CUTLASS

by Oldsmobile

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Oldsmobile backs every 1998 Cutlass with the following services

Bumper-to-Bumper 3-years/36,000 miles (60 000 km) Limited Warranty

Courtesy Transportation

24-hour Roadside Assistance

(1-800-442-OLDS (6537))

(In Canada, call 1-800-268-6800)

that provides in an emergency:

- Free lockout assistance
- Free dead-battery assistance
- Free out-of-fuel assistance
- Free flat-tire change

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THE INFORMATION ON THE NEXT FEW PAGES IS TO HELP YOU FIND THE MOST COMMONLY REFERRED TO TOPICS QUICKLY. FOR INFORMATION NOT INCLUDED HERE, PLEASE USE THE TABLE OF CONTENTS OR THE INDEX IN THE MANUAL.

Safety

Section 1

Wearing a safety belt correctly is one of the most important things you and your passengers can do. This section contains very important information about safety belt usage, air bags and child restraints.

Adjusting the Seat

Pages 1-2 to 1-5

One of the first things you'll probably want to do when you get in your new vehicle is adjust the seats. Depending on your vehicle, you may either be able to do this manually or with power controls.

Maintaining the Temperature

Pages 3-2 to 3-6

Read through these pages to learn more about how to use the heating, cooling, defogging and defrosting features in your vehicle.

Setting the Clock

Page 3-6

To set the clock, press and hold HR until the correct hour appears. Press and hold MN until the correct minute appears.

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Features and Controls

Sections 2 & 3

Included in this section is a picture of the overall instrument panel (page 2-46). The location of the controls you will use are noted here. Refer to the following pages for information about:

- Power Door Locks — Page 2-4
- Power Windows — Page 2-28
- Tilt Steering Wheel — Page 2-29
- Turn Signal Lever — Page 2-29
- Changing the High/Low Beams — Page 2-30
- Windshield Wipers and Washer — Page 2-31
- Cruise Control — Page 2-33
- Turning on Headlamps and Other Lamps — Page 2-36
- Fog Lamps — Page 2-38
- Power Remote Control Mirrors — Page 2-41
- Warning Lights and Gages — Page 2-50
- Rear Window Defogger — Page 3-5

Audio

Section 3

- AM-FM Stereo with cassette tape player or compact disc player — Page 3-9 and 3-13
- Theft-Deterrent Feature — Page 3-18

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Problems That May Occur While Driving

Section 5

Although we hope you'll never run into trouble on the road, refer to the following pages for help with some of the most common problems that may occur.

- How to turn on your hazard warning flashers — Page 5-2
- How to jump start your vehicle — Page 5-3
- How your vehicle should be towed — Page 5-8
- What to do if your engine overheats — Page 5-12
- How to change a flat tire — Page 5-22

Special Features That May Be On Your Vehicle

Sections 2 & 3

- Remote Lock Control — Page 2-6
- Passlock ® — Page 2-13
- Accessory Plug — Page 2-44
- Sunroof — Page 2-45

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The 1998 Oldsmobile Cutlass Owner's Manual

1-1 Seats and Restraint Systems
This section tells you how to use your seats and safety belts properly. It also explains the "SRS" system.

2-1 Features and Controls
This section explains how to start and operate your vehicle.

3-1 Comfort Controls and Audio Systems
This section tells you how to adjust the ventilation and comfort controls and how to operate your audio system.

4-1 Your Driving and the Road
Here you'll find helpful information and tips about the road and how to drive under different conditions.

5-1 Problems on the Road
This section tells what to do if you have a problem while driving, such as a flat tire or overheated engine, etc.

6-1 Service and Appearance Care
Here the manual tells you how to keep your vehicle running properly and looking good.

7-1 Maintenance Schedule
This section tells you when to perform vehicle maintenance and what fluids and lubricants to use.

8-1 Customer Assistance Information
This section tells you how to contact Oldsmobile for assistance and how to get service and owner publications. It also gives you information on "Reporting Safety Defects" on page 8-8.

9-1 Index
Here's an alphabetical listing of almost every subject in this manual. You can use it to quickly find something you want to read.

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

Please keep this manual in your vehicle, so it will be there if you ever need it when you're on the road. If you sell the vehicle, please leave this manual in it so the new owner can use it.

We support voluntary technician certification.

For Canadian Owners Who Prefer a French Language Manual:

Aux propriétaires canadiens: Vous pouvez vous procurer un exemplaire de ce guide en français chez votre concessionaire ou au:

DGN Marketing Services Ltd.
1577 Meyerside Dr.
Mississauga, Ontario L5T 1B9

Litho in U.S.A.
Part No. 22656197 B First Edition

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How to Use this Manual

Many people read their owner's manual from beginning to end when they first receive their new vehicle. If you do this, it will help you learn about the features and controls for your vehicle. In this manual, you'll find that pictures and words work together to explain things quickly.

Index

A good place to look for what you need is the Index in back of the manual. It's an alphabetical list of what's in the manual, and the page number where you'll find it.

Safety Warnings and Symbols

You will find a number of safety cautions in this book. We use a box and the word CAUTION to tell you about things that could hurt you if you were to ignore the warning.

⚠ CAUTION:

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

In the caution area, we tell you what the hazard is. Then we tell you what to do to help avoid or reduce the hazard. Please read these cautions. If you don't, you or others could be hurt.

You will also find a circle with a slash through it in this book. This safety symbol means "Don't," "Don't do this" or "Don't let this happen."

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Vehicle Damage Warnings

Also in this book you will find these notices:

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

In the notice area, we tell you about something that can damage your vehicle. Many times, this damage would not be covered by your warranty, and it could be costly. But the notice will tell you 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.

You'll also see warning labels on your vehicle. They use the same words, CAUTION or NOTICE.

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Vehicle Symbols

These are some of the symbols you may find on your vehicle.

For example, these symbols are used on an original battery:

- CAUTION POSSIBLE INJURY
- PROTECT EYES BY SHIELDING
- CAUSTIC BATTERY ACID COULD CAUSE BURNS
- AVOID SPARKS OR FLAMES
- SPARK OR FLAME COULD EXPLODE BATTERY

These symbols are important for you and your passengers whenever your vehicle is driven:

- DOOR LOCK UNLOCK
- FASTEN SEAT BELTS
- POWER WINDOW
- AIR BAG

These symbols have to do with your lamps:

- MASTER LIGHTING SWITCH
- TURN SIGNALS
- PARKING LAMPS
- HAZARD WARNING FLASHER
- DAYTIME RUNNING LAMPS
- FOG LAMPS

These symbols are on some of your controls:

- WINDSHIELD WIPER
- WINDSHIELD WASHER
- WINDSHIELD DEFROSTER
- REAR WINDOW DEFOGGER
- VENTILATING FAN

These symbols are used on warning and indicator lights:

- ENGINE COOLANT TEMP
- BATTERY CHARGING SYSTEM
- BRAKE
- COOLANT
- ENGINE OIL PRESSURE
- ANTI-LOCK BRAKES

Here are some other symbols you may see:

- FUSE
- LIGHTER
- HORN
- SPEAKER
- FUEL

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NOTES

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Section 1 Seats and Restraint Systems

Here you'll find information about the seats in your Oldsmobile and how to use your safety belts properly. You can also learn about some things you should *not* do with air bags and safety belts.

1-2 Seats and Seat Controls
1-6 Safety Belts: They're for Everyone
1-11 Here Are Questions Many People Ask About Safety Belts -- and the Answers
1-12 How to Wear Safety Belts Properly
1-12 Driver Position
1-19 Safety Belt Use During Pregnancy
1-20 Right Front Passenger Position
1-20 Supplemental Restraint System (SRS)
1-27 Rear Seat Passengers
1-30 Rear Safety Belt Comfort Guides for Children and Small Adults
1-32 Center Passenger Position
1-34 Children
1-37 Child Restraints
1-49 Larger Children
1-52 Safety Belt Extender
1-52 Checking Your Restraint Systems
1-52 Replacing Restraint System Parts After a Crash

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Seats and Seat Controls

This section tells you about the seats -- how to adjust them -- and also about reclining seatbacks and head restraints.

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 don't want to. Adjust the driver's seat only when the vehicle is not moving.

Lift the lever under the front seat to unlock it. Slide the seat to where you want it. Then release the lever and try to move the seat with your body, to make sure the seat is locked into place.

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6-Way Power Seat (If Equipped)

The power seat button is located on the lower, left side of the driver's seat. This button allows you to move the seat up, down, forward and backward. It also moves the front of the seat up or down and the rear of the seat up or down.

Move the seat higher by lifting and holding the bottom of the button. Lower the seat by pushing and holding the top of the button.

To move the seat forward, push the rear of the button forward. To move the seat backward, push the front of the button rearward.

Raise the front of the seat by lifting and holding the bottom front end of the button. Lower the front of the seat by pushing and holding the top front end of the button.

Raise the rear of the seat by lifting and holding the bottom rear of the button. Lower the rear of the seat by pushing and holding the top rear of the button.

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Reclining Front Seatbacks

To adjust the seatback, lift the lever on the outer side of the seat and move the seatback to where you want it. Release the lever and ensure the handle returns to the original position and the seatback is securely locked.

Pull up on the lever and the seat will go to an upright position.

But don't have a seatback reclined if your vehicle is moving.

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⚠ CAUTION:

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

The shoulder belt can't do its job because it won't 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 can't 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.

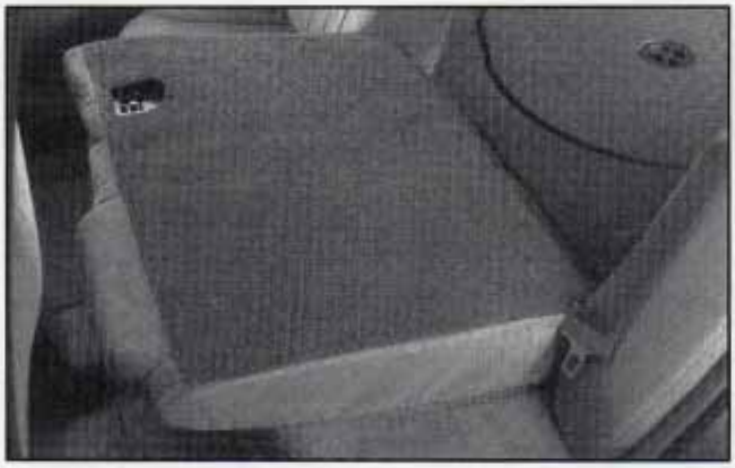
For proper protection when the vehicle is in motion, have the seatback upright. Then sit well back in the seat and wear your safety belt properly.

Head Restraints

Slide the head restraint up or down so that the top of the restraint is closest to the top of your ears. This position reduces the chance of a neck injury in a crash.

Rear Seats

Folding Rear Seat



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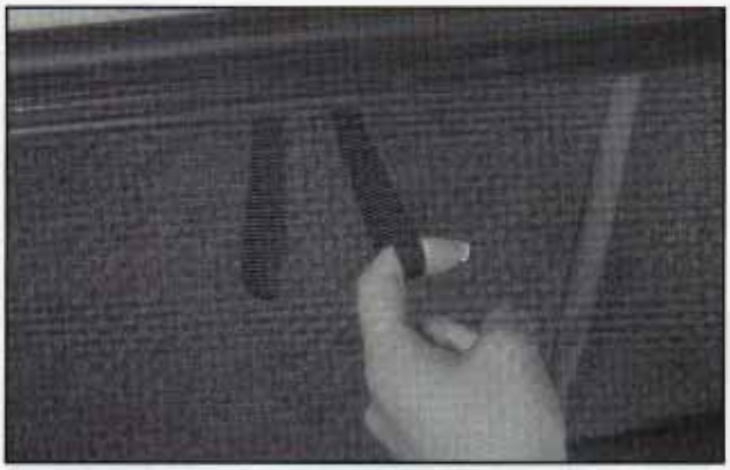

To open the folding rear seat, open the trunk and pull one or both of the tethers located on the left side of the trunk. The left-hand tether will open the larger side of the seatback. The right-hand tether will open the smaller side of the seatback. Once a tether is pulled, the seatback can be pushed open through the trunk, or pulled open from inside the vehicle.

To close the split folding rear seat, push the seatback up until you hear a click. Then pull on the seatback to make sure it is secure.

Safety Belts: They're 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.

And it explains the Supplemental Restraint System (SRS), or air bag system.

⚠ CAUTION:

Don't let anyone ride where he or she can't wear a safety belt properly. If you are in a crash and you're not wearing a safety belt, your injuries can be much worse. You can hit things inside the vehicle or be ejected from it. You can 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 passengers' belts are fastened properly too.

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⚠ 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 a light that comes on as a reminder to buckle up. (See "Safety Belt Reminder Light" in the Index.)

In most states and Canadian provinces, the law says to wear safety belts. Here's why: *They work.*

You never know if you'll be in a crash. If you do have a crash, you don't know if it will be a bad one.

A few crashes are mild, and some crashes can be so serious that even buckled up a person wouldn't 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 30 years of safety belts in vehicles, the facts are clear. In most crashes buckling up does matter ... a lot!

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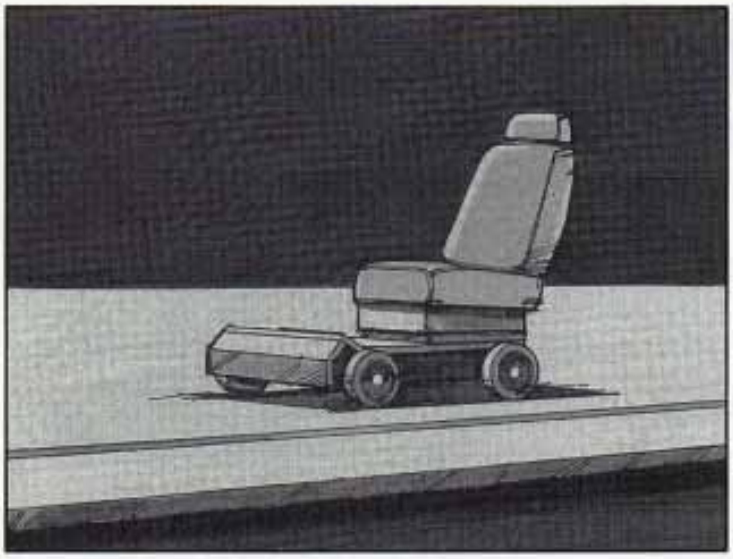
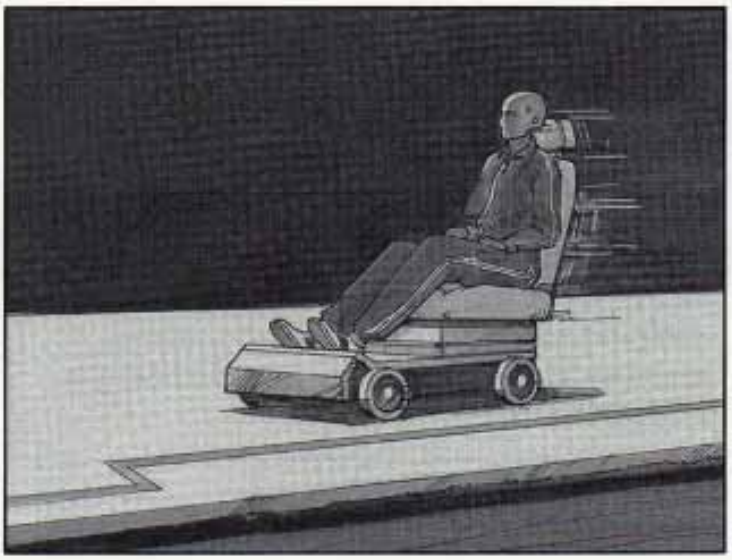
Why Safety Belts Work

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



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



Put someone on it.

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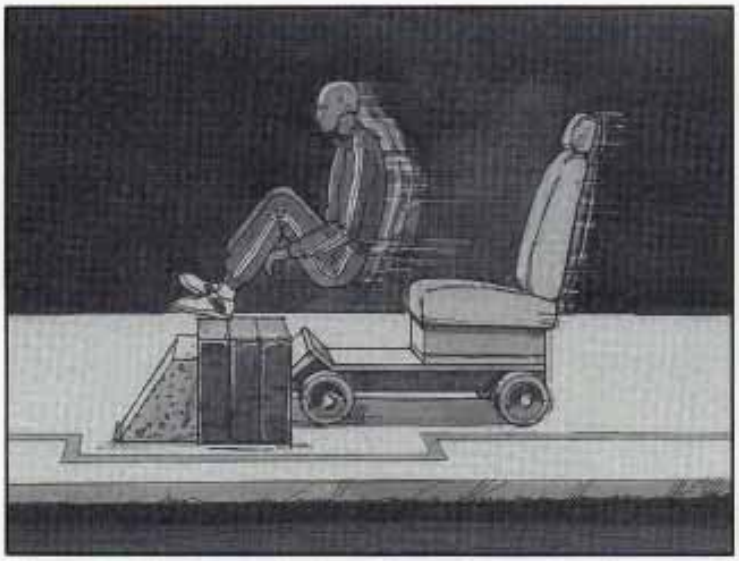

Get it up to speed. Then stop the vehicle. The rider doesn't stop.

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

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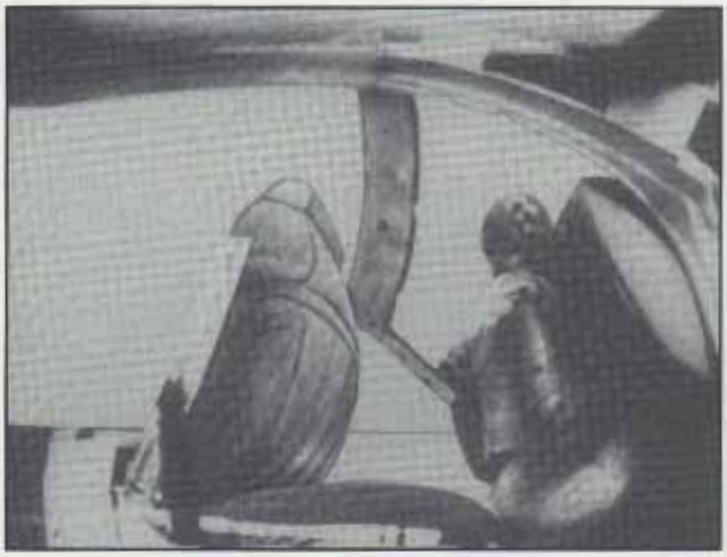

or the instrument panel ...

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's why safety belts make such good sense.

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Here Are Questions Many People Ask About Safety Belts -- and the Answers

Q: **Won't I be trapped in the vehicle after an accident if I'm wearing a safety belt?**

A: You *could* be -- whether you're wearing a safety belt or not. But you can unbuckle a safety belt, even if you're upside down. And your chance of being conscious during and after an accident, so you *can* unbuckle and get out, is *much* greater if you are belted.

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

A: Air bags are in many vehicles today and will be in most of them in the future. But they are supplemental systems only; so they work *with* safety belts -- not instead of them. Every air bag system ever offered for sale has required the use of safety belts. Even if you're in a vehicle that has air bags, you still have to buckle up to get the most protection. That's true not only in frontal collisions, but especially in side and other collisions.

Q: **If I'm 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're in an accident -- even one that isn't your fault -- you and your passengers can be hurt. Being a good driver doesn't 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.

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How to Wear Safety Belts Properly

Adults

This part 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 the part of this manual called "Children." Follow those rules for everyone's protection.

First, you'll want to know which restraint systems your vehicle has.

We'll start with the driver position.

Driver Position

This part describes the driver's restraint system.

Lap-Shoulder Belt

The driver has a lap-shoulder belt. Here's how to wear it properly.

1. Close and lock the door.
2. Adjust the seat (to see how, see "Seats" in the Index) so you can sit up straight.

3. Pick up the latch plate and pull the belt across you. Don't let it get twisted.

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

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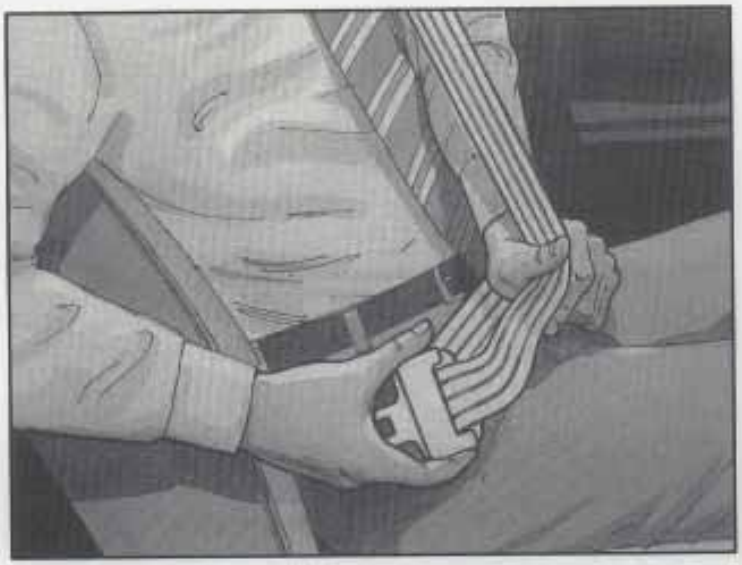

If the belt stops before it reaches the buckle, tilt the latch plate and keep pulling until you can buckle the belt.

Pull up on the latch plate to make sure it is secure. If the belt isn't long enough, see "Safety Belt Extender" at the end of this section.

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

5. To make the lap part tight, pull down on the buckle end of the belt as you pull up on the shoulder belt.

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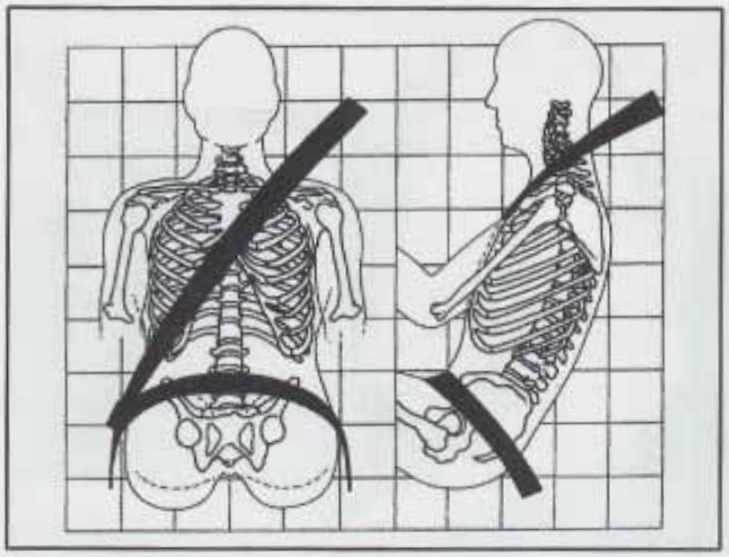

The lap part of the belt should be worn low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong pelvic bones. And you'd be less likely to slide under the lap belt. If you slid under it, the belt would apply force at your abdomen. This could cause serious or even 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 safety belt locks if there's a sudden stop or crash, or if you pull the belt very quickly out of the retractor.

Shoulder Belt Height Adjuster

Before you begin to drive, move the shoulder belt adjuster to the height that is right for you.

To move it down, squeeze the release button and move the adjuster to the desired position. You can move the adjuster up just by pushing up on the shoulder belt guide. After you move the adjuster to where you want it, try to move it down without squeezing the release button to make sure it has locked into position.

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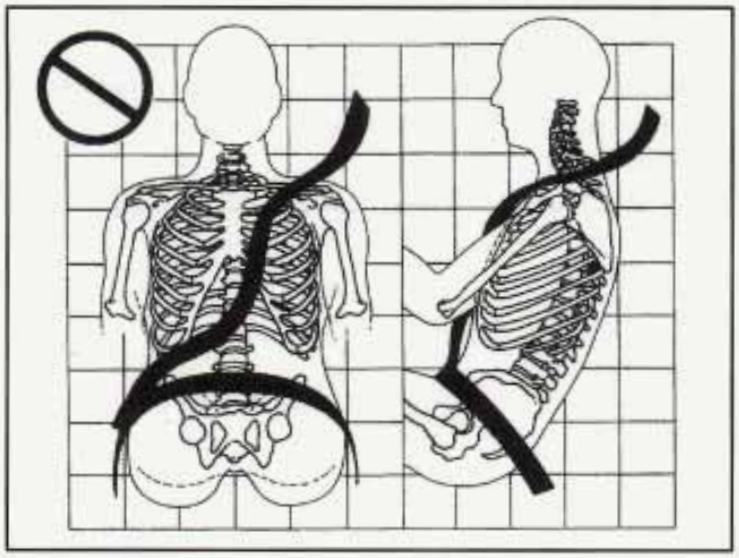
Adjust the height so that the shoulder portion of the belt is centered on your shoulder. The belt should be away from your face and neck, but not falling off your shoulder.

Q: **What's wrong with this?**



A: The shoulder belt is too loose. It won't 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 against your body.

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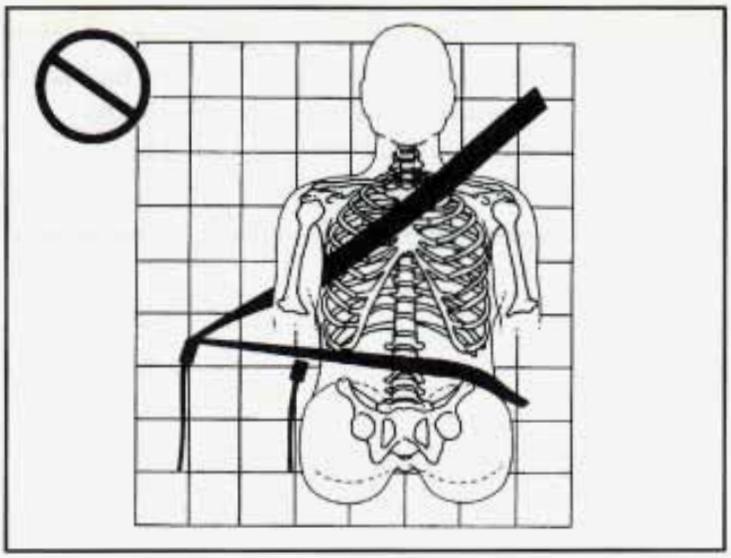
Q: **What's wrong with this?**



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 at the pelvic bones. This could cause serious internal injuries. Always buckle your belt into the buckle nearest you.

