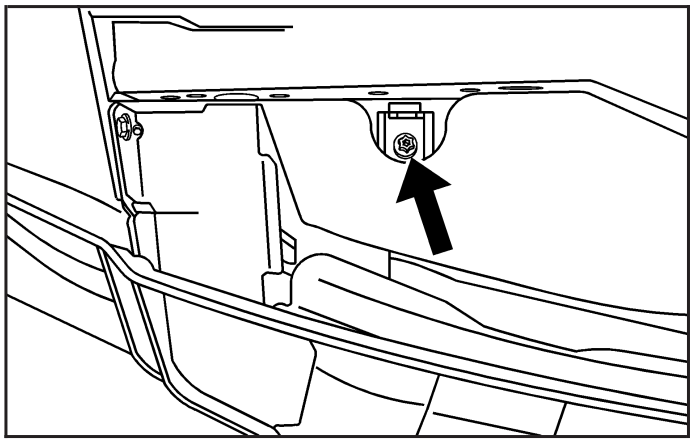


2. Find the aim dot on the lens of the headlamp.
3. Record the distance from the ground to the aim dot on the headlamp.
4. At a wall, measure from the ground upward the recorded distance from Step 2 and mark it.
5. Draw or tape a horizontal line the width of the vehicle at the wall where it was marked it Step 4.

Notice: **Do not cover a headlamp to improve beam cut-off when aiming. Covering a headlamp may cause excessive heat build-up which may cause damage to the headlamp.**

6. Turn on the headlamps and place a piece of cardboard or equivalent in front of the headlamp not being aimed. This should allow only the beam of light from the headlamp being aimed to be seen on the wall.

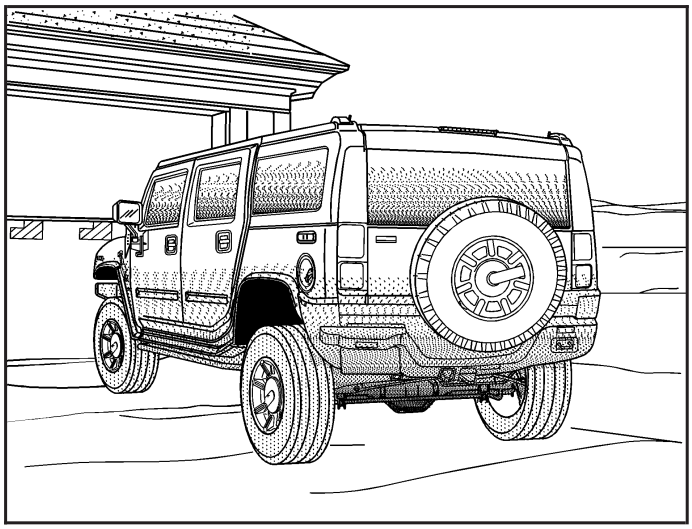
Downloaded from www.Manualslib.com manuals search engine



Passenger's Side Shown

7. Locate the vertical headlamp aiming screws, which are under the hood near each headlamp assembly.

   The adjustment screw can be turned with an E8 Torx® socket or T15 Torx® screwdriver.



8. Turn the vertical aiming screw until the headlamp beam is aimed to the horizontal tape line. Turn it clockwise or counterclockwise to raise or lower the beam.

   The top edge of the cut-off should be positioned at the bottom edge of the horizontal tape line.

9. Repeat Steps 7 and 8 for the opposite headlamp.

Downloaded from www.Manualslib.com manuals search engine

Bulb Replacement

For the proper type of replacement bulbs, see *Replacement Bulbs on page 5-52*.

For any bulb changing procedure not listed in this section, contact your dealer/retailer.

Halogen Bulbs

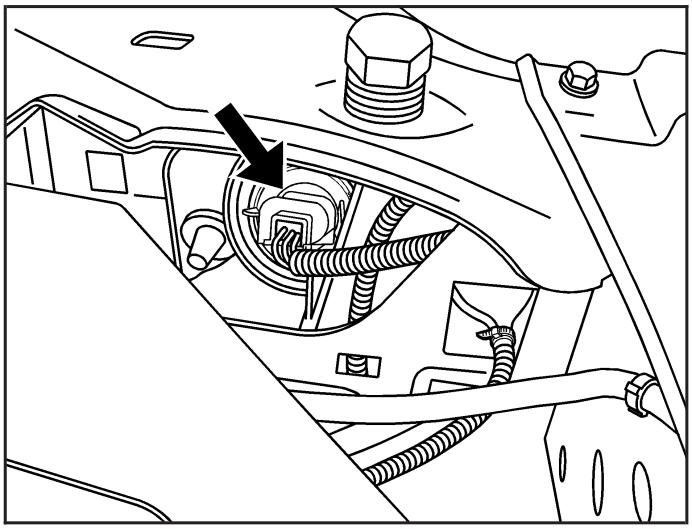
⚠ CAUTION:

Halogen bulbs have pressurized gas inside and can burst if you drop or scratch the bulb. You or others could be injured. Be sure to read and follow the instructions on the bulb package.

Headlamps

To replace a headlamp bulb:

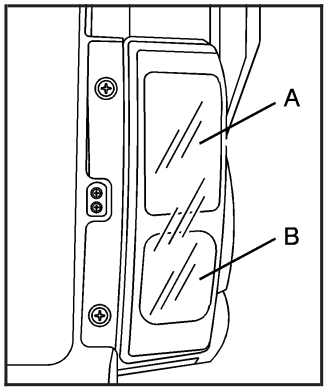
1. Open the hood. See *Hood Release on page 5-11* for more information.
2. Reach in and access the headlamp bulb socket from inside the engine compartment.



3. Turn the bulb socket counterclockwise to remove it from the headlamp assembly and pull it straight out.
4. Unplug the electrical connector by pushing the release tab and pulling the bulb socket out.
5. Replace with a new bulb socket.
6. Reinstall the electrical connector.
7. Reinstall the new bulb socket into the headlamp assembly and turn it clockwise to secure.
8. Close the hood.

Downloaded from www.Manualslib.com manuals search engine

Taillamps, Turn Signal, Stoplamps and Back-up Lamps

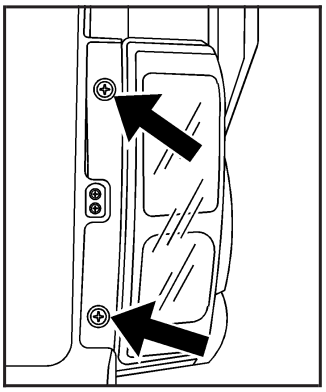


A. Stoplamp, Taillamp and Turn Signal Lamp

B. Back-up Lamp

To replace one of these bulbs in the taillamp assembly:

1. Open the swing-gate. See *Swing-gate on page 2-10* for more information.



Passenger's Side Shown

2. Remove the two screws from the taillamp assembly.

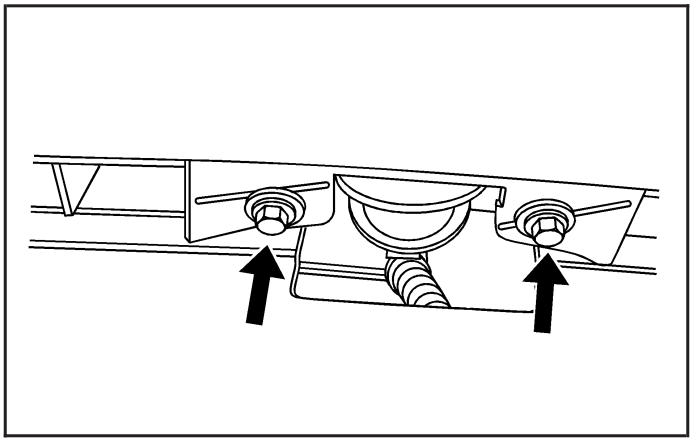
3. Pull the taillamp assembly away from the vehicle.

Downloaded from www.Manualslib.com manuals search engine

4. Turn the bulb socket counterclockwise to remove it from the taillamp assembly.
5. Holding the socket, pull the old bulb to release it from the socket.
6. Push the new bulb into the socket until it clicks.
7. Insert the bulb socket into the taillamp assembly and turn it clockwise to secure.
8. Reinstall the taillamp assembly by lining up the locator pins with the retainers in the vehicle's body.
9. Reinstall the two screws and tighten.
10. Close the swing-gate.

License Plate Lamp

To replace one of these bulbs:



1. Reach under the bumper for the bulb socket.
2. Remove the two screws holding the license plate lamp.

Downloaded from www.Manualslib.com manuals search engine

3. Pull the license plate lamp away from the fascia.
4. Turn the bulb socket counterclockwise and pull the bulb straight out of the license plate lamp assembly.
5. Install the new bulb into the socket.
6. Insert the bulb socket into the license plate lamp assembly and turn it clockwise to secure.
7. Replace the license plate lamp assembly and tighten the two screws.

Replacement Bulbs

Exterior Lamp	Bulb Number
Back-up Lamp, Stoplamp, Taillamp and Turn Signal Lamp	3157K
License Plate Lamp	194
Low-Beam and High-Beam Headlamp	H13

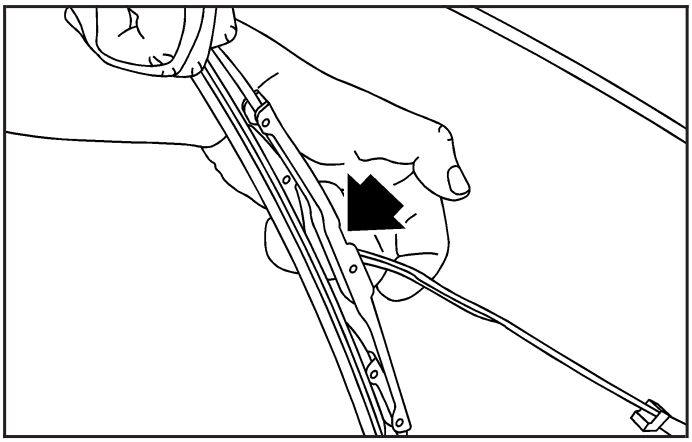
For replacement bulbs not listed here, contact your dealer/retailer.

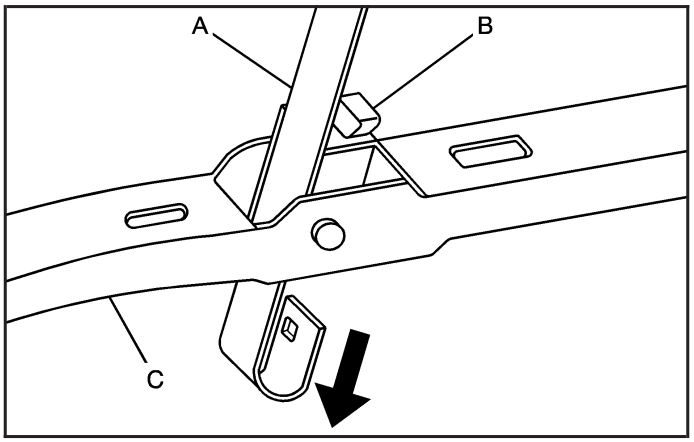
Windshield Wiper Blade Replacement

Windshield wiper blades should be inspected for wear and cracking. See *Scheduled Maintenance on page 6-4* for more information.

Replacement blades come in different types and are removed in different ways. For proper type and length, see *Normal Maintenance Replacement Parts on page 6-14*.

Downloaded from www.Manualslib.com manuals search engine





To replace the windshield wiper blade assembly do the following:

1. Lift the wiper arm away from the windshield.
2. Push the release lever (B) to disengage the hook and push the wiper arm (A) out of the blade (C).
3. Push the new wiper blade securely on the wiper arm until you hear the release lever click into place.

To replace the rear wiper blade, lift the rear wiper arm from the window and pull the blade.

Downloaded from www.Manualslib.com manuals search engine

Tires

Your new vehicle comes with high-quality tires made by a leading tire manufacturer. If you ever have questions about your tire warranty and where to obtain service, see your vehicle Warranty booklet for details.

⚠ CAUTION:

Poorly maintained and improperly used tires are dangerous.

- **Overloading your vehicle's tires can cause overheating as a result of too much friction. You could have an air-out and a serious accident. See *Loading Your Vehicle on page 4-42*.**

CAUTION: (Continued)

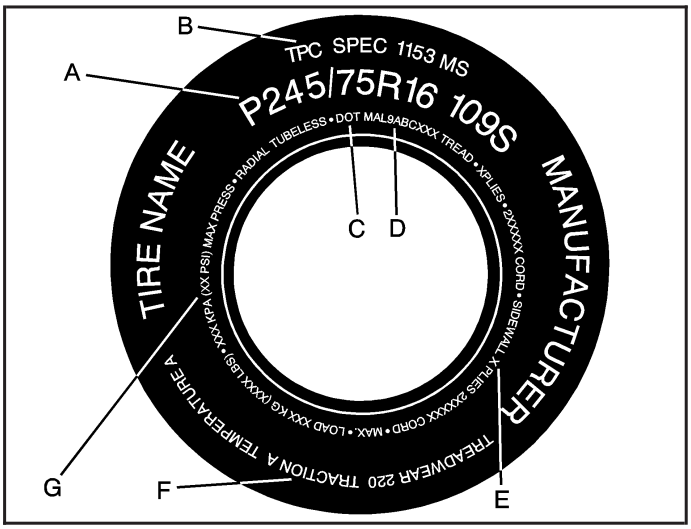
CAUTION: (Continued)

- **Underinflated tires pose the same danger as overloaded tires. The resulting accident could cause serious injury. Check all tires frequently to maintain the recommended pressure. Tire pressure should be checked when your vehicle's tires are cold. See *Inflation - Tire Pressure on page 5-62*.**
- **Overinflated tires are more likely to be cut, punctured, or broken by a sudden impact — such as when you hit a pothole. Keep tires at the recommended pressure.**
- **Worn, old tires can cause accidents. If the tire's tread is badly worn, or if your vehicle's tires have been damaged, replace them.**

Downloaded from www.Manualslib.com manuals search engine

Tire Sidewall Labeling

Useful information about a tire is molded into the sidewall. The following illustrations are examples of a typical P-Metric and a LT-Metric tire sidewall.



Passenger (P-Metric) Tire

(A) Tire Size: The tire size code is a combination of letters and numbers used to define a particular tire's width, height, aspect ratio, construction type, and service description. See the "Tire Size" illustration later in this section for more detail.

(B) TPC Spec (Tire Performance Criteria Specification): Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

(C) DOT (Department of Transportation): The Department of Transportation (DOT) code indicates that the tire is in compliance with the U.S. Department of Transportation Motor Vehicle Safety Standards.

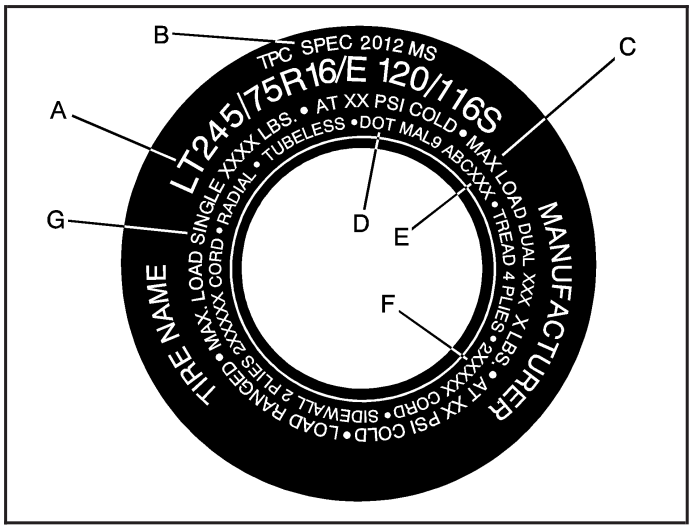
(D) Tire Identification Number (TIN): The letters and numbers following DOT code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

Downloaded from www.Manualslib.com manuals search engine

(E) Tire Ply Material: The type of cord and number of plies in the sidewall and under the tread.

(F) Uniform Tire Quality Grading (UTQG): Tire manufacturers are required to grade tires based on three performance factors: treadwear, traction, and temperature resistance. For more information, see *Uniform Tire Quality Grading on page 5-74*.

(G) Maximum Cold Inflation Load Limit: Maximum load that can be carried and the maximum pressure needed to support that load. For information on recommended tire pressure see *Inflation - Tire Pressure on page 5-62* and *Loading Your Vehicle on page 4-42*.



Light Truck (LT-Metric) Tire

(A) Tire Size: The tire size code is a combination of letters and numbers used to define a particular tire's width, height, aspect ratio, construction type, and service description. See the "Tire Size" illustration later in this section for more detail.

Downloaded from www.Manualslib.com manuals search engine

(B) TPC Spec (Tire Performance Criteria Specification): Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

(C) Dual Tire Maximum Load: Maximum load that can be carried and the maximum pressure needed to support that load when used in a dual configuration. For information on recommended tire pressure see *Inflation - Tire Pressure on page 5-62* and *Loading Your Vehicle on page 4-42*.

(D) DOT (Department of Transportation): The Department of Transportation (DOT) code indicates that the tire is in compliance with the U.S. Department of Transportation Motor Vehicle Safety Standards.

(E) Tire Identification Number (TIN): The letters and numbers following DOT code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

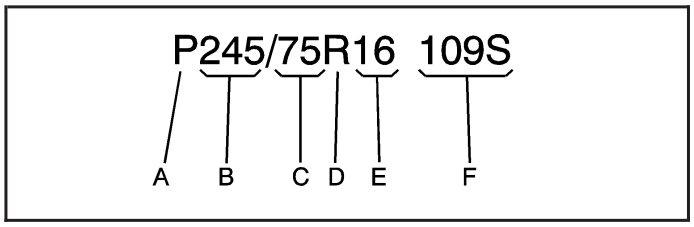
(F) Tire Ply Material: The type of cord and number of plies in the sidewall and under the tread.

(G) Single Tire Maximum Load: Maximum load that can be carried and the maximum pressure needed to support that load when used as a single. For information on recommended tire pressure see *Inflation - Tire Pressure on page 5-62* and *Loading Your Vehicle on page 4-42*.

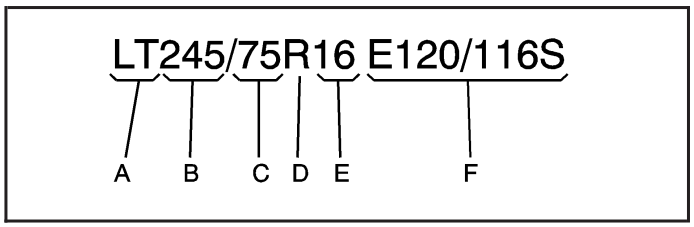
Downloaded from www.Manualslib.com manuals search engine

Tire Size

The following examples show the different parts of a tire size.



Passenger (P-Metric) Tire



Light Truck (LT-Metric) Tire

(A) Passenger (P-Metric) Tire: The United States version of a metric tire sizing system. The letter P as the first character in the tire size means a passenger vehicle tire engineered to standards set by the U.S. Tire and Rim Association.

(A) Light Truck (LT-Metric) Tire: The United States version of a metric tire sizing system. The letters LT as the first two characters in the tire size means a light truck tire engineered to standards set by the U.S. Tire and Rim Association.

(B) Tire Width: The three-digit number indicates the tire section width in millimeters from sidewall to sidewall.

(C) Aspect Ratio: A two-digit number that indicates the tire height-to-width measurements. For example, if the tire size aspect ratio is 75, as shown in item C of the light truck (LT-Metric) tire illustration, it would mean that the tire's sidewall is 75 percent as high as it is wide.

Downloaded from www.Manualslib.com manuals search engine

(D) Construction Code: A letter code is used to indicate the type of ply construction in the tire. The letter R means radial ply construction; the letter D means diagonal or bias ply construction; and the letter B means belted-bias ply construction.

(E) Rim Diameter: Diameter of the wheel in inches.

(F) Service Description: The service description indicates the load range and speed rating of a tire. The load index can range from 1 to 279. Speed ratings range from A to Z.

Tire Terminology and Definitions

Air Pressure: The amount of air inside the tire pressing outward on each square inch of the tire. Air pressure is expressed in pounds per square inch (psi) or kilopascal (kPa).