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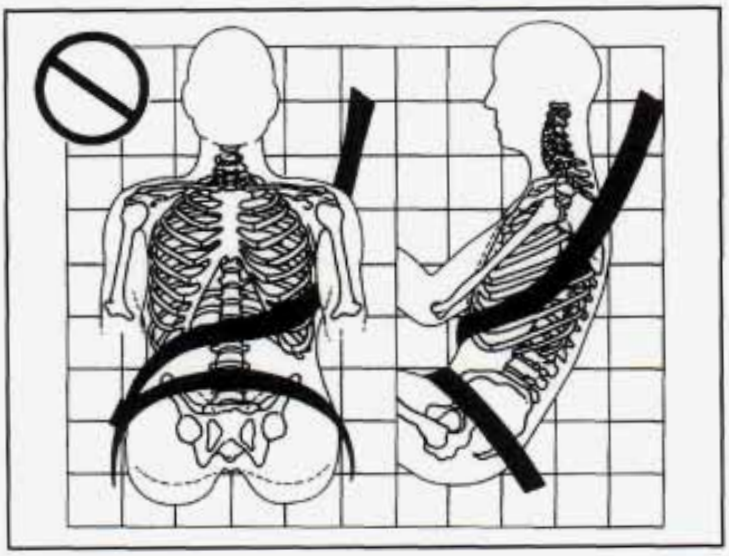
Q: **What's wrong with this?**



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 aren't as strong as shoulder bones. You could also severely injure internal organs like your liver or spleen.

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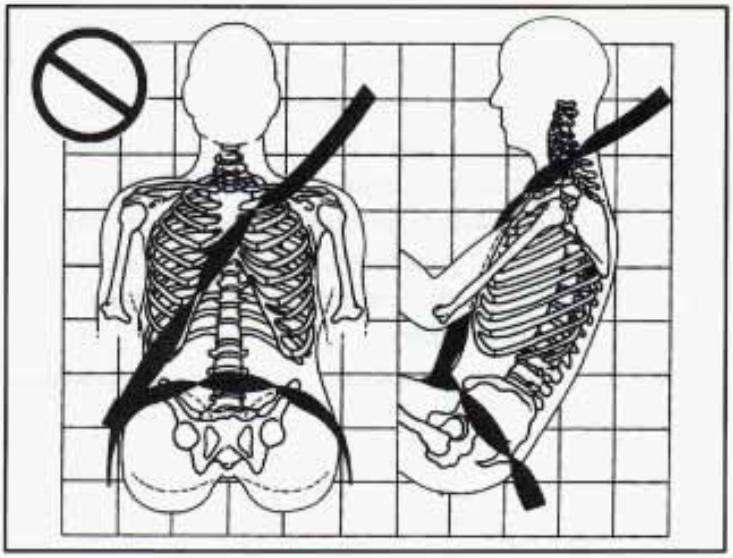
Q: **What's wrong with this?**



A: The belt is twisted across the body.

⚠ CAUTION:

You can be seriously injured by a twisted belt. In a crash, you wouldn't 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 retailer to fix it.

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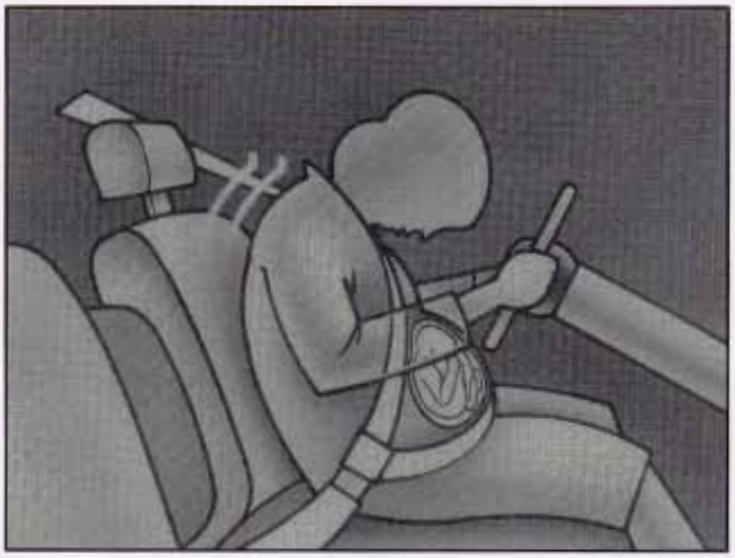
To unlatch the belt, just push the button on the buckle. The belt should go back out of the way.

Before you close the 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.

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 don't 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.

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

Right Front Passenger Position

The right front passenger's safety belt works the same way as the driver's safety belt. See "Driver Position" earlier in this section.

Supplemental Restraint System (SRS)

This part explains the Supplemental Restraint System (SRS) or air bag system.

Your vehicle has "Next Generation" reduced-force frontal air bags -- one air bag for the driver and another air bag for the right front passenger.

Reduced-force frontal air bags are designed to help reduce the risk of injury from the force of an inflating air bag. But even these air bags must inflate very quickly if they are to do their job and comply with federal regulations.

Here are the most important things to know about the air bag system:

⚠ CAUTION:

You can be severely injured or killed in a crash if you aren't wearing your safety belt -- even if you have air bags. Wearing your safety belt during a crash helps reduce your chance of hitting things inside the vehicle or being ejected from it. Air bags are "supplemental restraints" to the safety belts. All air bags -- even reduced-force air bags -- are designed to work with safety belts, but don't replace them. Air bags are designed to work only in moderate to severe crashes where the front of your vehicle hits something. They aren't designed to inflate at all in rollover, rear, side or low-speed frontal crashes. And, for unrestrained occupants,

CAUTION: (Continued)

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CAUTION: (Continued)

reduced-force air bags may provide less protection in frontal crashes than more forceful air bags have provided in the past. Everyone in your vehicle should wear a safety belt properly -- whether or not there's an air bag for that person.

⚠ CAUTION:

Air bags inflate with great force, faster than the blink of an eye. If you're too close to an inflating air bag, it could seriously injure you. This is true even with reduced-force frontal air bags. Safety belts help keep you in position before and during a crash. Always wear your safety belt, even with air bags. The driver should sit as far back as possible while still maintaining control of the vehicle.

⚠ CAUTION:

Children who are up against, or very close to, an air bag when it inflates can be seriously injured or killed. This is true even though your vehicle has reduced-force frontal air bags. Air bags plus lap-shoulder belts offer the best protection for adults and older children, but not for young children and infants. Neither the vehicle's safety belt system nor its air bag 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 the part of this manual called "Children" and see the caution labels on the sunvisors and the right front passenger's safety belt.

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There is an air bag readiness light on the instrument panel, which shows the air bag symbol.

The system checks the air bag electrical system for malfunctions. The light tells you if there is an electrical problem. See "Air Bag Readiness Light" in the Index for more information.

How the Air Bag System Works

Where are the air bags?

The driver's air bag is in the middle of the steering wheel.

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The right front passenger's air bag is in the instrument panel on the passenger's side.

⚠ CAUTION:

If something is between an occupant and an air bag, the bag might not inflate properly or it might force the object into that person. The path of an inflating air bag must be kept clear. Don't put anything between an occupant and an air bag, and don't attach or put anything on the steering wheel hub or on or near any other air bag covering.

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When should an air bag inflate?

An air bag is designed to inflate in a moderate to severe frontal or near-frontal crash. The air bag will inflate only if the impact speed is above the system's designed "threshold level." If your vehicle goes straight into a wall that doesn't move or deform, the threshold level is about 9 to 14 mph (14 to 23 km/h). The threshold level can vary, however, with specific vehicle design, so that it can be somewhat above or below this range. If your vehicle strikes something that will move or deform, such as a parked car, the threshold level will be higher. The air bag is not designed to inflate in rollovers, side impacts or rear impacts, because inflation would not help the occupant.

In any particular crash, no one can say whether an air bag should have inflated simply because of the damage to a vehicle or because of what the repair costs were. Inflation is determined by the angle of the impact and how quickly the vehicle slows down in frontal or near-frontal impacts.

What makes an air bag inflate?

In an impact of sufficient severity, the air bag sensing system detects that the vehicle is in a crash. The sensing system triggers a release of gas from the inflator, which inflates the air bag. The inflator, air bag and related hardware are all part of the air bag modules inside the steering wheel and in the instrument panel in front of the right front passenger.

How does an air bag restrain?

In moderate to severe frontal or near-frontal collisions, even belted occupants can contact the steering wheel or the instrument panel. Air bags supplement the protection provided by safety belts. Air bags distribute the force of the impact more evenly over the occupant's upper body, stopping the occupant more gradually. But air bags would not help you in many types of collisions, including rollovers, rear impacts and side impacts, primarily because an occupant's motion is not toward those air bags. Air bags should never be regarded as anything more than a supplement to safety belts, and then only in moderate to severe frontal or near-frontal collisions.

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What will you see after an air bag inflates?

After an air bag inflates, it quickly deflates, so quickly that some people may not even realize the air bag inflated. Some components of the air bag module -- the steering wheel hub for the driver's air bag, or the instrument panel for the right front passenger's bag -- will be hot for a short time. The parts of the bag that come into contact with you may be warm, but not too hot to touch. There will be some smoke and dust coming from vents in the deflated air bags. Air bag inflation doesn't prevent the driver from seeing or from being able to steer the vehicle, nor does it stop people from leaving the vehicle.

⚠ CAUTION:

When an air bag inflates, there is 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 can't get out of the vehicle after an air bag inflates, then get fresh air by opening a window or door.

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

- Air bags are designed to inflate only once. After they inflate, you'll need some new parts for your air bag system. If you don't get them, the air bag system won't be there to help protect you in another crash. A new system will include air bag modules and possibly other parts. The service manual for your vehicle covers the need to replace other parts.
- Your vehicle is equipped with a crash sensing and diagnostic module, which records information about the air bag system. The module records information about the readiness of the system, when the sensors are activated and driver's safety belt usage at deployment.
- Let only qualified technicians work on your air bag system. Improper service can mean that your air bag system won't work properly. See your retailer for service.

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NOTICE:

If you damage the covering for the driver's or the right front passenger's air bag, the bag may not work properly. You may have to replace the air bag module in the steering wheel or both the air bag module and the instrument panel for the right front passenger's air bag. Do not open or break the air bag coverings.

If your vehicle ever gets into a lot of water -- such as water up to the carpeting or higher -- or if water enters your vehicle and soaks the carpet, the air bag controller can be soaked and ruined. If this ever happens, and then you start your vehicle, the damage could make the air bags inflate, even if there's no crash. You would have to replace the air bags as well as the sensors and related parts. If your vehicle is ever in a flood, or if it's exposed to water that soaks the carpet, you can avoid needless repair costs by turning off the vehicle immediately. Don't let anyone start the vehicle, even to tow it, unless the battery cables are first disconnected.

Servicing Your Air Bag-Equipped Vehicle

Air bags affect how your vehicle should be serviced. There are parts of the air bag system in several places around your vehicle. You don't want the system to inflate while someone is working on your vehicle. Your retailer and the Cutlass Service Manual have information about servicing your vehicle and the air bag system. To purchase a service manual, see "Service and Owner Publications" in the Index.

⚠ CAUTION:

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

The air bag system does not need regular maintenance.

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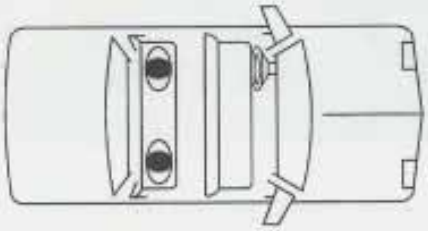
Rear Seat Passengers

It's very important for rear seat passengers to buckle up! Accident statistics show that unbelted people in the rear seat are hurt more often in crashes than those who are wearing safety belts.

Rear passengers who aren't safety belted can be thrown out of the vehicle in a crash. And they can strike others in the vehicle who are wearing safety belts.

Rear Seat Outside Passenger Positions



Lap-Shoulder Belt

The positions next to the windows have lap-shoulder belts. Here's how to wear one properly.

1. Pick up the latch plate and pull the belt across you. Don't let it get twisted.

   The 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.

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

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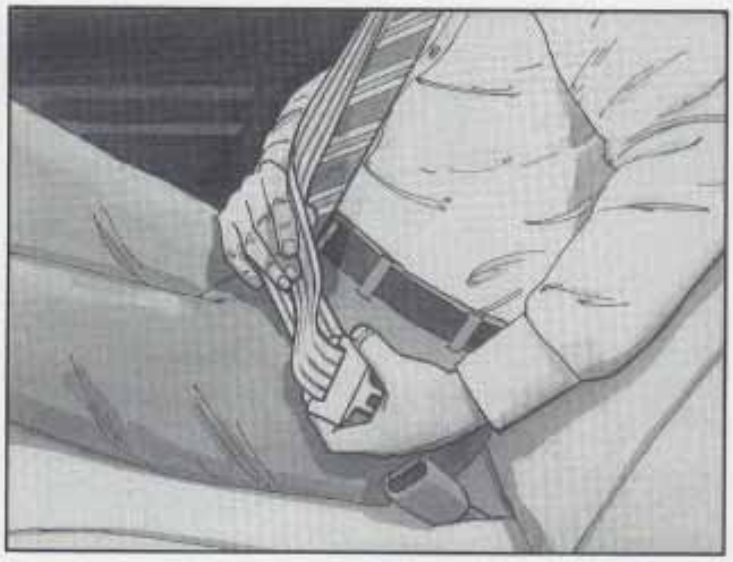

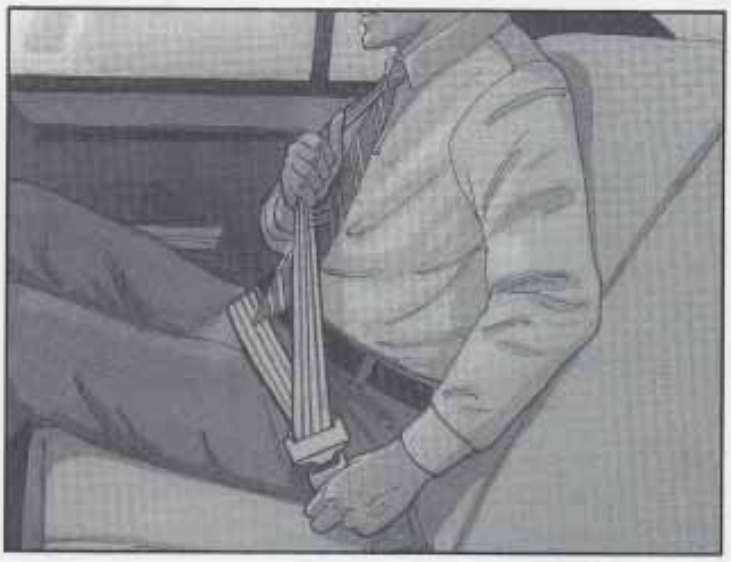

If the belt stops before it reaches the buckle, tilt the latch plate and keep pulling until you can buckle it.

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

If the belt is not long enough, see "Safety Belt Extender" at the end of this section. Make sure the release button on the buckle is positioned so you would be able to unbuckle the safety belt quickly if you ever had to.

3. To make the lap part tight, pull down on the buckle end of the belt as you pull up on the shoulder part.

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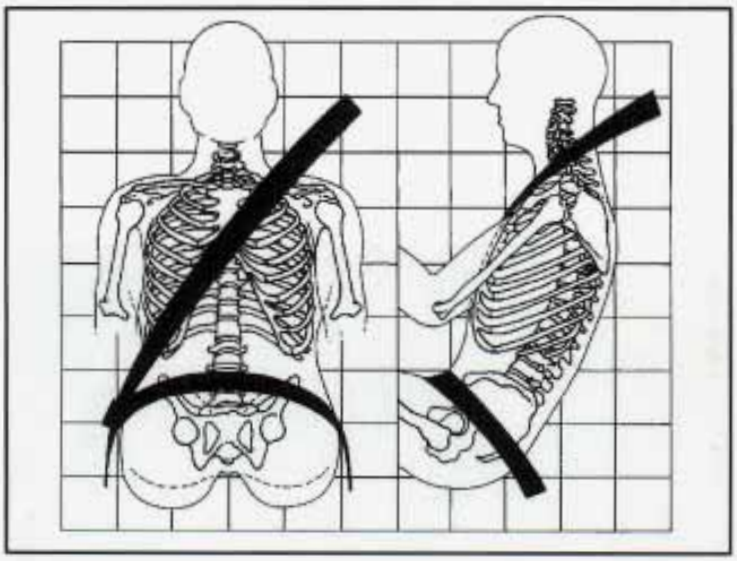

The lap part of the belt should be worn low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong pelvic bones. And you'd be less likely to slide under the lap belt. If you slid under it, the belt would apply force at your abdomen. This could cause serious or even 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 safety belt locks if there's a sudden stop or a crash, or if you pull the belt very quickly out of the retractor.

⚠ 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 against your body.

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To unlatch the belt, just push the button on the buckle.

Rear Safety Belt Comfort Guides for Children and Small Adults

Rear shoulder belt comfort guides will provide added safety belt comfort for children who have outgrown child restraints and for small adults. When installed on a shoulder belt, the comfort guide pulls the belt away from the neck and head.

There is one guide for each outside passenger position in the rear seat. To provide added safety belt comfort for children who have outgrown child restraints and for smaller adults, the comfort guides may be installed on the shoulder belts. Here's how to install a comfort guide and use 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.

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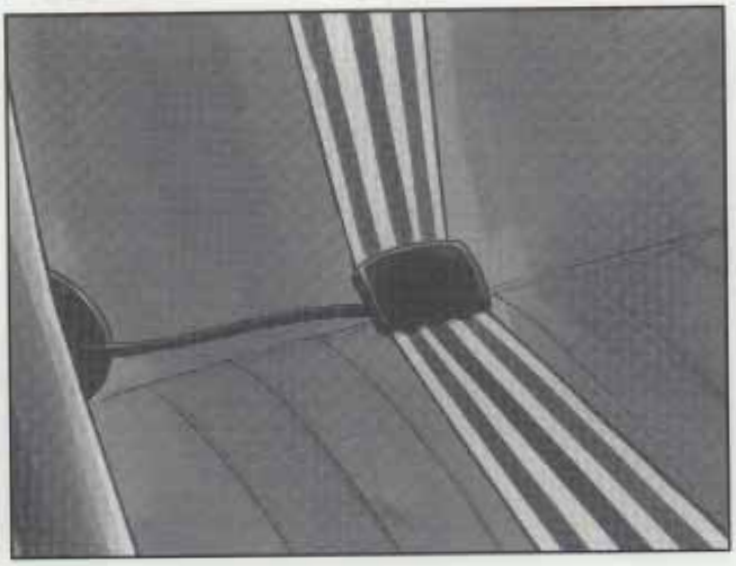
2. Slide the guide under and past the belt. The elastic cord must be under the belt. Then, place the guide over the belt, and insert the two edges of the belt into the slots of the guide.



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

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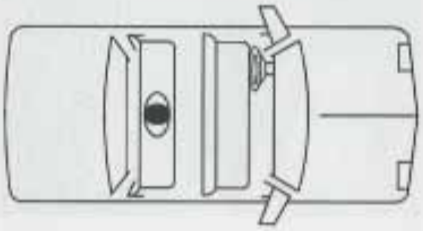
4. Buckle, position and release the safety belt as described in "Rear Seat Outside Passenger Positions" earlier in this section. Make sure that the shoulder belt crosses the shoulder.

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

Center Passenger Position



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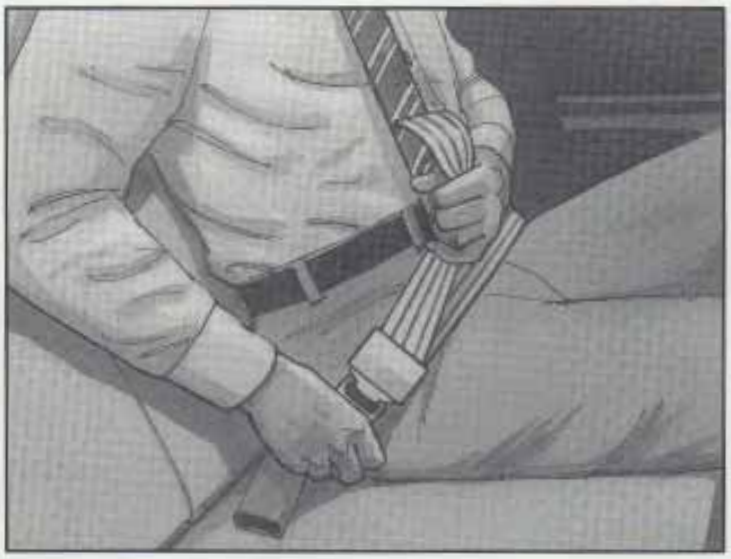
Lap Belt

When you sit in the center seating position, you have a lap safety belt, which has no retractor. To make the belt longer, tilt the latch plate and pull it along the belt.



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

Buckle, position and release it the same way as the lap part of a lap-shoulder belt. If the belt isn't long enough, see "Safety Belt Extender" at the end of this section.

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

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Children

Everyone in a vehicle needs protection! That includes infants and all children smaller than adult size. 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.

Smaller Children and Babies

⚠ CAUTION:

Children who are up against, or very close to, an air bag when it inflates can be seriously injured or killed. This is true even though your vehicle has reduced-force frontal air bags. Air bags plus lap-shoulder belts offer the best protection for adults and older children, but not for young children and infants. Neither the vehicle's safety belt system nor its air bag 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.

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⚠ CAUTION:

Smaller children and babies should always be restrained in a child or infant restraint. The instructions for the restraint will say whether it is the right type and size for your child. A very young child's hip bones are so small that a regular belt might not stay low on the hips, as it should. Instead, the belt will likely be over the child's abdomen. In a crash, the belt would apply force right on the child's abdomen, which could cause serious or fatal injuries. So, be sure that any child small enough for one is always properly restrained in a child or infant restraint.

Infants need complete support, including support for the head and neck. This is necessary because an 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 restraint settles into the restraint, so the crash forces can be distributed across the strongest part of the infant's body, the back and shoulders. A baby should be secured in an appropriate infant restraint. This is so important that many hospitals today won't release a newborn infant to its parents unless there is an infant restraint available for the baby's first trip in a motor vehicle.

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⚠ CAUTION:

Never hold a baby in your arms while riding in a vehicle. A baby doesn't weigh much -- until a crash. During a crash a baby will become so heavy you can't hold it. For example, in a crash

CAUTION: (Continued)

CAUTION: (Continued)

at only 25 mph (40 km/h), a 12-lb. (5.5 kg) baby will suddenly become a 240-lb. (110 kg) force on your arms. The baby would be almost impossible to hold.

Secure the baby in an infant restraint.

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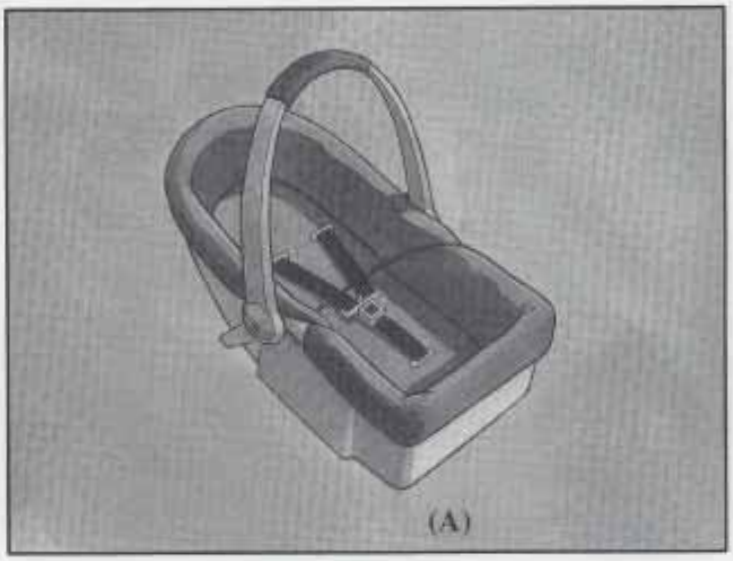
Child Restraints

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

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

A: Add-on child restraints are available in four basic types. When selecting a child restraint, take into consideration not only the child's weight and size, but also whether or not the restraint will be compatible with the motor vehicle in which it will be used.



An infant car bed (A) is a special bed made for use in a motor vehicle. It's an infant restraint system designed to restrain or position a child on a continuous flat surface. With an infant car bed, make sure that the infant's head rests toward the center of the vehicle.

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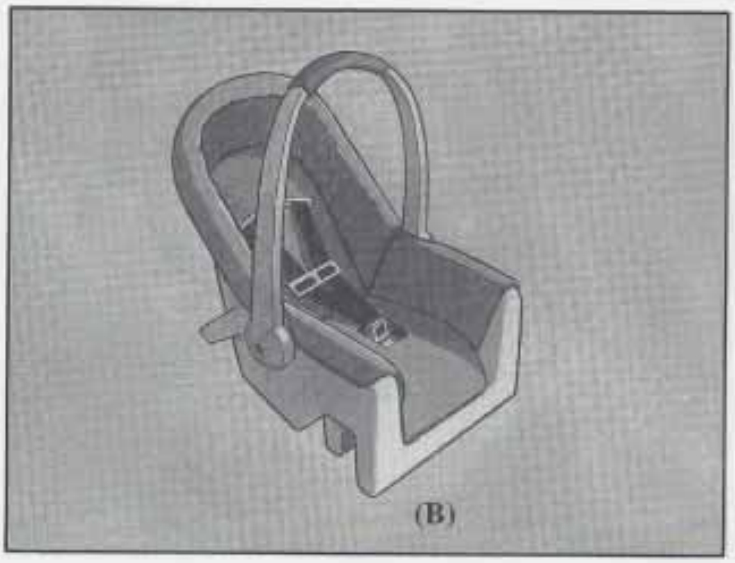

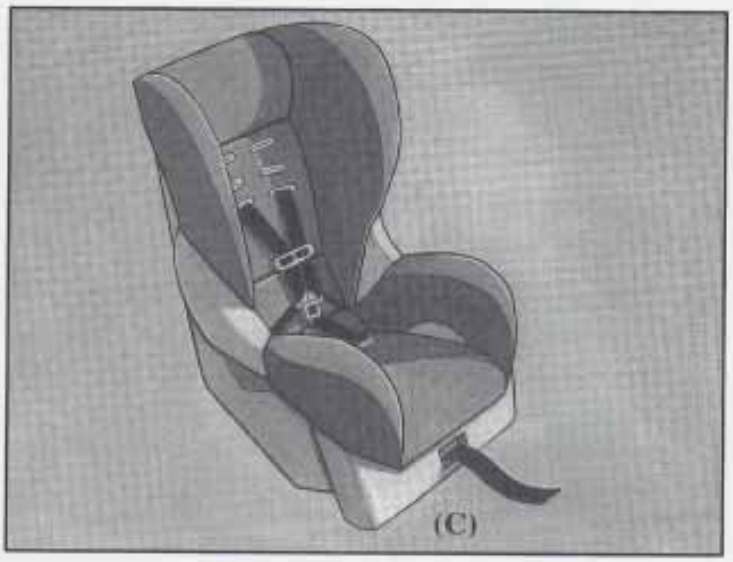

A rear-facing infant restraint (B) positions an infant to face the rear of the vehicle. Rear-facing infant restraints are designed for infants of up to about 20 lbs. (9 kg) and about one year of age. This type of restraint faces the rear so that the infant's head, neck and body can have the support they need in a crash. Some infant seats come in two parts -- the base stays secured in the vehicle and the seat part is removable.

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A forward-facing child restraint (C-E) positions a child upright to face forward in the vehicle. These forward-facing restraints are designed to help protect children who are from 20 to 40 lbs. (9 to 18 kg) and about 26 to 40 inches (66 to 102 cm) in height, or up to around four years of age. One type, a convertible restraint, is designed to be used either as a rear-facing infant seat or a forward-facing child seat.

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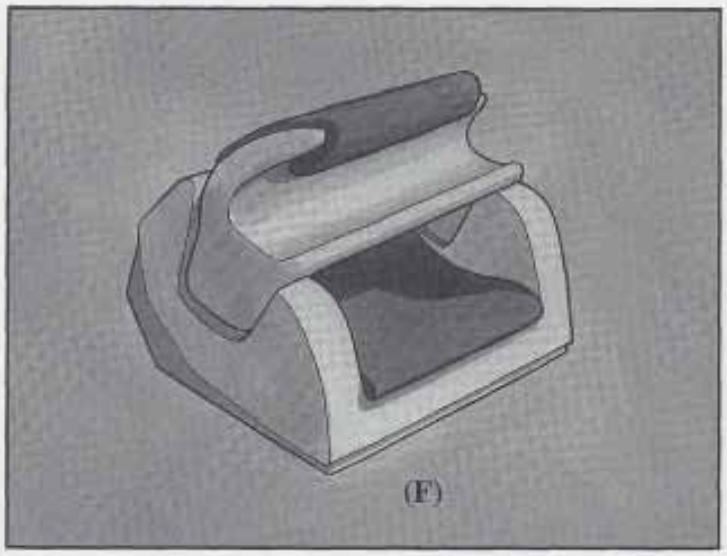

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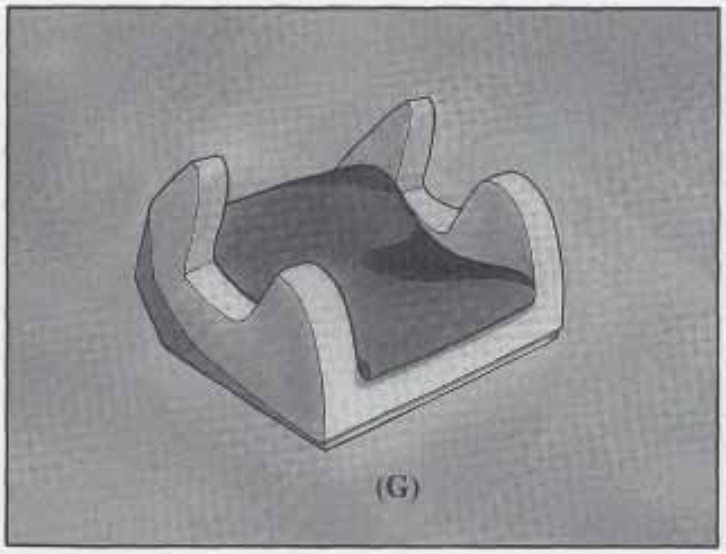

(G)

A booster seat (F, G) is designed for children who are about 40 to 60 lbs. (18 to 27 kg) and about four to eight years of age. It's designed to improve the fit of the vehicle's safety belt system. Booster seats with shields use lap-only belts; however, booster seats without shields use lap-shoulder belts. Booster seats can also help a child to see out the window.

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When choosing a child restraint, be sure the child restraint is designed to be used in a vehicle. If it is, it will have a label saying that it meets Federal Motor Vehicle Safety Standards.

Then follow the instructions for the restraint. You may find these instructions on the restraint itself or in a booklet, or both. These restraints use the belt system in your vehicle, but the child also has to be secured within the restraint to help reduce the chance of personal injury. The instructions that come with the infant or child restraint will show you how to do that. Both the owner's manual and the child restraint instructions are important, so if either one of these is not available, obtain a replacement copy from the manufacturer.

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 at General Motors therefore recommend that you put your child restraint in the rear seat. *Never* put a rear-facing child restraint in the front passenger seat. Here's why:

⚠ CAUTION:

A child in a rear-facing child restraint can be seriously injured if the right front passenger's air bag inflates even though your vehicle has reduced-force frontal air bags. This is because the back of a rear-facing child restraint would be very close to the inflating air bag. Always secure a rear-facing child restraint in the rear seat.

You may, however, secure a forward-facing child restraint in the right front seat. Before you secure a forward-facing child restraint, always move the front passenger seat as far back as it will go. Or, secure the child restraint in the rear seat.

Wherever you install it, 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.

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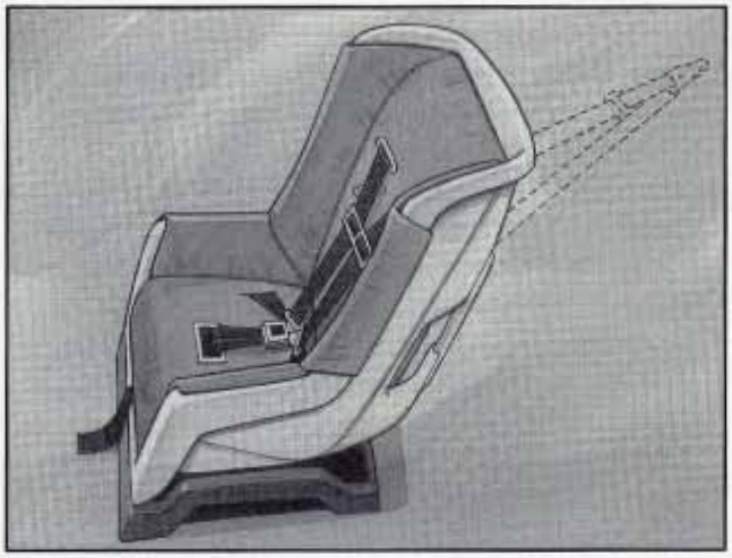
Top Strap

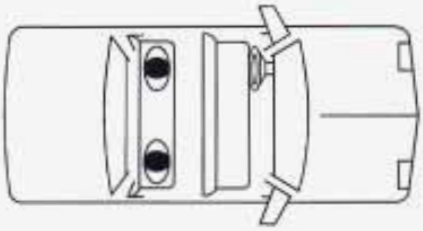


If your child restraint has a top strap, it should be anchored. If you need to have an anchor installed, you can ask your Oldsmobile retailer to put it in for you. If you want to install an anchor yourself, your retailer can tell you how to do it.

Canadian law requires that child restraints have a top strap, and that the strap be anchored.

If your child restraint has a top strap, your retailer can obtain a kit with anchor hardware and installation instructions specifically designed for this vehicle. The retailer can then install the anchor for you. In Canada, this work will be done for you free of charge. Or, you may install the anchor yourself using the instructions provided in the kit.

Securing a Child Restraint in a Rear Outside Seat Position



You'll be using the lap-shoulder belt. See the earlier part about the top strap if the child restraint has one. 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.

1. Put the restraint on the seat.

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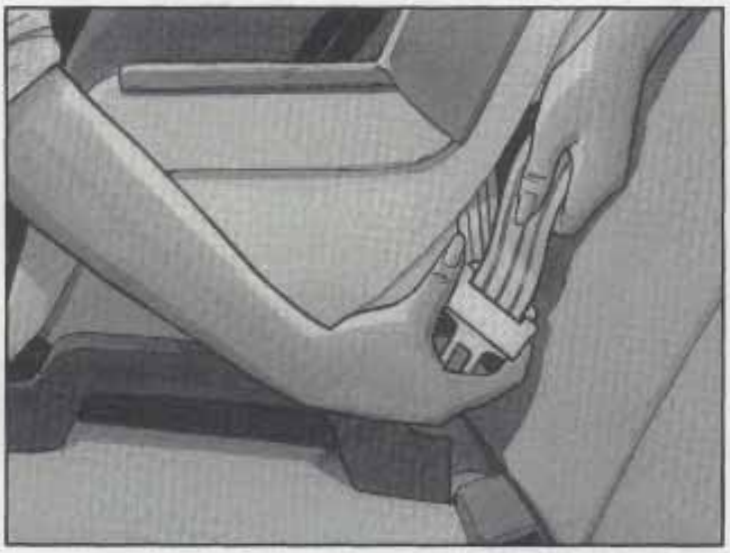
2. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.



Tilt the latch plate to adjust the belt if needed.

If the shoulder belt goes in front of the child's face or neck, put it behind the child restraint.

3. Buckle the belt. Make sure the release button is positioned so you would be able to unbuckle the safety belt quickly if you ever had to.

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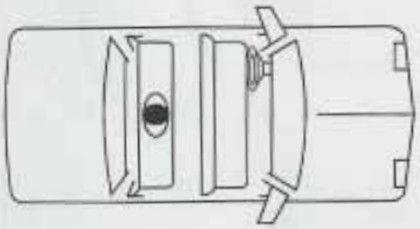
4. To tighten the belt, pull up on the shoulder belt while you push down on the child restraint. If you're using a forward-facing child restraint, you may find it helpful to use your knee to push down on the child restraint as you tighten the belt.
5. Push and pull the child restraint in different directions to be sure it is secure.

To remove the child restraint, just unbuckle the vehicle's safety belt and let it go back all the way. The safety belt will move freely again and be ready to work for an adult or larger child passenger.

Securing a Child Restraint in the Center Rear Seat Position



You'll be using the lap belt. 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.

See the earlier part about the top strap if the child restraint has one.

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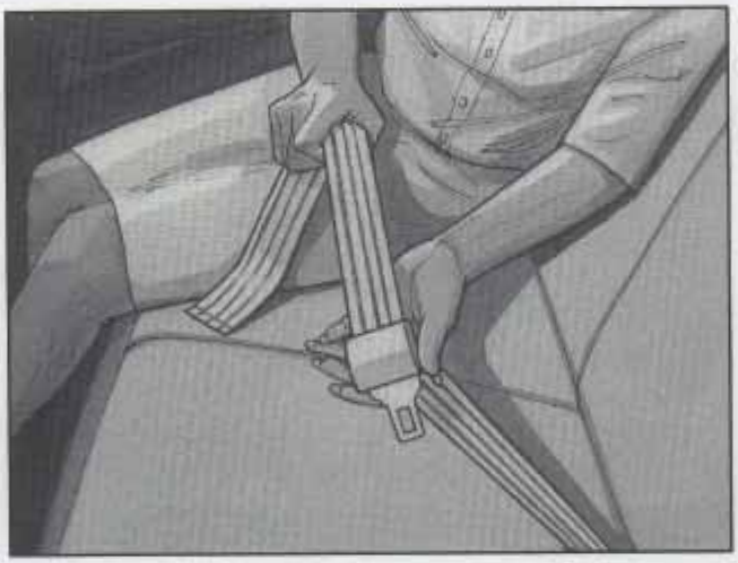

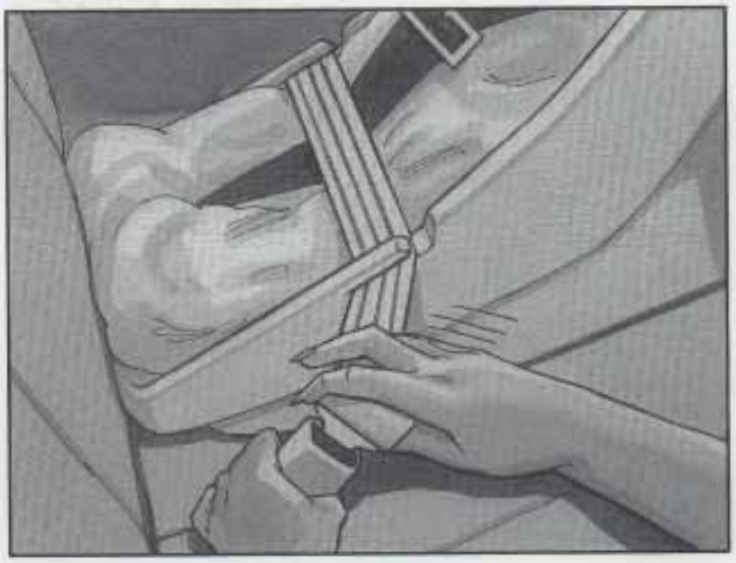

1. Make the belt as long as possible by tilting the latch plate and pulling it along the belt.
2. Put the restraint on the seat.
3. Run the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.
4. Buckle the belt. Make sure the release button is positioned so you would be able to unbuckle the safety belt quickly if you ever had to.
5. To tighten the belt, pull its free end while you push down on the child restraint. If you're 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.

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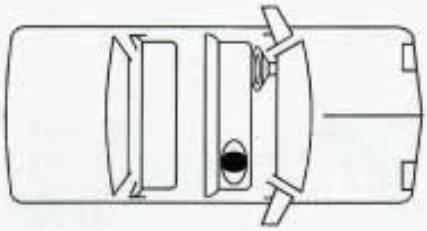
6. Push and pull the child restraint in different directions to be sure it is secure.

To remove the child restraint, just unbuckle the vehicle's safety belt. It will be ready to work for an adult or larger child passenger.

Securing a Child Restraint in the Right Front Seat Position



Your vehicle has a right front passenger air bag. *Never* put a rear-facing child restraint in this seat. Here's why:

⚠ CAUTION:

A child in a rear-facing child restraint can be seriously injured if the right front passenger's air bag inflates even though your vehicle has reduced-force frontal air bags. This is because the back of a rear-facing child restraint would be very close to the inflating air bag. Always secure a rear-facing child restraint in the rear seat.

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You'll be using the lap-shoulder belt. See the earlier part about the top strap if the child restraint has one. 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.

1. Because your vehicle has a right front passenger air bag, always move the seat as far back as it will go before securing a forward-facing child restraint. (See "Seats" in the Index.)
2. Put the 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.

Tilt the latch plate to adjust the belt if needed.

If the shoulder belt goes in front of the child's face or neck, put it behind the child restraint.

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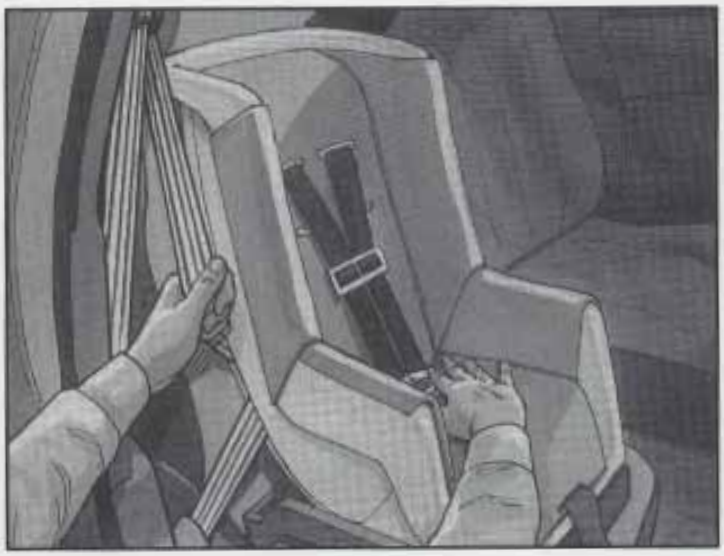
4. Buckle the belt. Make sure the release button is positioned so you would be able to unbuckle the safety belt quickly if you ever had to.



5. To tighten the belt, pull up on the shoulder belt while you push down on the child restraint. You may find it helpful to use your knee to push down on the child restraint as you tighten the belt.
6. Push and pull the child restraint in different directions to be sure it is secure.

To remove the child restraint, just unbuckle the vehicle's safety belt and let it go back all the way. The safety belt will move freely again and be ready to work for an adult or larger child passenger.

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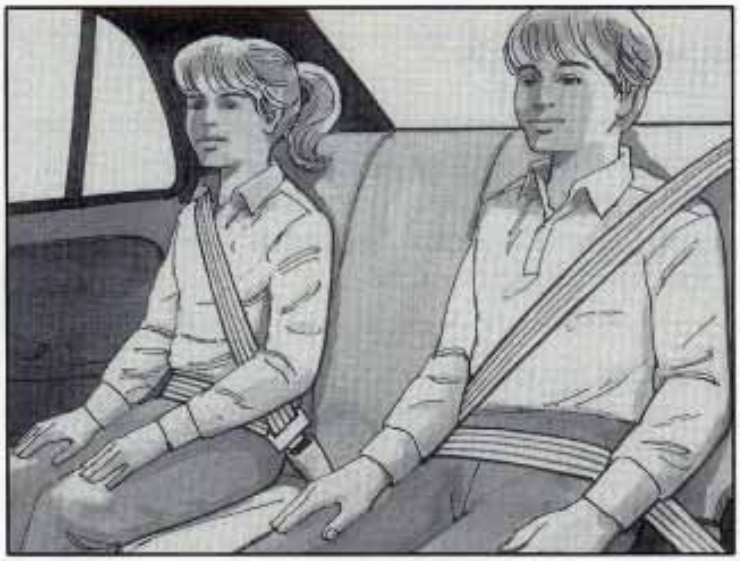
Larger Children



Children who have outgrown child restraints should wear the vehicle's safety belts.

If you have the choice, a child should sit next to a window so the child can wear a lap-shoulder belt and get the additional restraint a shoulder belt can provide.

Accident statistics show that children are safer if they are restrained in the rear seat. But they need to use the safety belts properly.

- Children who aren't buckled up can be thrown out in a crash.
- Children who aren't buckled up can strike other people who are.

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⚠ CAUTION:

Never do this.

Here two children are wearing the same belt. The belt can't 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.

Q: **What if a child is wearing a lap-shoulder belt, but the child is so small that the shoulder belt is very close to the child's face or neck?**

A: Move the child toward the center of the vehicle, but be sure that the shoulder belt still is on the child's shoulder, so that in a crash the child's upper body would have the restraint that belts provide. If the child is sitting in a rear seat outside position, see "Rear Safety Belt Comfort Guides" in the Index. If the child is so small that the shoulder belt is still very close to the child's face or neck, you might want to place the child in the center seat position, the one that has only a lap belt.

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⚠ 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. If the child wears the belt in this way, in a crash the child might slide under the belt. The belt's force would then be applied right on the child's abdomen. That could cause serious or fatal injuries.

Wherever the child sits, the lap portion of the belt should be worn low and snug on the hips, just touching the child's thighs. This applies belt force to the child's pelvic bones in a crash.

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Safety Belt Extender

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

But if a safety belt isn't long enough to fasten, your retailer will order you an extender. It's free. When you go in to order it, take the heaviest coat you will wear, so the extender will be long enough for you. The extender will be just for you, and just for the seat in your vehicle that you choose. Don't let someone else use it, and use it only for the seat it is made to fit. To wear it, just attach it to the regular safety belt.

Checking Your Restraint Systems

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.

Also look for any opened or broken air bag covers, and have them repaired or replaced. (The air bag system does not need regular maintenance.)

Replacing Restraint System Parts After a Crash

If you've had a crash, do you need new belts?

After a very minor collision, nothing may be necessary. But if the belts were stretched, as they would be if worn during a more severe crash, then you need new belts.

If belts are cut or damaged, replace them. Collision damage also may mean you will need to have safety belt or seat parts repaired or replaced. New parts and repairs may be necessary even if the belt wasn't being used at the time of the collision.

If your seat adjuster won't work after a crash, the special part of the safety belt that goes through the seat to the adjuster may need to be replaced.

If an air bag inflates, you'll need to replace air bag system parts. See the part on the air bag system earlier in this section.

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Section 2 Features and Controls

Here you can learn about the many standard and optional features on your vehicle, and information on starting, shifting and braking. Also explained are the instrument panel and the warning systems that tell you if everything is working properly -- and what to do if you have a problem.

2-2 Keys
2-4 Door Locks
2-6 Remote Lock Control (If Equipped)
2-10 Trunk
2-12 Theft
2-13 Passlock®
2-13 New Vehicle "Break-In"
2-14 Ignition Positions
2-15 Starting Your Engine
2-16 Engine Coolant Heater (If Equipped)
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2-22 Parking Brake
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2-26 Parking Over Things That Burn
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2-27 Running Your Engine While You're Parked
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2-28 Horn
2-29 Tilt Wheel
2-29 Turn Signal/Multifunction Lever
2-36 Exterior Lamps
2-38 Interior Lamps
2-40 Mirrors
2-41 Storage Compartments
2-45 Sunroof (If Equipped)
2-46 Instrument Panel
2-48 Instrument Panel Cluster
2-50 Warning Lights, Gages and Indicators

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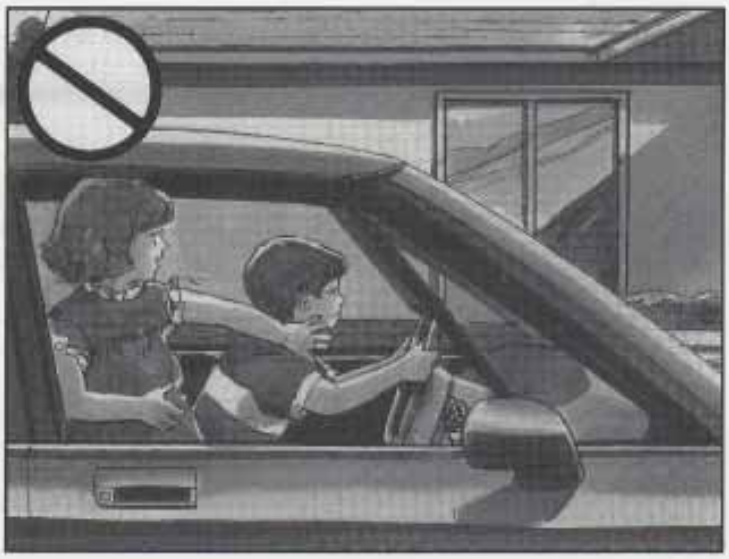
Keys

⚠ CAUTION:

Leaving young children in a vehicle with the ignition key is dangerous for many reasons. A child or others could be badly injured or even killed.

They could operate power windows or other controls or even make the vehicle move. Don't leave the keys in a vehicle with young children.



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One key is used for the ignition, the doors and all other locks.

When a new vehicle is delivered, the retailer removes the key plug from the key, and gives them to the first owner.

Each plug has a key code on it that tells your retailer or a qualified locksmith how to make extra keys. Keep the plugs in a safe place. If you lose your keys, you'll be able to have one made easily using these plugs.

If you need a new key, go to your retailer for the correct key code.

NOTICE:

Your vehicle has a number of new features that can help prevent theft, therefore you can have a lot of trouble getting into your vehicle if you ever lock your keys inside. You may even have to damage your vehicle to get in. So be sure you have extra keys.

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Door Locks

⚠ CAUTION:

Unlocked doors can be dangerous.

Passengers -- especially children -- can easily open the doors and fall out. When a door is locked, the inside handle won't open it.

Outsiders can easily enter through an unlocked door when you slow down or stop your vehicle.

This may not be so obvious: You increase the chance of being thrown out of the vehicle in a crash if the doors aren't locked. Wear safety belts properly, lock your doors, and you will be far better off whenever you drive your vehicle.

There are several ways to lock and unlock your vehicle.

From the outside, use your key or the remote lock control transmitter, if your vehicle has this option.

From the inside, to lock the door, move the locking lever forward.

To unlock the door, move the locking lever rearward.

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Power Door Locks

With the power door locks, you can unlock or lock all of the doors of your vehicle from the driver's or front passenger's door lock switch.

Pull up on the switch to unlock all the doors. Push down on the switch to lock the doors.

Door Ajar Reminder

If one of the doors of your vehicle is not closed properly, the ignition is on and you shift from PARK (P) or NEUTRAL (N), you will hear a chime. Also, a door ajar light on the instrument panel will come on and stay on until the doors are closed and completely latched.

Rear Door Security Locks

Your vehicle is equipped with rear door security locks that help prevent passengers from opening the rear doors of your vehicle from the inside.

The switch is located on the inside of the rear door. To use one of these locks:

1. Move the switch up.
2. Close the door.
3. Do the same thing on the other rear door.

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The rear doors of your vehicle cannot be opened from the inside when this feature is in use. If you want to open a rear door when the security lock is on:

1. Unlock the door from the inside.
2. Then open the door from the outside.

If you don't cancel the security lock feature, adults or older children who ride in the rear won't be able to open the rear door from the inside. You should let adults and older children know how these security locks work, and how to cancel the locks.

To cancel the rear door lock:

1. Unlock the door from the inside and open it from the outside.
2. Move the switch down.
3. Do the same for the other rear door.

The rear doors will now work normally.

Leaving Your Vehicle

If you are leaving your vehicle, open your door and lock the doors from the inside, then get out and close the door.

Remote Lock Control (If Equipped)

If your vehicle has this option, you can lock and unlock your doors or unlock your trunk from about 3 feet (1 m) up to 30 feet (9 m) away using the remote lock control transmitter supplied with your vehicle.

In addition, the system illuminates the interior lights for a set period of time. The remote lock control system consists of a receiver, which is located in the vehicle, and two hand-held transmitters.

Your remote lock control operates on a radio frequency subject to Federal Communications Commission (FCC) Rules and with Industry Canada.

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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, and (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, and (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.

This system has a range of about 3 feet (1 m) up to 30 feet (9 m). At times you may notice a decrease in range. This is normal for any remote keyless entry 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 to determine if battery replacement or synchronization is necessary. See the instructions that follow.
- 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.
- If you're still having trouble, see your retailer or a qualified technician for service.

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Operation

The following functions are available with the remote lock control system:

LOCK: All doors will automatically lock when the LOCK button on the transmitter is pressed. Press the button a second time and you will hear a "chirp" to indicate that the doors have been locked.

UNLOCK: The driver's door will unlock automatically when the UNLOCK button on the transmitter is pressed. If the UNLOCK button is pressed again within five seconds, all remaining doors will unlock.

Trunk Release: The trunk will unlock anytime the vehicle symbol on the transmitter is pressed, the trunk lockout is not engaged and the gear selector is in PARK (P) or NEUTRAL (N).

Matching Transmitter(s) To Your Vehicle

Each remote lock control 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 retailer. Remember to bring any remaining transmitters with you when you go to your retailer. When the retailer matches the replacement transmitter to your vehicle, any remaining transmitters must also be matched. Once your retailer has coded the new transmitter, the lost transmitter will not unlock your vehicle. Each vehicle can have only four transmitters matched to it.

You can match your transmitter to as many 1998 General Motors vehicles as you own, as long as they have the same remote lock control system. Contact your retailer for assistance with this.