Accessory Weight: This means the combined weight of optional accessories. Some examples of optional accessories are, automatic transmission, power steering, power brakes, power windows, power seats, and air conditioning.

Aspect Ratio: The relationship of a tire's height to its width.

Belt: A rubber coated layer of cords that is located between the plies and the tread. Cords may be made from steel or other reinforcing materials.

Bead: The tire bead contains steel wires wrapped by steel cords that hold the tire onto the rim.

Bias Ply Tire: A pneumatic tire in which the plies are laid at alternate angles less than 90 degrees to the centerline of the tread.

Cold Tire Pressure: The amount of air pressure in a tire, measured in pounds per square inch (psi) or kilopascals (kPa) before a tire has built up heat from driving. See *Inflation - Tire Pressure on page 5-62*.

Curb Weight: The weight of a motor vehicle with standard and optional equipment including the maximum capacity of fuel, oil, and coolant, but without passengers and cargo.

DOT Markings: A code molded into the sidewall of a tire signifying that the tire is in compliance with the U.S. Department of Transportation (DOT) motor vehicle safety standards. The DOT code includes the Tire Identification Number (TIN), an alphanumeric designator which can also identify the tire manufacturer, production plant, brand, and date of production.

Downloaded from www.Manualslib.com manuals search engine

GVWR: Gross Vehicle Weight Rating. See *Loading Your Vehicle on page 4-42*.

GAWR FRT: Gross Axle Weight Rating for the front axle. See *Loading Your Vehicle on page 4-42*.

GAWR RR: Gross Axle Weight Rating for the rear axle. See *Loading Your Vehicle on page 4-42*.

Intended Outboard Sidewall: The side of an asymmetrical tire, that must always face outward when mounted on a vehicle.

Kilopascal (kPa): The metric unit for air pressure.

Light Truck (LT-Metric) Tire: A tire used on light duty trucks and some multipurpose passenger vehicles.

Load Index: An assigned number ranging from 1 to 279 that corresponds to the load carrying capacity of a tire.

Maximum Inflation Pressure: The maximum air pressure to which a cold tire can be inflated. The maximum air pressure is molded onto the sidewall.

Maximum Load Rating: The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum Loaded Vehicle Weight: The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Normal Occupant Weight: The number of occupants a vehicle is designed to seat multiplied by 150 lbs (68 kg). See *Loading Your Vehicle on page 4-42*.

Occupant Distribution: Designated seating positions.

Outward Facing Sidewall: The side of an asymmetrical tire that has a particular side that faces outward when mounted on a vehicle. The side of the tire that contains a whitewall, bears white lettering, or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same moldings on the other sidewall of the tire.

Passenger (P-Metric) Tire: A tire used on passenger cars and some light duty trucks and multipurpose vehicles.

Recommended Inflation Pressure: Vehicle manufacturer's recommended tire inflation pressure as shown on the tire placard. See *Inflation - Tire Pressure on page 5-62* and *Loading Your Vehicle on page 4-42*.

Downloaded from www.Manualslib.com manuals search engine

Radial Ply Tire: A pneumatic tire in which the ply cords that extend to the beads are laid at 90 degrees to the centerline of the tread.

Rim: A metal support for a tire and upon which the tire beads are seated.

Sidewall: The portion of a tire between the tread and the bead.

Speed Rating: An alphanumeric code assigned to a tire indicating the maximum speed at which a tire can operate.

Traction: The friction between the tire and the road surface. The amount of grip provided.

Tread: The portion of a tire that comes into contact with the road.

Treadwear Indicators: Narrow bands, sometimes called wear bars, that show across the tread of a tire when only 1/16 inch (1.6 mm) of tread remains. See *When It Is Time for New Tires on page 5-70*.

UTQGS (Uniform Tire Quality Grading Standards): A tire information system that provides consumers with ratings for a tire's traction, temperature, and treadwear. Ratings are determined by tire manufacturers using government testing procedures. The ratings are molded into the sidewall of the tire. See *Uniform Tire Quality Grading on page 5-74*.

Vehicle Capacity Weight: The number of designated seating positions multiplied by 150 lbs (68 kg) plus the rated cargo load. See *Loading Your Vehicle on page 4-42*.

Vehicle Maximum Load on the Tire: Load on an individual tire due to curb weight, accessory weight, occupant weight, and cargo weight.

Vehicle Placard: A label permanently attached to a vehicle showing the vehicle's capacity weight and the original equipment tire size and recommended inflation pressure. See "Tire and Loading Information Label" under *Loading Your Vehicle on page 4-42*.

Downloaded from www.Manualslib.com manuals search engine

Inflation - Tire Pressure

Tires need the correct amount of air pressure to operate effectively.

Notice: **Do not let anyone tell you that under-inflation or over-inflation is all right. It is not. If your tires do not have enough air (under-inflation), you can get the following:**

- **Too much flexing**
- **Too much heat**
- **Tire overloading**
- **Premature or irregular wear**
- **Poor handling**
- **Reduced fuel economy**

If your tires have too much air (over-inflation), you can get the following:

- **Unusual wear**
- **Poor handling**
- **Rough ride**
- **Needless damage from road hazards**

A vehicle specific Tire and Loading Information label is attached to your vehicle. This label shows your vehicle's original equipment tires and the correct inflation pressures for your tires when they are cold. The recommended cold tire inflation pressure, shown on the label, is the minimum amount of air pressure needed to support your vehicle's maximum load carrying capacity.

For additional information regarding how much weight your vehicle can carry, and an example of the Tire and Loading Information label, see *Loading Your Vehicle on page 4-42*. How you load your vehicle affects vehicle handling and ride comfort. Never load your vehicle with more weight than it was designed to carry.

When to Check

Check your tires once a month or more. Also check the tire pressure of the spare tire. If your vehicle has a compact spare tire, it should be at 60 psi (420 kPa). See *Spare Tire on page 5-91* for additional information.

Downloaded from www.Manualslib.com manuals search engine

How to Check

Use a good quality pocket-type gage to check tire pressure. You cannot tell if your tires are properly inflated simply by looking at them. Radial tires may look properly inflated even when they are underinflated. Check the tire's inflation pressure when the tires are cold. Cold means your vehicle has been sitting for at least three hours or driven no more than 1 mile (1.6 km).

Remove the valve cap from the tire valve stem. Press the tire gage firmly onto the valve to get a pressure measurement. If the cold tire inflation pressure matches the recommended pressure on the Tire and Loading Information label, no further adjustment is necessary. If the inflation pressure is low, add air until you reach the recommended amount.

If you overfill the tire, release air by pushing on the metal stem in the center of the tire valve. Recheck the tire pressure with the tire gage.

Be sure to put the valve caps back on the valve stems. They help prevent leaks by keeping out dirt and moisture.

Tire Pressure Monitor System

The Tire Pressure Monitor System (TPMS) uses radio and sensor technology to check tire pressure levels. The TPMS sensors monitor the air pressure in your vehicle's tires and transmit tire pressure readings to a receiver located in the vehicle.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.

Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Downloaded from www.Manualslib.com manuals search engine

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

See *Tire Pressure Monitor Operation on page 5-65*, for additional information.

Federal Communications Commission (FCC) and Industry and Science Canada

The Tire Pressure Monitor System (TPMS) operates on a radio frequency and complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

The Tire Pressure Monitor System (TPMS) operates on a radio frequency and complies with RSS-210 of Industry and Science Canada. Operation is subject to the following two conditions:

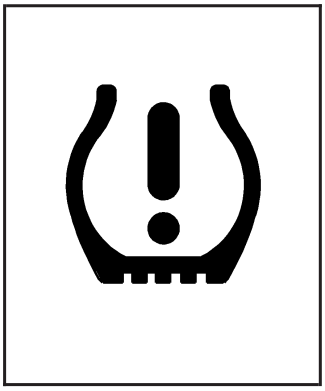
1. This device may not cause interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to this system by other than an authorized service facility could void authorization to use this equipment.

Downloaded from www.Manualslib.com manuals search engine

Tire Pressure Monitor Operation

The Tire Pressure Monitor System (TPMS) is designed to warn the driver when a low tire pressure condition exists. TPMS sensors are mounted onto each tire and wheel assembly on your vehicle, excluding the spare tire. The TPMS sensors monitor the air pressure in your vehicle's tires and transmit the tire pressure readings to a receiver located in the vehicle.



When a low tire pressure condition is detected, the TPMS illuminates the low tire pressure warning light located on the instrument panel cluster.

At the same time, a Driver Information Center (DIC) message is displayed on the DIC display screen. The low tire pressure warning light and the DIC warning message come on at each ignition cycle until the tires are inflated to the correct inflation pressure.

For additional information and details about the DIC operation and displays see *DIC Operation and Displays on page 3-40* and *DIC Warnings and Messages on page 3-43*.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as you start to drive. This could be an early indicator that the air pressure in the tire(s) are getting low and need to be inflated to the proper pressure.

A Tire and Loading Information label, attached to your vehicle, shows the size of your vehicle's original equipment tires and the correct inflation pressure for your vehicle's tires when they are cold. See *Loading Your Vehicle on page 4-42*, for an example of the Tire and Loading Information label and its location on your vehicle. Also see *Inflation - Tire Pressure on page 5-62*.

Your vehicle's TPMS can warn you about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection and Rotation on page 5-68* and *Tires on page 5-54*.

Notice: **Liquid tire sealants could damage the Tire Pressure Monitor System (TPMS) sensors. Sensor damage caused by using a tire sealant is not covered by your warranty. Do not use liquid tire sealants.**

Downloaded from www.Manualslib.com manuals search engine

TPMS Malfunction Light and Message

The TPMS will not function properly if one or more of the TPMS sensors are missing or inoperable. When the system detects a malfunction, the low tire warning light flashes for about one minute and then stays on for the remainder of the ignition cycle. A DIC warning message is also displayed. The low tire warning light and DIC warning message come on at each ignition cycle until the problem is corrected. Some of the conditions that can cause the malfunction light and DIC message to come on are:

- One of the road tires has been replaced with the spare tire. The spare tire does not have a TPMS sensor. The TPMS malfunction light and DIC message should go off once you re-install the road tire containing the TPMS sensor.
- The TPMS sensor matching process was started but not completed or not completed successfully after rotating the vehicle's tires. The DIC message and TPMS malfunction light should go off once the TPMS sensor matching process is performed successfully. See "TPMS Sensor Matching Process" later in this section.
- One or more TPMS sensors are missing or damaged. The DIC message and the TPMS malfunction light should go off when the TPMS sensors are installed and the sensor matching process is performed successfully. See your dealer/retailer for service.
- Replacement tires or wheels do not match your vehicle's original equipment tires or wheels. Tires and wheels other than those recommended for your vehicle could prevent the TPMS from functioning properly. See *Buying New Tires on page 5-71*.
- 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 it cannot detect or signal a low tire condition. See your dealer/retailer for service if the TPMS malfunction light and DIC message comes on and stays on.

Downloaded from www.Manualslib.com manuals search engine

TPMS Sensor Matching Process

Each TPMS sensor has a unique identification code. Any time you replace one or more of the TPMS sensors or rotate your vehicle's tires, the identification codes need to be matched to the new tire/wheel position. The sensors are matched to the tire/wheel positions in the following order: driver side front tire, passenger side front tire, passenger side rear tire, and driver side rear tire using a TPMS diagnostic tool. See your dealer/retailer for service.

The TPMS sensors can also be matched to each tire/wheel position by increasing or decreasing the tire's air pressure. If increasing the tire's air pressure, do not exceed the maximum inflation pressure indicated on the tire's sidewall. To let air-pressure out of a tire you can use the pointed end of the valve cap, a pencil-style air pressure gage, or a key.

You have one minute to match the first tire/wheel position, and five minutes overall, to match all four tire/wheel positions. If it takes longer than one minute, to match the first tire and wheel, or more than five minutes to match all four tire and wheel positions, the matching process stops and you need to start over.

The TPMS sensor matching procedure is outlined below:

1. Set the parking brake.
2. Turn the ignition switch to ON/RUN with the engine off.
3. Turn the exterior lamp switch from AUTO to OFF four times within three seconds. A double horn chirp will sound and the TPMS low tire warning light starts flashing. The double horn chirp and flashing TPMS warning light indicates the TPMS matching process has started. The TPMS warning light should continue flashing throughout the matching procedure. The LOW TIRE message displays on the Driver Information Center (DIC).
4. Start with the driver side front tire.
5. Remove the valve cap from the valve cap stem. Activate the TPMS sensor by increasing or decreasing the tire's air pressure for 10 seconds, then stop and listen for a single horn chirp. The single horn chirp should sound within 15 seconds, confirming that the sensor identification code has been matched to this tire and wheel position. If you do not hear the confirming single horn chirp, turn the ignition switch to LOCK and start over beginning with Step 2.

Downloaded from www.Manualslib.com manuals search engine

6. Proceed to the passenger side front tire, and repeat the procedure in Step 5.
7. Proceed to the passenger side rear tire, and repeat the procedure in Step 5.
8. Proceed to the driver side rear tire, and repeat the procedure in Step 5.
9. After hearing the confirming horn chirp for the driver side rear tire, check to see if the TPMS low tire warning light and the DIC LOW TIRE messages have turned off. If yes, the TPMS sensors have been relearned. Turn the ignition switch to LOCK/OFF.

   If the low tire warning light and the SERV TPM message on the DIC are on after completing Step 5 for the driver side rear tire, the sensor relearn process has not been successful. Turn the ignition switch to LOCK/OFF and repeat the matching process beginning with Step 2.
10. Set all four tires to the recommended air pressure level as indicated on the Tire and Loading Information label.
11. Put the valve caps back on the valve stems.

Tire Inspection and Rotation

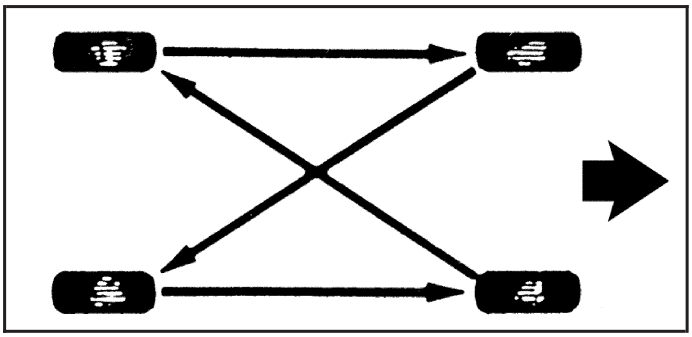
We recommend that you regularly inspect your vehicle's tires, including the spare tire, for signs of wear or damage. See *When It Is Time for New Tires on page 5-70* for more information.

Tires should be rotated every 5,000 to 8,000 miles (8 000 to 13 000 km). See *Scheduled Maintenance on page 6-4*.

The purpose of a regular tire rotation is to achieve a uniform wear for all tires on the vehicle. This will ensure that your vehicle continues to perform most like it did when the tires were new.

Any time you notice unusual wear, rotate your tires as soon as possible and check wheel alignment. Also check for damaged tires or wheels. See *When It Is Time for New Tires on page 5-70* and *Wheel Replacement on page 5-75*.

Downloaded from www.Manualslib.com manuals search engine



When rotating your vehicle's tires, always use the correct rotation pattern shown here.

After the tires have been rotated, adjust the front and rear inflation pressures as shown on the Tire and Loading Information label. See *Inflation - Tire Pressure on page 5-62* and *Loading Your Vehicle on page 4-42*.

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation on page 5-65*.

Make certain that all wheel nuts are properly tightened. See "Wheel Nut Torque" under *Capacities and Specifications on page 5-107*.

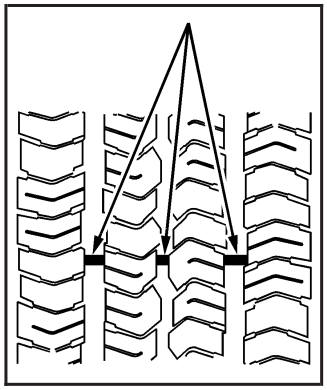
⚠ CAUTION:

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 you change a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, you can use a cloth or a paper towel to do this; but be sure to use a scraper or wire brush later, if needed, to get all the rust or dirt off. See *Changing a Flat Tire on page 5-79*.

Downloaded from www.Manualslib.com manuals search engine

When It Is Time for New Tires

Various factors, such as maintenance, temperatures, driving speeds, vehicle loading, and road conditions, influence when you need new tires.



One way to tell when it is time for new tires is to check the treadwear indicators, which appear when your tires have only 1/16 inch (1.6 mm) or less of tread remaining. Some commercial truck tires may not have treadwear indicators.

You need new tires if any of the following statements are true:

- You can see the indicators at three or more places around the tire.
- You can see cord or fabric showing through the tire's rubber.
- The tread or sidewall is cracked, cut, or snagged deep enough to show cord or fabric.
- The tire has a bump, bulge, or split.
- The tire has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

Downloaded from www.Manualslib.com manuals search engine

The rubber in tires degrades over time, even if they are not being used. This is also true for the spare tire, if your vehicle has one. Multiple conditions affect how fast this aging takes place, including temperatures, loading conditions, and inflation pressure maintenance. With proper care and maintenance tires will typically wear out before they degrade due to age. If you are unsure about the need to replace your tires as they get older, consult the tire manufacturer for more information.

Buying New Tires

GM has developed and matched specific tires for your vehicle. The original equipment tires installed on your vehicle, when it was new, were designed to meet General Motors Tire Performance Criteria Specification (TPC spec) system rating. If you need replacement tires, GM strongly recommends that you get tires with the same TPC Spec rating. This way, your vehicle will continue to have tires that are designed to give the same performance and vehicle safety, during normal use, as the original tires.

GM's exclusive TPC Spec system considers over a dozen critical specifications that impact the overall performance of your vehicle, including brake system performance, ride and handling, traction control, and tire pressure monitoring performance. GM's TPC Spec number is molded onto the tire's sidewall near the tire size. If the tires have an all-season tread design, the TPC spec number will be followed by a MS, for mud and snow. See *Tire Sidewall Labeling on page 5-55* for additional information.

GM recommends replacing tires in sets of four. This is because uniform tread depth on all tires will help keep your vehicle performing most like it did when the tires were new.

Downloaded from www.Manualslib.com manuals search engine

Replacing less than a full set of tires can affect the braking and handling performance of your vehicle. See *Tire Inspection and Rotation on page 5-68* for information on proper tire rotation.

⚠ CAUTION:

Mixing tires could cause you to lose control while driving. If you mix tires of different sizes, brands, or types (radial and bias-belted tires) the vehicle may not handle properly, and you could have a crash. Using tires of different sizes, brands, or types may also cause damage to your vehicle. Be sure to use the correct size, brand, and type of tires on your vehicle's wheels.

⚠ CAUTION:

If you use bias-ply tires on your vehicle, the wheel rim flanges could develop cracks after many miles of driving. A tire and/or wheel could fail suddenly, causing a crash. Use only radial-ply tires with the wheels on your vehicle.

If you must replace your vehicle's tires with those that do not have a TPC Spec number, make sure they are the same size, load range, speed rating, and construction type (radial and bias-belted tires) as your vehicle's original tires.

Vehicles equipped with a tire pressure monitoring system may give an inaccurate low-pressure warning if non-TPC spec rated tires are installed on your vehicle. Non-TPC Spec rated tires may give a low-pressure warning that is higher or lower than the proper warning level you would get with TPC Spec rated tires. See *Tire Pressure Monitor System on page 5-63*.

Downloaded from www.Manualslib.com manuals search engine

Your vehicle's original equipment tires are listed on the Tire and Loading Information Label. See *Loading Your Vehicle on page 4-42*, for more information about the Tire and Loading Information Label and its location on your vehicle.

Different Size Tires and Wheels

If you add wheels or tires that are a different size than your original equipment wheels and tires, this could affect the way your vehicle performs, including its braking, ride and handling characteristics, stability, and resistance to rollover. Additionally, if your vehicle has electronic systems such as anti-lock brakes, rollover airbags, traction control, and electronic stability control, the performance of these systems can be affected.

⚠ CAUTION:

If you add different sized wheels, your vehicle may not provide an acceptable level of performance and safety if tires not recommended for those wheels are selected. You may increase the chance that you will crash and suffer serious injury. Only use GM specific wheel and tire systems developed for your vehicle, and have them properly installed by a GM certified technician.