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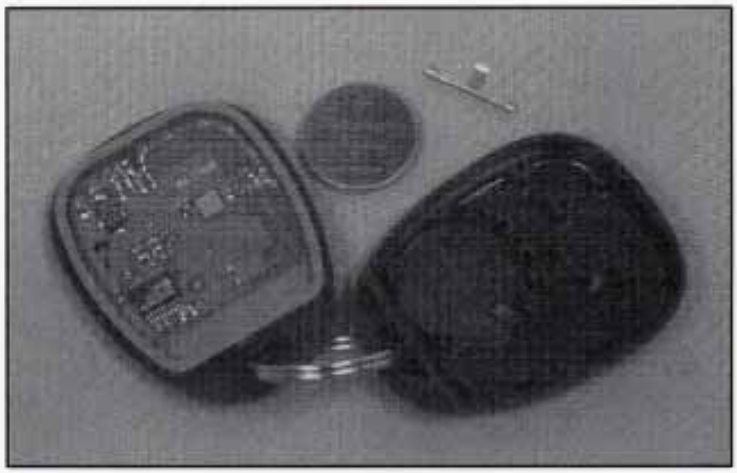
Battery Replacement

Under normal use, the battery in your remote lock control transmitter should last about two years.

You can tell the battery is weak if the transmitter won't work at the normal range in any location. If you have to get close to your vehicle before the transmitter works, it's 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 in the remote lock control transmitter:

1. Use a small coin or flathead screwdriver to separate the bottom half from the top half of the transmitter.
2. Remove the battery and replace it with the new one. Make sure the positive (+) side of the battery faces down. Use one 3 volt, CR2032, or equivalent, type battery.
3. Put the two halves back together. Make sure the cover is on tight, so water won't get in.

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4. Check the operation of the transmitter with your vehicle. If the transmitter does not work, try synchronizing the transmitter with the receiver.

Synchronization

Your remote lock control system is equipped with a security system that prevents anyone from recording and playing back your signal. The transmitter does not send the same signal twice to the receiver. The receiver will not respond to a signal that has been sent to it more than once.

To synchronize your transmitter and receiver, follow these directions:

1. Stand close to your vehicle.
2. Press and hold the LOCK and UNLOCK buttons on the transmitter at the same time.
3. Hold the buttons for five seconds. In this time, the doors should lock and unlock once. This confirms the resynchronization. If the doors do not lock and unlock, see your retailer for service.

Trunk

To unlock the trunk from the outside, insert the key and turn the trunk lock cylinder.

⚠ CAUTION:

It can be dangerous to drive with the trunk lid open because carbon monoxide (CO) gas can come into your vehicle. You can't see or smell CO. It can cause unconsciousness and even death.

If you must drive with the trunk lid open or if electrical wiring or other cable connections must pass through the seal between the body and the trunk lid:

- **Make sure all windows are shut.**
- **Turn the fan on your heating or cooling system to its highest speed with the setting on VENT. That will force outside air into your vehicle. See "Comfort Controls" in the Index.**
- **If you have air outlets on or under the instrument panel, open them all the way.**

See "Engine Exhaust" in the Index.

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Remote Trunk Release

Press the remote release button, located on the lower left side of the instrument panel, to release the trunk lid. Make sure the lockout feature is not activated. Also, the remote trunk release will only work when the gearshift lever is in PARK (P) or NEUTRAL (N).

Remote Trunk Release Lockout

Your remote trunk release is equipped with a lockout feature to help prevent unauthorized entry into the trunk when leaving the vehicle unattended. The switch is located on the inside of the trunk lid, mounted to the trunk lid latch.

To turn the lockout on, slide the switch all the way to the left. To turn the lockout off, slide the switch all the way to the right.

When the lockout is on, the remote trunk release switch on the instrument panel will not release the trunk lid. However, the trunk lid can still be opened with the key, but not with the remote lock control transmitter (if equipped).

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Theft

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. However, there are ways you can help.

Key in the Ignition

If you leave your vehicle with the keys inside, it's an easy target for joy riders or professional thieves -- so don't do it.

When you park your vehicle and open the driver's door, you'll hear a chime reminding you to remove your key from the ignition and take it with you. Always do this. Your ignition and transaxle will be locked. And remember to lock the doors.

Parking at Night

Park in a lighted spot, close all windows and lock your vehicle. Remember to keep your valuables out of sight. Put them in a storage area, or take them with you.

Parking Lots

If you park in a lot where someone will be watching your vehicle, it's best to lock it up and take your keys. But what if you have to leave your key?

- If possible, park in a busy, well lit area.
- Put your valuables in a storage area, like your trunk or glove box. Be sure to close and lock the storage area.
- Close all windows.
- Slide the remote trunk release lockout switch all the way to the left.
- Lock the glove box.
- Lock all the doors except the driver's.

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Passlock®

Your vehicle is equipped with the passlock theft-deterrent system.

Passlock is a passive theft-deterrent system. The system is armed once the key is removed from the ignition. Passlock enables fuel if the ignition lock cylinder is turned with a valid key. If a correct key is not used, fuel is disabled.

During normal operation, the THEFT SYSTEM light will go off after the engine is started.

If the THEFT SYSTEM light flashes, wait until the light stops flashing before starting the engine.

If the THEFT SYSTEM light comes on while the engine is running, a problem has been detected and the system may need service. See your retailer for service.

In an emergency, call the Oldsmobile Roadside Assistance Center at 1-800-442-OLDS (6537).

New Vehicle "Break-In"

NOTICE:

Your vehicle doesn't need an elaborate "break-in." But it will perform better in the long run if you follow these guidelines:

- **Don't drive at any one speed -- fast or slow -- for the first 500 miles (805 km). Don't make full-throttle starts.**
- **Avoid making hard stops for the first 200 miles (322 km) or so. During this time your new brake linings aren't 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.**
- **Don't tow a trailer during break-in. See "Towing a Trailer" in the Index for more information.**

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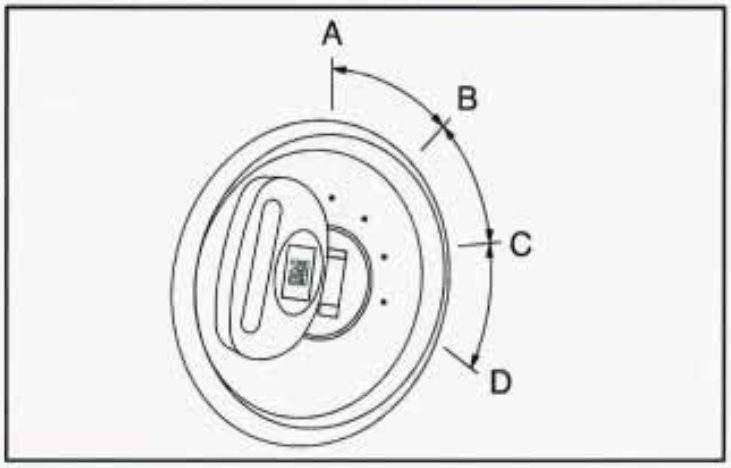
Ignition Positions



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

OFF (A): Before you put the key into the ignition switch, the switch is off. It is the only position from which you can remove the key. This position locks your ignition and transaxle. A warning chime will sound if you open the driver's door when the ignition is off and the key is in the ignition.

ACC (Accessory) (B): This position unlocks the transaxle. It also lets you use things like the radio and windshield wipers when the engine is not running. To use ACC, push in the key and turn it to the right. Use this position if your vehicle must be pushed or towed, but never try to push-start your vehicle.

ON (C): This position unlocks the ignition and transaxle. This position is also where the key returns 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 to operate your electrical power accessories, and to display some instrument panel warning lights.

START (D): This position starts the engine. When the engine starts, release the key. The ignition switch will return to ON for normal driving.

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Starting Your Engine

Move your shift lever to PARK (P) or NEUTRAL (N). Your engine won't start in any other position -- that's a safety feature. To restart when you're already moving, use NEUTRAL (N) only.

NOTICE:

Don't try to shift to PARK (P) if your Oldsmobile is moving. If you do, you could damage the transaxle. Shift to PARK (P) only when your vehicle is stopped.

Starting Your 3100 Engine

1. Without pushing the accelerator pedal, turn your ignition key to START. When the engine starts, let go of the key. The idle speed will go down as your engine gets warm.

NOTICE:

Holding your key in START for longer than 15 seconds at a time will cause your battery to be drained much sooner. And the excessive heat can damage your starter motor.

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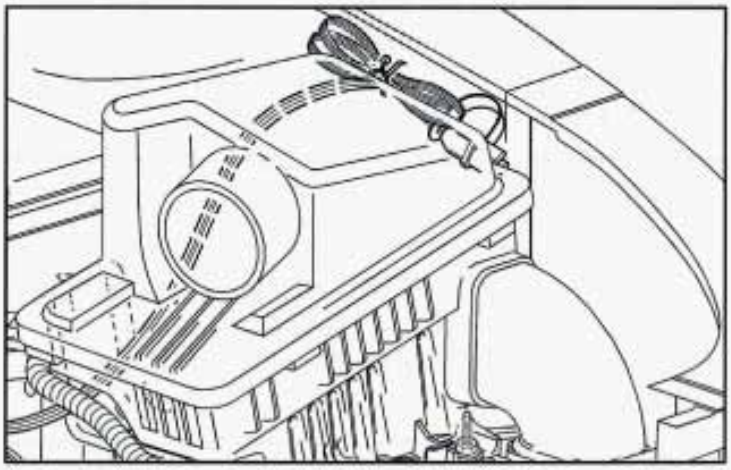
2. If your engine won't start (or starts but then stops), it could be flooded with too much gasoline. Try pushing your accelerator pedal all the way to the floor and holding it there as you hold the key in START for up to 15 seconds. This clears the extra gasoline from the engine.

NOTICE:

Your 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 retailer. If you don't, your engine might not perform properly.

If you ever have to have your vehicle towed, see the part of this manual that tells how to do it without damaging your vehicle. See "Towing Your Vehicle" in the Index.

Engine Coolant Heater (If Equipped)



In very cold weather, 0°F (-18°C) or colder, the engine coolant heater can help. You'll get easier starting and better fuel economy during engine warm-up. Usually, the coolant heater should be plugged in a minimum of four hours prior to starting your vehicle.

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To Use the Engine Coolant Heater

1. Turn off the engine.
2. Open the hood and unwrap the electrical cord.
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 won't 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 don't, 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 retailer in the area where you'll be parking your vehicle. The retailer can give you the best advice for that particular area.

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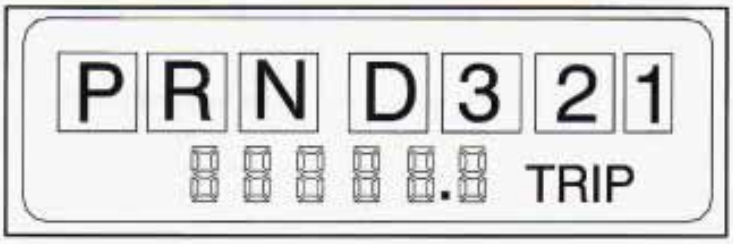
Automatic Transaxle Operation



Your automatic transaxle has a shift lever located on the console between the seats.

PARK (P): This locks your front wheels. It's the best position to use when you start your engine because your vehicle can't 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.

Don't 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 won't move, even when you're on fairly level ground, always set your parking brake and move the shift lever to PARK (P).

See "Shifting Into PARK (P)" in the Index. If you're pulling a trailer, see "Towing a Trailer" in the Index.

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Ensure the shift lever is fully in PARK (P) range before starting the engine. Your Oldsmobile has a Brake-Transaxle Shift Interlock (BTSI). You have to apply your regular brake before you can shift from PARK (P) when the ignition key is in the RUN position. If you cannot shift out of PARK (P), ease pressure on the shift lever -- push the shift lever all the way into PARK (P) -- as you maintain brake application. Then move the shift lever into the gear you wish. (Press the shift lever button before moving the shift lever.) See "Shifting Out of PARK (P)" later in this section.

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

NOTICE:

Shifting to REVERSE (R) while your vehicle is moving forward could damage your transaxle. 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 transaxle, see "If You're Stuck: In Sand, Mud, Ice or Snow" in the Index.

NEUTRAL (N): In this position, your engine doesn't connect with the wheels. To restart when you're already moving, use NEUTRAL (N) only. Also, use NEUTRAL (N) when your vehicle is being towed.

⚠ CAUTION:

Shifting out of PARK (P) or NEUTRAL (N) while your engine is "racing" (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. Don't shift out of PARK (P) or NEUTRAL (N) while your engine is racing.

NOTICE:

Do not shift out of PARK (P) or NEUTRAL (N) with the engine racing. Your transaxle can be damaged by doing this and will not be covered by your warranty. Shift your transaxle according to the instructions in this manual.

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AUTOMATIC OVERDRIVE (D): This position is for normal driving. If you need more power for passing, and you're:

- Going less than 35 mph (56 km/h), push your accelerator pedal about halfway down.
- Going about 35 mph (56 km/h) or more, push the accelerator all the way down. You'll shift down to the next gear and have more power.

NOTICE:

If your vehicle seems to start up rather slowly, or if it seems not to shift gears as you go faster, something may be wrong with a transaxle system sensor. If you drive very far that way, your vehicle can be damaged. So, if this happens, have your vehicle serviced right away. Until then, you can use SECOND (2) when you are driving less than 35 mph (56 km/h) and AUTOMATIC OVERDRIVE (D) for higher speeds.

THIRD (3): This position is also used for normal driving, however, it offers more power and lower fuel economy than AUTOMATIC OVERDRIVE (D). Here are some times you might choose THIRD (3) instead of AUTOMATIC OVERDRIVE (D):

- When driving on hilly, winding roads.
- When towing a trailer, so there is less shifting between gears.
- When going down a steep hill.

SECOND (2): This position gives you more power but lower fuel economy. 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.

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NOTICE:

Don't drive in SECOND (2) for more than 25 miles (41 km), or at speeds over 55 mph (88 km/h), or you can damage your transaxle. Use AUTOMATIC OVERDRIVE (D) or THIRD (3) as much as possible. Don't shift into SECOND (2) unless you are going slower than 65 mph (105 km/h) or you can damage your engine.

SECOND (2) will select either first or second gear depending on vehicle speed. If your vehicle is slowing, the transaxle will downshift to first gear at 20 to 25 miles per hour (32 to 40 km/h) for engine braking. You may notice some variation in shift speed in SECOND (2) when accelerating or braking.

FIRST (1): This position gives you even more power (but lower fuel economy) than SECOND (2). You can use it on very steep hills, or in deep snow or mud. If the selector lever is put in FIRST (1), the transaxle won't shift into first gear until the vehicle is going slowly enough.

NOTICE:

If your front wheels can't rotate, don't try to drive. This might happen if you were stuck in very deep sand or mud or were up against a solid object. You can damage your transaxle.

Also, if you stop when going uphill, don't hold your vehicle there with only the accelerator pedal. This could overheat and damage the transaxle. Use your brakes or shift into PARK (P) to hold your vehicle in position on a hill.

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Second-Gear Start

Your vehicle is equipped with a second-gear start feature. Place the shift lever in SECOND (2) gear to provide more traction when you are starting on ice or other slippery surfaces. The transaxle will be in SECOND (2) gear when the vehicle begins to move. After starting in SECOND (2) gear, place the shift lever in THIRD (3) or DRIVE (Ⓓ).

This feature is for improved traction only when the road surface is slippery and is not intended for continuous use or when the vehicle is stuck in sand, mud, ice, snow or gravel.

Parking Brake

To set the parking brake, hold the regular brake pedal down with your right foot. Push down the parking brake pedal with your left foot. If the ignition is on, the brake system warning light will come on.

To release the parking brake, hold the regular brake pedal down with your right foot. Push down on the parking brake pedal with your left foot. If the parking brake is not released when you begin to drive, a chime will sound warning you that the parking brake is still on.

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NOTICE:

Driving with the parking brake on can cause your rear brakes to overheat. You may have to replace them, and you could also damage other parts of your vehicle.

If you are towing a trailer and are parking on a hill, see "Towing a Trailer" in the Index. That section shows what to do first to keep the trailer from moving.

Shifting Into PARK (P)

⚠ 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 won't move, even when you're on fairly level ground, use the steps that follow. If you're pulling a trailer, see "Towing a Trailer" in the Index.

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

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2. Move the shift lever into PARK (P) like this:
   - Hold in the button on the lever.
   - Push the lever all the way toward the front of your vehicle.
3. Move the ignition key to OFF.
4. Remove the key and take it with you. If you can leave your vehicle with the key in your hand, your vehicle is in PARK (P).

Leaving Your Vehicle With the Engine Running

⚠ 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. Don't leave your vehicle with the engine running unless you have to.

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've 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 pushing the button.

If you can, it means that the shift lever wasn't fully locked into PARK (P).

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Torque Lock

If you are parking on a hill and you don't shift your transaxle into PARK (P) properly, the weight of the vehicle may put too much force on the parking pawl in the transaxle. 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)" in the Index.

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 transaxle, so you can pull the shift lever out of PARK (P).

Shifting Out of PARK (P)

Your Oldsmobile has a brake-transaxle shift interlock. You have to apply your regular brake before you can shift from PARK (P) when the ignition is in the RUN position. See "Automatic Transaxle" in the Index.

If you cannot shift out of PARK (P), ease pressure on the shift lever -- push the shift lever all the way into PARK (P) -- as you maintain brake application. Then move the shift into the gear you wish. (Press the shift lever button before moving the shift lever.)

If you ever hold the brake pedal down but still can't shift out of PARK (P), try this:

1. Turn the key to ACC.
2. Apply and hold the regular brake until the end of Step 5.
3. Shift to NEUTRAL (N).
4. Turn the key to ON, to start the vehicle.
5. Shift to the drive gear you want.
6. Have the vehicle fixed as soon as you can.

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Parking Over Things That Burn

⚠ CAUTION:

Things that can burn could touch hot exhaust parts under your vehicle and ignite. Don't 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 can't see or smell. It can cause unconsciousness and death.

You might have exhaust coming in if:

- **Your 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 weren't done correctly.**
- **Your vehicle or exhaust system had 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.**

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Running Your Engine While You're Parked

It's 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").

Also, idling in a closed-in place can let deadly carbon monoxide (CO) into your vehicle even if the fan switch 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 "Blizzard" in the Index.)

⚠ 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. Don't leave your vehicle when the engine is running unless you have to. If you've left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure your vehicle won't move, even when you're on fairly level ground, always set your parking brake and move the shift lever to PARK (P).

Follow the proper steps to be sure your vehicle won't move. See "Shifting Into PARK (P)" in the Index.

If you are parking on a hill and if you're pulling a trailer, also see "Towing a Trailer" in the Index.

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Windows

Manual Windows

On a vehicle with manual windows, use the window crank to open and close each window.

Power Windows (If Equipped)

The power window switches are located on the armrest of the driver's door. In addition, each passenger door has a switch for its own window.

Auto-Down Switch

The driver's window switch has an auto-down feature. This switch is labeled AUTO. Push the switch back partway, and the driver's window will open a small amount. If the switch is pushed all the way back, the window will go all the way down.

To stop the window while it is lowering, move the switch forward. To raise the window, move and hold the switch forward.

Lock Out Switch

The driver's power window controls also include a lock out switch. Press LOCK OUT to stop front and rear passengers from using their window switches. The driver can still control all the windows with the lock on. Press the LOCK OUT button again for normal window operation.

Horn

You can sound the horn by pressing the horn symbol on your steering wheel.

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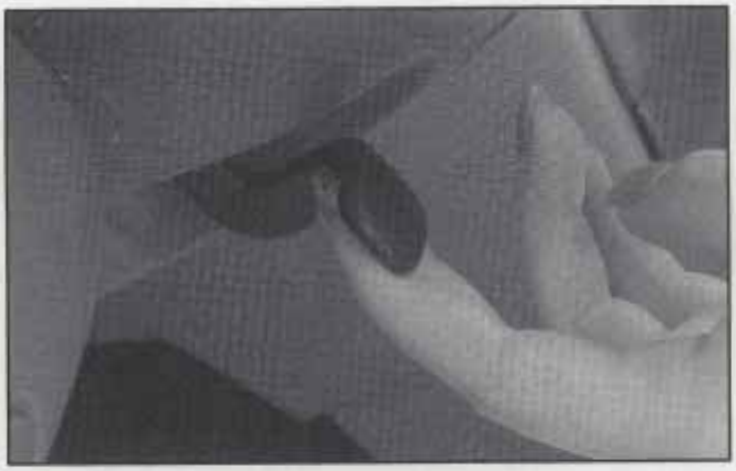
Tilt Wheel



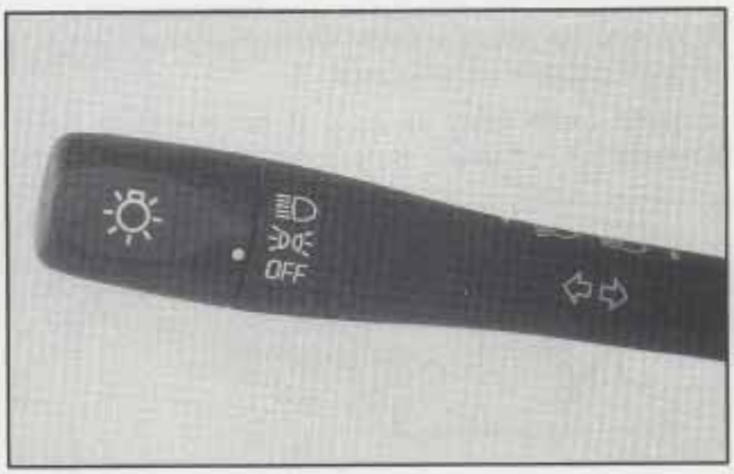
A tilt steering wheel allows you to adjust the steering wheel before you drive.

You can also raise it to the highest level to give your legs more room when you exit and enter the vehicle.

To tilt the wheel, hold the steering wheel and pull the lever toward you.

Move the steering wheel to a comfortable level, then release the lever to lock the wheel in place.

Turn Signal/Multifunction Lever



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

- Turn Signal and Lane Change Indicator
- Headlamp High/Low-Beam Changer
- Parking Lamps and Headlamps

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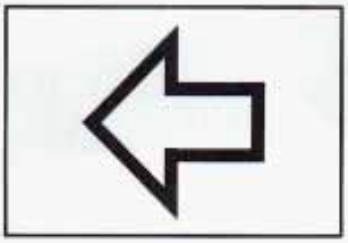
Turn and Lane Change Signals

The turn signal has two upward (for right) and two 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 return automatically.



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

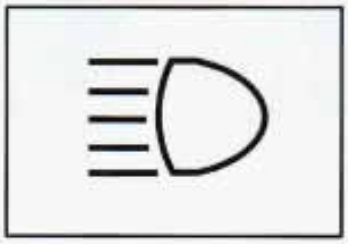
To signal a lane change, just raise or lower the lever until the arrow starts to flash. Hold it there until you complete your lane change. The lever will return by itself when you release it.

A warning chime signal will come on if you have left your turn signal on for more than 3/4 mile (1 km).

As you signal a turn or a lane change, if the arrow flashes rapidly, a signal bulb may be burned out and other drivers won't see your turn signal.

If a bulb is burned out, replace it to help avoid an accident. If the arrow doesn't go on at all when you signal a turn, check for burned-out bulbs and then check the fuse (see "Fuses and Circuit Breakers" in the Index).

Headlamp High/Low Beam



To change the headlamps from low beam to high beam, push forward on the turn signal/multifunction lever.

To change the headlamps from high beam to low beam, pull the turn signal lever backward. When the high beams are on, a light on the instrument panel will also be on.

Flash to Pass

This feature lets you use your high-beam headlamps to signal a driver in front of you that you want to pass.

To use it, pull the turn signal/multifunction lever toward you until the high-beam headlamps come on, then release the lever to turn them off.

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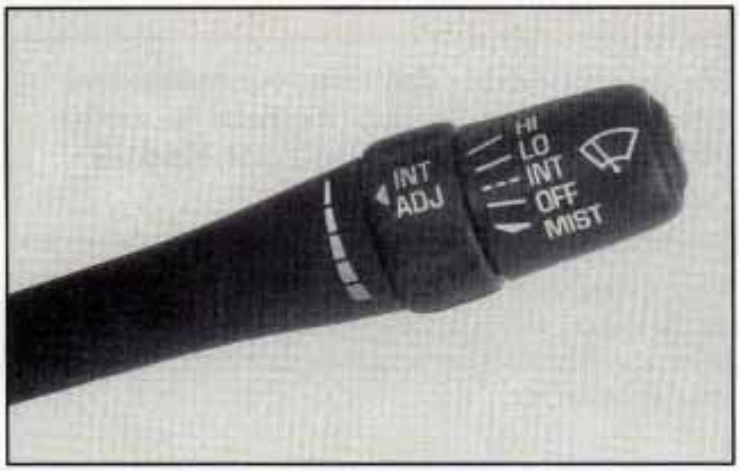
Windshield Wipers

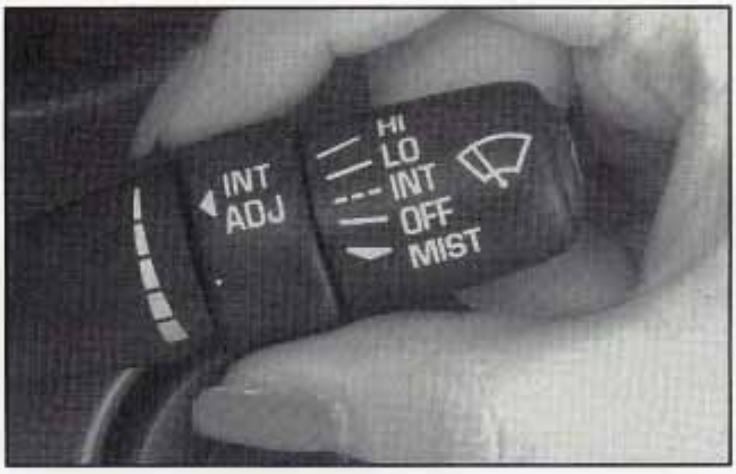


You control the windshield wipers by moving the stalk with the wiper symbol on it up or down.

For a single wiper cycle, push the stalk down to MIST, then release it. For more cycles, hold the stalk down longer.

For steady wiping at low speed, move the stalk up to the LO position. For high-speed wiping, move the stalk up further, to HI. To stop the wipers, move the stalk to OFF.

You can set the wiper speed for a long or short delay between wipes. This can be very useful in light rain or snow.



Move the stalk to INT, then rotate the inner band, labeled INT ADJ, and choose the delay you want. Rotate the inner band up for shorter delay times between wiper cycles. Rotate the band down for a longer delay time between wiper cycles.

Remember that damaged wiper blades may prevent you from seeing well enough to drive safely. To avoid damage, be sure to clear ice and snow from the wiper blades before using them. If they're frozen to the windshield, carefully loosen or thaw them. If your blades do become damaged, get new blades or blade inserts.

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Heavy snow or ice can overload your wiper motor. A circuit breaker will stop the motor until it cools. Clear away snow or ice to prevent an overload.

Windshield Washer

To wash your windshield, push in the button at the end of the stalk until the washers begin.

⚠ CAUTION:

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

When you release the button, the washers will stop, but the wipers will continue to wipe for about three times or will either stop or will resume the speed you were using before.

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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 25 mph (40 km/h).

When you apply your brake, the cruise control shuts off.

⚠ CAUTION:

- **Cruise control can be dangerous where you can't drive safely at a steady speed. So, don't 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 needless wheel spinning, and you could lose control. Don't use cruise control on slippery roads.**

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Setting Cruise Control

⚠ CAUTION:

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

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

1. Press the cruise control ON/OFF button.
2. Get up to the speed you want.
3. Press the SET DECEL button and release it.
4. Take your foot off the accelerator pedal.

Resuming a Set Speed

Suppose you set your cruise control at a desired speed and then you apply the brake. This, of course, shuts off the cruise control. But you don't need to reset it. Once you're going about 25 mph (40 km/h) or more, you can press the cruise control ACCEL RESUME button for about half a second.

You'll go right back up to your chosen speed and stay there.

If you press the ACCEL RESUME button longer than half a second, the vehicle will keep going faster until you release the switch or apply the brake. So unless you want to go faster, don't hold down the ACCEL RESUME button.

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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. Push the SET DECEL button, then release the button and the accelerator pedal. You'll now cruise at the higher speed.
- Press the ACCEL RESUME on button. Hold it there until you get up to the speed you want, and then release the button. To increase your speed in very small amounts, press the ACCEL RESUME button for less than half a second and then release it. Each time you do this, your vehicle will go about 1 mph (1.6 km/h) faster.

The accelerate feature will only work after you turn on the cruise control by pushing the SET DECEL button.

Reducing Speed While Using Cruise Control

There are two ways to reduce your speed while using cruise control:

- Push the SET DECEL button until you reach the lower speed you want, then release it.
- To slow down in very small amounts, push the SET DECEL button for less than half a second. Each time you do this, you'll go 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 will slow down to the cruise control speed you set earlier.

Using Cruise Control on Hills

How well your cruise control will work on hills depends upon your speed, load and the steepness of the hills. When going up steep hills, you may have to step on the accelerator pedal to maintain your speed. When going downhill, you may have to brake or shift to a lower gear to keep your speed down. Of course, applying the brake takes you out of cruise control. Many drivers find this to be too much trouble and don't use cruise control on steep hills.

Ending Out of Cruise Control

There are two ways to turn off the cruise control:

- Step lightly on the brake pedal;
- Press the cruise control ON/OFF button.

Erasing the Cruise Speed Memory

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

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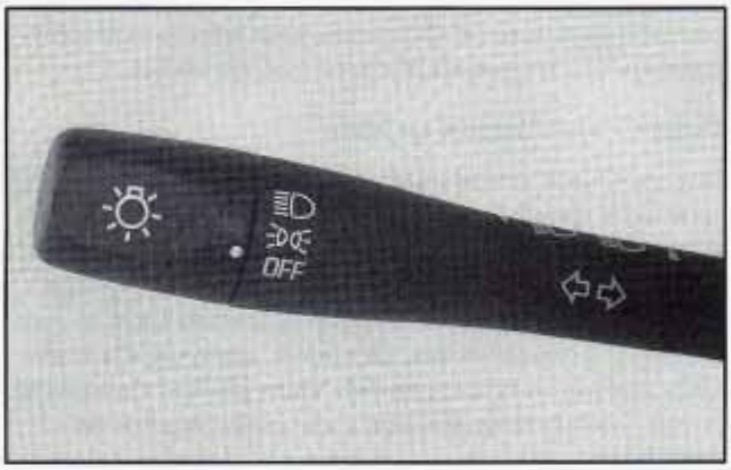
Exterior Lamps



Rotate the turn signal lever end cap up one position to turn on:

- Parking Lamps
- Side Marker Lamps
- Taillamps
- License Plate Lamps
- Instrument Panel Lights

Rotate the turn signal lever end cap up two positions to turn on:

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

Rotate the switch to OFF to turn all of the lamps off.

Lamps On Reminder

If you open the driver's door and turn off the ignition while leaving the lamps on, you will hear a warning chime.

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Daytime Running Lamps

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.

The DRL system will make your low-beam headlamps come on at a reduced brightness when:

- The ignition is on,
- The headlamp switch is in the OFF position or you have turned on your parking lamps
- The light sensor detects daytime light,
- The parking brake is released and
- The shift lever is not in PARK (P).

When the DRL system is on, the taillamps, sidemarker, parking lamps and instrument panel lights will not be illuminated.

The DRL system will remain off any time your vehicle is in PARK (P) or the parking brake is engaged.

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

Automatic Light Control (ALC)

When it is dark enough outside, your Automatic Light Control (ALC) will turn on your headlamps at the normal brightness along with other lamps such as the taillamps, sidemarker, parking lamps and the instrument panel lights. The radio lights will also be dim.

Your vehicle is equipped with a light sensor on the top of the instrument panel under the defroster grill, so be sure it is not covered which will cause the ALC system to be on whenever the ignition is on.

The ALC system may also be on when driving through a parking garage, heavy overcast weather, a tunnel or fueling your vehicle in a low light area. This is normal.

There is a delay in the transition between the daytime and nighttime operation of the DRL and the ALC systems so that driving under bridges or bright overhead street lights does not affect the system. The DRL and ALC systems will only be affected when the light sensor sees a change in lighting lasting longer than this delay.

To idle your vehicle with the ALC system off, set the park brake while the ignition is off. Then start the vehicle. The ALC system will stay off until you release the park brake.

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

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Fog Lamps

The button for your fog lamps is on the instrument panel, to the left of the steering wheel, beside the instrument panel intensity control.

When using fog lamps, the ignition must be on, as well as the parking lamps or the low-beam headlamps.

Push the top of the button to turn the fog lamps on. An indicator light on the button will glow when the fog lamps are on. Push the top of the button again to turn the fog lamps off.

The fog lamps will turn off whenever the high-beam headlamps are turned on. When the high-beams are turned off, the fog lamps will come on again.

Interior Lamps

Instrument Panel Intensity Control

You can brighten or dim the instrument panel cluster lights by rotating the switch, located to the left of the steering wheel.

Illuminated Entry/Exit System

When you open any door, the lamps inside your vehicle will go on. These lamps will fade out after about 40 seconds, or when the ignition is turned on after all doors have been closed. If the ignition was recently turned off, the lamps will fade out after four seconds. These lamps will also go on when you press the vehicle symbol or UNLOCK button on the optional remote lock control transmitter.

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If the ignition has been off for less than two minutes, the lamps inside your vehicle will stay on for about 15 seconds after your key is removed from the ignition to provide an illuminated exit.

Mirror Reading Lamps

Press the switch on the lower front portion of the mirror to turn on the lamp. Press the other side of the switch to turn the lamp off.

Three-Position Dome Lamp

The switch on this lamp has three positions. The ON position will turn on the light. The DOOR position will turn on the light whenever a door is opened. The OFF position will shut off the lamp completely, even when a door is opened.

Trunk Lamp

The trunk lamp comes on when you open your trunk.

Battery Saver

Your vehicle is equipped with a battery saver feature designed to protect your vehicle's battery.

When any interior lamp (trunk, reading, footwell or glove box) is left on when the ignition is turned off, the battery saver system will automatically shut the lamp off after 20 minutes. This will avoid draining the battery.

To reactivate the interior lamps, either:

- The ignition must be turned on,
- The activated lamp switch must be turned off and then on or
- A front door must be opened.

The battery saver feature will also be activated when any door of your vehicle is left open.

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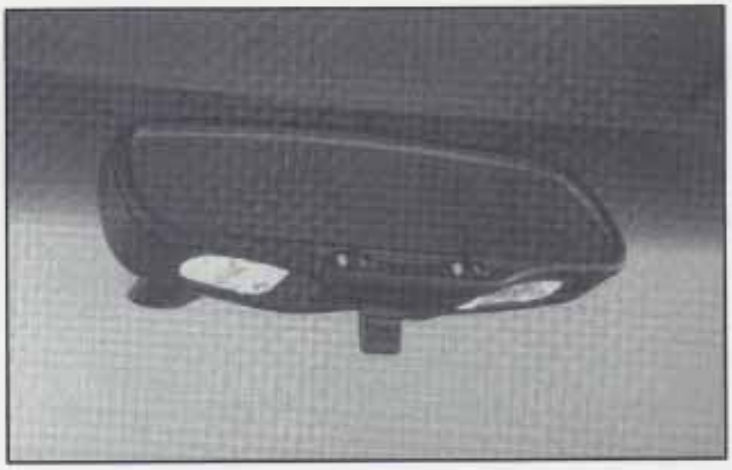
Mirrors

Inside Day/Night Rearview Mirror



This mirror can be adjusted two ways. First, to adjust the angle of the mirror, move the mirror to a position that allows you see out the back window. To adjust the height of the mirror, adjust the arm that connects the mirror to the windshield.

To reduce glare from lights behind you, move the lever toward you to the night position.

Manual Remote Control Mirror

The outside rearview mirror should be adjusted so you can just see the side of your vehicle when you are sitting in a comfortable driving position.

Adjust the driver's side outside mirror with the control lever on the driver's door.

To adjust your passenger's side mirror, sit in the driver's seat and have a passenger adjust the mirror for you.

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Power Remote Control Mirror (If Equipped)

This switch is located on the armrest of the driver's door. Move this switch to the left or right depending on which mirror you need to adjust (center is the off position.) Then adjust the direction of the mirror using the paddle marked with arrows just below the selector switch.

Convex Outside Mirror

Your passenger's side mirror is convex. A convex mirror's surface is curved so you can see more from the driver's seat.

⚠ 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.

Storage Compartments

Glove Box

Use the key to lock and unlock the glove box. To open, pull the glove box handle toward you.

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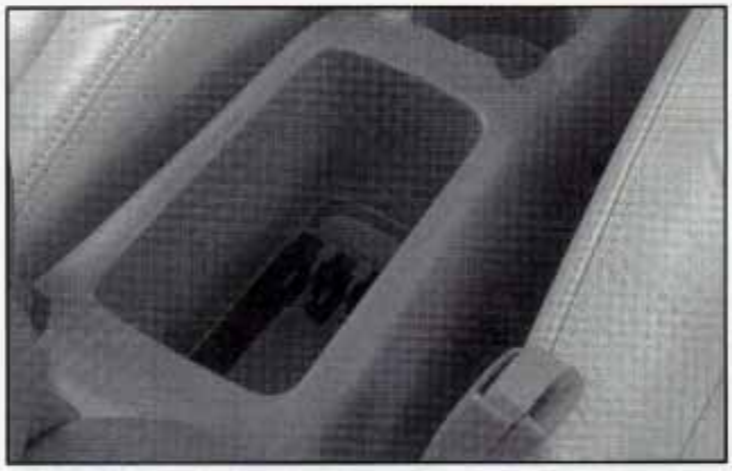
Center Console Storage Area

The center console has two separate storage areas. The upper compartment, which is also the armrest, can be used to store maps, gloves, etc. To open, pull up on the driver's side of the lid.



The lower area can be used to store cassette tapes or compact discs. To open the lower compartment, pull up on the armrest.

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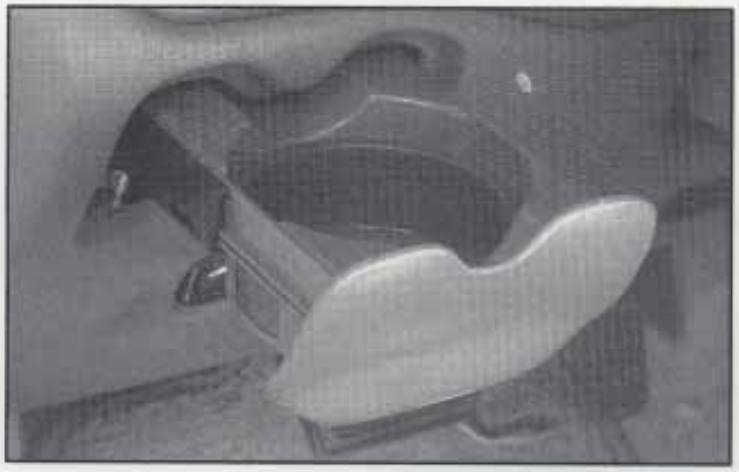
Instrument Panel Cupholder



The instrument panel cupholder is located to the left of the steering wheel. To use it, pull it out until the rubber insert is revealed. The insert is removable for easy cleaning. To clean it, use spray window cleaner.

Center Console Cupholder

The console provides space for holding a cup or soft drink container. The cupholder is located at the rear of the shifter.

Rear Seat Cupholder

Pull down the door on the rear of the center console to use the rear seat cupholder. You can use it to hold cups.

Convenience Net (If Equipped)

Your vehicle may have a convenience net. You'll see it just inside the back wall of the trunk.

Put small loads, like grocery bags, behind the net. It can help keep them from falling over during sharp turns or quick starts and stops.

The net isn't for larger, heavier loads. Store them in the trunk as far forward as you can.

You can unhook the net so that it will lie flat when you're not using it.

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Sunvisors

To block out glare, you can swing down the visors. You can also swing them to the side.

Visor Vanity Mirror

Lift the cover to expose the visor vanity mirror.

Illuminated Visor Vanity Mirror (If Equipped)

This mirror is located on the passenger's side visor. When you lift the cover, the light will turn on.

Accessory Power Outlets

Your vehicle is equipped with two accessory power outlets. There is one located at the front of the center console and one located on the passenger's side of the center console.

You can use it to plug in additional electric accessories. Be sure to follow the proper installation instructions that are included with any electrical accessory you install. The accessory power outlets are protected by a fuse and have a maximum current level.

Garment Hook

Pull down on the outer ring to use the garment hook.

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Sunroof (If Equipped)

Open the sunshade by hand when using the vent position.

To use the vent position of the sunroof, push the switch back and release it. This is the express vent mode of the sunroof.

To fully open the sunroof, push the switch back again and release. This is the express open mode of the sunroof and sunshade.

In both the vent and full open positions, the air flow can be adjusted for driving comfort by pushing and holding the switch forward until the sunroof moves to a desired position.

To close the sunroof, push the switch forward and hold it until the sunroof is closed. The sunroof will stop if the switch is released during operation. Remember to close the sunshade by hand.

The sunroof glass panel cannot be opened or closed if your vehicle has an electrical failure.

NOTICE:

Do not attempt to force the sunshade forward of the sliding glass panel. Damage will occur and the sunroof may not open or close properly.

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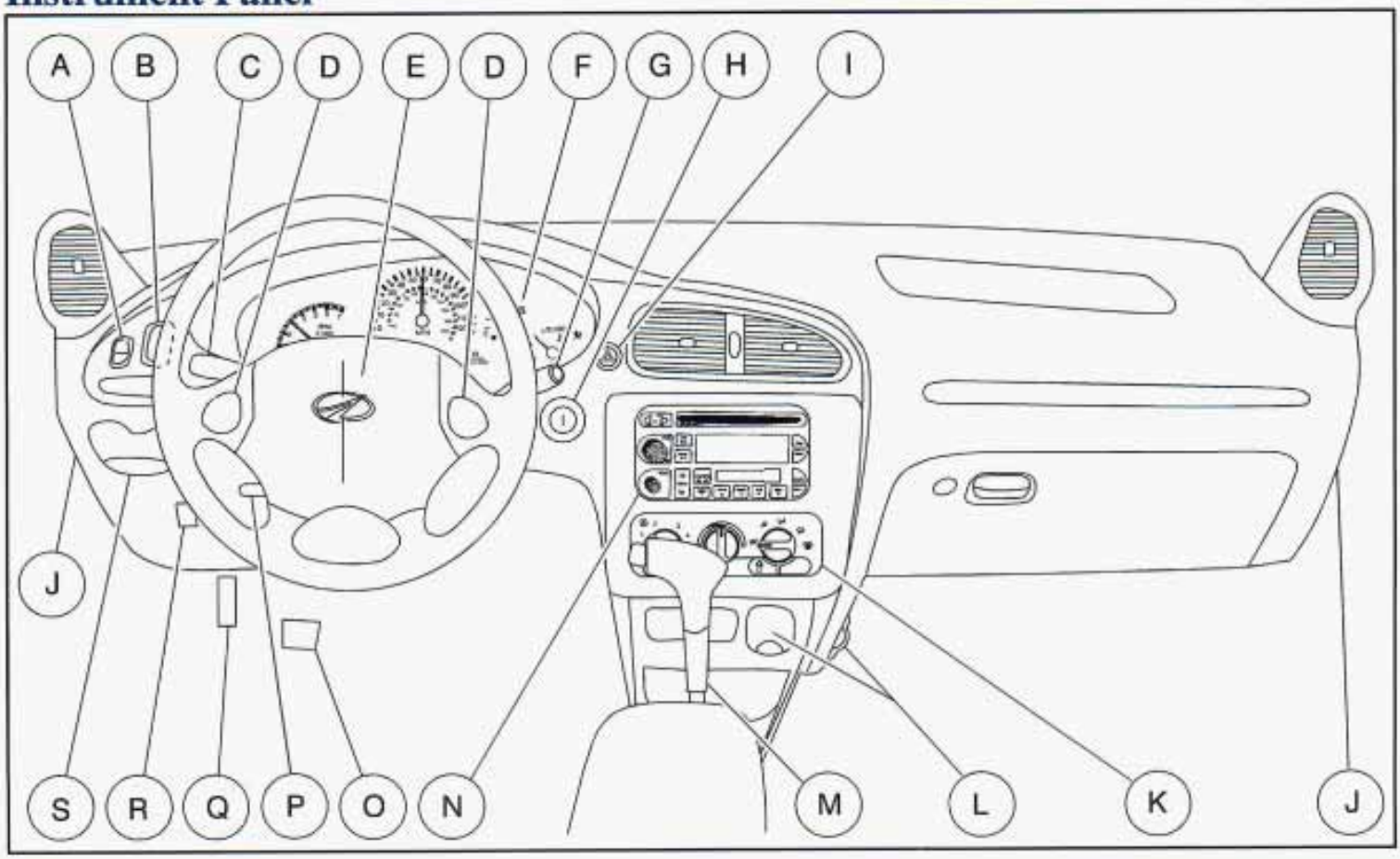
Instrument Panel



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Your instrument panel is designed to let you know at a glance how your vehicle is running. You'll know how fast you're going, how much fuel you're using, and many other things you'll need to drive safely and economically.

The main components of your instrument panel are:

A. Fog Lamp Switch
B. Instrument Panel Intensity Control
C. Turn Signal/Multifunction Lever
D. Cruise Control Switches (If Equipped)
E. Horn
F. Instrument Panel Cluster
G. Windshield Wiper/Washer Lever
H. Ignition Switch
I. Hazard Warning Flashers Switch
J. Fuse Panels
K. Climate Control System
L. Accessory Power Outlets
M. Gear Shift Lever
N. Audio System
O. Park Brake Pedal
P. Tilt Wheel Lever
Q. Hood Release Lever
R. Trunk Release Button
S. Instrument Panel Cupholder

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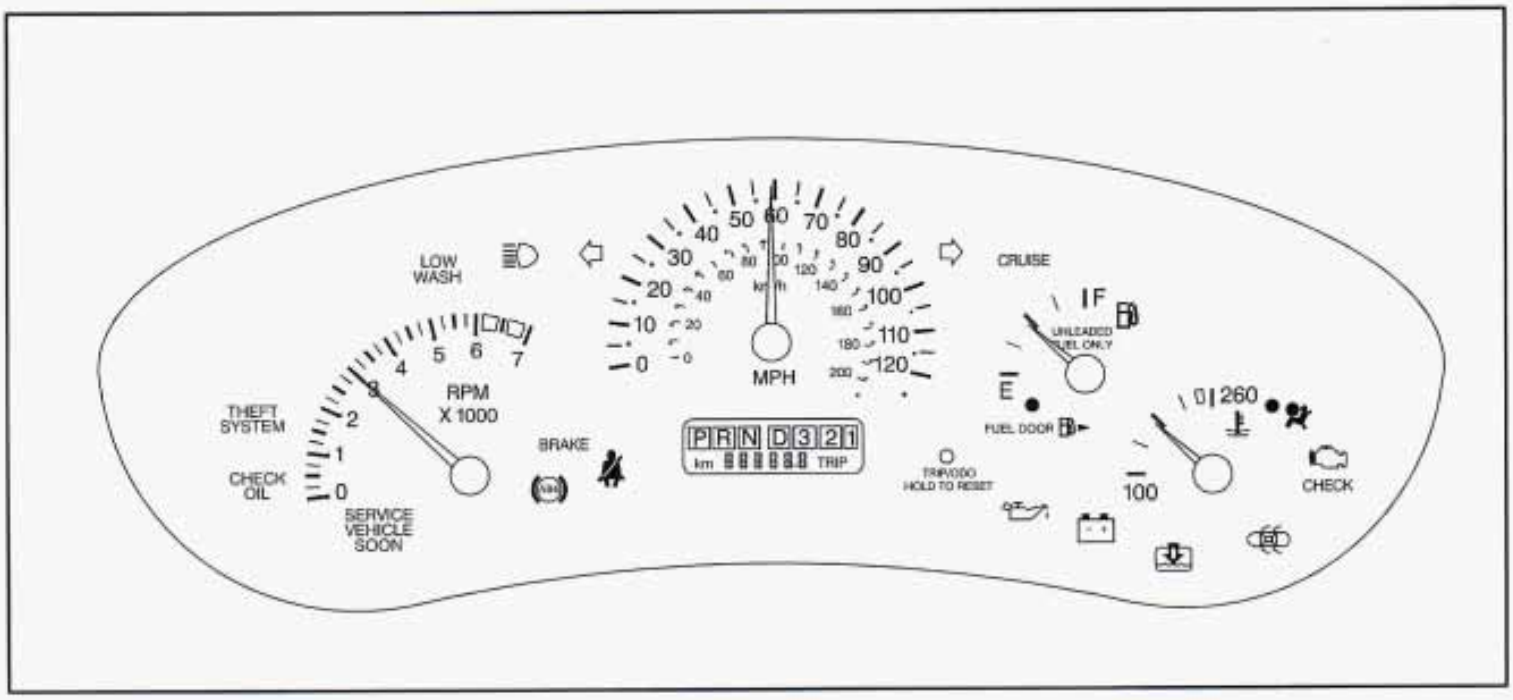
Instrument Panel Cluster

Your vehicle is equipped with this cluster, which includes indicator warning lights and gages that are explained on the following pages. Be sure to read them.



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Speedometer and Odometer

Your speedometer lets you see your speed in both miles per hour (mph) and kilometers per hour (km/h).

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

Your vehicle has a tamper resistant odometer. The digital odometer will read 99,999.9 if someone tries to turn it back.

You may wonder what happens if your vehicle needs a new odometer installed. If the new one can be set to the mileage total of the old odometer, then it must be. But if it can't, then it's set at zero and a label must be put on the driver's door to show the old mileage reading when the new odometer was installed.

Trip Odometer

The trip odometer can tell you how far you have driven since you last reset it.

The reset button is located next to the trip odometer. To reset the trip odometer to zero, press and hold the reset button for one to two seconds. Also by pressing this button, you can toggle between the odometer and the trip odometer.

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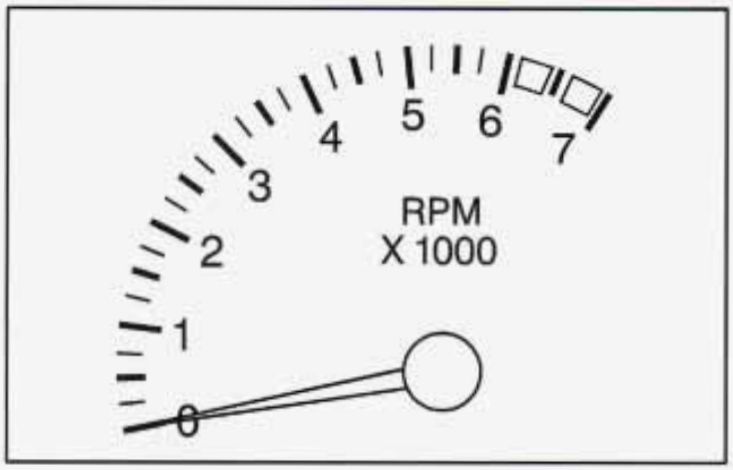
Tachometer



The tachometer shows your engine speed in revolutions per minute (rpm).

NOTICE:

Do not run your engine at speeds in the red area, or engine damage may occur.

Warning Lights, Gages and Indicators

This part describes the warning lights and gages that may be on your vehicle. The pictures will help you 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 your 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 you will see in the details on the next few pages, some warning lights come on briefly when you start the engine just to let you know they're 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's a problem with your vehicle.

When one of the warning lights comes on and stays on when 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.

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Waiting to do repairs can be costly -- and even dangerous. So please get to know your warning lights and gages. They're a big help.

Safety Belt Reminder Light

When the key is turned to ON or START, a chime will come on for about eight 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 about 20 seconds, then it will flash for about 55 seconds.

If the driver's belt is already buckled, neither the chime nor the light will come on.

Air Bag Readiness Light

There is an air bag readiness light on the instrument panel, which shows the air bag symbol. The system checks the air bag's electrical system for malfunctions. The light tells you if there is an electrical problem. The system check includes the air bag sensor, the air bag modules, the wiring and the crash sensing and diagnostic module. For more information on the air bag system, see "Air Bag" in the Index.

This light will come on when you start your engine, and it will flash for a few seconds. Then the light should go out. This means the system is ready.

If the air bag readiness light stays on after you start the engine or comes on when you are driving, your air bag system may not work properly. Have your vehicle serviced right away.

The air bag readiness light should flash for a few seconds when you turn the ignition key to ON. If the light doesn't come on then, have it fixed so it will be ready to warn you if there is a problem.

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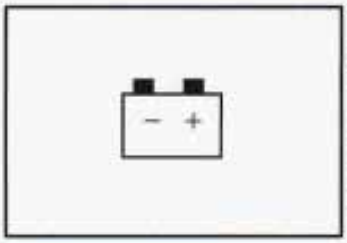
Charging System Indicator Light



The charging system indicator light will come on when you turn on the ignition, but the engine is not running, as a check to show you it is working.

When the engine is running, it should go out.

If it stays on, or comes on while you are driving and you hear a chime, you may have a problem with the electrical charging system. It could indicate that you have a loose generator drive belt or another electrical problem. Have it checked right away. Driving while this light is on could drain your battery.

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.

Brake System Warning Light

Your vehicle's hydraulic brake system is divided into two parts. If one part isn't 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 is a brake problem. Have your brake system inspected right away.

This light should come on briefly when you turn the ignition key to ON. If it doesn't come on then, have it fixed so it will be ready to warn you if there's a problem.

If the light and chime come 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" in the Index.)