See *Buying New Tires on page 5-71* and *Accessories and Modifications on page 5-3* for additional information.

Downloaded from www.Manualslib.com manuals search engine

Uniform Tire Quality Grading

Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example:

Treadwear 200 Traction AA Temperature A

The following information relates to the system developed by the United States National Highway Traffic Safety Administration (NHTSA), which grades tires by treadwear, traction, and temperature performance. This applies only to vehicles sold in the United States. The grades are molded on the sidewalls of most passenger car tires. The Uniform Tire Quality Grading (UTQG) system does not apply to deep tread, winter-type snow tires, space-saver, or temporary use spare tires, tires with nominal rim diameters of 10 to 12 inches (25 to 30 cm), or to some limited-production tires.

While the tires available on General Motors passenger cars and light trucks may vary with respect to these grades, they must also conform to federal safety requirements and additional General Motors Tire Performance Criteria (TPC) standards.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and a half (1.5) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

Traction – AA, A, B, C

The traction grades, from highest to lowest, are AA, A, B, and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

Warning: **The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning, or peak traction characteristics.**

Downloaded from www.Manualslib.com manuals search engine

Temperature – A, B, C

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

Warning: **The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.**

Wheel Alignment and Tire Balance

The tires and wheels on your vehicle were aligned and balanced carefully at the factory to give you the longest tire life and best overall performance. Adjustments to wheel alignment and tire balancing will not be necessary on a regular basis. However, if you notice unusual tire wear or your vehicle pulling to one side or the other, the alignment might need to be checked. If you notice your vehicle vibrating when driving on a smooth road, the tires and wheels might need to be rebalanced. See your dealer/retailer 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 (except some aluminum wheels, which can sometimes be repaired). See your dealer/retailer if any of these conditions exist.

Your dealer/retailer will know the kind of wheel you need.

Downloaded from www.Manualslib.com manuals search engine

Each new wheel should have the same load-carrying capacity, diameter, width, offset, and be mounted the same way as the one it replaces.

If you need to replace any of your wheels, wheel bolts, wheel nuts, or Tire Pressure Monitor System (TPMS) sensors, replace them only with new GM original equipment parts. This way, you will be sure to have the right wheel, wheel bolts, wheel nuts, and TPMS sensors for your vehicle.

⚠ CAUTION:

Using the wrong replacement wheels, wheel bolts, or wheel nuts on your vehicle can be dangerous. It could affect the braking and handling of your vehicle, make your tires lose air and make you lose control. You could have a collision in which you or others could be injured. Always use the correct wheel, wheel bolts, and wheel nuts for replacement.

Notice: **The wrong wheel can also cause problems with bearing life, brake cooling, speedometer or odometer calibration, headlamp aim, bumper height, vehicle ground clearance, and tire or tire chain clearance to the body and chassis.**

See *Changing a Flat Tire on page 5-79* for more information.

Used Replacement Wheels

⚠ CAUTION:

Putting a used wheel on your vehicle is dangerous. You cannot know how it has been used or how far it has been driven. It could fail suddenly and cause a crash. If you have to replace a wheel, use a new GM original equipment wheel.

Downloaded from www.Manualslib.com manuals search engine

Tire Chains

⚠ CAUTION:

If your vehicle has LT285/75R16 or P265/65R18 size tires, do not use tire chains. They can damage your vehicle because there is not enough clearance. Tire chains used on a vehicle without the proper amount of clearance can cause damage to the brakes, suspension, or other vehicle parts. The area damaged by the tire chains could cause you to lose control of your vehicle and you or others may be injured in a crash.

Use another type of traction device only if its manufacturer recommends it for use on your vehicle and tire size combination and road conditions. Follow that manufacturer's

CAUTION: (Continued)

CAUTION: (Continued)

instructions. To help avoid damage to your vehicle, drive slowly, readjust, or remove the device if it is contacting your vehicle, and do not spin your vehicle's wheels.

If you do find traction devices that will fit, install them on the rear tires.

Notice: **If your vehicle has a tire size other than LT285/75R16 or P265/65R18 use tire chains only where legal and only when you must. Use chains that are the proper size for your tires. Install them on the tires of the rear axle. Do not use chains on the tires of the front axle. Tighten them as tightly as possible with the ends securely fastened. Drive slowly and follow the chain manufacturer's instructions. If you can hear the chains contacting your vehicle, stop and retighten them. If the contact continues, slow down until it stops. Driving too fast or spinning the wheels with chains on will damage your vehicle.**

Downloaded from www.Manualslib.com manuals search engine

If a Tire Goes Flat

It is unusual for a tire to blowout while you are driving, especially if you maintain your vehicle's tires properly. If air goes out of a tire, it is much more likely to leak out slowly. But if you should ever have a blowout, here are a few tips about what to expect and what to do:

If a front tire fails, the flat tire creates a drag that pulls the vehicle toward that side. Take your foot off the accelerator pedal and grip the steering wheel firmly. Steer to maintain lane position, and then gently brake to a stop well out of the traffic lane.

A rear blowout, particularly on a curve, acts much like a skid and may require the same correction you would use in a skid. In any rear blowout remove your foot from the accelerator pedal. Get the vehicle under control by steering the way you want the vehicle to go. It may be very bumpy and noisy, but you can still steer. Gently brake to a stop, well off the road if possible.

⚠ CAUTION:

Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. The jack provided with your vehicle is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. Use the jack provided with your vehicle only for changing a flat tire.

If a tire goes flat, the next part shows how to use the jacking equipment to change a flat tire safely.

Downloaded from www.Manualslib.com manuals search engine

Changing a Flat Tire

If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place. Turn on your hazard warning flashers.

⚠ CAUTION:

Changing a tire can be dangerous. The vehicle can slip off the jack and roll over or fall on you or other people. You and they could be badly injured or even killed. Find a level place to change your tire. To help prevent the vehicle from moving:

1. **Set the parking brake firmly.**
2. **Put the shift lever in PARK (P).**
3. **If you have a four-wheel-drive vehicle, be sure the transfer case is in a drive gear – not in NEUTRAL.**

CAUTION: (Continued)

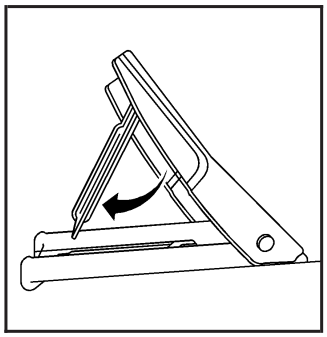
CAUTION: (Continued)

4. **Turn off the engine and do not restart while the vehicle is raised.**
5. **Do not allow passengers to remain in the vehicle.**

To be even more certain the vehicle will not move, put blocks at the front and rear of the tire farthest away from the one being changed. That would be the tire on the other side, at the opposite end of the vehicle.

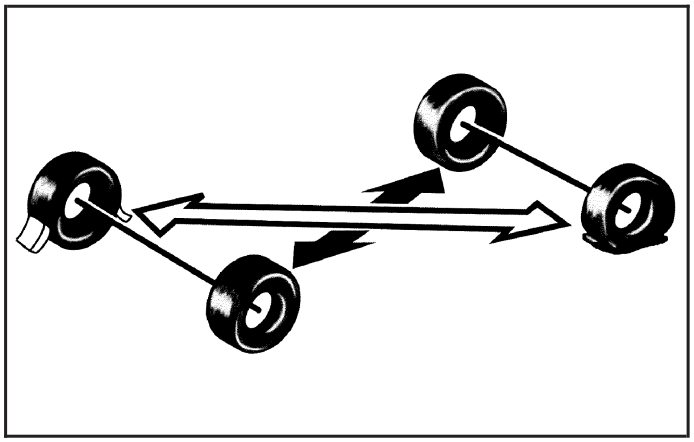
When you have a flat tire, you will first need to set up the wheel blocks before changing it. They are located in the tool bag, in the swing-gate. See *Removing the Spare Tire and Tools on page 5-81* for more information.

Downloaded from www.Manualslib.com manuals search engine



To use the wheel blocks, lift the wheel block and lock into place.

Then, use the following as a guide to assist you in the placement of the wheel blocks.



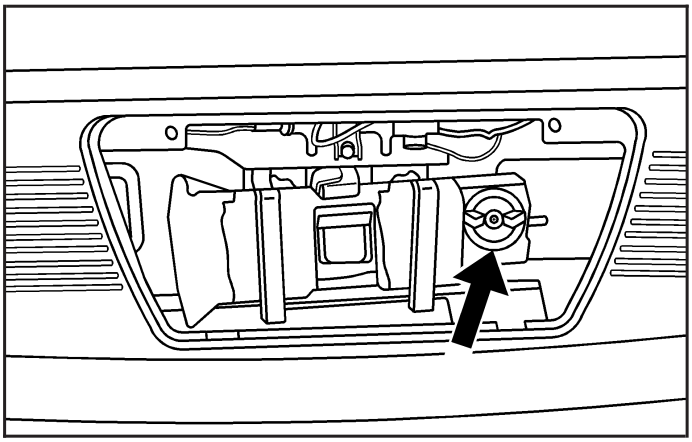
The following information will tell you next how to use the jack and change a tire.

Downloaded from www.Manualslib.com manuals search engine

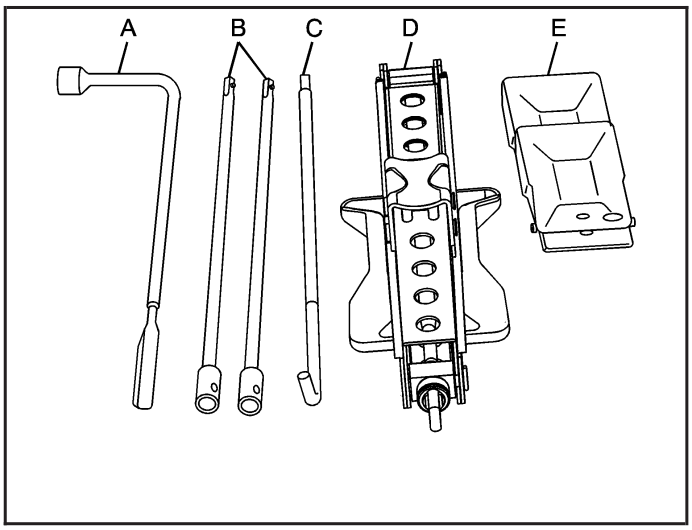
Removing the Spare Tire and Tools

The equipment you will need is located in the swing-gate, behind a cover. To remove the equipment:

1. Open the swing-gate. See *Swing-gate on page 2-10* for more information.
2. Remove the cover, located on the inside of the swing-gate, by lifting the two latches.



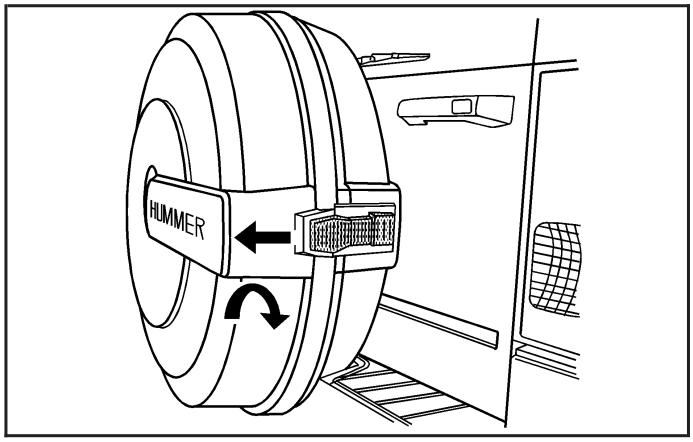
3. Turn the wing nut counterclockwise to release the jack tool bag and jack.
4. Remove the tool bag and jack from its compartment.
5. Undo the straps that secure the jack tool bag to the jack.
6. Open the tool bag and you will find the following tools, which you will use to remove the spare tire and flat tire:



A. Wheel Wrench
B. Jack Handle Extensions
C. Jack Handle
D. Jack
E. Wheel Blocks

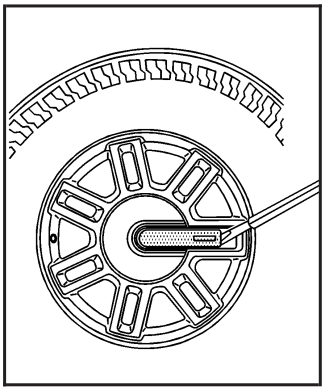
Downloaded from www.Manualslib.com manuals search engine

The spare tire is attached to the outside of the swing-gate. To remove the spare tire:



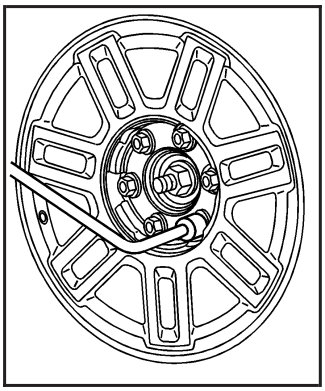
1. If your vehicle has a spare tire cover release the latch by pulling the latch straight back and turning it away from the cover at the same time.

Notice: **Opening the endgate before completely closing and latching the spare tire cover may result in damage to your vehicle. Close and latch the spare tire cover before opening the endgate to avoid possible damage.**



2. Remove the center cap, if equipped, by placing the flat end of the wheel wrench in the slot on the wheel and gently pry the center cap out.

Downloaded from www.Manualslib.com manuals search engine



3. Use the wheel wrench to remove the wheel nuts securing the spare tire.

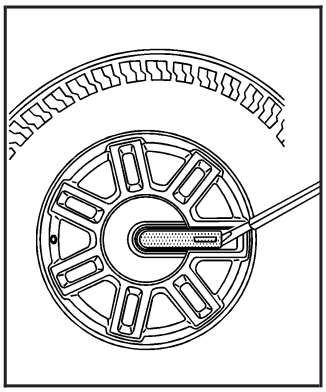
   If your vehicle has locking lug nuts, the key is supplied in the tool bag. Use the key along with the wheel wrench to remove the wheel nuts from the tire.

4. Pull off and gently lower the spare tire to the ground. Set it next to the flat tire.

   In order to remove the spare tire, you may need someone to assist you.

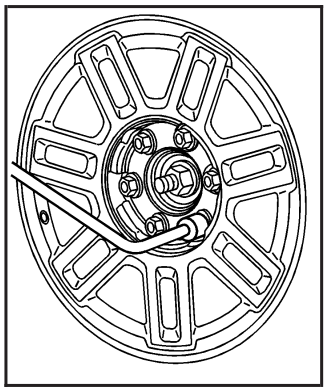
Removing the Flat Tire and Installing the Spare Tire

1. Do a safety check before proceeding. See *Changing a Flat Tire on page 5-79* for more information.



2. Remove the center cap by placing the flat end of the wheel wrench in the slot on the wheel and gently pry the center cap out.

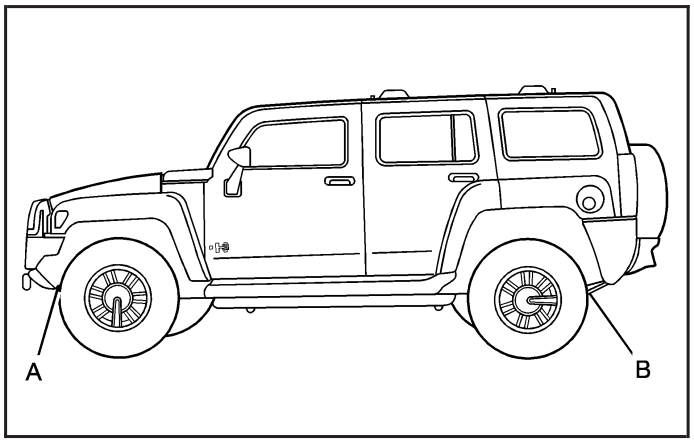
Downloaded from www.Manualslib.com manuals search engine



3. Turn the wheel wrench counterclockwise to loosen the wheel nuts. Do not remove them yet.

If your vehicle has locking lug nuts, the key is supplied in the tool bag. Use the key along with the wheel wrench to remove the wheel nuts from the tire.

Now jack up the vehicle.



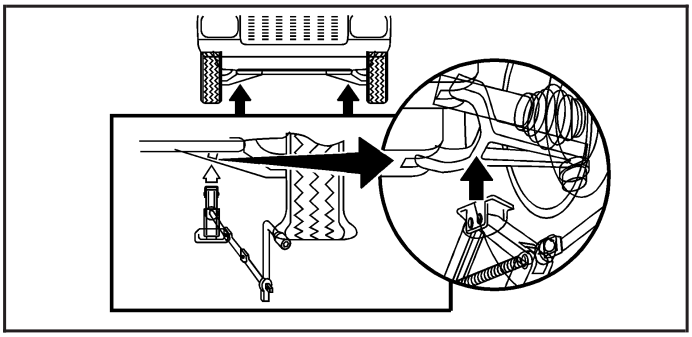
Jacking Locations (Overall View)

A. Front Position - Lower Control Arm
B. Rear Position - Lower Axle

4. Locate the vehicle's jacking positions (A and B).

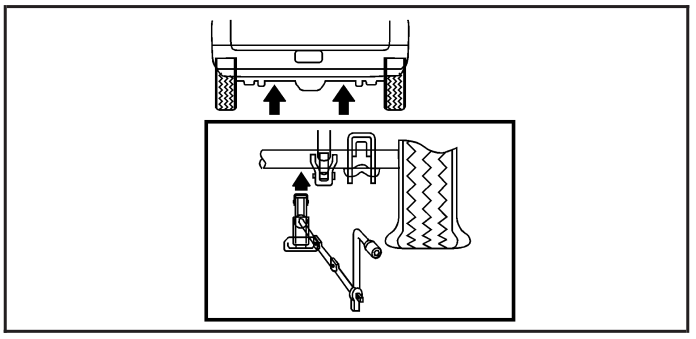
Downloaded from www.Manualslib.com manuals search engine

5. Assemble the jack and tools as follows:



Front Position

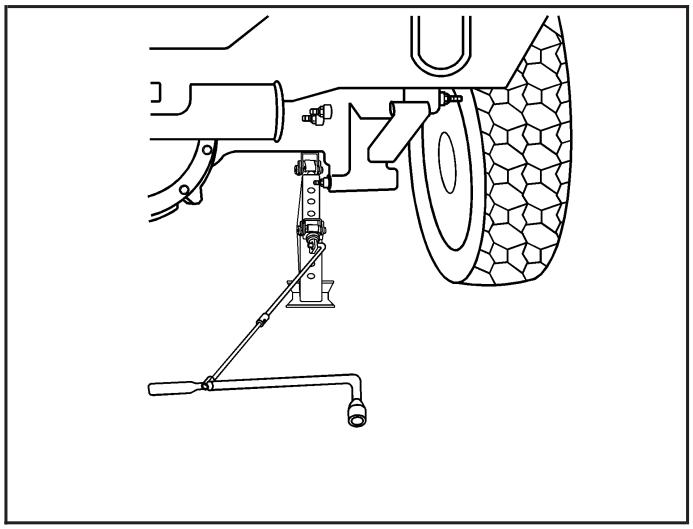
Front Tire Flat: If the flat tire is on a front tire of the vehicle, you will need to use the jack handle and both jack handle extensions. Attach the wheel wrench to the jack handle extensions. Attach the jack handle to the jack. From the front of the vehicle position the jack on the front lower control arm along the bar that runs front to back. 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 tire to clear the ground.



Rear Positions

Refer to the graphic above to locate the placement of the jack if the flat tire is on the rear of the vehicle.

Downloaded from www.Manualslib.com manuals search engine



Rear Tire Flat: You will need to use the jack handle and both jack handle extensions. Attach the wheel wrench to the jack extensions. Attach the jack handle to the jack. From the rear of the vehicle align the jack under the rear axle. 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 tire to clear the ground.

6. Turn the wheel wrench clockwise to raise the jack head to the lifting point.

⚠ CAUTION:

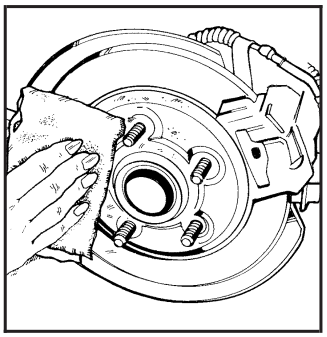
Getting under a vehicle when it is jacked up is dangerous. If the vehicle slips off the jack, you could be badly injured or killed. Never get under a vehicle when it is supported only by a jack.

⚠ CAUTION:

Raising your 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.

Downloaded from www.Manualslib.com manuals search engine

7. Remove all the wheel nuts and take off the flat tire.



8. Remove any rust or dirt from the wheel bolts, mounting surfaces and spare wheel.

⚠ CAUTION:

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 you change a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, you can use a cloth or a paper towel to do this; but be sure to use a scraper or wire brush later, if needed, to get all the rust or dirt off. See *Changing a Flat Tire on page 5-79*.

⚠ CAUTION:

Never use oil or grease on studs or nuts. Because the nuts might come loose. The vehicle's wheel could fall off, causing a crash.

9. Put the spare tire on the mounting surface.
10. Put the wheel nuts back on with the rounded end of the nuts toward the wheel after mounting the spare.

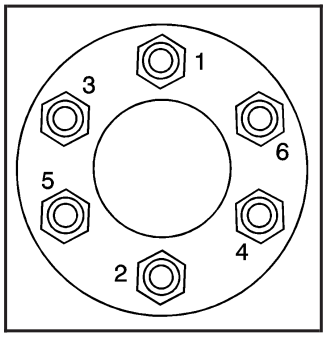
Downloaded from www.Manualslib.com manuals search engine

11. Tighten each wheel nut by hand. Then use the wheel wrench to tighten the nuts until the wheel is held against the hub.
12. Turn the wheel wrench counterclockwise to lower the vehicle. Lower the jack completely.

⚠ CAUTION:

Incorrect or improperly tightened wheel nuts can cause the wheel to come loose and even come off. This could lead to a crash. If you have to replace them, be sure to get new original equipment wheel nuts. Stop somewhere as soon as you can and have the nuts tightened with a torque wrench to the proper torque specification. See *Capacities and Specifications on page 5-107* for wheel nut torque specification.

Notice: **Improperly tightened wheel nuts can lead to brake pulsation and rotor damage. To avoid expensive brake repairs, evenly tighten the wheel nuts in the proper sequence and to the proper torque specification. See *Capacities and Specifications on page 5-107* for the wheel nut torque specification.**



13. Tighten the nuts firmly in a crisscross sequence as shown by turning the wheel wrench clockwise.
14. After installing the wheel and tire, you must reinstall the center cap. Place the cap on the wheel and tap it into place until it sits flush with the wheel.

Downloaded from www.Manualslib.com manuals search engine

Storing a Flat or Spare Tire and Tools

⚠ CAUTION:

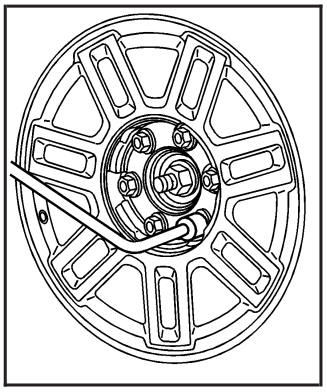
Storing a jack, a tire, or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store all these in the proper place.

To store the flat or spare tire on the spare tire mount:

1. Slide the flat or spare tire onto the swing-gate.
   In order to store the flat or the spare tire, you may need someone to assist you.
2. Reinstall the nuts to retain the flat or spare tire.
3. Tighten the nuts by hand.

⚠ CAUTION:

Incorrect or improperly tightened wheel nuts can cause the wheel to come loose and even come off. This could lead to a crash. If you have to replace them, be sure to get new original equipment wheel nuts. Stop somewhere as soon as you can and have the nuts tightened with a torque wrench to the proper torque specification. See *Capacities and Specifications on page 5-107* for wheel nut torque specification.



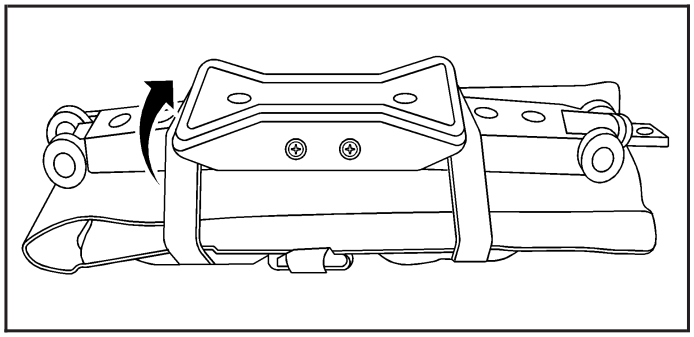
4. Use the wheel wrench to tighten the nuts firmly. Try to move the tire back and forth slightly to be sure it is secure.

Downloaded from www.Manualslib.com manuals search engine

5. Reinstall the center tire cover onto the spare or flat tire.
6. If your vehicle has a spare tire cover close the cover and latch the side latch.

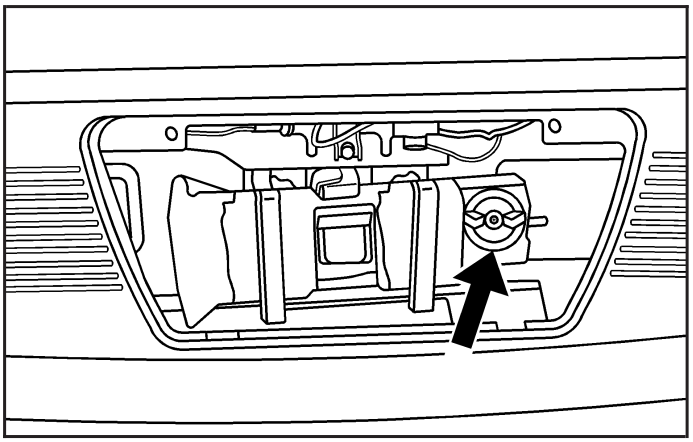
To store the jack tool bag and jack:

1. Return the tools to the jack tool bag.



2. Secure the tool bag to the jack by securely wrapping the straps around the jack. Then, slide the straps through the rings on the bag and secure.
3. Position the jack and jack tool bag in the swing-gate.

   When reinstalling the jack and jack tool bag, make sure the jack base is securely seated behind the tabs in the swing-gate.



4. Reinstall the wing nut retainer to fasten the jack and tool bag in the storage compartment.

   Make sure that the wing nut passes through the tool bag and the jack before you tighten it.
5. Turn the wing nut retainer clockwise to secure.
6. Reinstall the compartment cover by inserting the locator tabs in the holes in the swing-gate. Push the latches down to secure.

Downloaded from www.Manualslib.com manuals search engine

Spare Tire

Your vehicle, when new, had a fully-inflated spare tire. A spare tire may lose air over time, so check its inflation pressure regularly. See *Inflation - Tire Pressure on page 5-62* and *Loading Your Vehicle on page 4-42* for information regarding proper tire inflation and loading your vehicle. For instruction on how to remove, install or store a spare tire, see *Removing the Flat Tire and Installing the Spare Tire on page 5-83* and *Storing a Flat or Spare Tire and Tools on page 5-89*.

After installing the spare tire on your vehicle, you should stop as soon as possible and make sure the spare is correctly inflated. The spare tire is made to perform well at speeds up to 70 mph (112 km/h) at the recommended inflation pressure, so you can finish your trip.

Have the damaged or flat road tire repaired or replaced as soon as you can and installed back onto your vehicle. This way, a spare tire will be available in case you need it again. Do not mix tires and wheels of different sizes, because they will not fit. Keep your spare tire and its wheel together.

Appearance Care

Interior Cleaning

Your vehicle's interior will continue to look its best if it is cleaned often. Although not always visible, dust and dirt can accumulate on your upholstery. Dirt can damage carpet, fabric, leather, and plastic surfaces. Regular vacuuming is recommended to remove particles from your upholstery. It is important to keep your upholstery from becoming and remaining heavily soiled. Soils should be removed as quickly as possible. Your vehicle's interior may experience extremes of heat that could cause stains to set rapidly.

Lighter colored interiors may require more frequent cleaning. Use care because newspapers and garments that transfer color to your home furnishings may also transfer color to your vehicle's interior.

Downloaded from www.Manualslib.com manuals search engine

When cleaning your vehicle's interior, only use cleaners specifically designed for the surfaces being cleaned. Permanent damage may result from using cleaners on surfaces for which they were not intended. Use glass cleaner only on glass. Remove any accidental over-spray from other surfaces immediately. To prevent over-spray, apply cleaner directly to the cleaning cloth.

Notice: **If you use abrasive cleaners when cleaning glass surfaces on your vehicle, you could scratch the glass and/or cause damage to the rear window defogger. When cleaning the glass on your vehicle, use only a soft cloth and glass cleaner.**

Many cleaners contain solvents that may become concentrated in your vehicle's breathing space. Before using cleaners, read and adhere to all safety instructions on the label. While cleaning your vehicle's interior, maintain adequate ventilation by opening your vehicle's doors and windows.

Dust may be removed from small buttons and knobs using a small brush with soft bristles.

Your dealer/retailer has a product for cleaning your vehicle's glass. Should it become necessary, you can also obtain a product from your dealer/retailer to remove odors from your vehicle's upholstery.

Do not clean your vehicle using the following cleaners or techniques:

- Never use a knife or any other sharp object to remove a soil from any interior surface.
- Never use a stiff brush. It can cause damage to your vehicle's interior surfaces.
- Never apply heavy pressure or rub aggressively with a cleaning cloth. Use of heavy pressure can damage your interior and does not improve the effectiveness of soil removal.
- Use only mild, neutral-pH soaps. Avoid laundry detergents or dishwashing soaps with degreasers. Using too much soap will leave a residue that leaves streaks and attracts dirt. For liquid cleaners, about 20 drops per gallon (3.78 L) of water is a good guide.
- Do not heavily saturate your upholstery while cleaning.
- Damage to your vehicle's interior may result from the use of many organic solvents such as naptha, alcohol, etc.

Downloaded from www.Manualslib.com manuals search engine

Fabric/Carpet

Use a vacuum cleaner with a soft brush attachment frequently to remove dust and loose dirt. A canister vacuum with a beater bar in the nozzle may only be used on floor carpet and carpeted floor mats. For soils, always try to remove them first with plain water or club soda. Before cleaning, gently remove as much of the soil as possible using one of the following techniques:

- For liquids: gently blot the remaining soil with a paper towel. Allow the soil to absorb into the paper towel until no more can be removed.
- For solid dry soils: remove as much as possible and then vacuum.

To clean, use the following instructions:

1. Saturate a lint-free, clean white cloth with water or club soda.
2. Wring the cloth to remove excess moisture.
3. Start on the outside edge of the soil and gently rub toward the center. Continue cleaning, using a clean area of the cloth each time it becomes soiled.
4. Continue to gently rub the soiled area until the cleaning cloth remains clean.
5. If the soil is not completely removed, use a mild soap solution and repeat the cleaning process that was used with plain water.

If any of the soil remains, a commercial fabric cleaner or spot lifter may be necessary. When a commercial upholstery cleaner or spot lifter is to be used, test a small hidden area for colorfastness first. If the locally cleaned area gives any impression that a ring formation may result, clean the entire surface.

After the cleaning process has been completed, a paper towel can be used to blot excess moisture from the fabric or carpet.

Leather

A soft cloth dampened with water can be used to remove dust. If a more thorough cleaning is necessary, a soft cloth dampened with a mild soap solution can be used. Allow the leather to dry naturally. Do not use heat to dry. Never use steam to clean leather. Never use spot lifters or spot removers on leather. Many commercial leather cleaners and coatings that are sold to preserve and protect leather may permanently change the appearance and feel of your leather and are not recommended. Do not use silicone or wax-based products, or those containing organic solvents to clean your vehicle's interior because they can alter the appearance by increasing the gloss in a non-uniform manner. Never use shoe polish on leather.

Downloaded from www.Manualslib.com manuals search engine

Instrument Panel, Vinyl, and Other Plastic Surfaces

A soft cloth dampened with water may be used to remove dust. If a more thorough cleaning is necessary, a clean soft cloth dampened with a mild soap solution can be used to gently remove dust and dirt. Never use spot lifters or removers on plastic surfaces. Many commercial cleaners and coatings that are sold to preserve and protect soft plastic surfaces may permanently change the appearance and feel of your interior and are not recommended. Do not use silicone or wax-based products, or those containing organic solvents to clean your vehicle's interior because they can alter the appearance by increasing the gloss in a non-uniform manner.

Some commercial products may increase gloss on your instrument panel. The increase in gloss may cause annoying reflections in the windshield and even make it difficult to see through the windshield under certain conditions.

Care of Safety Belts

Keep belts clean and dry.

⚠ CAUTION:

Do not bleach or dye safety belts. If you do, 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.

Weatherstrips

Silicone grease on weatherstrips will make them last longer, seal better, and not stick or squeak. Apply silicone grease with a clean cloth. During very cold, damp weather frequent application may be required. See *Recommended Fluids and Lubricants on page 6-12*.

Downloaded from www.Manualslib.com manuals search engine

Washing Your Vehicle

The best way to preserve your vehicle's finish is to keep it clean by washing it often.

Notice: **Certain cleaners contain chemicals that can damage the emblems or nameplates on your vehicle. Check the cleaning product label. If it states that it should not be used on plastic parts, do not use it on your vehicle or damage may occur and it would not be covered by the warranty.**

Do not wash the vehicle in direct sunlight. Use a car washing soap. Do not use cleaning agents that are petroleum based or that contain acid or abrasives, as they can damage the paint, metal or plastic on your vehicle. Approved cleaning products can be obtained from your dealer/retailer. See *Vehicle Care/Appearance Materials on page 5-99*. Follow all manufacturers' directions regarding correct product usage, necessary safety precautions and appropriate disposal of any vehicle care product.

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

High pressure car washes may cause water to enter the vehicle. Avoid using high pressure washes closer than 12 inches (30 cm) to the surface of the vehicle. Use of power washers exceeding 1,200 psi (8 274 kPa) can result in damage or removal of paint and decals.

Cleaning Exterior Lamps/Lenses

Use only lukewarm or cold water, a soft cloth and a car washing soap to clean exterior lamps and lenses. Follow instructions under *Washing Your Vehicle on page 5-95*.

Downloaded from www.Manualslib.com manuals search engine

Finish Care

Occasional waxing or mild polishing of your vehicle by hand may be necessary to remove residue from the paint finish. You can get approved cleaning products from your dealer/retailer. See *Vehicle Care/Appearance Materials on page 5-99*.

If your vehicle has a basecoat/clearcoat paint finish, the clearcoat gives more depth and gloss to the colored basecoat. Always use waxes and polishes that are non-abrasive and made for a basecoat/clearcoat paint finish.

Notice: **Machine compounding or aggressive polishing on a basecoat/clearcoat paint finish may damage it. Use only non-abrasive waxes and polishes that are made for a basecoat/clearcoat paint finish on your vehicle.**

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 your 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.

Exterior painted surfaces are subject to aging, weather and chemical fallout that can take their toll over a period of years. You can help to keep the paint finish looking new by keeping your vehicle garaged or covered whenever possible.

Protecting Exterior Bright Metal Parts

Bright metal parts should be cleaned regularly to keep their luster. Washing with water is all that is usually needed. However, you may use chrome polish on chrome or stainless steel trim, if necessary.

Use special care with aluminum trim. To avoid damaging protective trim, never use auto or chrome polish, steam or caustic soap to clean aluminum. A coating of wax, rubbed to high polish, is recommended for all bright metal parts.

Downloaded from www.Manualslib.com manuals search engine

Windshield, Backglass, and Wiper Blades

Clean the outside of the windshield and backglass with glass cleaner.

Clean the rubber blades using a lint free cloth or paper towel soaked with windshield washer fluid or a mild detergent. Wash the windshield thoroughly when you clean the blades. Bugs, road grime, sap and a buildup of vehicle wash/wax treatments may cause wiper streaking. Replace the wiper blades if they are worn or damaged.

Wipers can be damaged by:

- Extreme dusty conditions
- Sand and salt
- Heat and sun
- Snow and ice, without proper removal

Aluminum or Chrome-Plated Wheels and Trim

Your vehicle may have either aluminum or chrome-plated wheels.

Keep the wheels clean using a soft clean cloth with mild soap and water. Rinse with clean water. After rinsing thoroughly, dry with a soft clean towel. A wax may then be applied.

Notice: **Chrome wheels and other chrome trim may be damaged if you do not wash your vehicle 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 your vehicle's chrome with soap and water after exposure.**

Notice: **If you use strong soaps, chemicals, abrasive polishes, cleaners, brushes, or cleaners that contain acid on aluminum or chrome-plated wheels, you could damage the surface of the wheel(s). The repairs would not be covered by your warranty. Use only approved cleaners on aluminum or chrome-plated wheels.**

The surface of these wheels is similar to the painted surface of your vehicle. Do not use strong soaps, chemicals, abrasive polishes, abrasive cleaners, cleaners with acid, or abrasive cleaning brushes on them because you could damage the surface. Do not use chrome polish on aluminum wheels.

Downloaded from www.Manualslib.com manuals search engine

Notice: **Using chrome polish on aluminum wheels could damage the wheels. The repairs would not be covered by your warranty. Use chrome polish on chrome wheels only.**

Use chrome polish only on chrome-plated wheels, but avoid any painted surface of the wheel, and buff off immediately after application.

Notice: **If you drive your vehicle through an automatic car wash that has silicone carbide tire cleaning brushes, you could damage the aluminum or chrome-plated wheels. The repairs would not be covered by your warranty. Never drive a vehicle equipped with aluminum or chrome-plated wheels through an automatic car wash that uses silicone carbide tire cleaning brushes.**

Tires

To clean the tires, use a stiff brush with tire cleaner.

Notice: **Using petroleum-based tire dressing products on your vehicle may damage the paint finish and/or tires. When applying a tire dressing, always wipe off any overspray from all painted surfaces on your vehicle.**

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 warranty.

Finish Damage

Any stone chips, fractures or deep scratches in the finish should be repaired right away. Bare metal will corrode quickly and may develop into major repair expense.

Minor chips and scratches can be repaired with touch-up materials available from your dealer/retailer. Larger areas of finish damage can be corrected in your dealer's/retailer's body and paint shop.

Underbody Maintenance

Chemicals used for ice and snow removal and dust control can collect on the underbody. If these are not removed, corrosion and rust can develop on the underbody parts such as fuel lines, frame, floor pan, and exhaust system even though they have corrosion protection.

Downloaded from www.Manualslib.com manuals search engine

At least every spring, flush these materials from the underbody with plain water. Clean any areas where mud and debris can collect. Dirt packed in close areas of the frame should be loosened before being flushed. Your dealer/retailer or an underbody car washing system can do this for you.

Chemical Paint Spotting

Some weather and atmospheric conditions can create a chemical fallout. Airborne pollutants can fall upon and attack painted surfaces on the vehicle. This damage can take two forms: blotchy, ring-shaped discolorations, and small, irregular dark spots etched into the paint surface.

Although no defect in the paint job causes this, we will repair, at no charge to the owner, the surfaces of new vehicles damaged by this fallout condition within 12 months or 12,000 miles (20 000 km) of purchase, whichever occurs first.

Vehicle Care/Appearance Materials

Description	Usage
Polishing Cloth	Interior and exterior polishing cloth.
Tar and Road Oil Remover	Removes tar, road oil, and asphalt.
Chrome Cleaner and Polish	Use on chrome or stainless steel.
White Sidewall Tire Cleaner	Removes soil and black marks from whitewalls and raised white lettering.
Vinyl Cleaner	Cleans vinyl.
Glass Cleaner	Removes dirt, grime, smoke and fingerprints.
Chrome Wheel Cleaner	Removes dirt and grime from chrome wheels.
Finish Enhancer	Removes dust, fingerprints, and surface contaminants. Spray on and wipe off.
Swirl Remover Polish	Removes swirl marks, fine scratches, and other light surface contamination.
Cleaner Wax	Removes light scratches and protects finish.