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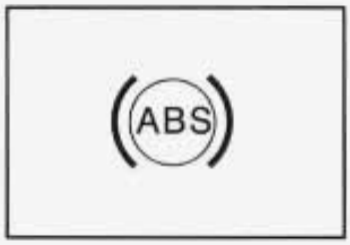
⚠ CAUTION:

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've pulled off the road and stopped carefully, have the vehicle towed for service.

When the ignition is on, the brake system warning light will also come on when you set your parking brake. The light will stay on if your parking brake doesn't release fully. If it stays on after your parking brake is fully released, it means you have a brake problem.

Anti-Lock Brake System Warning Light



With the anti-lock brake system, this light will come on when you turn your ignition on or start your engine and it will stay on for three seconds. That's normal.

If the light stays on, turn the ignition to OFF. Or, if the light comes on and the chime sounds when you're driving, stop as soon as possible and turn the ignition off. Then start the engine again to reset the system. If the light still stays on, or comes on again while you're driving, your vehicle needs service. If the regular brake system warning light isn't on, you still have brakes, but you don't have anti-lock brakes. If the regular brake system warning light is also on, you don't have anti-lock brakes and there's a problem with your regular brakes. See "Brake System Warning Light" earlier in this section.

The anti-lock brake system warning light should come on briefly when you turn the ignition key to ON. If the light doesn't come on then, have it fixed so it will be ready to warn you if there is a problem.

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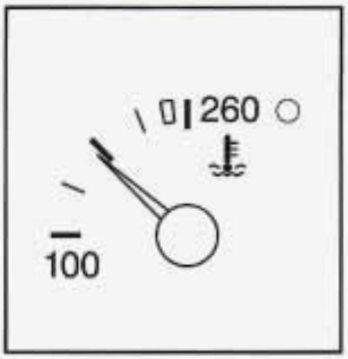
Engine Coolant Temperature Gage



This gage shows the engine coolant temperature. If the gage pointer moves into the red area, the light comes on and you hear a chime, your 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.

In "Problems on the Road," this manual shows what to do. See "Engine Overheating" in the Index.

Low Coolant Warning Light

This light comes on briefly when you turn your ignition to ON.

If this light comes on and stays on and you hear a chime, the vehicle should promptly be pulled off the road and the coolant level checked.

See "Engine Coolant" in the Index. If there are visible signs of steam, see "Engine Overheating" in the Index before opening the hood. Have your vehicle serviced as soon as you can.

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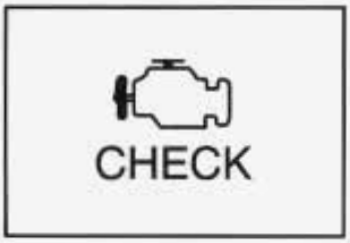
Malfunction Indicator Lamp (Check Engine Light)



Your vehicle is equipped with a computer which monitors operation of the fuel, ignition and emission control systems.

This system is called OBD II (On-Board Diagnostics-Second Generation) and is intended to assure 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 a problem and service is required. Malfunctions often will be indicated by the system before any problem is apparent. This may 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, your emission controls may not work as well, your fuel economy may not be as good and your engine may not run as smoothly. This could lead to costly repairs that may not be covered by your warranty.

NOTICE:

Modifications made to the engine, transaxle, exhaust 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 may cause the light to come on. Modifications to these systems could lead to costly repairs not covered by your warranty. This may also result in a failure to pass a required Emission Inspection/Maintenance test.

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This light should come on, as a check to show you it is working, when the ignition is on and the engine is not running. If the light doesn't come on, have it repaired. This light will also come on during a malfunction in one of two ways:

- **Light Flashing** -- A misfire condition has been detected. A misfire increases vehicle emissions and may damage the emission control system on your vehicle. Retailer or qualified service center diagnosis and service may be required.
- **Light On Steady** -- An emission control system malfunction has been detected on your vehicle. Retailer or qualified service center diagnosis and service may be required.

If the Light Is Flashing

The following may prevent more serious damage to your vehicle:

- Reducing vehicle speed.
- Avoiding hard accelerations.
- Avoiding 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 your vehicle. Turn the key 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 drive the vehicle to your retailer or qualified service center for service.

If the Light Is On Steady

You may 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. The diagnostic system can determine if the fuel cap has been left off or improperly installed. A loose or missing fuel cap will allow 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 electrical system may be wet. The condition will usually be corrected when the electrical system dries out. A few driving trips should turn the light off.

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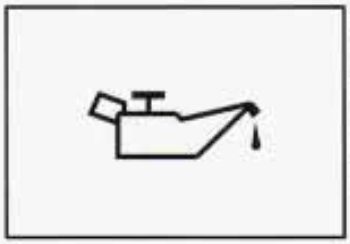
Have you recently changed brands of fuel?

If so, be sure to fuel your vehicle with quality fuel (see "Fuel" in the Index). Poor fuel quality will cause your engine not to run as efficiently as designed. You may 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 may 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, have your retailer or qualified service center check the vehicle. Your retailer has the proper test equipment and diagnostic tools to fix any mechanical or electrical problems that may have developed.

Oil Pressure Warning Light



If you have a low engine oil pressure problem, this light will stay on after you start your engine, or come on and you will hear a chime when you are driving.

This indicates that your engine is not receiving enough oil. The engine could be low on oil, or could have some other oil problem. Have it fixed immediately.

- When the ignition is on but the engine is not running, the light will come on as a test to show you it is working, but the light will go out when the engine is running. If it doesn't come on with the ignition on, you may have a problem with the fuse or bulb. Have it fixed right away.

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⚠ CAUTION:

Don't 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:

Damage to your engine from neglected oil problems can be costly and is not covered by your warranty.

Check Oil Light

CHECK
OIL

This light will come on briefly when you start your vehicle.

If the light comes on and you hear a chime or stays on after starting your vehicle, your engine oil level should be checked.

Prior to checking the oil level, be sure your vehicle has been shut off for several minutes and is on a level surface. Check the oil level on your dipstick and bring it to the proper level. See "Engine Oil" in the Index.

NOTE: A false CHECK OIL light may be generated when parking on steep grades.

The oil level monitoring system only checks oil level during the brief period between key on and engine crank. It does not monitor engine oil level when the engine is running. Additionally, an oil level check is only performed if the engine has been turned off for a considerable period of time allowing the oil normally in circulation to drain back into the oil pan.

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Passlock Warning Light

THEFT SYSTEM

This light will come on briefly when you turn the ignition on. The light will stay on until the engine starts.

If the light flashes for several seconds, the passlock system has entered a tamper mode. If the vehicle fails to start, see "Passlock" in the Index.

If the light comes on continuously while driving and stays on, there may be a problem with the passlock system. Your vehicle will not be protected by passlock, and you should see your retailer.

Cruise Light

CRUISE

The CRUISE light comes on whenever you set your cruise control.

Low Washer Light

LOW WASH

The LOW WASH light will come on briefly when you turn on the ignition.

It will also come on, chime and stay on if the fluid reservoir is less than one-third full.

Service Vehicle Soon Light

SERVICE VEHICLE SOON

This light will come on briefly when you turn on the ignition.

It will stay on if it detects a problem on the vehicle, such as a DRL or an ALC malfunction. If this happens, see your retailer service department as soon as possible.

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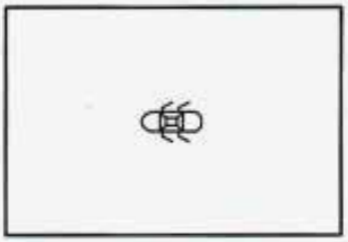
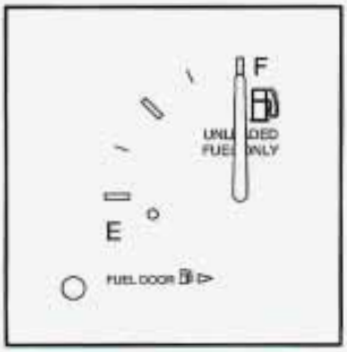
Door Ajar Light



When the ignition is on, this light will stay on until all doors are closed and completely latched.

You will hear a brief chime if a door is unlatched after the engine is started and the vehicle is not in PARK (P) or NEUTRAL (N).

Fuel Gage



Your fuel gage tells you about how much fuel you have left, when the ignition is on. When the indicator nears empty, the light will come on and you will hear a chime. You still have a little fuel left, but you should get more soon.

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

- At the service 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.
- The gage goes back to empty when you turn off the ignition.

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Section 3 Comfort Controls and Audio Systems

In this section, you'll find out how to operate the comfort control and audio systems offered with your vehicle. Be sure to read about the particular systems supplied with your vehicle.

3-2 Comfort Controls
3-2 Climate Control System with Air Conditioning
3-3 Air Conditioning
3-4 Heating
3-4 Defogging and Defrosting Windows
3-5 Rear Window Defogger
3-5 Ventilation System
3-6 Audio Systems
3-6 Setting the Clock
3-7 AM-FM Stereo
3-9 AM-FM Stereo with Cassette Tape Player and Automatic Tone Control (If Equipped)
3-13 AM-FM Stereo with Cassette Tape and Compact Disc Player with Automatic Tone Control (If Equipped)
3-18 Theft-Deterrent Feature
3-20 Understanding Radio Reception
3-20 Tips About Your Audio System
3-21 Care of Your Cassette Tape Player
3-21 Care of Your Compact Discs
3-21 Care of Your Compact Disc Player
3-21 Fixed Mast Antenna

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Comfort Controls

This section tells you how to make your air system work for you. The climate control system with air conditioning uses ozone-friendly R-134a refrigerant.

With this system, you can control the ventilation and heating in your vehicle. Your vehicle also has the flow-through ventilation system described later in this section.

Climate Control System with Air Conditioning

Fan Knob

The left knob selects the force of air you want. Turn the knob to the right to increase fan speed and to the left to decrease fan speed. To turn the fan off (which will also turn the climate control system off), turn the knob all the way to the left. In any other setting, the fan will run continuously. The fan must be on to run the air conditioning compressor.

Temperature Knob

The center knob regulates the temperature of the air coming through the system.

Mode Knob

The right control knob changes the functions of the system.

VENT: In this position most of the airflow comes through the instrument panel outlets. A small amount of air comes through the floor vents. Set the center control knob to the temperature desired.

BI-LEVEL: In this position the airflow comes through the instrument panel outlets and through the floor outlets. Set the center control knob to the temperature desired.

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FLOOR: In this position most of the airflow comes through the floor outlet. The rest of the air comes through the windshield and side window vents. Set the center control knob to the temperature desired.

DEFOG: This position divides the airflow between the floor outlets and the windshield defroster vent.

DEFROST: This position directs most of the airflow through the windshield defroster vent. Some of the air goes to the floor outlets. The air conditioning compressor will run automatically in this position when it is needed to help dry the air in the vehicle.

Air Conditioning Compressor Button

Press A/C to operate the air conditioner compressor. The indicator light will glow when the button is pressed to indicate that the air conditioning system has been turned on.

Recirculation Button

Press RECIRCULATION to close all outside vents. The indicator light on the button will glow when it is pressed. RECIRCULATION is available in all modes, except DEFOG and DEFROST.

It is not recommended to use this button in the floor mode with heat. It is useful to quickly cool the vehicle on hot days.

Outside Air

Press OUTSIDE AIR to allow the circulation of outside air in the vehicle. The indicator light on the button will glow when pressed. OUTSIDE AIR is available in all modes including OFF and is automatically activated in DEFOG and DEFROST.

Air Conditioning

The air conditioner and heater work best if you keep your windows closed while using them. Your vehicle also has the flow-through ventilation system described later in this section.

On very hot days, open the windows long enough to let hot inside air escape. This reduces the time it takes for your vehicle to cool down, which should help fuel economy.

On cool, but sunny days, the sun may warm your upper body, but your lower body may not be warm enough. You can use BI-LEVEL with the temperature knob in the middle and the A/C button pushed in. The system will bring in outside air and direct slightly warmer air to your lower body.

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For quick cool-down on very hot days, use VENT with the temperature knob all the way in the blue area and the A/C and RECIRCULATION buttons pressed. If this setting is used for long periods of time, the air in your vehicle may become too dry.

For normal cooling on hot days, use VENT with the temperature knob in the blue area and the A/C button pushed in. The system will bring in outside air and cool it.

Heating

On cold days, use FLOOR and the outside air button with the temperature knob all the way in the red area. The system will bring in outside air, heat it and send it to the floor outlets.

Your vehicle has heat outlets that are directed toward the rear seat. Keep the area under the front seats clear of obstructions so the heated air can reach the rear seat passengers.

If your vehicle has an engine coolant heater, you can use it to help your system provide warm air faster when it's cold outside (0°F (-18°C) or lower). An engine coolant heater warms the coolant your engine and heating system use to provide heat. See "Engine Coolant Heater" in the Index.

Defogging and Defrosting Windows

Your system has two settings for clearing the front and side windows. For each setting, adjust the temperature control as desired.

To defrost the front window quickly, rotate the temperature control knob all the way in the red area. Use DEFROST and adjust the fan to the highest speed. To warm passengers while keeping the front window clean, use DEFOG.

Your vehicle is equipped with side window defogger vents. The side window defogger vents are located on the outside of the side instrument panel vents. To defrost the side windows rotate the temperature control knob all the way in the red area. Use FLOOR and adjust the fan to the highest speed. To control fogging of the windows rotate the temperature control knob all the way in the red area. Use DEFOG and adjust the fan to the highest speed.

To defog the side windows while using air conditioning use BI-LEVEL and adjust the fan to the highest speed and press the A/C button. For added airflow to the side windows aim the side vents toward the windows and close the center vents.

RECIRCULATION will not work in DEFROST and DEFOG. This is done to prevent recirculation of humid inside air and allow the system to work properly.

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Rear Window Defogger

The rear window defogger uses a warming grid to remove fog from the rear window.

Press the defogger switch. The indicator light will glow. The rear window defogger will turn itself off after about 10 minutes after the first time the button is pressed, and after 5 minutes each additional time the button is pressed. You can turn the defogger off by pressing the button again or turning off the ignition.

Do not attach a temporary vehicle license across the defogger grid on the rear window.

NOTICE:

Don't use a razor blade or anything else sharp on the inside of the rear window. If you do, you could cut or damage the warming grid, and the repairs wouldn't be covered by your warranty.

Ventilation System

For mild outside temperatures when little heating or cooling is needed, use VENT to direct outside air through your vehicle. Your vehicle also has the flow-through ventilation system.

Your vehicle's flow-through ventilation system supplies outside air into the vehicle when it is moving. Outside air will also enter the vehicle when the air conditioning fan is running.

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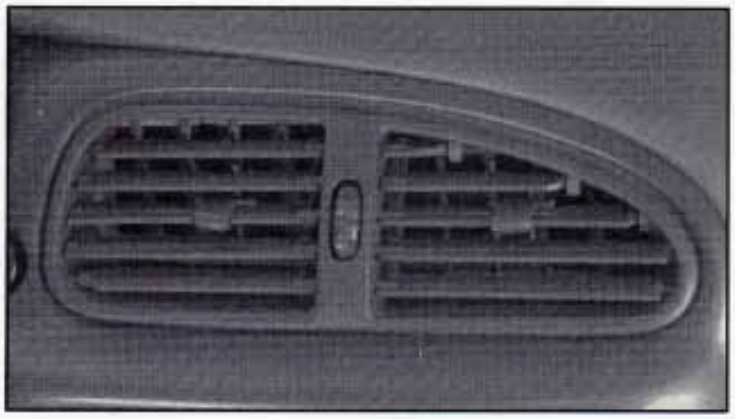

Ventilation Tips

- Keep the hood and front air inlet free of ice, snow or any other obstruction, such as leaves. The heater and defroster will work far better, reducing the chance of fogging the inside of your windows.
- When you enter a vehicle in cold weather, adjust the mode knob to FLOOR and the fan to the highest speed for a few moments before driving off. This helps clear the intake ducts of snow and moisture and reduces the chance of fogging the inside of your windows.
- Keep the air path under the front seats clear of objects. This helps air circulate throughout your vehicle.
- To prevent circulation of outside air, press the recirculation button. This will close all outside vents.

Audio Systems

Your Delco Electronics audio system has been designed to operate easily and give years of listening pleasure. You will get the most enjoyment out of it if you acquaint yourself with it first. Find out what your Delco Electronics system can do and how to operate all its controls, to be sure you're getting the most out of the advanced engineering that went into it.

Setting the Clock

Press and hold HR until the correct hour appears. The letter A or P may appear on the display for AM or PM. Then, press and hold MN until the correct minute appears. The clock may be set with the ignition on or off.

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AM-FM Stereo

Playing the Radio

PWR-VOL: Press this knob to turn the system on and off. To increase volume, turn the knob to the right. Turn it to the left to decrease volume.

RECALL: Press this button briefly to recall the station being played or to display the clock. To change what is normally shown on the display (station or time), press the RECALL button until you see the display you want, then hold the RECALL button until the display flashes. If you press the button when the ignition is off, the clock will show for a few seconds.

Finding a Station

AM-FM: Press this button to switch between AM, FM1 and FM2. The display shows your selection.

TUNE: Press this knob lightly so it extends. Turn it to choose radio stations. Push the knob back into its stored position when you're not using it.

SEEK: Press the up or down arrow to go to the next higher or lower station and stay there. The sound will mute while seeking.

SCAN: Press this button and release it to listen to stations for a few seconds. The radio will go to a station, stop for a few seconds, then go on to the next station. Press the button again to stop scanning. The sound will mute while scanning, and SCAN will appear on the display. If you press SCAN for more than two seconds, the radio will change to P SCAN mode. P SCAN will appear on the display.

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PUSHBUTTONS: The five numbered pushbuttons let you return to your favorite stations. You can set up to 15 stations (five AM, five FM1 and five FM2). Just:

1. Turn the radio on.
2. Press AM-FM to select the band.
3. Tune in the desired station.
4. Press and hold one of the five numbered buttons. The sound will mute. When it returns, release the button. Whenever you press that numbered button, the station you set will return.
5. Repeat the steps for each pushbutton.

P SCAN: Press SCAN for more than two seconds, and P SCAN will appear on the display. The radio will go to the first preset station stored on your pushbuttons, stop for a few seconds, then go on to the next preset station. Press SCAN again to stop scanning.

Setting the Tone

BASS: Press this knob lightly so it extends. Turn the knob to increase or decrease bass.

TREB: Press this knob lightly so it extends. Then pull the knob all the way out. Turn it to increase or decrease treble. If a station is weak or noisy, you may want to decrease the treble.

Push these knobs back into their stored positions when you're not using them.

Adjusting the Speakers

BAL: Press this knob lightly so it extends. Turn the knob to move the sound to the left or right speakers. The middle position balances the sound between the speakers.

FADE: Press the knob lightly so it extends. Then pull the knob all the way out. Turn it to move the sound to the front or rear speakers. The middle position balances the sound between the speakers.

Push these knobs back into their stored positions when you're not using them.

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AM-FM Stereo with Cassette Tape Player and Automatic Tone Control (If Equipped)

Playing the Radio

PWR-VOL: Press this knob to turn the system on and off. To increase volume, turn the knob to the right. Turn it to the left to decrease volume.

RCL: Press this button briefly to recall the station being played or to display the clock. To change what is normally shown on the display (station or time), press the RCL button until you see the display you want, then hold the RCL button until the display flashes. If you press the button when the ignition is off, the clock will show for a few seconds.

Finding a Station

AM-FM: Press this button to switch between AM, FM1 and FM2. The display shows your selection.

TUNE: Press this knob lightly so it extends. Turn it to choose radio stations. Push the knob back into its stored position when you're not using it.

SEEK: Press the up or down arrow to go to the next higher or lower station and stay there. The sound will mute while seeking.

SCAN: Press this button and release it to listen to stations for a few seconds. The radio will go to a station, stop for a few seconds, then go on to the next station. Press the button again to stop scanning. The sound will mute while scanning, and SCAN will appear on the display. If you press SCAN for more than two seconds, the radio will change to P SCAN mode. P SCAN will appear on the display.

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PUSHBUTTONS: The five numbered pushbuttons let you return to your favorite stations. You can set up to 15 stations (five AM, five FM1 and five FM2). Just:

1. Turn the radio on.
2. Press AM-FM to select the band.
3. Tune in the desired station.
4. Press TONE to select the equalization that best suits the type of station selected.
5. Press and hold one of the five numbered buttons. The sound will mute. When it returns, release the button. Whenever you press that numbered button, the station you set will return and the tone that you selected will also be automatically selected for that button.
6. Repeat the steps for each pushbutton.

P SCAN: Press SCAN for more than two seconds, and P SCAN will appear on the display. The radio will go to the first preset station stored on your pushbuttons, stop for a few seconds, then go on to the next preset station. Press SCAN again to stop scanning.

Setting the Tone

BASS: Press this knob lightly so it extends. Turn the knob to increase or decrease bass. When you use this control, the radio's tone setting will switch to manual.

TREB: Press this knob lightly so it extends. Then pull the knob all the way out. Turn the knob to increase or decrease treble. When you use this control, the radio's tone setting will switch to manual. If a station is weak or noisy, you may want to decrease the treble.

Push these knobs back into their stored positions when you're not using them.

TONE: This feature allows you to choose preset bass and treble equalization settings designed for jazz, vocal, pop, rock and classical stations. JAZZ will appear on the display when you first press TONE. Each time you press it, another setting will appear on the display. Press it again after CLASSIC appears and MANUAL will appear. Manual tone control will return to the BASS and TREB knobs. Also, if you use the BASS and TREB knobs, control will return to them and MANUAL will appear.

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Adjusting the Speakers

BAL: Press this knob lightly so it extends. Turn the knob to move the sound to the left or right speakers. The middle position balances the sound between the speakers.

FADE: Press the knob lightly so it extends. Then pull the knob all the way out. Turn it to move the sound to the front or rear speakers. The middle position balances the sound between the speakers.

Push these knobs back into their stored positions when you're not using them.

Playing a Cassette Tape

Your tape player is built to work best with tapes that are 30 to 45 minutes long on each side. Tapes longer than that are so thin they may not work well in this player.

The longer side with the tape visible should face to the right. If the ignition is on, but the radio is off, the tape can be inserted and will begin playing. If you hear nothing but a garbled sound, the tape may not be in squarely. Press EJECT to remove the tape and start over.

While the tape is playing, use the VOL, FADE, BAL, TREB, BASS, TONE, SEEK and SCAN controls just as you do for the radio. The display will show TP with a box around it and an arrow to show which side of the tape is playing.

Your tape bias is set automatically. When a metal or chrome tape is inserted, HI-BIAS appears on the display. If you want to insert a tape when the ignition is off, first press EJECT or RCL.

If E and a number appear on the radio display, the tape won't play because of an error.

- **E10:** The tape is tight and the player can't turn the tape hubs. Remove the tape. Hold the tape with the open end down and try to turn the right hub to the left with a pencil. Turn the tape over and repeat. If the hubs do not turn easily, your tape may be damaged and should not be used in the player. Try a new tape to make sure your player is working properly.
- **E11:** The tape is broken. Try a new tape.

If any error occurs repeatedly or if an error can't be corrected, please contact your retailer. If your radio displays an error number, write it down and provide it to your retailer when reporting the problem.

REV (1): Press this button to reverse the tape rapidly. Press it again to return to playing speed. The radio will play the last-selected station while the tape reverses. You may select stations during REV operation by using TUNE.

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FWD (2): Press this button to advance quickly to another part of the tape. Press the button again to return to playing speed. The radio will play the last-selected station while the tape advances. You may select stations during FWD operation by using TUNE.

PROG (3): Press this button to play the other side of the tape.

DD (4): Press this button to reduce background noise. Note that the double-D symbol will appear on the display.

Dolby Noise Reduction is manufactured under a license from Dolby Laboratories Licensing Corporation. Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

TONE: Press this button to select a tone while playing a cassette. The tone will be automatically set whenever you play a cassette tape.

SEEK: Press the up or down arrow to search for the next or previous selection on the tape. Your tape must have at least three seconds of silence between each selection for SEEK to work.

SCAN: Press this button to listen to each selection for a few seconds. The tape will go to the next selection, stop for a few seconds, then go on to the next selection. Press this button again to stop scanning. The sound will mute, SCAN will appear on the display and the tape direction arrow will blink while scanning.

AM-FM: Press this button to play the radio when a tape is in the player. The tape will stop but remain in the player.

TAPE AUX: If you have a tape inserted and the radio is playing, press TAPE AUX to play your tape. To return to the radio while a tape is playing, press AM-FM. The inactive tape will remain safely inside the radio for future listening.

EJECT: Press this button to remove the tape. The radio will play. EJECT may be activated with either the ignition or radio off. Cassettes may be loaded with the radio and ignition off if this button is pressed first.

CLN: If this message appears on the display, the cassette tape player needs to be cleaned. It will still play tapes, but you should clean it as soon as possible to prevent damage to the tapes and player. See "Care of Your Cassette Tape Player" in the Index. After you clean the player, press and hold EJECT for five seconds to reset the CLN indicator. The radio will display --- to show the indicator was reset.

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AM-FM Stereo with Cassette Tape and Compact Disc Player with Automatic Tone Control (If Equipped)

Playing the Radio

PWR-VOL: Press this knob to turn the system on and off. To increase volume, turn the knob to the right. Turn it to the left to decrease volume.

RCL: Press this button briefly to recall the station being played or to display the clock. To change what is normally shown on the display (station or time), press the RCL button until you see the display you want, then hold the RCL button until the display flashes. If you press the button when the ignition is off, the clock will show for a few seconds.

Finding a Station

AM-FM: Press this button to switch between AM, FM1 and FM2. The display shows your selection.

TUNE: Press this knob lightly so it extends. Turn it to choose radio stations. Push the knob back into its stored position when you're not using it.

SEEK: Press the up or down arrow to go to the next higher or lower station and stay there. The sound will mute while seeking.

SCAN: Press this button and release it to listen to stations for a few seconds. The radio will go to a station, stop for a few seconds, then go on to the next station. Press the button again to stop scanning. The sound will mute while scanning, and SCAN will appear on the display. If you press SCAN for more than two seconds, the radio will change to P SCAN mode. P SCAN will appear on the display.

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PUSHBUTTONS: The five numbered pushbuttons let you return to your favorite stations. You can set up to 15 stations (five AM, five FM1 and five FM2). Just:

1. Turn the radio on.
2. Press AM-FM to select the band.
3. Tune in the desired station.
4. Press TONE to select the equalization that best suits the type of station selected.
5. Press and hold one of the five numbered buttons. The sound will mute. When it returns, release the button. Whenever you press that numbered button, the station you set will return and the tone that you selected will also be automatically selected for that button.
6. Repeat the steps for each pushbutton.

P SCAN: Press SCAN for more than two seconds, and P SCAN will appear on the display. The radio will go to the first preset station stored on your pushbuttons, stop for a few seconds, then go on to the next preset station. Press SCAN again to stop scanning.

Setting the Tone

BASS: Press this knob lightly so it extends. Turn the knob to increase or decrease bass. When you use this control, the radio's tone setting will switch to manual.

TREB: Press this knob lightly so it extends. Then pull the knob all the way out. Turn the knob to increase or decrease treble. When you use this control, the radio's tone setting will switch to manual. If a station is weak or noisy, you may want to decrease the treble.

Push these knobs back into their stored positions when you're not using them.

TONE: This feature allows you to choose preset bass and treble equalization settings designed for jazz, vocal, pop, rock and classical stations. JAZZ will appear on the display when you first press TONE. Each time you press it, another setting will appear on the display. Press it again after CLASSIC appears and MANUAL will appear. Tone control will return to the BASS and TREB knobs. Also, if you use the BASS and TREB knobs, control will return to them and MANUAL will appear.

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Adjusting the Speakers

BAL: Press this knob lightly so it extends. Turn the knob to move the sound to the left or right speakers. The middle position balances the sound between the speakers.

FADE: Press the knob lightly so it extends. Then pull the knob all the way out. Turn it to move the sound to the front or rear speakers. The middle position balances the sound between the speakers.

Push these knobs back into their stored positions when you're not using them.

Playing a Cassette Tape

Your tape player is built to work best with tapes that are 30 to 45 minutes long on each side. Tapes longer than that are so thin they may not work well in this player.

The longer side with the tape visible should face to the right. If the ignition is on, but the radio is off, the tape can be inserted and will begin playing. If you hear nothing but a garbled sound, the tape may not be in squarely. Press EJECT to remove the tape and start over.

While the tape is playing, use the VOL, FADE, BAL, TREB, BASS, TONE, SEEK and SCAN controls just as you do for the radio. The display will show TP with a box around it and an arrow to show which side of the tape is playing.

Your tape bias is set automatically. When a metal or chrome tape is inserted, HI-BIAS appears on the display. If you want to insert a tape when the ignition is off, first press EJECT or RCL.

If E and a number appear on the radio display and the tape won't play because of an error, it could be that:

- **E10:** The tape is tight and the player can't turn the tape hubs. Remove the tape. Hold the tape with the open end down and try to turn the right hub to the left with a pencil. Turn the tape over and repeat. If the hubs do not turn easily, your tape may be damaged and should not be used in the player. Try a new tape to make sure your player is working properly.
- **E11:** The tape is broken. Try a new tape.

If any error occurs repeatedly or if an error can't be corrected, please contact your retailer. If your radio displays an error number, write it down and provide it to your retailer when reporting the problem.

REV (1): Press this button to reverse the tape rapidly. Press it again to return to playing speed. The radio will play the last-selected station while the tape reverses. You may select stations during REV operation by using TUNE.

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FWD (2): Press this button to advance quickly to another part of the tape. Press the button again to return to playing speed. The radio will play the last-selected station while the tape advances. You may select stations during FWD operation by using TUNE.

PROG (3): Press this button to play the other side of the tape.

DD (4): Press this button to reduce background noise. Note that the double-D symbol will appear on the display.

Dolby Noise Reduction is manufactured under a license from Dolby Laboratories Licensing Corporation. Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

TONE: Press this button to select a tone while playing a cassette. The tone will be automatically set whenever you play a cassette tape.

SEEK: Press the up or down arrow to search for the next or previous selection on the tape. Your tape must have at least three seconds of silence between each selection for SEEK to work.

SCAN: Press this button to listen to each selection for a few seconds. The tape will go to the next selection, stop for a few seconds, then go on to the next selection. Press this button again to stop scanning. The sound will mute while scanning, SCAN will appear on the display and the tape direction arrow will blink while scanning.

AM-FM: Press this button to play the radio when a tape is in the player. The tape will stop but remain in the player.

TAPE-CD: Press this button if you have a disc loaded in the CD player and the radio is playing, to play a compact disc. Press AM-FM to return to the radio when a compact disc is playing. Press TAPE-CD to switch between the tape and compact disc if both are loaded. The inactive tape or CD will remain safely inside the radio for future listening. The display will show TP and CD.

EJECT: Press this button to remove the tape. The radio will play. EJECT may be activated with either the ignition or radio off. Cassettes may be loaded with the radio and ignition off if this button is pressed first.

CLN: If this message appears on the display, the cassette tape player needs to be cleaned. It will still play tapes, but you should clean it as soon as possible to prevent damage to the tapes and player. See "Care of Your Cassette Tape Player" in the Index. After you clean the player, press and hold EJECT for five seconds to reset the CLN indicator. The radio will display --- to show the indicator was reset.

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Playing a Compact Disc

With the ignition on, insert a disc partway into the slot, label side up. The player will pull it in and the disc should begin playing. If you want to insert a CD when the ignition is off, first press EJECT or RCL.

The CD player will play either normal-size discs or the smaller 8 cm discs with an adapter.

Note that when the disc is inserted, CD will be displayed. When the disc is playing, a box will appear around CD on the display. If you select a tone setting for your CD, it will be activated each time you play a CD.

As each new track starts to play, the track number will appear in the display.

If E (error) and a number appear on the radio display and the disc comes out, it could be that:

- **E20:** The road is too rough. The disc should play when the road is smoother.
- **E20:** The disc is dirty, scratched, wet or upside down.
- **E20:** The air is very humid. If so, wait about an hour and try again.

If any error occurs repeatedly or if an error can't be corrected, please contact your retailer. If your radio displays an error number, write it down and provide it to your retailer when reporting the problem.

REV (1): Press and hold this button to quickly reverse within a track. You will hear sound at a reduced volume. The display will show elapsed time.

FWD (2): Press and hold this button to quickly advance within a track. You will hear sound at a reduced volume. The display will show elapsed time.

RDM (5): Press this button to hear the tracks in random, rather than sequential, order. RDM will appear on the display when you press this button.

TONE: Press this button to select a tone while playing a compact disc. The tone will be automatically set whenever you play a compact disc.

SEEK: Press the down arrow to go to the start of the current track if more than eight seconds have played. Press the up arrow to go to the next track. If you hold the button or press it more than once, the player will continue moving rearward or forward through the disc.

SCAN: Press this button to listen to each selection for a few seconds. The disc will go to the next selection, stop for a few seconds, then go on to the next selection. Press this button again to stop scanning. The sound will mute while scanning, SCAN will appear on the display.

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RCL: Press this button to see which track is playing. Press it again within five seconds to see how long it has been playing. To change what is normally shown on the display (track or elapsed time), press the button until you see the display you want, then hold the button until the display flashes. While elapsed time is showing, EL TM will appear on the display.

AM-FM: Press this button to play the radio when a disc is in the player.

TAPE-CD: Press this button to change to the tape or disc function when the radio is on and either a tape or CD is inserted. Press AM-FM to return to the radio while a CD or tape is playing. The inactive tape or CD will remain safely inside the radio for future listening. If you have the optional CD changer and the CD changer is loaded, the TAPE-CD button will activate the changer and a box will be lighted around CDC in the display.

EJECT: Press this button to remove the compact disc or cassette tape. The icon with the box around it on the display will eject and the radio will play. EJECT may be activated with either the ignition or radio off. Cassettes and compact discs may be loaded with the radio and ignition off if this button is pressed first.

Theft-Deterrent Feature

THEFTLOCK® is designed to discourage theft of your radio. It works by using a secret code to disable all radio functions whenever battery power is removed.

The THEFTLOCK feature for the radio may be used or ignored. If ignored, the system plays normally and the radio is not protected by the feature. If THEFTLOCK is activated, your radio will not operate if stolen.

When THEFTLOCK is activated, the radio will display LOC to indicate a locked condition anytime battery power is removed. If your battery loses power for any reason, you must unlock the radio with the secret code before it will operate.

Activating the Theft-Deterrent Feature

The instructions which follow explain how to enter your secret code to activate the THEFTLOCK system. It is recommended that you read through all nine steps before starting the procedure.

NOTE: If you allow more than 15 seconds to elapse between any steps, the radio automatically reverts to time and you must start the procedure over at Step 4.

1. Write down any three or four-digit number from 000 to 1999 and keep it in a safe place separate from the vehicle.

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2. Turn the ignition to ACC or ON.
3. Turn the radio off.
4. Press the 1 and 4 buttons together. Hold them down until --- shows on the display. Next you will use the secret code number which you have written down.
5. Press MN and 000 will appear on the display.
6. Press MN again to make the last two digits agree with your code.
7. Press HR to make the first one or two digits agree with your code.
8. Press AM-FM after you have confirmed that the code matches the secret code you have written down. The display will show REP to let you know that you need to repeat Steps 5 through 7 to confirm your secret code.
9. Press AM-FM and this time the display will show SEC to let you know that your radio is secure.

Unlocking the Theft-Deterrent Feature After a Power Loss

Enter your secret code as follows; pause no more than 15 seconds between steps:

1. LOC appears when the ignition is on.
2. Press MN and 000 will appear on the display.
3. Press MN again to make the last two digits agree with your code.
4. Press HR to make the first one or two digits agree with your code.
5. Press AM-FM after you have confirmed that the code matches the secret code you have written down. The display will show SEC, indicating the radio is now operable and secure.

If you enter the wrong code eight times, INOP will appear on the display. You will have to wait an hour with the ignition on before you can try again. When you try again, you will only have three chances to enter the correct code before INOP appears.

If you lose or forget your code, contact your retailer.

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Disabling the Theft-Deterrent Feature

Enter your secret code as follows; pause no more than 15 seconds between steps:

1. Turn the ignition to ACC or ON.
2. Turn the radio off.
3. Press the 1 and 4 buttons together. Hold them down until SEC shows on the display.
4. Press MN and 000 will appear on the display.
5. Press MN again to make the last two digits agree with your code.
6. Press HR to make the first one or two digits agree with your code.
7. Press AM-FM after you have confirmed that the code matches the secret code you have written down. The display will show ---, indicating that the radio is no longer secured.

If the code entered is incorrect, SEC will appear on the display. The radio will remain secured until the correct code is entered.

When battery power is removed and later applied to a secured radio, the radio won't turn on and LOC will appear on the display.

To unlock a secured radio, see "Unlocking the Theft-Deterrent Feature After a Power Loss" earlier in this section.

Understanding Radio Reception

AM

The range for most AM stations is greater than for FM, especially at night. The longer range, however, can cause stations to interfere with each other. AM can pick up noise from things like storms and power lines. Try reducing the treble to reduce this noise if you ever get it.

FM Stereo

FM stereo will give you the best sound, but FM signals will reach only about 10 to 40 miles (16 to 65 km). Tall buildings or hills can interfere with FM signals, causing the sound to come and go.

Tips About Your Audio System

Hearing damage from loud noise is almost undetectable until it is too late. Your hearing can adapt to higher volumes of sound. Sound that seems normal can be loud and harmful to your hearing. Take precautions by adjusting the volume control on your radio to a safe sound level before your hearing adapts to it.

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To help avoid hearing loss or damage:

- Adjust the volume control to the lowest setting.
- Increase volume slowly until you hear comfortably and clearly.

NOTICE:

Before you add any sound equipment to your vehicle -- like a tape player, CB radio, mobile telephone or two-way radio -- be sure you can add what you want. If you can, it's very important to do it properly. Added sound equipment may interfere with the operation of your vehicle's engine, Delco Electronics radio or other systems, and even damage them. Your vehicle's systems may interfere with the operation of sound equipment that has been added improperly.

So, before adding sound equipment, check with your retailer and be sure to check Federal rules covering mobile radio and telephone units.

Care of Your Cassette Tape Player

A tape player that is not cleaned regularly can cause reduced sound quality, ruined cassettes or a damaged mechanism. Cassette tapes should be stored in their cases away from contaminants, direct sunlight and extreme heat. If they aren't, they may not operate properly or may cause failure of the tape player.

Your tape player should be cleaned regularly after every 50 hours of use. Your radio may display CLN to indicate that you have used your tape player for 50 hours without resetting the tape clean timer. If this message appears on the display, your cassette tape player needs to be cleaned. It will still play tapes, but you should clean it as soon as possible to prevent damage to your tapes and player. If you notice a reduction in sound quality, try a known good cassette to see if it is the tape or the tape player at fault. If this other cassette has no improvement in sound quality, clean the tape player.

The recommended cleaning method for your cassette tape player is the use of a scrubbing action, non-abrasive cleaning cassette with pads which scrub the tape head as the hubs of the cleaner cassette turn. The recommended cleaning cassette is available through your retail facility (GM Part No. 12344789).

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When using a scrubbing action, non-abrasive cleaning cassette, it is normal for the cassette to eject because your unit is equipped with a cut tape detection feature and a cleaning cassette may appear as a broken tape. If the cleaning cassette ejects, insert the cassette at least three times to ensure thorough cleaning.

You may also choose a non-scrubbing action, wet-type cleaner which uses a cassette with a fabric belt to clean the tape head. This type of cleaning cassette will not eject on its own. A non-scrubbing action cleaner may not clean as thoroughly as the scrubbing type cleaner. The use of a non-scrubbing action, dry-type cleaning cassette is not recommended.

After you clean the player, press and hold EJECT for five seconds to reset the CLN indicator. The radio will display --- to show the indicator was reset.

Cassettes are subject to wear and the sound quality may degrade over time. Always make sure the cassette tape is in good condition before you have your tape player serviced.

Care of Your Compact Discs

Handle discs carefully. Store them in their original cases or other protective cases and away from direct sunlight and dust. If the surface of a disc is soiled, dampen a clean, soft cloth in a mild, neutral detergent solution and clean it, wiping from the center to the edge.

Be sure never to touch the signal surface when handling discs. Pick up discs by grasping the outer edges or the edge of the hole and the outer edge.

Care of Your Compact Disc Player

The use of CD lens cleaner discs is not advised, due to the risk of contaminating the lens of the CD optics with lubricants internal to the CD mechanism.

Fixed Mast Antenna

The fixed mast antenna can withstand most car washes without being damaged. If the mast should ever become slightly bent, you can straighten it out by hand. If the mast is badly bent, as it might be by vandals, you should replace it.

Check every once in a while to be sure the mast is still tightened to the fender.

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Section 4 Your Driving and the Road

Here you'll find information about driving on different kinds of roads and in varying weather conditions. We've also included many other useful tips on driving.

4-2 Defensive Driving
4-3 Drunken Driving
4-6 Control of a Vehicle
4-6 Braking
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Defensive Driving

The best advice anyone can give about driving is: Drive defensively.

Please start with a very important safety device in your Oldsmobile: Buckle up. (See "Safety Belts" in the Index.)

Defensive driving really means "be ready for anything." On city streets, rural roads or freeways, it means "always expect the unexpected."

Assume that pedestrians or other drivers are going to be careless and make mistakes. Anticipate what they might do. Be ready for their mistakes.

Rear-end collisions are about the most preventable of accidents. Yet they are common. Allow enough following distance. It's the best defensive driving maneuver, in both city and rural driving. You never know when the vehicle in front of you is going to brake or turn suddenly.

Defensive driving requires that a driver concentrate on the driving task. Anything that distracts from the driving task -- such as concentrating on a cellular telephone call, reading, or reaching for something on the floor -- makes proper defensive driving more difficult and can even cause a collision, with resulting injury. Ask a passenger to help do things like this, or pull off the road in a safe place to do them yourself. These simple defensive driving techniques could save your life.

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Drunken Driving

Death and injury associated with drinking and driving is a national tragedy. It's the number one contributor to the highway death toll, claiming thousands of victims every year.

Alcohol affects four things that anyone needs to drive a vehicle:

- Judgment
- Muscular Coordination
- Vision
- Attentiveness.

Police records show that almost half 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, over 17,000 annual motor vehicle-related deaths have been associated with the use of alcohol, with more than 300,000 people injured.

Many adults -- by some estimates, nearly half the adult population -- choose never to drink alcohol, so they never drive after drinking. For persons under 21, it's 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 solve this highway safety problem is for people never to drink alcohol and then drive. But what if people do? How much is "too much" if the driver plans to drive? It's a lot less than many might think. Although it depends on each person and situation, here is some general information on the problem.

The Blood Alcohol Concentration (BAC) of someone who is drinking depends upon four things:

- The amount of alcohol consumed
- The drinker's body weight
- The amount of food that is consumed before and during drinking
- The length of time it has taken the drinker to consume the alcohol.

According to the American Medical Association, a 180-lb. (82 kg) person who drinks three 12-ounce (355 ml) bottles of beer in an hour will end up with a BAC of about 0.06 percent. The person would reach the same BAC by drinking three 4-ounce (120 ml) glasses of wine or three mixed drinks if each had 1-1/2 ounces (45 ml) of a liquor like whiskey, gin or vodka.

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It's the amount of alcohol that counts. For example, if the same person drank three double martinis (3 ounces or 90 ml of liquor each) within an hour, the person's BAC would be close to 0.12 percent. A person who consumes food just before or during drinking will have a somewhat lower BAC level.

There is a gender difference, too. Women generally have a lower relative percentage of body water than men. Since alcohol is carried in body water, this means that a woman generally will reach a higher BAC level than a man of her same body weight when each has the same number of drinks.

The law in many U.S. states sets the legal limit at a BAC of 0.10 percent. In a growing number of U.S. states, and throughout Canada, the limit is 0.08 percent. In some other countries, it's even lower. The BAC limit for all commercial drivers in the United States is 0.04 percent.

The BAC will be over 0.10 percent after three to six drinks (in one hour). Of course, as we've seen, it depends on how much alcohol is in the drinks, and how quickly the person drinks them.

But the ability to drive is affected well below a BAC of 0.10 percent. Research shows that the driving skills of many people are impaired at a BAC approaching 0.05 percent, and that the effects are worse at night. All drivers are impaired at BAC levels above 0.05 percent. Statistics show that the chance of being in a collision increases sharply for drivers who have a BAC of 0.05 percent or above. A driver with a BAC level of 0.06 percent has doubled his or her chance of having a collision. At a BAC level of 0.10 percent, the chance of this driver having a collision is 12 times greater; at a level of 0.15 percent, the chance is 25 times greater!

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The body takes about an hour to rid itself of the alcohol in one drink. No amount of coffee or number of cold showers will speed that up. "I'll be careful" isn't the right answer. What if there's an emergency, a need to take sudden action, as when a child darts into the street? A person with even a moderate BAC might not be able to react quickly enough to avoid the collision.

There's something else about drinking and driving that many people don't know. 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.

⚠ 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. Please don't drink and drive or ride with a driver who has been drinking. Ride home in a cab; or if you're with a group, designate a driver who will not drink.

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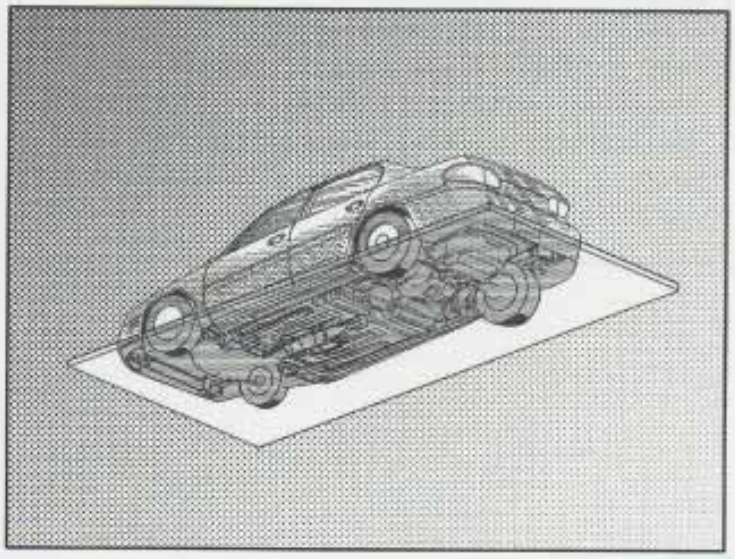
Control of a Vehicle

You have three systems that make your vehicle go where you want it to go. They are the brakes, the steering and the accelerator. All three systems have to do their work at the places where the tires meet the road.



Sometimes, as when you're driving on snow or ice, it's easy to ask more of those control systems than the tires and road can provide. That means you can lose control of your vehicle.

Braking

Braking action involves *perception time* and *reaction time.*

First, you have to decide to push on the brake pedal. That's *perception time.* Then you have to bring up your foot and do it. That's *reaction time.*

Average *reaction time* is about 3/4 of a second. But that's 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 3/4 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's pavement or gravel); the condition of the road (wet, dry, icy); tire tread; the condition of your brakes; the weight of the vehicle and the amount of brake force applied.

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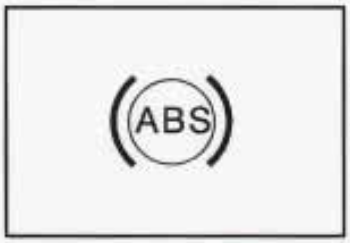
Avoid needless heavy braking. Some people drive in spurts -- heavy acceleration followed by heavy braking -- rather than keeping pace with traffic. This is a mistake. Your brakes may not have time to cool between hard stops. Your brakes will wear out much faster if you do a lot of heavy braking. If you 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 engine ever stops while you're driving, brake normally but don't pump your brakes. If you do, the pedal may get harder to push down. If your engine stops, you will still have some power brake assist. But you will use it when you brake. Once the power assist is used up, it may take longer to stop and the brake pedal will be harder to push.

Anti-Lock Brakes (ABS)

Your vehicle has anti-lock brakes (ABS). ABS is an advanced electronic braking system that will help prevent a braking skid.



If there's a problem with the anti-lock brake system, this warning light will stay on. See "Anti-Lock Brake System Warning Light" in the Index.

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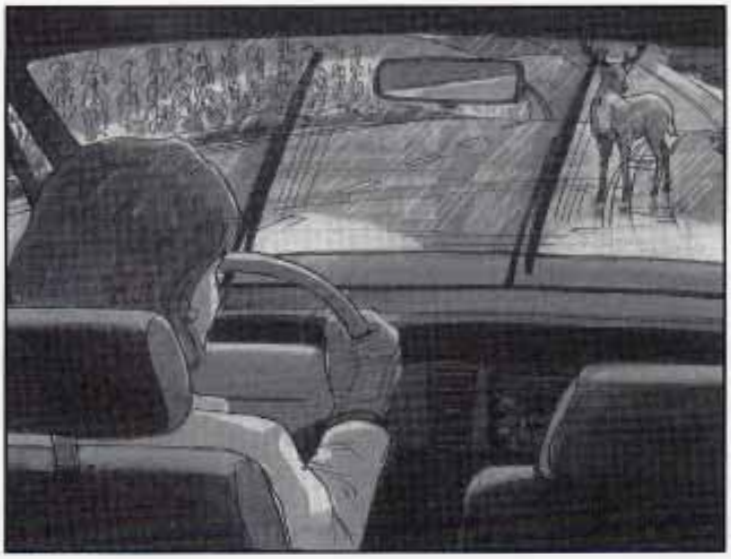

Here's how anti-lock works. Let's say the road is wet. You're driving safely. Suddenly an animal jumps out in front of you.

You slam on the brakes. Here's 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 front wheel and at both rear wheels.

The anti-lock system can change the brake pressure faster than any driver could. The computer is programmed to make the most of available tire and road conditions.

You can steer around the obstacle while braking hard.

As you brake, your computer keeps receiving updates on wheel speed and controls braking pressure accordingly.

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Remember: Anti-lock doesn't 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 won't have time to apply your brakes if that vehicle suddenly slows or stops. Always leave enough room up ahead to stop, even though you have anti-lock brakes.

Using Anti-Lock

Don't pump the brakes. Just hold the brake pedal down firmly and let anti-lock work for you. You may feel a slight brake pedal pulsation or notice some noise, but this is normal.

Braking in Emergencies

With anti-lock, you can steer and brake at the same time. In many emergencies, steering can help you more than even the very best braking.

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

Driving on Curves

It's important to take curves at a reasonable speed.

A lot of the "driver lost control" accidents mentioned on the news happen on curves. Here's 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's no traction, inertia will keep the vehicle going in the same direction. If you've ever tried to steer a vehicle on wet ice, you'll understand this.

The traction you can get in a curve depends on the condition of your tires and the road surface, the angle at which the curve is banked, and your speed. While you're in a curve, speed is the one factor you can control.

Suppose you're 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.

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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.

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'll want to go slower.

If you need to reduce your speed as you approach a curve, do it before you enter the curve, while your 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.

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 can't; there isn't room. That's the time for evasive action -- steering around the problem.

Your vehicle can perform very well in emergencies like these. First apply your brakes. (See "Braking in Emergencies" earlier in this section.) 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.

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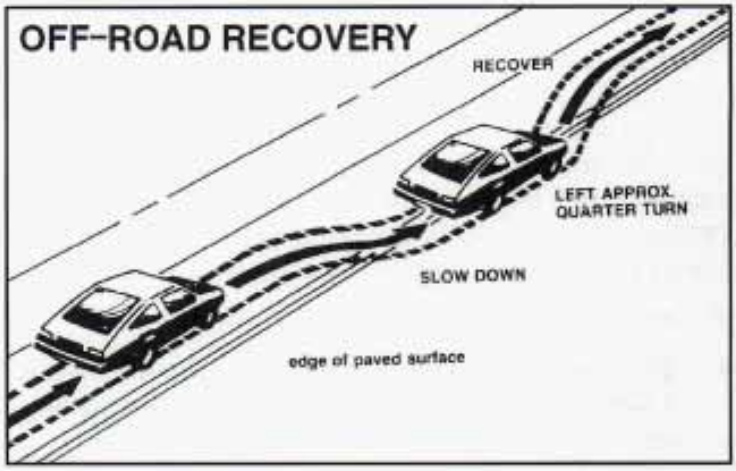
An emergency like this requires close attention and a quick decision. If you are holding the steering wheel at the recommended 9 and 3 o'clock positions, you can turn it a full 180 degrees very quickly without removing either hand. But you have to act fast, steer quickly, and just as quickly straighten 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.

Off-Road Recovery

You may find that your right wheels have dropped off the edge of a road onto the shoulder while you're 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 your steering wheel to go straight down the roadway.

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Passing

The driver of a vehicle about to pass another on a two-lane highway waits for just the right moment, accelerates, moves around the vehicle ahead, then goes back into the right lane again. A simple maneuver?

Not necessarily! Passing another vehicle on a two-lane highway is a potentially dangerous move, since the passing vehicle occupies the same lane as oncoming traffic for several seconds. A miscalculation, an error in judgment, or a brief surrender to frustration or anger can suddenly put the passing driver face to face with the worst of all traffic accidents -- the head-on collision.