Downloaded from www.Manualslib.com manuals search engine

Description	Usage
Foaming Tire Shine Low Gloss	Cleans, shines, and protects tires. No wiping necessary.
Wash Wax Concentrate	Medium foaming shampoo. Cleans and lightly waxes. Biodegradable and phosphate free.
Spot Lifter	Quickly removes spots and stains from carpets, vinyl, and cloth upholstery.
Odor Eliminator	Odorless spray odor eliminator used on fabrics, vinyl, leather and carpet.

Vehicle Identification

Vehicle Identification Number (VIN)

This is the legal identifier for your vehicle. It appears on a plate in the front corner of the instrument panel, on the driver side. You can see it if you look through the windshield from outside your vehicle. The VIN also appears on the Certification/Tire and Service Parts labels and the certificates of title and registration.

Downloaded from www.Manualslib.com manuals search engine

Engine Identification

The eighth character in the VIN is the engine code. This code helps you identify your vehicle's engine, specifications, and replacement parts. See *Capacities and Specifications on page 5-107* for your vehicle's engine code.

Service Parts Identification Label

This label is on the inside of the glove box. It is very helpful if you ever need to order parts. The label 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.

Electrical System

Add-On Electrical Equipment

Notice: **Do not add anything electrical to your vehicle unless you check with your dealer/retailer first. Some electrical equipment can damage your vehicle and the damage would not be covered by your warranty. Some add-on electrical equipment can keep other components from working as they should.**

Add-on equipment can drain your vehicle's battery, even if your vehicle is not operating.

Your vehicle has an airbag system. Before attempting to add anything electrical to your vehicle, see *Servicing Your Airbag-Equipped Vehicle on page 1-67*.

Windshield Wiper Fuses

The windshield wiper motor is protected by a circuit breaker and a fuse. If the motor overheats due to heavy snow, etc., the wiper will stop until the motor cools. If the overload is caused by some electrical problem, have it fixed.

Downloaded from www.Manualslib.com manuals search engine

Power Windows and Other Power Options

Circuit breakers protect the power windows and other power accessories. When the current load is too heavy, the circuit breaker opens and closes, protecting the circuit until the problem is fixed or goes away.

Power and Heated Seat Circuit Breakers

There is a circuit breaker located underneath the driver's side front seat that controls the power and heated seat functions.

Fuses and Circuit Breakers

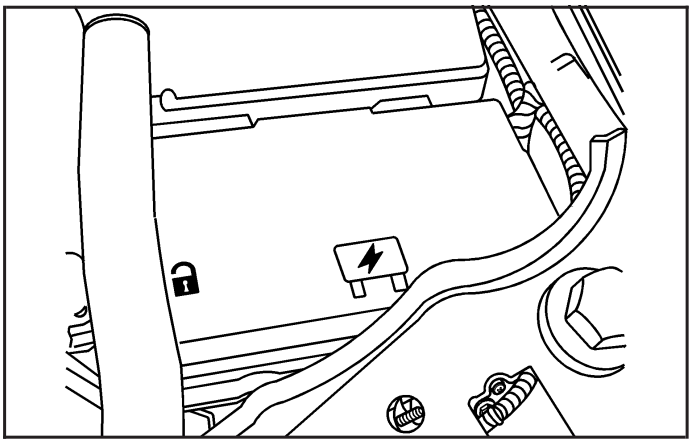
The wiring circuits in your vehicle are protected from short circuits by a combination of fuses and circuit breakers. This greatly reduces the chance of fires caused by electrical problems.

Look at the silver-colored band inside the fuse. If the band is broken or melted, replace the fuse. Be sure you replace a bad fuse with a new one of the identical size and rating.

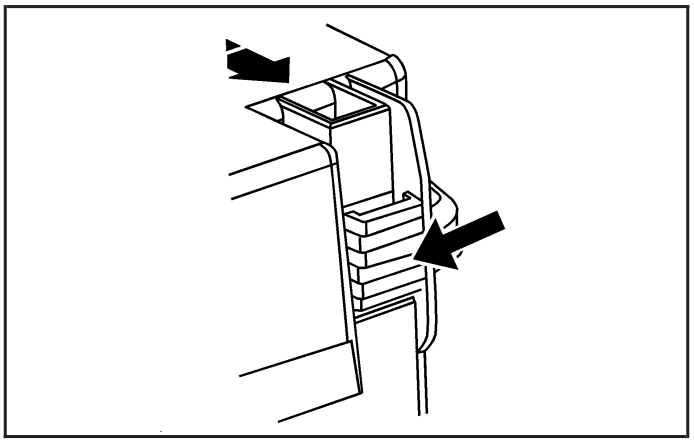
If you ever have a problem on the road and do not have a spare fuse, you can borrow one that has the same amperage. Just pick some feature of your vehicle that you can get along without — like the radio or cigarette lighter — and use its fuse, if it is the correct amperage. Replace it as soon as you can.

Downloaded from www.Manualslib.com manuals search engine

Engine Compartment Fuse Block



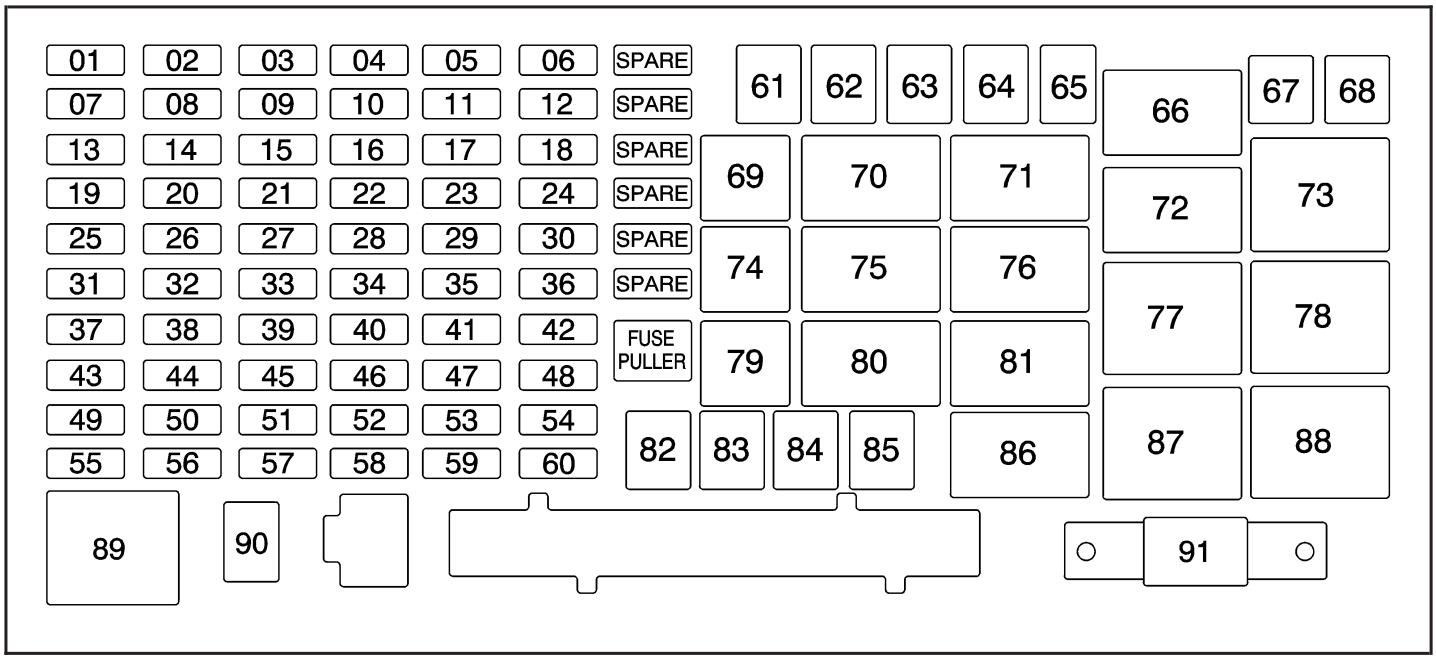
The engine compartment fuse block is located on the driver side of the engine compartment. See *Engine Compartment Overview on page 5-12* for more information on location.



To remove the cover, push in on the tabs at the ends of the cover and lift. To reinstall the cover, line up the tabs and push down on the cover until the tabs clicks into place.

Notice: **Spilling liquid on any electrical components on your vehicle may damage it. Always keep the covers on any electrical component.**

Downloaded from www.Manualslib.com manuals search engine



Fuse	Usage
1	Heated Seats
2	Grille Guard
3	Fuel Pump

Fuse	Usage
4	Roof Lamp
5	Battery Ignition Switch
6	Front Wiper

Downloaded from www.Manualslib.com manuals search engine

Fuse	Usage
7	Regulated Voltage Control Power
8	Power Locks
9	Sunroof, Front Washer Pump
10	Accessories (SPO)
11	Air Compressor
12	Transfer Case Control Module
13	Radio, Heating, Ventilation, Air Conditioning Display
14	Body Control Module
15	Rear Wiper Motor
16	Rear Wiper Pump Switch
17	Air Injection Reactor (AIR) Solenoid
18	Spare 6
19	Cluster
20	Rear Turn Signal, Hazard Signal
21	Powertrain Control Module 1
22	Mass Air Flow Sensor, Purge Solenoid
23	Injector
24	Fog Lamp
25	Powertrain Control Module B
26	Transmission Control Module (TCM)
27	Airbags
28	Back-up Lamps

Fuse	Usage
29	Antilock Brakes, StabiliTrak®
30	Rear Window Defogger
31	Canister Vent
32	Regulated Voltage Control VSense+
33	Ignition 1
34	Transmission
35	Cruise, Inside Rearview Mirror
36	Horn
37	Driver Side Rear Park Lamp
38	Amplifier
39	Reduced Intensity Low-Beam Daytime Running Lamps
40	Passenger Side Headlamp
41	Driver Side Headlamp
42	Trailer Back-Up Lamp
43	Front Park Lamps
44	Air Injection Reactor (AIR) Solenoid
45	Auxiliary Power 2
46	Electronic Throttle Control
47	Oxygen Sensor
48	Air Conditioning Clutch
49	Passenger Side Rear Park Lamp
50	Spare
51	Auxiliary Power 1

Downloaded from www.Manualslib.com manuals search engine

Fuse	Usage
52	StabiliTrak®, Antilock Brakes
53	Power Heater Switch
54	Stop
55	Trailer Parking Lamps
56	Front Turn Signal, Hazard Signal
57	Power Sunroof
58	Transfer Case Control Module Switch
59	Climate Control
60	Spare 8
61	Power Seats
62	Air Pump
63	Passenger Side Power Window
64	Antilock Brakes, StabiliTrak® 2 Solenoid
67	Antilock Brakes, StabiliTrak® 1 Motor
68	Driver Side Power Window
82	Climate Control Fan
83	Electronic Brake Controller
84	Trailer B+ Fuse
85	Starter
91	Megafuse

Relay	Usage
66	Fuel Pump
69	Fog Lamp
70	High, Low Beam Headlamps
71	Rear Defogger
72	Windshield Wiper On/Off
73	Windshield Wiper High/Low
74	Horn
75	Headlamp
76	Air Conditioning Clutch
77	Powertrain Control Module
78	Run, Crank
79	Reduced Intensity Low-Beam Daytime Running Lamps
80	Air Injection Reactor (AIR) Solenoid
81	Powertrain (Starter)
86	Spare 2
87	Heating, Ventilation, Air Conditioning
88	Retained Accessory Power
89	Park Lamp

Diode	Usage
65	Wiper Diode
90	Air Conditioning Clutch Diode

Downloaded from www.Manualslib.com manuals search engine

Capacities and Specifications

The following approximate capacities are given in English and metric. Please refer to *Recommended Fluids and Lubricants on page 6-12* for more information.

Capacities and Specifications

Application	Capacities	
	English	Metric
Air Conditioning Refrigerant R134a	For the air conditioning system refrigerant charge amount, see the refrigerant caution label located under the hood. See your dealer/retailer for more information.	
Cooling System		
3.7L Engine	10.0 qt	9.5 L
5.3L Engine	14.3 qt	13.5 L
Engine Oil with Filter		
3.7L and 5.3L Engines	6.0 qt	5.7 L
Fuel Tank	23.0 gal	87.1 L
Transfer Case	1.6 qt	1.5 L

Downloaded from www.Manualslib.com manuals search engine

Capacities and Specifications (cont'd)

Application	Capacities	
	English	Metric
Transmission (Drain and Refill)		
3.7L and 5.3L Automatic	5.0 qt	4.7 L
3.7L Manual	2.5 qt	2.4 L
Wheel Nut Torque	100 lb ft	140 N•m
All capacities are approximate. When adding, be sure to fill to the appropriate level, as recommended in this manual.		

Engine Specifications

Engine	VIN Code	Transmission	Spark Plug Gap
VORTEC™ 3.7L L5	E	Automatic Manual	.040 inches (1.01 mm)
5.3L V8	L	Automatic	.040 inches (1.01 mm)

Downloaded from www.Manualslib.com manuals search engine

Section 6 Maintenance Schedule

Maintenance Schedule 6-2
Introduction 6-2
Maintenance Requirements 6-2
Your Vehicle and the Environment 6-2
Using the Maintenance Schedule 6-2
Scheduled Maintenance 6-4
Additional Required Services 6-6
Maintenance Footnotes 6-7
Owner Checks and Services 6-9
At Each Fuel Fill 6-9
At Least Once a Month 6-9
At Least Once a Year 6-10
Recommended Fluids and Lubricants 6-12
Normal Maintenance Replacement Parts 6-14
Engine Drive Belt Routing 6-15
Maintenance Record 6-16

Downloaded from www.Manualslib.com manuals search engine

Maintenance Schedule

Introduction

Important: Keep engine oil at the proper level and change as recommended.

Have you purchased the GM Protection Plan? The Plan supplements your new vehicle warranties. See your Warranty and Owner Assistance booklet or your dealer/retailer for details.

Maintenance Requirements

Notice: **Maintenance intervals, checks, inspections, replacement parts, and recommended fluids and lubricants as prescribed in this manual are necessary to keep your vehicle in good working condition. Any damage caused by failure to follow scheduled maintenance might not be covered by warranty.**

Your Vehicle and the Environment

Proper vehicle maintenance not only helps to keep your vehicle in good working condition, but also helps the environment. All recommended maintenance is important. Improper vehicle maintenance can even affect the quality of the air we breathe. Improper fluid levels or the wrong tire inflation can increase the level of emissions from your vehicle. To help protect our environment, and to keep your vehicle in good condition, be sure to maintain your vehicle properly.

Using the Maintenance Schedule

We want to help you keep your vehicle in good working condition. But we do not know exactly how you will drive it. You might drive very short distances only a few times a week. Or you might drive long distances all the time in very hot, dusty weather. You might use your vehicle in making deliveries. Or you might drive it to work, to do errands, or in many other ways.

Because of all the different ways people use their vehicles, maintenance needs vary. You might need more frequent checks and replacements. So please read the following and note how you drive. If you have any questions on how to keep your vehicle in good condition, see your dealer/retailer.

Downloaded from www.Manualslib.com manuals search engine

This schedule is for vehicles that:

- carry passengers and cargo within recommended limits. You will find these limits on the Tire and Loading Information label. See *Loading Your Vehicle on page 4-42*.
- are driven on reasonable road surfaces within legal driving limits.
- are driven off-road in the recommended manner. See *Off-Road Driving on page 4-12*.
- use the recommended fuel. See *Gasoline Octane on page 5-5*.

The services in *Scheduled Maintenance on page 6-4* should be performed when indicated. See *Additional Required Services on page 6-6* and *Maintenance Footnotes on page 6-7* for further information.

⚠ CAUTION:

Performing maintenance work on a vehicle can be dangerous. In trying to do some jobs, you can be seriously injured. Do your own maintenance work only if you have the required know-how and the proper tools and equipment for the job.

CAUTION: (Continued)

CAUTION: (Continued)

If you have any doubt, see your dealer/retailer to have a qualified technician do the work. See *Doing Your Own Service Work on page 5-4*.

Some maintenance services can be complex. So, unless you are technically qualified and have the necessary equipment, you should have your dealer/retailer do these jobs.

When you go to your dealer/retailer for your service needs, you will know that trained and supported service technicians will perform the work using genuine parts.

If you want to purchase service information, see *Service Publications Ordering Information on page 7-15*.

Owner Checks and Services on page 6-9 tells you what should be checked, when to check it, and what you can easily do to help keep your vehicle in good condition.

The proper replacement parts, fluids, and lubricants to use are listed in *Recommended Fluids and Lubricants on page 6-12* and *Normal Maintenance Replacement Parts on page 6-14*. When your vehicle is serviced, make sure these are used. All parts should be replaced and all necessary repairs done before you or anyone else drives the vehicle. We recommend the use of genuine parts from your dealer/retailer.

Downloaded from www.Manualslib.com manuals search engine

Scheduled Maintenance

When the CHANGE OIL message in the Driver Information Center (DIC) comes on, it means that service is required for your vehicle. See *DIC Warnings and Messages on page 3-43*. Have your vehicle serviced as soon as possible within the next 600 miles (1 000 km). It is possible that, if you are driving under the best conditions, the engine oil life system may not indicate that vehicle service is necessary for over a year. However, your engine oil and filter must be changed at least once a year and at this time the system must be reset. Your dealer/retailer has trained service technicians who will perform this work using genuine parts and reset the system.

If the engine oil life system is ever reset accidentally, you must service your vehicle within 3,000 miles (5 000 km) since your last service. Remember to reset the oil life system whenever the oil is changed. See *Engine Oil Life System on page 5-18* for information on the Engine Oil Life System and resetting the system.

When the CHANGE OIL message appears, certain services, checks, and inspections are required. Required services are described in the following for "Maintenance I" and "Maintenance II." Generally, it is recommended that your first service be Maintenance I, your second service be Maintenance II, and that you alternate Maintenance I and Maintenance II thereafter. However, in some cases, Maintenance II may be required more often.

Maintenance I — Use Maintenance I if the CHANGE OIL message comes on within 10 months since the vehicle was purchased or Maintenance II was performed.

Maintenance II — Use Maintenance II if the previous service performed was Maintenance I. Always use Maintenance II whenever the message comes on 10 months or more since the last service or if the message has not come on at all for one year.

Downloaded from www.Manualslib.com manuals search engine

Scheduled Maintenance

Service	Maintenance I	Maintenance II
Change engine oil and filter. See *Engine Oil on page 5-15*. Reset oil life system. See *Engine Oil Life System on page 5-18*. *An Emission Control Service.*	•	•
Lubricate chassis components. *See footnote #.*	•	•
Visually check for any leaks or damage. *See footnote (j).*	•	•
Inspect engine air cleaner filter. If necessary, replace filter. See *Engine Air Cleaner/Filter on page 5-20*.		•
Rotate tires and check inflation pressures and wear. See *Tire Inspection and Rotation on page 5-68* and “Tire Wear Inspection” in *At Least Once a Month on page 6-9*.	•	•
Inspect brake system. *See footnote (a).*	•	•
Check engine coolant and windshield washer fluid levels and add fluid as needed.	•	•
Perform any needed additional services. See “Additional Required Services” in this section.	•	•
Inspect suspension and steering components. *See footnote (b).*		•
Inspect engine cooling system. *See footnote (c).*		•
Inspect wiper blades. *See footnote (d).*		•
Inspect restraint system components. *See footnote (e).*		•
Lubricate body components. *See footnote (f).*		•
Check transmission fluid level and add fluid as needed.		•

Downloaded from www.Manualslib.com manuals search engine

Additional Required Services

The following services should be performed at the first maintenance service (I or II) after the indicated miles (kilometers) shown for each item.

Additional Required Services

Service and Miles (Kilometers)	25,000 (40 000)	50,000 (80 000)	75,000 (120 000)	100,000 (160 000)	125,000 (200 000)	150,000 (240 000)
Inspect fuel system for damage or leaks.	•	•	•	•	•	•
Inspect exhaust system for loose or damaged components.	•	•	•	•	•	•
Replace engine air cleaner filter. See *Engine Air Cleaner/Filter on page 5-20*.		•		•		•
Change automatic transmission fluid and filter (severe service). *See footnote (h).*		•		•		•
Change automatic transmission fluid and filter (normal service).				•		
Change transfer case fluid. *See footnote (g).*		•		•		•
Replace spark plugs and inspect spark plug wires. *An Emission Control Service.*				•		

Downloaded from www.Manualslib.com manuals search engine

Additional Required Services (cont'd)

Service and Miles (Kilometers)	25,000 (40 000)	50,000 (80 000)	75,000 (120 000)	100,000 (160 000)	125,000 (200 000)	150,000 (240 000)
Engine cooling system service (or every five years, whichever occurs first). *An Emission Control Service. See footnote (i).*						•
Inspect engine accessory drive belt. *An Emission Control Service. See footnote (k).*						•

Maintenance Footnotes

 # Lubricate the front suspension, steering linkage, and parking brake cable guides. Control arm ball joints require lubrication but should not be lubricated unless their temperature is 10°F (-12°C) or higher, or they could be damaged.

(a) *Visually inspect brake lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc. Inspect disc brake pads for wear and rotors for surface condition. Inspect other brake parts, including calipers, parking brake, etc.*

(b) *Visually inspect front and rear suspension and steering system for damaged, loose, or missing parts, signs of wear or lack of lubrication. Inspect power steering lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc. Visually check constant velocity joints, rubber boots and axle seals for leaks. Rotate and inspect U-joints, retainers, and bolts on rear drive shaft for seizing or loosening.*

(c) *Visually inspect hoses and have them replaced if they are cracked, swollen, or deteriorated. Inspect all pipes, fittings, and clamps; replace with genuine parts as needed. To help ensure proper operation, a pressure test of the cooling system and pressure cap and cleaning the outside of the radiator and air conditioning condenser is recommended at least once a year.*

Downloaded from www.Manualslib.com manuals search engine

(d) *Inspect wiper blades for wear, cracking, or contamination. Clean the windshield and wiper blades, if contaminated. Replace wiper blades that are worn or damaged. See Windshield Wiper Blade Replacement on page 5-52 and Windshield, Backglass, and Wiper Blades on page 5-97 for more information.*

(e) *Make sure the safety belt reminder light and safety belt assemblies are working properly. Look for any other loose or damaged safety belt system parts. If you see anything that might keep a safety belt system from doing its job, have it repaired. Have any torn or frayed safety belts replaced. Also see Checking the Restraint Systems on page 1-69*.

(f) *Lubricate all key lock cylinders, hood latch assembly, secondary latch, pivots, spring anchor, release pawl, rear compartment hinges, outer swing-gate handle pivot points, rear door detent link, roller mechanism, swing-gate handle pivot points, latch bolt, fuel door hinge, locks, and folding seat hardware. More frequent lubrication may be required when exposed to a corrosive environment. Applying silicone grease on weatherstrips with a clean cloth will make them last longer, seal better, and not stick or squeak.*

(g) *Check vent hose at transfer case for kinks and proper installation.*

(h) *Change automatic transmission fluid and filter if the vehicle is mainly driven under one or more of these conditions:*

- *In heavy city traffic where the outside temperature regularly reaches 90°F (32°C) or higher.*
- *In hilly or mountainous terrain.*
- *When doing frequent trailer towing.*
- *Uses such as found in taxi, police, or delivery service.*

(i) *Drain, flush, and refill cooling system. This service can be complex; you should have your dealer/retailer perform this service. See Engine Coolant on page 5-27 for what to use. Inspect hoses. Clean radiator, condenser, pressure cap, and filler neck. Pressure test the cooling system and pressure cap.*

(j) *A fluid loss in any vehicle system could indicate a problem. Have the system inspected and repaired and the fluid level checked. Add fluid if needed.*

(k) *Visually inspect belt for fraying, excessive cracks, or obvious damage. Replace belt if necessary.*

Downloaded from www.Manualslib.com manuals search engine

Owner Checks and Services

These owner checks and services should be performed at the intervals specified to help ensure the safety, dependability, and emission control performance of your vehicle. Your dealer/retailer can assist you with these checks and services.

Be sure any necessary repairs are completed at once. Whenever any fluids or lubricants are added to your vehicle, make sure they are the proper ones, as shown in *Recommended Fluids and Lubricants on page 6-12*.

At Each Fuel Fill

It is important to perform these underhood checks at each fuel fill.

Engine Oil Level Check

Notice: **It is important to check the engine oil regularly and keep it at the proper level. Failure to keep the engine oil at the proper level can cause damage to the engine not covered by your warranty.**

Check the engine oil level and add the proper oil if necessary. See *Engine Oil on page 5-15*.

Engine Coolant Level Check

Check the engine coolant level and add DEX-COOL® coolant mixture if necessary. See *Engine Coolant on page 5-27*.

Windshield Washer Fluid Level Check

Check the windshield washer fluid level in the windshield washer fluid reservoir and add the proper fluid if necessary.

At Least Once a Month

Tire Inflation Check

Inspect your vehicle's tires and make sure they are inflated to the correct pressures. Do not forget to check the spare tire. See *Inflation - Tire Pressure on page 5-62*. Check to make sure the spare tire is stored securely. See *Changing a Flat Tire on page 5-79*.

Tire Wear Inspection

Tire rotation may be required for high mileage highway drivers prior to the Engine Oil Life System service notification. Check the tires for wear and, if necessary, rotate the tires. See *Tire Inspection and Rotation on page 5-68*.

Downloaded from www.Manualslib.com manuals search engine

At Least Once a Year

Starter Switch Check

⚠ CAUTION:

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before you start, be sure you have enough room around the vehicle.
2. Firmly apply both the parking brake and the regular brake. See *Parking Brake on page 2-32*.

   Do not use the accelerator pedal, and be ready to turn off the engine immediately if it starts.
3. On automatic transmission vehicles, try to start the engine in each gear. The vehicle should start only in PARK (P) or NEUTRAL (N). If the vehicle starts in any other position, contact your dealer/retailer for service.

   On manual transmission vehicles, put the shift lever in NEUTRAL, push the clutch pedal down halfway, and try to start the engine. The vehicle should start only when the clutch pedal is pushed down all the way to the floor.

   If the vehicle starts when the clutch pedal is not pushed all the way down, contact your dealer/retailer for service.

Automatic Transmission Shift Lock Control System Check

⚠ CAUTION:

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before you start, be sure you have enough room around the vehicle. It should be parked on a level surface.
2. Firmly apply the parking brake. See *Parking Brake on page 2-32*.

   Be ready to apply the regular brake immediately if the vehicle begins to move.
3. With the engine off, turn the ignition to ON/RUN, but do not start the engine. Without applying the regular brake, try to move the shift lever out of PARK (P) with normal effort. If the shift lever moves out of PARK (P), contact your dealer/retailer for service.

Downloaded from www.Manualslib.com manuals search engine

Ignition Transmission Lock Check

While parked, and with the parking brake set, try to turn the ignition to LOCK/OFF in each shift lever position.

- With an automatic transmission, the ignition should turn to LOCK/OFF only when the shift lever is in PARK (P). The ignition key should come out only in LOCK/OFF.
- With a manual transmission, the ignition key should come out only in LOCK/OFF.

Contact your dealer/retailer if service is required.

Parking Brake and Automatic Transmission Park (P) Mechanism Check

⚠ CAUTION:

When you are doing this check, your vehicle could begin to move. You or others could be injured and property could be damaged. Make sure there is room in front of your vehicle in case it begins to roll. Be ready to apply the regular brake at once should the vehicle begin to move.

Park on a fairly steep hill, with the vehicle facing downhill. Keeping your foot on the regular brake, set the parking brake.

- To check the parking brake's holding ability: With the engine running and transmission in NEUTRAL (N), slowly remove foot pressure from the regular brake pedal. Do this until the vehicle is held by the parking brake only.
- To check the PARK (P) mechanism's holding ability: With the engine running, shift to PARK (P). Then release the parking brake followed by the regular brake.

Contact your dealer/retailer if service is required.

Underbody Flushing Service

At least every spring, use plain water to flush any corrosive materials from the underbody. Take care to clean thoroughly any areas where mud and other debris can collect.

Downloaded from www.Manualslib.com manuals search engine

Recommended Fluids and Lubricants

Fluids and lubricants identified below by name, part number, or specification can be obtained from your dealer/retailer.

Usage	Fluid/Lubricant
Engine Oil	Engine oil which meets GM Standard GM6094M and displays the American Petroleum Institute Certified for Gasoline Engines starburst symbol. To determine the proper viscosity for your vehicle's engine, see *Engine Oil on page 5-15*.
Engine Coolant	50/50 mixture of clean, drinkable water and use only DEX-COOL® Coolant. See *Engine Coolant on page 5-27*.
Hydraulic Brake System	Delco® Supreme 11 Brake Fluid or equivalent DOT-3 brake fluid.
Windshield Washer	Optikleen® Washer Solvent.
Power Steering System	GM Power Steering Fluid (GM Part No. U.S. 89021184, in Canada 89021186).
Automatic Transmission	DEXRON®-VI Automatic Transmission Fluid.
Manual Transmission	Manual Transmission Fluid (GM Part No. U.S. 89021806, in Canada 89021807).
Hydraulic Clutch System	Hydraulic Clutch Fluid (GM Part No. U.S. 12345347, in Canada 10953517) or equivalent DOT-3 brake fluid.
Key Lock Cylinders	Multi-Purpose Lubricant, Superlube (GM Part No. U.S. 12346241, in Canada 10953474).
Chassis Lubrication	Chassis Lubricant (GM Part No. U.S. 12377985, in Canada 88901242) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.

Downloaded from www.Manualslib.com manuals search engine

Usage	Fluid/Lubricant
Front and Rear Axle	SAE 75W-90 Synthetic Axle Lubricant (GM Part No. U.S. 89021677, in Canada 89021678) meeting GM Specification 9986115.
Transfer Case	Manual Transmission Fluid (GM Part No. U.S. 88861800, in Canada 88861801).
Front Axle Propshaft Spline	Spline Lubricant, Special Lubricant (GM Part No. U.S. 12345879, in Canada 10953511) or lubricant meeting requirements of GM 9985830.
Hood Hinges	Multi-Purpose Lubricant, Superlube (GM Part No. U.S. 12346241, in Canada 10953474).

Usage	Fluid/Lubricant
Outer Swing-gate Handle Pivot Points	Multi-Purpose Lubricant, Superlube (GM Part No. U.S. 12346241, in Canada 10953474).
Weatherstrip Conditioning	Weatherstrip Lubricant (GM Part No. U.S. 3634770, in Canada 10953518) or Dielectric Silicone Grease (GM Part No. U.S. 12345579, in Canada 992887).
Weatherstrip Squeaks	Synthetic Grease with Teflon, Superlube (GM Part No. U.S. 12371287, in Canada 10953437).

Downloaded from www.Manualslib.com manuals search engine

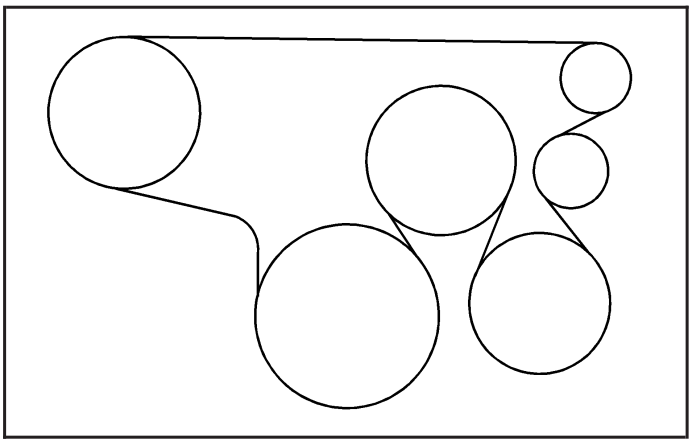
Normal Maintenance Replacement Parts

Replacement parts identified below by name, part number or specification can be obtained from your dealer/retailer.

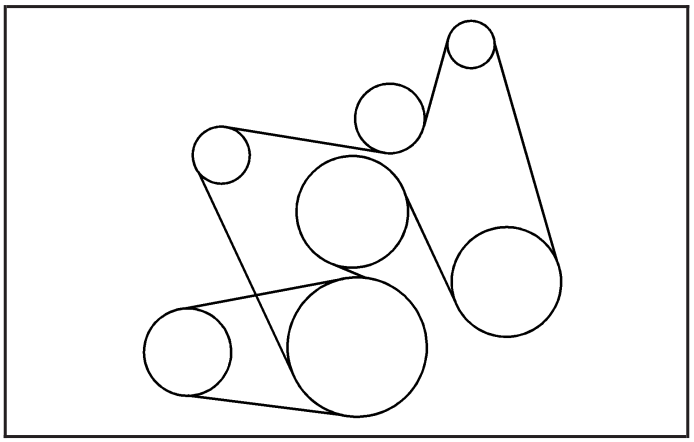
Part	GM Part Number	ACDelco® Part Number
Engine Air Cleaner/Filter		
3.7L and 5.3L Engine	15942429	—
Engine Oil Filter		
3.7L Engine	89017342	PF61
5.3L Engine	89017524	PF48
Spark Plugs		
3.7L Engine	12598004	41-103
5.3L Engine	12571164	41-985
Wiper Blades		
Driver –16.7 inches (42.5 cm)	10389555	—
Passenger–15.7 inches (40.0 cm)	10389556	—
Rear –11.8 inches (30.0 cm)	10389557	—

Downloaded from www.Manualslib.com manuals search engine

Engine Drive Belt Routing



3.7L L5 Engine



5.3L V8 Engine

Downloaded from www.Manualslib.com manuals search engine

Maintenance Record

After the scheduled services are performed, record the date, odometer reading, who performed the service, and the type of services performed in the boxes provided. See *Maintenance Requirements on page 6-2*. Any additional information from *Owner Checks and Services on page 6-9* can be added on the following record pages. You should retain all maintenance receipts.

Maintenance Record

Date	Odometer Reading	Serviced By	Maintenance I or Maintenance II	Services Performed

Downloaded from www.Manualslib.com manuals search engine

Maintenance Record (cont'd)

Date	Odometer Reading	Serviced By	Maintenance I or Maintenance II	Services Performed

Downloaded from www.Manualslib.com manuals search engine

Maintenance Record (cont'd)

Date	Odometer Reading	Serviced By	Maintenance I or Maintenance II	Services Performed

Downloaded from www.Manualslib.com manuals search engine

Section 7 Customer Assistance Information

Customer Assistance and Information 7-2
- Customer Satisfaction Procedure 7-2
- Online Owner Center 7-4
- Customer Assistance for Text Telephone (TTY) Users 7-5
- Customer Assistance Offices 7-5
- GM Mobility Reimbursement Program 7-6
- Roadside Assistance Program 7-6
- Scheduling Service Appointments 7-9
- Courtesy Transportation 7-9
- Collision Damage Repair 7-11

Reporting Safety Defects 7-14
- Reporting Safety Defects to the United States Government 7-14
- Reporting Safety Defects to the Canadian Government 7-15
- Reporting Safety Defects to General Motors 7-15
- Service Publications Ordering Information 7-15

Vehicle Data Recording and Privacy 7-16
- Event Data Recorders 7-17
- OnStar® 7-18
- Navigation System 7-18
- Radio Frequency Identification (RFID) 7-18

Downloaded from www.Manualslib.com manuals search engine

Customer Assistance and Information

Customer Satisfaction Procedure

Your satisfaction and goodwill are important to your dealer and to HUMMER. Normally, any concerns with the sales transaction or the operation of your vehicle will be resolved by your dealer's sales or service departments. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur. If your concern has not been resolved to your satisfaction, the following steps should be taken:

STEP ONE: Discuss your concern with a member of dealership management. Normally, concerns can be quickly resolved at that level. If the matter has already been reviewed with the sales, service or parts manager, contact the owner of the dealership or the general manager.

STEP TWO: If after contacting a member of dealership management, it appears your concern cannot be resolved by the dealership without further help, contact the HUMMER Consumer Relations Manager by calling 1-866-HUMMER6 (486-6376), Customer Assistance prompt. In Canada, contact GM of Canada Customer Communication Centre in Oshawa by calling 1-800-263-3777 (English) or 1-800-263-7854 (French).

We encourage you to call the toll-free number in order to give your inquiry prompt attention. Please have the following information available to give the Customer Assistance Representative:

- Vehicle Identification Number (VIN). This is available from the vehicle registration or title, or the plate at the top left of the instrument panel and visible through the windshield.
- Dealership name and location
- Vehicle delivery date and present mileage

When contacting HUMMER, please remember that your concern will likely be resolved at a dealer's facility. That is why we suggest you follow Step One first if you have a concern.

STEP THREE — U.S. Owners: Both General Motors and your dealer are committed to making sure you are completely satisfied with your new vehicle. However, if you continue to remain unsatisfied after following the procedure outlined in Steps One and Two, you should file with the Better Business Bureau (BBB) Auto Line Program to enforce any additional rights you may have.

Downloaded from www.Manualslib.com manuals search engine

The BBB Auto Line Program is an out of court program administered by the Council of Better Business Bureaus to settle automotive disputes regarding vehicle repairs or the interpretation of the New Vehicle Limited Warranty. Although you may be required to resort to this informal dispute resolution program prior to filing a court action, use of the program is free of charge and your case will generally be heard within 40 days. If you do not agree with the decision given in your case, you may reject it and proceed with any other venue for relief available to you.

Contact the BBB Auto Line Program using the toll-free telephone number or write them at:

BBB Auto Line Program
Council of Better Business Bureaus, Inc.
4200 Wilson Boulevard
Suite 800
Arlington, VA 22203-1838

Telephone: 1-800- 955-5100

This program is available in all 50 states and the District of Columbia. Eligibility is limited by vehicle age, mileage, and other factors. General Motors reserves the right to change eligibility limitations and/or discontinue its participation in this program.

STEP THREE — Canadian Owners: In the event that you do not feel your concerns have been addressed after following the procedure outlined in Steps One and Two, General Motors of Canada Limited wants you to be aware of its participation in a no-charge Mediation/Arbitration Program. General Motors of Canada Limited has committed to binding arbitration of owner disputes involving factory-related vehicle service claims. The program provides for the review of the facts involved by an impartial third party arbiter, and may include an informal hearing before the arbiter. The program is designed so that the entire dispute settlement process, from the time you file your complaint to the final decision, should be completed in approximately 70 days. We believe our impartial program offers advantages over courts in most jurisdictions because it is informal, quick, and free of charge.

For further information concerning eligibility in the Canadian Motor Vehicle Arbitration Plan (CAMVAP), call toll-free 1-800-207-0685. Alternatively, you may call the General Motors Customer Communication Centre, 1-800-263-3777 (English), 1-800-263-7854 (French), or you may write to the Mediation/Arbitration Program, c/o Customer Communication Centre, General Motors of Canada Limited, Mail Code: CA1-163-005, 1908 Colonel Sam Drive, Oshawa, Ontario, L1H 8P7. Your inquiry should be accompanied by your Vehicle Identification Number (VIN).

Downloaded from www.Manualslib.com manuals search engine

Online Owner Center

Online Owner Center (United States only)

The Owner Center is a resource for your GM ownership needs. Specific vehicle information can be found in one place.

The Online Owner Center allows you to:

- Get e-mail service reminders.
- Access information about your specific vehicle, including tips and videos and an electronic version of this owner manual.
- Keep track of your vehicle's service history and maintenance schedule.
- Find GM dealers/retailers for service nationwide.
- Receive special promotions and privileges only available to members.

Refer to www.MyGMLink.com on the web for updated information and to register your vehicle.

My GM Canada (Canada only)

My GM Canada is a password-protected section of gmcanada.com where you can save information on GM vehicles, get personalized offers, and use handy tools and forms with greater ease.

Here are a few of the valuable tools and services you will have access to:

- My Showroom: Find and save information on vehicles and current offers in your area.
- My Dealers/Retailers: Save details such as address and phone number for each of your preferred GM Dealers or Retailers.
- My Driveway: Receive service reminders and helpful advice on owning and maintaining your vehicle.
- My Preferences: Manage your profile, subscribe to E-News and use tools and forms with greater ease.

To sign up to My GM Canada, visit the My GM Canada section within www.gmcanada.com.

Downloaded from www.Manualslib.com manuals search engine

Customer Assistance for Text Telephone (TTY) Users

To assist customers who are deaf, hard of hearing, or speech-impaired and who use Text Telephones (TTYs), HUMMER has TTY equipment available at its Customer Assistance Center. Any TTY user in the U.S. can communicate with HUMMER by dialing: 1-800-833-6537. (TTY users in Canada can dial 1-800-263-3830.)

Customer Assistance Offices

HUMMER encourages customers to call the toll-free number for assistance. However, if a customer wishes to write or e-mail HUMMER, refer to the addresses below.

United States – Customer Assistance

HUMMER Customer Assistance Center
P.O. Box 33177
Detroit, MI 48232-5177

www.HUMMER.com
1-866-HUMMER6 (1-866-486-6376)
1-800-833-6537 (For Text Telephone devices (TTYs))
Roadside Assistance: 1-866-HUMMER6 (1-866-486-6376)
Fax Number: 313-381-0022

From Puerto Rico:
1-800-496-9992 (English)
1-800-496-9993 (Spanish)
Fax Number: 313-381-0022

From U.S. Virgin Islands:
1-800-496-9994
Fax Number: 313-381-0022

Canada – Customer Assistance

General Motors of Canada Limited
Customer Communication Centre, CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

www.gmcanada.com
1-800-263-3777 (English)
1-800-263-7854 (French)
1-800-263-3830 (For Text Telephone devices (TTYs))
Roadside Assistance: 1-800-268-6800

Overseas – Customer Assistance

Please contact the local General Motors Business Unit.

Downloaded from www.Manualslib.com manuals search engine

Mexico, Central America and Caribbean Islands/Countries (Except Puerto Rico and U.S. Virgin Islands) – Customer Assistance

General Motors de Mexico, S. de R.L. de C.V.
Customer Assistance Center
Paseo de la Reforma # 2740
Col. Lomas de Bezares
C.P. 11910, Mexico, D.F.
01-800-508-0000
Long Distance: 011-52-53 29 0 800

GM Mobility Reimbursement Program

GM MOBILITY℠

This program, available to qualified applicants, can reimburse you up to $1,000 of the cost of eligible aftermarket adaptive equipment required for your vehicle, such as hand controls or a wheelchair/scooter lift.

The offer is available for a very limited period of time from the date of vehicle purchase/lease. For more details, or to determine your vehicle's eligibility, visit gmmobility.com or call the GM Mobility Assistance Center at 1-800-323-9935. Text telephone (TTY) users, call 1-800-833-9935.

General Motors of Canada also has a Mobility Program. Call 1-800-GM-DRIVE (463-7483) for details. TTY users call 1-800-263-3830.

Roadside Assistance Program

For vehicles purchased in the U.S., call **1-866-HUMMER6 (486-6376); (Text Telephone (TTY): 1-888-889-2438)**.

For vehicles purchased in Canada, call **1-800-268-6800**.

Service is available 24 hours a day, 365 days a year.

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

Who is Covered?

Roadside Assistance coverage is for the vehicle operator, regardless of ownership. In Canada, a person driving the vehicle without the consent of the owner is not eligible for coverage.

Downloaded from www.Manualslib.com manuals search engine

Services Provided

The following services are provided in the U.S. and Canada up to 5 years/100,000 miles (160 000 km), whichever occurs first, and, in Canada only, up to a maximum coverage of $100. These services are provided at a nominal charge if the vehicle is no longer in the Powertrain warranty.

- **Fuel Delivery:** Delivery of enough fuel for the vehicle to get to the nearest service station (approximately $5 in Canada). For safety reasons, propane and other alternate fuels will not be provided through this service.
- **Lock-out Service:** Lock-out service will be covered at no charge if you are unable to gain entry into your vehicle. A remote unlock may be available if you have an active OnStar® subscription. To ensure security, the driver must present personal identification before lock-out service is provided. In Canada, the vehicle registration is also required.
- **Emergency Tow from a Public Roadway or Highway:** Tow to the nearest dealership for warranty service or in the event of a vehicle-disabling crash.
- **Flat Tire Change:** Installation of a spare tire in good condition, when equipped and properly inflated, will be covered at no charge. The customer is responsible for the repair or replacement of the tire if not covered by a warrantable failure.
- **Jump Start:** A battery jump start is covered at no charge if the vehicle does not start.
- **Trip Routing Service:** Upon request, Roadside Assistance will send you detailed, computer personalized maps, highlighting your choice of either the most direct route or the most scenic route to your destination, anywhere in North America, along with helpful travel information pertaining to your trip.

  Please allow three weeks before your planned departure date. In Canada, trip routing requests will be limited to six per calendar year.
- **Trip Interruption Benefits and Assistance:** If your trip is interrupted due to a warranty failure, incidental expenses may be reimbursed during the 5 years/ 100,000 miles (160 000 km) warranty period. Items covered are hotel, meals, and rental car.

HUMMER and General Motors of Canada Limited reserve the right to limit services or reimbursement to an owner or driver when, in their sole discretion, the claims become excessive in frequency or type of occurrence.

Downloaded from www.Manualslib.com manuals search engine

HUMMER Technician Roadside Service (U.S. only)

HUMMER's exceptional Roadside Service is more than an auto club or towing service. It provides every HUMMER owner in the United States with the advantage of contacting a HUMMER advisor and, where available, a HUMMER trained dealer technician who can provide on-site service.

A dealer technician will travel to your location generally within a 30 mile radius of a participating HUMMER dealership. If beyond this radius, we will arrange to have your car towed to the nearest HUMMER dealership. Each technician travels with a specially equipped service vehicle complete with the necessary HUMMER parts and tools required to handle most roadside repairs.

Calling for Assistance

For prompt and efficient assistance when calling, please provide the following to the Roadside Assistance Representative:

- Your name, home address, and home telephone number
- Telephone number of your location
- Location of the vehicle
- Model, year, color, and license plate number of the vehicle
- Odometer reading, Vehicle Identification Number (VIN), and delivery date of the vehicle
- Description of the problem

Towing and Road Service Exclusions

Specifically excluded from Roadside Service coverage are towing or services for vehicles operated on a non-public roadway or highway, fines, impound towing caused by a violation of local, Municipal, State, Provincial or Federal law, and mounting, dismounting or changing of snow tires, chains, or other traction devices.

Roadside Assistance is not part of or included in the coverage provided by the New Vehicle Limited Warranty. HUMMER and General Motors of Canada Limited reserve the right to make any changes or discontinue the Roadside Assistance program at any time without notification.

Downloaded from www.Manualslib.com manuals search engine

Scheduling Service Appointments

When your vehicle requires warranty service, contact your dealer/retailer and request an appointment. By scheduling a service appointment and advising your service consultant of your transportation needs, your dealer/retailer can help minimize your inconvenience.

If your vehicle cannot be scheduled into the service department immediately, keep driving it until it can be scheduled for service, unless, of course, the problem is safety-related. If it is, please call your dealership/retailer, let them know this, and ask for instructions.

If the dealer/retailer requests that you simply drop the vehicle off for service, you are urged to do so as early in the work day as possible to allow for the same day repair.

Courtesy Transportation

To enhance your ownership experience, we and our participating dealers are proud to offer Courtesy Transportation, a customer support program for vehicles with the Bumper to Bumper (Base Warranty Coverage period in Canada) and extended powertrain warranty in both the U.S. and Canada.

Several courtesy transportation options are available to assist in reducing your inconvenience when warranty repairs are required.

Courtesy Transportation is not a part of the New Vehicle Limited Warranty. A separate booklet entitled “Warranty and Owner Assistance Information” furnished with each new vehicle provides detailed warranty coverage information.

Transportation Options

Warranty service can generally be completed while you wait. However, if you are unable to wait, GM helps to minimize your inconvenience by providing several transportation options. Depending on the circumstances, your dealer can offer you one of the following:

Shuttle Service

Participating dealers can provide shuttle service to get you to your destination with minimal interruption of your daily schedule. This includes one-way or round trip shuttle service to a destination up to 10 miles (16 km) from the dealership.

Downloaded from www.Manualslib.com manuals search engine

Public Transportation or Fuel Reimbursement

If your vehicle requires warranty repairs, and public transportation is used instead of the dealer's shuttle service, the expense must be supported by original receipts and can only be up to the maximum amount allowed by GM for shuttle service. In addition, for U.S. customers, should you arrange transportation through a friend or relative, limited reimbursement for reasonable fuel expenses may be available. Claim amounts should reflect actual costs and be supported by original receipts. See your dealer for information regarding the allowance amounts for reimbursement of fuel or other transportation costs.

Courtesy Rental Vehicle

Your dealer may arrange to provide you with a courtesy rental vehicle or reimburse you for a rental vehicle that you obtain if your vehicle is kept for a warranty repair. If you obtain a rental vehicle on your own, please see your dealer for the maximum number of days allowed and the allowance per rental day. Rental reimbursement must be supported by original receipts.

This requires that you sign and complete a rental agreement and meet state, local, and rental vehicle provider requirements. Requirements vary and may include minimum age requirements, insurance coverage, credit card, etc. You are responsible for fuel usage charges and may also be responsible for taxes, levies, usage fees, excessive mileage, or rental usage beyond the completion of the repair.

It may not be possible to provide a like-vehicle as a courtesy rental.

Additional Program Information

All program options, such as shuttle service, may not be available at every dealer. Please contact your dealer for specific information about availability. All Courtesy Transportation arrangements will be administered by appropriate dealer personnel.

General Motors reserves the right to unilaterally modify, change, or discontinue Courtesy Transportation at any time and to resolve all questions of claim eligibility pursuant to the terms and conditions described herein at its sole discretion.

Downloaded from www.Manualslib.com manuals search engine

Collision Damage Repair

If your vehicle is involved in a collision and it is damaged, have the damage repaired by a qualified technician using the proper equipment and quality replacement parts. Poorly performed collision repairs diminish your vehicle's resale value, and safety performance can be compromised in subsequent collisions.

Collision Parts

Genuine GM Collision parts are new parts made with the same materials and construction methods as the parts with which your vehicle was originally built. Genuine GM Collision parts are your best choice to assure that your vehicle's designed appearance, durability, and safety are preserved. The use of Genuine GM parts can help maintain your GM New Vehicle Warranty.

Recycled original equipment parts may also be used for repair. These parts are typically removed from vehicles that were total losses in prior crashes. In most cases, the parts being recycled are from undamaged sections of the vehicle. A recycled original equipment GM part, may be an acceptable choice to maintain your vehicle's originally designed appearance and safety performance, however, the history of these parts is not known. Such parts are not covered by your GM New Vehicle Limited Warranty, and any related failures are not covered by that warranty.

Aftermarket collision parts are also available. These are made by companies other than GM and may not have been tested for your vehicle. As a result, these parts may fit poorly, exhibit premature durability/corrosion problems, and may not perform properly in subsequent collisions. Aftermarket parts are not covered by your GM New Vehicle Limited Warranty, and any vehicle failure related to such parts are not covered by that warranty.

Repair Facility

GM also recommends that you choose a collision repair facility that meets your needs before you ever need collision repairs. Your dealer/retailer may have a collision repair center with GM-trained technicians and state of the art equipment, or be able to recommend a collision repair center that has GM-trained technicians and comparable equipment.

Downloaded from www.Manualslib.com manuals search engine

Insuring Your Vehicle

Protect your investment in your GM vehicle with comprehensive and collision insurance coverage. There are significant differences in the quality of coverage afforded by various insurance policy terms. Many insurance policies provide reduced protection to your GM vehicle by limiting compensation for damage repairs by using aftermarket collision parts. Some insurance companies will not specify aftermarket collision parts. When purchasing insurance, we recommend that you assure your vehicle will be repaired with GM original equipment collision parts. If such insurance coverage is not available from your current insurance carrier, consider switching to another insurance carrier.

If your vehicle is leased, the leasing company may require you to have insurance that assures repairs with Genuine GM Original Equipment Manufacturer (OEM) parts or Genuine Manufacturer replacement parts. Read your lease carefully, as you may be charged at the end of your lease for poor quality repairs.

If a Crash Occurs

Here is what to do if you are involved in a crash.

- Try to relax and then check to make sure you are all right. If you are uninjured, make sure that no one else in your vehicle, or the other vehicle, is injured.
- If there has been an injury, call emergency services for help. Do not leave the scene of a crash until all matters have been taken care of. Move your vehicle only if its position puts you in danger or you are instructed to move it by a police officer.
- Give only the necessary and requested information to police and other parties involved in the crash. Do not discuss your personal condition, mental frame of mind, or anything unrelated to the crash. This will help guard against post-crash legal action.
- If you need roadside assistance, call GM Roadside Assistance. See *Roadside Assistance Program on page 7-6* for more information.
- If your vehicle cannot be driven, know where the towing service will be taking it. Get a card from the tow truck operator or write down the driver's name, the service's name, and the phone number.

Downloaded from www.Manualslib.com manuals search engine

- Remove any valuables from your vehicle before it is towed away. Make sure this includes your insurance information and registration if you keep these items in your vehicle.
- Gather the important information you will need from the other driver. Things like name, address, phone number, driver's license number, vehicle license plate, vehicle make, model and model year, Vehicle Identification Number (VIN), insurance company and policy number, and a general description of the damage to the other vehicle.
- If possible, call your insurance company from the scene of the crash. They will walk you through the information they will need. If they ask for a police report, phone or go to the police department headquarters the next day and you can get a copy of the report for a nominal fee. In some states/provinces with "no fault" insurance laws, a report may not be necessary. This is especially true if there are no injuries and both vehicles are driveable.
- Choose a reputable collision repair facility for your vehicle. Whether you select a dealer/retailer or a private collision repair facility to fix the damage, make sure you are comfortable with them. Remember, you will have to feel comfortable with their work for a long time.
- Once you have an estimate, read it carefully and make sure you understand what work will be performed on your vehicle. If you have a question, ask for an explanation. Reputable shops welcome this opportunity.

Downloaded from www.Manualslib.com manuals search engine

Managing the Vehicle Damage Repair Process

In the event that your vehicle requires damage repairs, GM recommends that you take an active role in its repair. If you have a pre-determined repair facility of choice, take your vehicle there, or have it towed there. Specify to the facility that any required replacement collision parts be original equipment parts, either new Genuine GM parts or recycled original GM parts. Remember, recycled parts will not be covered by your GM vehicle warranty.

Insurance pays the bill for the repair, but you must live with the repair. Depending on your policy limits, your insurance company may initially value the repair using aftermarket parts. Discuss this with your repair professional, and insist on Genuine GM parts. Remember if your vehicle is leased you may be obligated to have the vehicle repaired with Genuine GM parts, even if your insurance coverage does not pay the full cost.

If another party's insurance company is paying for the repairs, you are not obligated to accept a repair valuation based on that insurance company's collision policy repair limits, as you have no contractual limits with that company. In such cases, you can have control of the repair and parts choices as long as cost stays within reasonable limits.

Reporting Safety Defects

Reporting Safety Defects to the United States Government

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying General Motors.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer/retailer, or General Motors.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to http://www.safercar.gov; or write to:

Administrator, NHTSA
400 Seventh Street, SW.
Washington D.C., 20590

You can also obtain other information about motor vehicle safety from http://www.safercar.gov.

Downloaded from www.Manualslib.com manuals search engine

Reporting Safety Defects to the Canadian Government

If you live in Canada, and you believe that your vehicle has a safety defect, notify Transport Canada immediately, in addition to notifying General Motors of Canada Limited. Call them at 1-800-333-0510 or write to:

Transport Canada
Road Safety Branch
2780 Sheffield Road
Ottawa, Ontario K1B 3V9

Reporting Safety Defects to General Motors

In addition to notifying NHTSA (or Transport Canada) in a situation like this, please notify General Motors.

Call 1-866-HUMMER6 (486-6376), or write:

HUMMER Customer Assistance Center
P.O. Box 33177
Detroit, MI 48232-5177

In Canada, call 1-800-263-3777 (English) or 1-800-263-7854 (French), or write:

General Motors of Canada Limited
Customer Communication Centre CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Service Publications Ordering Information

Service Manuals

Service Manuals have the diagnosis and repair information on engines, transmission, axle suspension, brakes, electrical, steering, body, etc.

Service Bulletins

Service Bulletins' give additional technical service information needed to knowledgeably service General Motors cars and trucks. Each bulletin contains instructions to assist in the diagnosis and service of your vehicle.

Owner Information

Owner publications are written specifically for owners and intended to provide basic operational information about the vehicle. The owner manual includes the Maintenance Schedule for all models.

In-Portfolio: Includes a Portfolio, Owner Manual, and Warranty Booklet.

RETAIL SELL PRICE: $35.00 (U.S.) plus processing fee

Without Portfolio: Owner Manual only.

RETAIL SELL PRICE: $25.00 (U.S.) plus processing fee

Downloaded from www.Manualslib.com manuals search engine

Current and Past Model Order Forms

Technical Service Bulletins and Manuals are available for current and past model GM vehicles. To request an order form, specify year and model name of the vehicle.

ORDER TOLL FREE: 1-800-551-4123 Monday-Friday 8:00 AM - 6:00 PM Eastern Time

For Credit Card Orders Only (VISA-MasterCard-Discover), visit Helm, Inc. on the World Wide Web at: www.helminc.com

Or you can write to:

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

Prices are subject to change without notice and without incurring obligation. Allow ample time for delivery.

Note to Canadian Customers: All listed prices are quoted in U.S. funds. Canadian residents are to make checks payable in U.S. funds.

Vehicle Data Recording and Privacy

Your GM vehicle has a number of sophisticated computers that record information about the vehicle's performance and how it is driven. For example, your vehicle uses computer modules to monitor and control engine and transmission performance, to monitor the conditions for airbag deployment and deploy airbags in a crash and, if so equipped, to provide antilock braking to help the driver control the vehicle. These modules may store data to help your dealer/retailer technician service your vehicle. Some modules may also store data about how you operate the vehicle, such as rate of fuel consumption or average speed. These modules may also retain the owner's personal preferences, such as radio pre-sets, seat positions, and temperature settings.

Downloaded from www.Manualslib.com manuals search engine

Event Data Recorders

This vehicle has an Event Data Recorder (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an air bag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating
- Whether or not the driver and passenger safety belts were buckled/fastened
- How far, if at all, the driver was pressing the accelerator and/or brake pedal
- How fast the vehicle was traveling

This data can help provide a better understanding of the circumstances in which crashes and injuries occur.

Important: EDR data is recorded by your vehicle only if a non-trivial crash situation occurs; no data is recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) is recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

GM will not access this data or share it with others except: with the consent of the vehicle owner or, if the vehicle is leased, with the consent of the lessee; in response to an official request of police or similar government office; as part of GM's defense of litigation through the discovery process; or, as required by law. Data that GM collects or receives may also be used for GM research needs or may be made available to others for research purposes, where a need is shown and the data is not tied to a specific vehicle or vehicle owner.

Downloaded from www.Manualslib.com manuals search engine

OnStar®

If your vehicle has OnStar® and you subscribe to the OnStar® services, please refer to the OnStar® Terms and Conditions for information on data collection and use. See also *OnStar® System on page 2-48* in this manual for more information.

Navigation System

If your vehicle has a navigation system, use of the system may result in the storage of destinations, addresses, telephone numbers, and other trip information. Refer to the navigation system operating manual for information on stored data and for deletion instructions.

Radio Frequency Identification (RFID)

RFID technology is used in some vehicles for functions such as tire pressure monitoring and ignition system security, as well as in connection with conveniences such as key fobs for remote door locking/unlocking and starting, and in-vehicle transmitters for garage door openers. RFID technology in GM vehicles does not use or record personal information or link with any other GM system containing personal information.

Downloaded from www.Manualslib.com manuals search engine

A

Accessories and Modifications 5-3
Adding Equipment to Your Airbag-Equipped Vehicle 1-68
Additives, Fuel 5-6
Add-On Electrical Equipment 5-101
Air Cleaner/Filter, Engine 5-20
Air Conditioning 3-22
Airbag
  Passenger Status Indicator 3-30
  Readiness Light 3-29
Airbag System 1-54
  What Will You See After an Airbag Inflates? 1-61
  When Should an Airbag Inflate? 1-59
  Where Are the Airbags? 1-57
Airbag Systems
  Adding Equipment to Your Airbag-Equipped Vehicle 1-68
  How Does an Airbag Restrain? 1-60
  Passenger Sensing System 1-62
  Servicing Your Airbag-Equipped Vehicle 1-67
  What Makes an Airbag Inflate? 1-60
Antenna, Fixed Mast 3-62
Antenna, XM™ Satellite Radio Antenna System ... 3-62
Antilock Brake System (ABS) 4-4
Antilock Brake, System Warning Light 3-34
Appearance Care
  Aluminum or Chrome-Plated Wheels 5-97
  Care of Safety Belts 5-94
  Chemical Paint Spotting 5-99
  Cleaning Exterior Lamps/Lenses 5-95
  Fabric/Carpet 5-93
  Finish Care 5-96
  Finish Damage 5-98
  Instrument Panel, Vinyl, and Other Plastic Surfaces 5-94
  Interior Cleaning 5-91
  Leather 5-93
  Sheet Metal Damage 5-98
  Tires 5-98
  Underbody Maintenance 5-98
  Vehicle Care/Appearance Materials 5-99
  Washing Your Vehicle 5-95
  Weatherstrips 5-94
  Windshield, Backglass, and Wiper Blades 5-97
Appointments, Scheduling Service 7-9
Ashtray 3-22
Assist Steps 4-31
Audio System 3-48
  Fixed Mast Antenna 3-62
  Navigation/Radio System, see Navigation Manual 3-61
  Radio Reception 3-61

Downloaded from www.Manualslib.com manuals search engine

Audio System (cont.)
Setting the Time 3-48
Theft-Deterrent Feature 3-61
XM™ Satellite Radio Antenna System 3-62
Audio System(s) 3-49
Automatic Headlamp System 3-17
Automatic Transmission
Fluid 5-21
Operation 2-23

B

Battery 5-41
Electric Power Management 3-20
Run-Down Protection 3-20
Bench Seat, Split (60/40) 1-8
Brake
Emergencies 4-5
Brakes 5-38
System Warning Light 3-33
Braking 4-3
Braking in Emergencies 4-5
Break-In, New Vehicle 2-18
Bulb Replacement 5-49
Halogen Bulbs 5-49
Headlamp Aiming 5-46
Headlamps 5-49
Bulb Replacement (cont.)
License Plate Lamps 5-51
Replacement Bulbs 5-52
Taillamps, Turn Signal, Stoplamps and Back-up Lamps 5-50
Buying New Tires 5-71

C

Calibration 2-38, 2-41
California Fuel 5-6
California Perchlorate Materials Requirements 5-4
California Proposition 65 Warning 5-4
Canadian Owners ii
Capacities and Specifications 5-107
Carbon Monoxide 2-10, 2-36, 4-50
Care of
Safety Belts 5-94
Cargo Cover 2-59
Cargo Tie Downs 2-59
Chains, Tire 5-77
Charging System Light 3-32
Check
Engine Light 3-36
Checking Things Under the Hood 5-11
Chemical Paint Spotting 5-99

Downloaded from www.Manualslib.com manuals search engine

Child Restraints
Child Restraint Systems 1-37
Infants and Young Children 1-33
Lower Anchors and Tethers for Children 1-42
Older Children 1-30
Securing a Child Restraint in a Rear Outside Seat Position 1-48
Securing a Child Restraint in the Center Rear Seat Position 1-50
Securing a Child Restraint in the Right Front Seat Position 1-51
Where to Put the Restraint 1-40
Cigarette Lighter 3-22
Cleaning
Aluminum or Chrome-Plated Wheels 5-97
Exterior Lamps/Lenses 5-95
Fabric/Carpet 5-93
Finish Care 5-96
Instrument Panel, Vinyl, and Other Plastic Surfaces 5-94
Interior 5-91
Leather 5-93
Tires 5-98
Underbody Maintenance 5-98
Washing Your Vehicle 5-95
Weatherstrips 5-94
Windshield, Backglass, and Wiper Blades 5-97
Climate Control System 3-22
Outlet Adjustment 3-24
Clock 3-48
Clutch, Hydraulic 5-26
Collision Damage Repair 7-11
Compass 2-38, 2-41
Content Theft-Deterrent 2-14
Control of a Vehicle 4-3
Convenience Net 2-59
Coolant
Engine Temperature Gage 3-35
Heater, Engine 2-22
Cooling System 5-31
Cruise Control 3-11
Cruise Control Light 3-39
Cupholder(s) 2-56
Customer Assistance Information
Courtesy Transportation 7-9
Customer Assistance for Text Telephone (TTY) Users 7-5
Customer Assistance Offices 7-5
Customer Satisfaction Procedure 7-2
GM Mobility Reimbursement Program 7-6
Reporting Safety Defects to General Motors 7-15
Reporting Safety Defects to the Canadian Government 7-15
Reporting Safety Defects to the United States Government 7-14
Roadside Assistance Program 7-6
Service Publications Ordering Information 7-15

Downloaded from www.Manualslib.com manuals search engine

D

Daytime Running Lamps 3-17
Defensive Driving 4-2
Doing Your Own Service Work 5-4
Dome Lamp 3-19
Dome Lamp Override 3-20
Door
  Locks 2-7
  Power Door Locks 2-8
  Programmable Automatic Door Locks 2-8
  Rear Door Security Locks 2-9
Driver Information Center (DIC) 3-40
  DIC Operation and Displays 3-40
  DIC Warnings and Messages 3-43
Driving
  At Night 4-32
  Before a Long Trip 4-34
  Defensive 4-2
  Drunken 4-2
  Highway Hypnosis 4-34
  Hill and Mountain Roads 4-34
  In Rain and on Wet Roads 4-33
  Off-Road 4-12
  Recovery Loops 4-40
  Rocking Your Vehicle to Get it Out 4-40
  Winter 4-35

E

EDR 7-16
Electrical System
  Add-On Equipment 5-101
  Engine Compartment Fuse Block 5-103
  Fuses and Circuit Breakers 5-102
  Power Windows and Other Power Options 5-102
  Windshield Wiper Fuses 5-101
Engine
  Air Cleaner/Filter 5-20
  Check and Service Engine Soon Light 3-36
  Coolant 5-27
  Coolant Heater 2-22
  Coolant Temperature Gage 3-35
  Drive Belt Routing 6-15
  Engine Compartment Overview 5-12
  Exhaust 2-36
  Fan Noise 5-36
  Oil 5-15
  Oil Life System 5-18
  Overheating 5-29
  Running While Parked 2-37
  Starting 2-20
Event Data Recorders 7-17
Exit Lighting 3-20
Extender, Safety Belt 1-30
Exterior Lamps 3-15

Downloaded from www.Manualslib.com manuals search engine

F

Filter
  Engine Air Cleaner 5-20
Finish Damage 5-98
Fixed Mast Antenna 3-62
Flashers, Hazard Warning 3-6
Flash-to-Pass 3-9
Flat Tire 5-78
Flat Tire, Changing 5-79
Flat Tire, Storing 5-89
Fluid 5-21, 5-24
  Power Steering 5-36
  Windshield Washer 5-37
Fog Lamp
  Fog 3-19
Four-Wheel Drive 5-46
Four-Wheel Drive, Full-Time 2-27
Front Armrest Storage Area 2-57
Front Axle 5-46
Front Seat Storage Net 2-57
Fuel 5-5
  Additives 5-6
  California Fuel 5-6
  Filling a Portable Fuel Container 5-10
Fuel (cont.)
  Filling the Tank 5-8
  Fuels in Foreign Countries 5-7
  Gage 3-40
  Gasoline Octane 5-5
  Gasoline Specifications 5-5
Fuses
  Engine Compartment Fuse Block 5-103
  Fuses and Circuit Breakers 5-102
  Windshield Wiper 5-101

G

Gage
  Engine Coolant Temperature 3-35
  Fuel 3-40
  Speedometer 3-27
  Tachometer 3-27
Garage Door Opener 2-51
Gasoline
  Octane 5-5
  Specifications 5-5
Glove Box 2-56
GM Mobility Reimbursement Program 7-6

Downloaded from www.Manualslib.com manuals search engine

H

Hazard Warning Flashers 3-6
Head Restraints 1-7
Headlamp
  Aiming 5-46
Headlamps 5-49
  Bulb Replacement 5-49
  Daytime Running Lamps 3-17
  Exterior Lamps 3-15
  Flash-to-Pass 3-9
  Halogen Bulbs 5-49
  High/Low Beam Changer 3-9
  On Reminder 3-16
Heated Seats 1-4
Heater 3-22
Highbeam On Light 3-39
Highway Hypnosis 4-34
Hill and Mountain Roads 4-34
Hood
  Checking Things Under 5-11
  Release 5-11
Horn 3-6
How to Wear Safety Belts Properly 1-16
Hydraulic Clutch 5-26

I

Ignition Positions 2-18
Infants and Young Children, Restraints 1-33
Inflation - Tire Pressure 5-62
Instrument Panel
  Overview 3-4
Instrument Panel (I/P)
  Brightness 3-19
  Cluster 3-26

J

Jump Starting 5-42

K

Keyless Entry System 2-4
Keys 2-3

Downloaded from www.Manualslib.com manuals search engine

L

Labeling, Tire Sidewall 5-55
Lamps
  Dome 3-19
  Dome Lamp Override 3-20
  Off-Road 3-18
  Reading 3-20
Lap-Shoulder Belt 1-24
LATCH System
  Child Restraints 1-42
License Plate Lamps 5-51
Light
  Airbag Readiness 3-29
  Antilock Brake System Warning 3-34
  Brake System Warning 3-33
  Charging System 3-32
  Cruise Control 3-39
  Highbeam On 3-39
  Malfunction Indicator 3-36
  Oil Pressure 3-38
  Passenger Airbag Status Indicator 3-30
  Safety Belt Reminders 3-28
  Security 3-39
  StabiliTrak® Not Ready 3-34
Light (cont.)
  Tire Pressure 3-35
  Traction Off 3-34
  Up-Shift 3-32
Lighting
  Exit 3-20
Lights
  Exterior Lamps 3-15
  Flash-to-Pass 3-9
  High/Low Beam Changer 3-9
  On Reminder 3-16
Loading Your Vehicle 4-42
Locking Rear Axle 4-6
Lockout Protection 2-9
Locks
  Door 2-7
  Lockout Protection 2-9
  Power Door 2-8
  Programmable Automatic Door Locks 2-8
  Rear Door Security Locks 2-9
Loss of Control 4-10
Luggage Carrier 2-57
Lumbar
  Power Controls 1-3

Downloaded from www.Manualslib.com manuals search engine

M

Maintenance Schedule
- Additional Required Services 6-6
- At Each Fuel Fill 6-9
- At Least Once a Month 6-9
- At Least Once a Year 6-10
- Introduction 6-2
- Maintenance Footnotes 6-7
- Maintenance Record 6-16
- Maintenance Replacement Parts 6-14
- Maintenance Requirements 6-2
- Owner Checks and Services 6-9
- Recommended Fluids and Lubricants 6-12
- Scheduled Maintenance 6-4
- Using 6-2
- Your Vehicle and the Environment 6-2

Malfunction Indicator Light 3-36
Manual Seats 1-2
Manual Transmission
- Fluid 5-24
- Operation 2-26

Manual, Using iii
Message
- DIC Warnings and Messages 3-43

Mirrors
- Automatic Dimming Rearview with Compass and Temperature Display 2-41
- Automatic Dimming Rearview with OnStar®, Compass and Temperature Display 2-38
- Outside Convex Mirror 2-44
- Outside Power Mirrors 2-43

MyGMLink.com 7-4

N

Navigation System, Privacy 7-18
Navigation/Radio System,
- see Navigation Manual 3-61

New Vehicle Break-In 2-18

Downloaded from www.Manualslib.com manuals search engine

O

Odometer 3-27
Odometer, Trip 3-27
Off-Road Driving 4-12
Off-Road Lamps 3-18
Off-Road Recovery 4-10
Oil
  Engine 5-15
  Pressure Light 3-38
Oil, Engine Oil Life System 5-18
Older Children, Restraints 1-30
Online Owner Center 7-4
OnStar, Privacy 7-18
OnStar® System, see OnStar® Manual 2-48
Operation, Universal Home Remote System 2-52
Other Warning Devices 3-6
Outlet Adjustment 3-24
Outlets
  Accessory Power 3-21
Outside
  Convex Mirror 2-44
  Power Mirrors 2-43
Owner Checks and Services 6-9
Owners, Canadian ii

P

Paint, Damage 5-98
Park Aid 2-44
Park Brake 2-32
Park (P)
  Shifting Into 2-33
  Shifting Out of 2-35
Parking
  Over Things That Burn 2-36
Parking Your Vehicle 2-35
Passenger Airbag Status Indicator 3-30
Passenger Sensing System 1-62
Passing 4-10
PASS-Key® III+ 2-16
PASS-Key® III+ Operation 2-16
Passlock® 2-15
Perchlorate Materials Requirements, California 5-4
Power
  Door Locks 2-8
  Electrical System 5-102
  Lumbar Controls 1-3
  Retained Accessory (RAP) 2-20
  Seat 1-3
  Steering Fluid 5-36
  Windows 2-12

Downloaded from www.Manualslib.com manuals search engine

Privacy 7-16
Event Data Recorders 7-17
Navigation System 7-18
OnStar 7-18
Radio Frequency Identification 7-18
Programmable Automatic Door Locks 2-8

R

Radiator Pressure Cap 5-29
Radio Frequency Identification (RFID), Privacy 7-18
Radios 3-48
Radio(s) 3-49
Radios
Navigation/Radio System, see Navigation Manual 3-61
Reception 3-61
Setting the Time 3-48
Theft-Deterrent 3-61
Reading Lamps 3-20
Rear Axle 5-45
Locking 4-6
Rear Door Security Locks 2-9
Rear Storage Area 2-59
Rear Vision Camera 2-44
Rear Windshield Washer/Wiper 3-11
Rearview Mirror, Automatic Dimming with Compass and Temperature Display 2-41
Rearview Mirror, Automatic Dimming with OnStar®, Compass and Temperature Display 2-38
Reclining Seatbacks 1-4
Recommended Fluids and Lubricants 6-12
Recovery Loops 4-40
Recreational Vehicle Towing 4-48
Remote Keyless Entry (RKE) System 2-4
Remote Keyless Entry (RKE) System, Operation ... 2-5
Removing the Flat Tire and Installing the Spare Tire 5-83
Removing the Spare Tire and Tools 5-81
Replacement Bulbs 5-52
Replacement Parts, Maintenance 6-14
Reporting Safety Defects
Canadian Government 7-15
General Motors 7-15
United States Government 7-14
Restraint System Check
Checking the Restraint Systems 1-69
Replacing Restraint System Parts After a Crash 1-70
Retained Accessory Power (RAP) 2-20
Roadside
Assistance Program 7-6
Rocking Your Vehicle to Get it Out 4-40
Routing, Engine Drive Belt 6-15
Running the Engine While Parked 2-37

Downloaded from www.Manualslib.com manuals search engine

S

Safety Belt
Reminder Light 3-28
Safety Belts
Care of 5-94
How to Wear Safety Belts Properly 1-16
Lap-Shoulder Belt 1-24
Safety Belt Extender 1-30
Safety Belt Use During Pregnancy 1-29
Safety Belts Are for Everyone 1-10
Safety Warnings and Symbols iii
Scheduled Maintenance 6-4
Seats
60/40 Split Bench Seat 1-8
Head Restraints 1-7
Heated Seats 1-4
Power Lumbar 1-3
Power Seats 1-3
Reclining Seatbacks 1-4
Securing a Child Restraint
Center Rear Seat Position 1-50
Rear Outside Seat Position 1-48
Right Front Seat Position 1-51
Security Light 3-39
Service 5-3
Accessories and Modifications 5-3
Adding Equipment to the Outside of Your Vehicle 5-5
California Pershlorate Materials Requirements 5-4
California Proposition 65 Warning 5-4
Doing Your Own Work 5-4
Engine Soon Light 3-36
Publications Ordering Information 7-15
Service, Scheduling Appointments 7-9
Servicing Your Airbag-Equipped Vehicle 1-67
Sheet Metal Damage 5-98
Shifting Into Park (P) 2-33
Shifting Out of Park (P) 2-35
Side Steps 4-31
Signals, Turn and Lane-Change 3-8
Spare Tire 5-91
Installing 5-83
Removing 5-81
Storing 5-89
Specifications, Capacities 5-107
Speedometer 3-27
Split Bench Seat (60/40) 1-8
StabiliTrak® System 4-7
StabiliTrak® Not Ready Light 3-34

Downloaded from www.Manualslib.com manuals search engine

Starting the Engine 2-20
Steering 4-8
Steering Wheel, Tilt Wheel 3-7
Storage Areas
Convenience Net 2-59
Cupholder(s) 2-56
Front Armrest Storage Area 2-57
Front Seat Storage Net 2-57
Glove Box 2-56
Luggage Carrier 2-57
Rear Storage Area 2-59
Stuck in Sand, Mud, Ice, or Snow 4-39
Sun Visors 2-13
Sunroof 2-60
Swing-gate 2-10

T

Tachometer 3-27
Taillamps
Turn Signal, Stoplamps and Back-up Lamps 5-50
Theft-Deterrent, Radio 3-61
Theft-Deterrent Systems 2-14
Content Theft-Deterrent 2-14
PASS-Key® III+ 2-16
PASS-Key® III+ Operation 2-16
Passlock® 2-15
Tilt Wheel 3-7
Time, Setting 3-48
Tire
Pressure Light 3-35
Tires 5-54
Aluminum or Chrome-Plated Wheels,
Cleaning 5-97
Buying New Tires 5-71
Chains 5-77
Changing a Flat Tire 5-79
Cleaning 5-98
Different Size 5-73
If a Tire Goes Flat 5-78
Inflation - Tire Pressure 5-62
Inspection and Rotation 5-68
Installing the Spare Tire 5-83
Pressure Monitor Operation 5-65
Pressure Monitor System 5-63
Removing the Flat Tire 5-83
Removing the Spare Tire and Tools 5-81
Spare Tire 5-91
Storing a Flat or Spare Tire and Tools 5-89
Tire Sidewall Labeling 5-55
Tire Terminology and Definitions 5-59
Uniform Tire Quality Grading 5-74
Wheel Alignment and Tire Balance 5-75
Wheel Replacement 5-75
When It Is Time for New Tires 5-70

Downloaded from www.Manualslib.com manuals search engine

Towing
Recreational Vehicle 4-48
Towing a Trailer 4-50
Your Vehicle 4-48
Traction
Control System (TCS) 4-5
Off Light 3-34
StabiliTrak® System 4-7
Trailer
Recommendations 4-62
Transmission
Fluid, Automatic 5-21
Fluid, Manual 5-24
Up-Shift Light 3-32
Transmission Operation, Automatic 2-23
Transmission Operation, Manual 2-26
Trip Odometer 3-27
Turn and Lane-Change Signals 3-8
Turn Signal/Multifunction Lever 3-7

U

Uniform Tire Quality Grading 5-74
Universal Home Remote System 2-51
Operation 2-52
Up-Shift Light 3-32
Using this Manual iii

V

Vehicle
Control 4-3
Damage Warnings iv
Loading 4-42
Parking Your 2-35
Symbols iv
Vehicle Data Recording and Privacy 7-16
Vehicle Identification
Number (VIN) 5-100
Service Parts Identification Label 5-101
Ventilation Adjustment 3-24
Visors 2-13

Downloaded from www.Manualslib.com manuals search engine

W

Warning Lights, Gages and Indicators 3-25
Warnings
  DIC Warnings and Messages 3-43
  Hazard Warning Flashers 3-6
  Other Warning Devices 3-6
  Safety and Symbols iii
  Vehicle Damage iv
Wheels
  Alignment and Tire Balance 5-75
  Different Size 5-73
  Replacement 5-75
Where to Put the Restraint 1-40
Windows 2-11
  Power 2-12
Windshield
  Backglass, and Wiper Blades, Cleaning 5-97
  Washer 3-10
  Washer Fluid 5-37
  Wiper Blade Replacement 5-52
  Wiper Fuses 5-101
  Wipers 3-10
Windshield, Rear Washer/Wiper 3-11
Winter Driving 4-35

X

XM Radio Messages 3-60
XM™ Satellite Radio Antenna System 3-62

Y

Your Vehicle and the Environment 6-2

Downloaded from www.Manualslib.com manuals search engine