So here are some tips for passing:

- "Drive ahead." Look down the road, to the sides and to crossroads for situations that might affect your passing patterns. If you have any doubt whatsoever about making a successful pass, wait for a better time.
- Watch for traffic signs, pavement markings and lines. If you can see a sign up ahead that might indicate a turn or an intersection, delay your pass. A broken center line usually indicates it's all right to pass (providing the road ahead is clear). Never cross a solid line on your side of the lane or a double solid line, even if the road seems empty of approaching traffic.
- Do not get too close to the vehicle you want to pass while you're awaiting an opportunity. For one thing, following too closely reduces your area of vision, especially if you're following a larger vehicle. Also, you won't have adequate space if the vehicle ahead suddenly slows or stops. Keep back a reasonable distance.
- When it looks like a chance to pass is coming up, start to accelerate but stay in the right lane and don't get too close. Time your move so you will be increasing speed as the time comes to move into the other lane. If the way is clear to pass, you will have a "running start" that more than makes up for the distance you would lose by dropping back. And if something happens to cause you to cancel your pass, you need only slow down and drop back again and wait for another opportunity.
- If other cars are lined up to pass a slow vehicle, wait your turn. But take care that someone isn't trying to pass you as you pull out to pass the slow vehicle. Remember to glance over your shoulder and check the blind spot.

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- Check your mirrors, glance over your shoulder, and start your left lane change signal before moving out of the right lane to pass. When you are far enough ahead of the passed vehicle to see its front in your inside mirror, activate your right lane change signal and move back into the right lane. (Remember that your right outside mirror is convex. The vehicle you just passed may seem to be farther away from you than it really is.)
- Try not to pass more than one vehicle at a time on two-lane roads. Reconsider before passing the next vehicle.
- Don't overtake a slowly moving vehicle too rapidly. Even though the brake lamps are not flashing, it may be slowing down or starting to turn.
- If you're being passed, make it easy for the following driver to get ahead of you. Perhaps you can ease a little to the right.

Loss of Control

Let's review what driving experts say about what happens when the three control systems (brakes, steering and acceleration) don't have enough friction where the tires meet the road to do what the driver has asked.

In any emergency, don't give up. Keep trying to steer and constantly seek an escape route or area of less danger.

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, your wheels aren't 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.

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.

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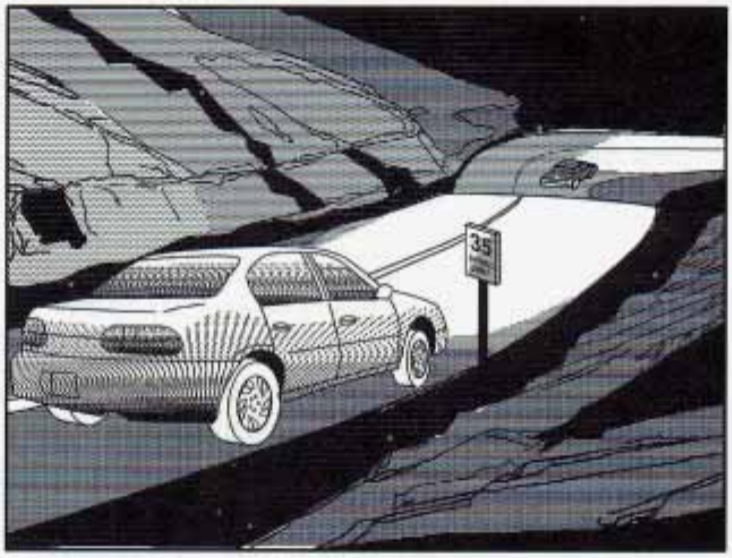
Of course, traction is reduced when water, snow, ice, gravel or other material is on the road. For safety, you'll want to slow down and adjust your driving to these conditions. It is important to slow down on slippery surfaces because stopping distance will be longer and vehicle control more limited.

While driving on a surface with reduced traction, try your best to avoid sudden steering, acceleration or braking (including engine braking 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 anti-lock brake system (ABS) helps avoid only the braking skid.

Driving at Night



Night driving is more dangerous than day driving. One reason is that some drivers are likely to be impaired -- by alcohol or drugs, with night vision problems, or by fatigue.

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Here are some tips on night driving.

- Drive defensively.
- Don't drink and drive.
- Adjust your inside rearview mirror to reduce the glare from headlamps behind you.
- Since you can't see as well, you may need to slow down and keep more space between you and other vehicles.
- Slow down, especially on higher speed roads. Your headlamps can light up only so much road ahead.
- In remote areas, watch for animals.
- If you're tired, pull off the road in a safe place and rest.

Night Vision

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 may require at least twice as much light to see the same thing at night as a 20-year-old.

What you do in the daytime can also affect your night vision. For example, if you spend the day in bright sunshine you are wise to wear sunglasses. Your eyes will have less trouble adjusting to night. But if you're driving, don't wear sunglasses at night. They may cut down on glare from headlamps, but they also make a lot of things invisible.

You can be temporarily blinded by approaching headlamps. It can take a second or two, or even several seconds, for your eyes to readjust to the dark. When you are faced with severe glare (as from a driver who doesn't lower the high beams, or a vehicle with misaimed headlamps), slow down a little. Avoid staring directly into the approaching headlamps.

Keep your windshield and all the glass on your vehicle clean -- inside and out. Glare at night is made much worse by dirt on the glass. Even the inside of the glass can build up a film caused by dust. Dirty glass makes lights dazzle and flash more than clean glass would, making the pupils of your eyes contract repeatedly.

Remember that your headlamps light up far less of a roadway when you are in a turn or curve. Keep your eyes moving; that way, it's easier to pick out dimly lighted objects. Just as your headlamps should be checked regularly for proper aim, so should your eyes be examined regularly. Some drivers suffer from night blindness -- the inability to see in dim light -- and aren't even aware of it.

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Driving in Rain and on Wet Roads

Rain and wet roads can mean driving trouble. On a wet road, you can't stop, accelerate or turn as well because your tire-to-road traction isn't as good as on dry roads. And, if your tires don't have much tread left, you'll get even less traction. It's always wise to go slower and be cautious if rain starts to fall while you are driving. The surface may get wet suddenly when your reflexes are tuned for driving on dry pavement.

The heavier the rain, the harder it is to see. Even if your windshield wiper blades are in good shape, a heavy rain can make it harder to see road signs and traffic signals, pavement markings, the edge of the road and even people walking.

It's wise to keep your windshield wiping equipment in good shape and keep your windshield washer tank filled with washer fluid. Replace your windshield wiper inserts when they show signs of streaking or missing areas on the windshield, or when strips of rubber start to separate from the inserts.

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Driving too fast through large water puddles or even going through some car washes can cause problems, too. The water may affect your brakes. Try to avoid puddles. But if you can't, try to slow down before you hit them.

⚠ CAUTION:

Wet brakes can cause accidents. They won't work as well in a quick stop and may cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car wash, apply your brake pedal lightly until your brakes work normally.

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Hydroplaning

Hydroplaning is dangerous. So much water can build up under your tires that they can actually ride on the water. This can happen if the road is wet enough and you're going fast enough. When your vehicle is hydroplaning, it has little or no contact with the road.

Hydroplaning doesn't happen often. But it can if your tires do not have much tread or if the pressure in one or more is low. It can happen if a lot of water is standing on the road. If you can see reflections from trees, telephone poles or other vehicles, and raindrops "dimple" the water's surface, there could be hydroplaning.

Hydroplaning usually happens at higher speeds. There just isn't a hard and fast rule about hydroplaning. The best advice is to slow down when it is raining.

Driving Through Deep Standing Water

NOTICE:

If you drive too quickly through deep puddles or standing water, water can come in through your engine's air intake and badly damage your engine. Never drive through water that is slightly lower than the underbody of your vehicle. If you can't avoid deep puddles or standing water, drive through them very slowly.

Some Other Rainy Weather Tips

- Besides slowing down, allow some extra following distance. And be especially careful when you pass another vehicle. Allow yourself more clear room ahead, and be prepared to have your view restricted by road spray.
- Have good tires with proper tread depth. (See "Tires" in the Index.)

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City Driving

One of the biggest problems with city streets is the amount of traffic on them. You'll want to watch out for what the other drivers are doing and pay attention to traffic signals.

Here are ways to increase your safety in city driving:

- Know the best way to get to where you are going. Get a city map and plan your trip into an unknown part of the city just as you would for a cross-country trip.
- Try to use the freeways that rim and crisscross most large cities. You'll save time and energy. (See the next part, "Freeway Driving.")
- Treat a green light as a warning signal. A traffic light is there because the corner is busy enough to need it. When a light turns green, and just before you start to move, check both ways for vehicles that have not cleared the intersection or may be running the red light.

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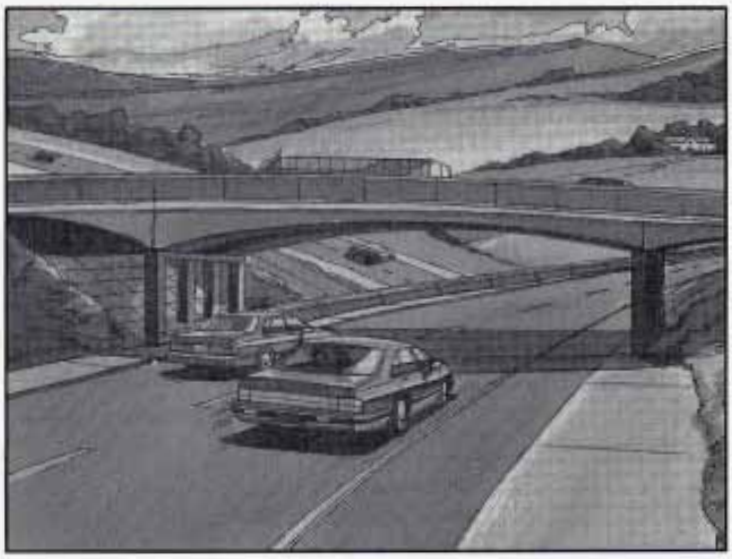
Freeway Driving



Mile for mile, freeways (also called thruways, parkways, expressways, turnpikes or superhighways) are the safest of all roads. But they have their own special rules.

The most important advice on freeway driving is: Keep up with traffic and keep to the right. Drive at the same speed most of the other drivers are driving. Too-fast or too-slow driving breaks a smooth traffic flow. Treat the left lane on a freeway as a passing lane.

At the entrance, there is usually a ramp that leads to the freeway. If you have a clear view of the freeway as you drive along the entrance ramp, you should begin to check traffic. Try to determine where you expect to blend with the flow. Try to merge into the gap at close to the prevailing speed. Switch on your turn signal, check your mirrors and glance over your shoulder as often as necessary. Try to blend smoothly with the traffic flow.

Once you are on the freeway, adjust your speed to the posted limit or to the prevailing rate if it's slower. Stay in the right lane unless you want to pass.

Before changing lanes, check your mirrors. Then use your turn signal.

Just before you leave the lane, glance quickly over your shoulder to make sure there isn't another vehicle in your "blind" spot.

Once you are moving on the freeway, make certain you allow a reasonable following distance. Expect to move slightly slower at night.

When you want to leave the freeway, move to the proper lane well in advance. If you miss your exit, do not, under any circumstances, stop and back up. Drive on to the next exit.

The exit ramp can be curved, sometimes quite sharply.

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The exit speed is usually posted.

Reduce your speed according to your speedometer, not to your sense of motion. After driving for any distance at higher speeds, you may tend to think you are going slower than you actually are.

Before Leaving on a Long Trip

Make sure you're ready. Try to be well rested. If you must start when you're not fresh -- such as after a day's work -- don't plan to make too many miles that first part of the journey. Wear comfortable clothing and shoes you can easily drive in.

Is your vehicle ready for a long trip? If you keep it serviced and maintained, it's ready to go. If it needs service, have it done before starting out. Of course, you'll find experienced and able service experts in Oldsmobile retail facilities all across North America. They'll be ready and willing to help if you need it.

Here are some things you can check before a trip:

- *Windshield Washer Fluid:* Is the reservoir full? Are all windows clean inside and outside?
- *Wiper Blades:* Are they in good shape?
- *Fuel, Engine Oil, Other Fluids:* Have you checked all levels?
- *Lamps:* Are they all working? Are the lenses clean?
- *Tires:* They are vitally important to a safe, trouble-free trip. Is the tread good enough for long-distance driving? Are the tires all inflated to the recommended pressure?
- *Weather Forecasts:* What's the weather outlook along your route? Should you delay your trip a short time to avoid a major storm system?
- *Maps:* Do you have up-to-date maps?

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Highway Hypnosis

Is there actually such a condition as "highway hypnosis"? Or is it just plain falling asleep at the wheel? Call it highway hypnosis, lack of awareness, or whatever.

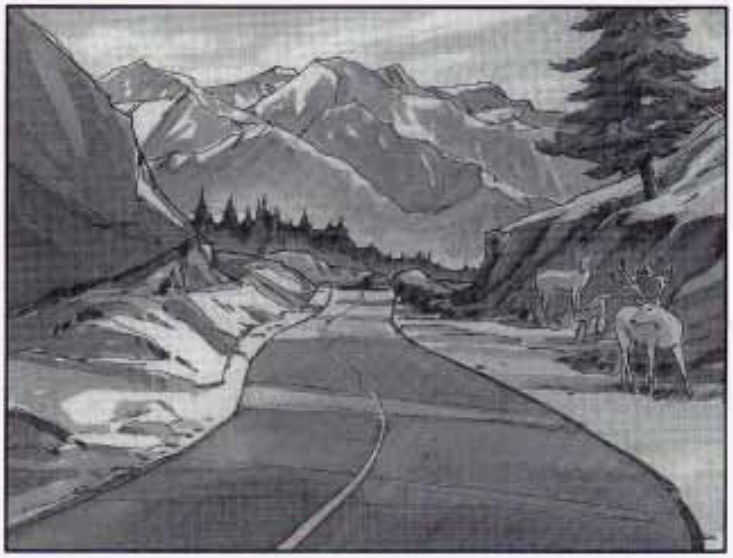
There is something about an easy stretch of road with the same scenery, along with the hum of the tires on the road, the drone of the engine, and the rush of the wind against the vehicle that can make you sleepy. Don't let it happen to you! If it does, your vehicle can leave the road in *less than a second*, and you could crash and be injured.

What can you do about highway hypnosis? First, be aware that it can happen.

Then here are some tips:

- Make sure your vehicle is well ventilated, with a comfortably cool interior.
- Keep your eyes moving. Scan the road ahead and to the sides. Check your rearview mirrors and your instruments frequently.
- If you get sleepy, pull off the road into a rest, service or parking area and take a nap, get some exercise, or both. For safety, treat drowsiness on the highway as an emergency.

Hill and Mountain Roads



Driving on steep hills or mountains is different from driving in flat or rolling terrain.

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If you drive regularly in steep country, or if you're planning to visit there, here are some tips that can make your trips safer and more enjoyable.

- Keep your vehicle in good shape. Check all fluid levels and also the brakes, tires, cooling system and transaxle. These parts can work hard on mountain roads.
- Know how to go down hills. The most important thing to know is this: let your engine do some of the slowing down. Shift to a lower gear when you go down a steep or long hill.

⚠ CAUTION:

If you don't shift down, your brakes could get so hot that they wouldn't work well. You would then have poor braking or even none going down a hill. You could crash. Shift down to let your engine assist your brakes on a steep downhill slope.

⚠ CAUTION:

Coasting downhill in NEUTRAL (N) or with the ignition off is dangerous. Your brakes will have to do all the work of slowing down. They could get so hot that they wouldn't work well. You would then have poor braking or even none going down a hill. You could crash. Always have your engine running and your vehicle in gear when you go downhill.

- Know how to go uphill. Drive in the highest gear possible.
- Stay in your own lane when driving on two-lane roads in hills or mountains. Don't swing wide or cut across the center of the road. Drive at speeds that let you stay in your own lane.
- As you go over the top of a hill, be alert. There could be something in your lane, like a stalled car or an accident.
- You may see highway signs on mountains that warn of special problems. Examples are long grades, passing or no-passing zones, a falling rocks area or winding roads. Be alert to these and take appropriate action.

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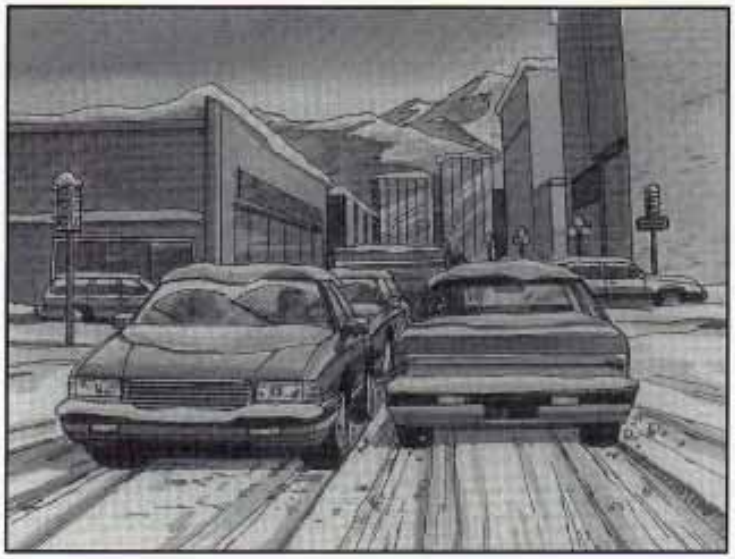
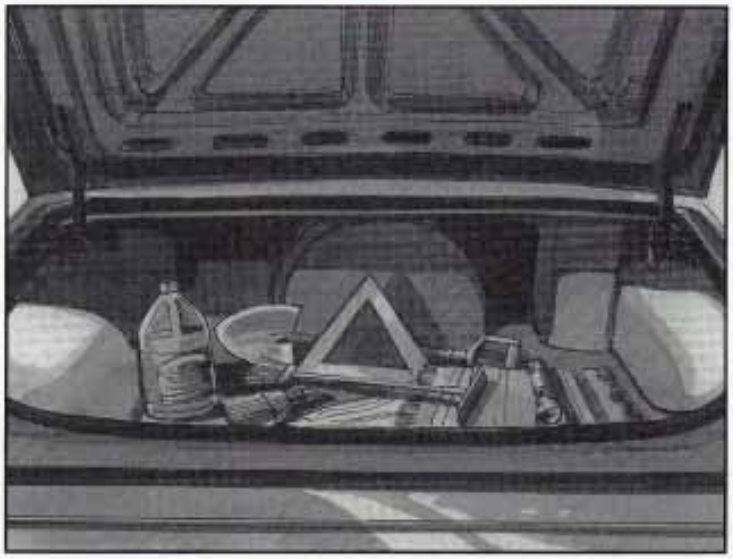
Winter Driving



Here are some tips for winter driving:

- Have your vehicle in good shape for winter.
- You may want to put winter emergency supplies in your trunk.



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.

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Driving on Snow or Ice

Most of the time, those places where your tires meet the road probably have good traction.

However, if there is snow or ice between your tires and the road, you can have a very slippery situation. You'll have a lot less traction or "grip" and will need to be very careful.

What's 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 may offer the least traction of all. You can get wet ice when it's 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. Accelerate gently. Try not to break the fragile traction. If you accelerate too fast, the drive wheels will spin and polish the surface under the tires even more.

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Your anti-lock brakes improve your vehicle's stability when you make a hard stop on a slippery road. Even though you have the anti-lock braking system, you'll want to begin stopping sooner than you would on dry pavement. See "Anti-Lock" in the Index.

- Allow greater following distance on any slippery road.
- Watch for slippery spots. The road might be fine until you hit a spot that's covered with ice. On an otherwise clear road, ice patches may appear in shaded areas where the sun can't reach: around clumps of trees, behind buildings or under bridges. Sometimes the surface of a curve or an overpass may 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're actually on the ice, and avoid sudden steering maneuvers.

If You're 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 your hazard flashers.

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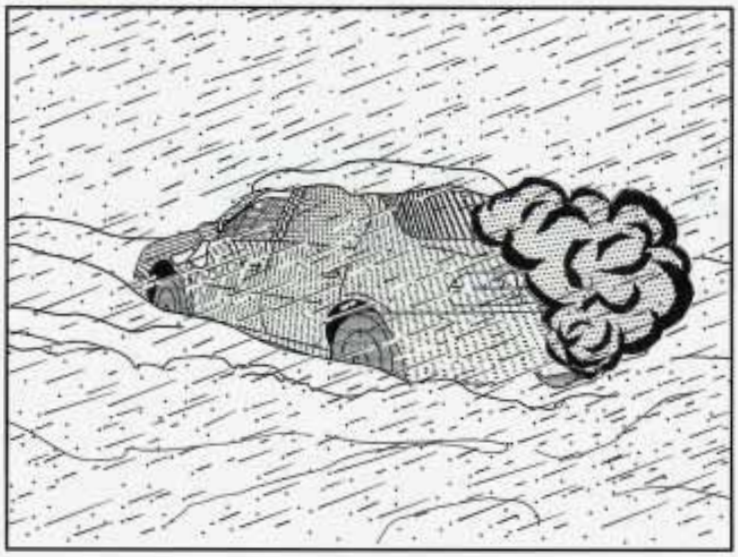
- Tie a red cloth to your vehicle to alert police that you've been stopped by the snow.
- Put on extra clothing or wrap a blanket around you. If you have no blankets or extra clothing, make body insulators from newspapers, burlap bags, rags, floor mats -- anything you can wrap around yourself or tuck under your clothing to keep warm.



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 can't 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 your exhaust pipe. And check around again from time to time to be sure snow doesn't collect there.

Open a window just a little on the side of the vehicle that's away from the wind. This will help keep CO out.

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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 your headlamps. Let the heater run for a while.

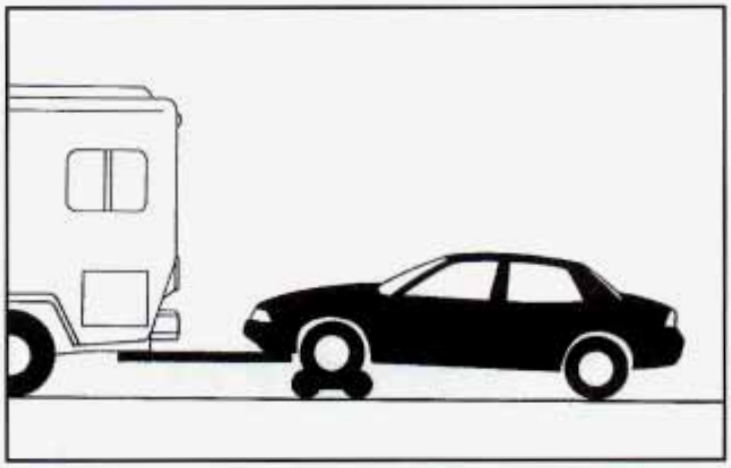
Then, shut the engine off and close the window almost all the way to preserve the heat. Start the engine again and repeat this only when you feel really uncomfortable from the cold. But do it as little as possible. Preserve the fuel as long as you can. To help keep warm, you can get out of the vehicle and do some fairly vigorous exercises every half hour or so until help comes.

Recreational Vehicle Towing

You can tow your vehicle behind another vehicle for use at your destination. Be sure to use the proper towing equipment designed for recreational towing. Follow the instructions for the towing equipment.

Towing Your Vehicle from the Front

There are two ways to tow your vehicle from the front.



To tow your vehicle with a dolly, follow these steps:

1. Put the front wheels on a dolly.
2. Put the vehicle in PARK (P).
3. Set the parking brake and then remove the key.
4. Clamp the steering wheel in a straight-ahead position with a clamping device designed for towing.
5. Release the parking brake.

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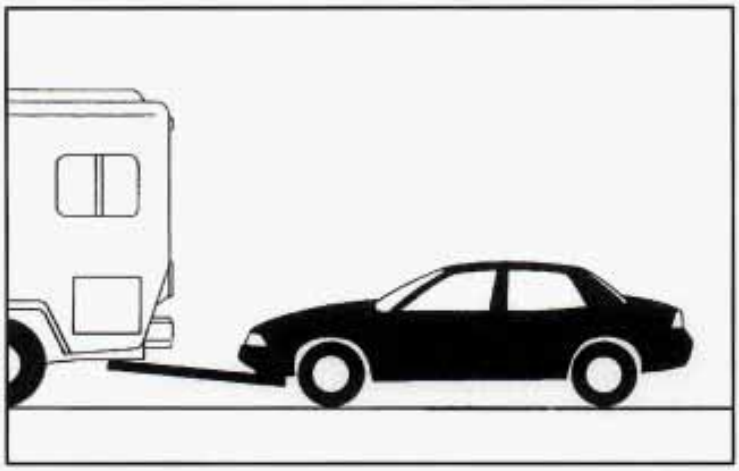
To tow your vehicle with all four wheels on the ground, follow these steps:



1. Position the vehicle to tow and then secure it.
2. Turn the ignition switch to OFF.
3. Set the parking brake.
4. Remove the following fuses from the left side of the instrument panel fuse block: A) Radio, B) Wiper, H) Powertrain Control Module, K) Body Function Control Module, Cluster. This will prevent your battery from draining while towing. See "Instrument Panel Fuse Block - Left" in Section 6 for the location of these fuses.
5. Turn the ignition switch to ACC.
6. Shift your transaxle to NEUTRAL (N).
7. Release the parking brake.

Remember to replace the fuses once you reach your destination. To replace a fuse:

1. Set the parking brake.
2. Remove the key from the ignition switch.
3. Replace the fuse.

NOTICE:

Make sure that the towing speed does not exceed 65 mph (105 km/h), or your vehicle could be badly damaged.

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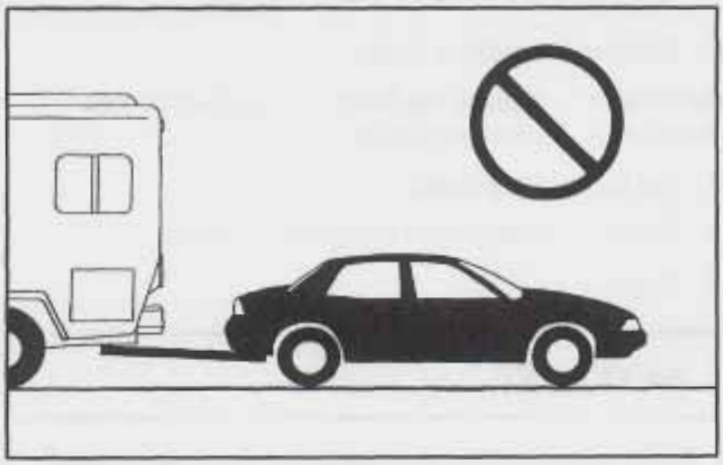
Towing Your Vehicle from the Rear



NOTICE:

Do not tow your vehicle from the rear. Your vehicle could be badly damaged and the repairs would not be covered by your warranty.

Loading Your Vehicle

TIRE-LOADING INFORMATION
OCCUPANTS VEHICLE CAP. WT.
FRT. CTR. RR. TOTAL LBS. KG

MAX. LOADING & GVWR SAME AS VEHICLE
CAPACITY WEIGHT XXX COLD TIRE
TIRE SIZE SPEED RTG PRESSURE PSI/KPa
FRT.
RR.
SPA.
IF TIRES ARE HOT, ADD 4PSI/28KPa
SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION

Two labels on your vehicle show how much weight it may properly carry. The Tire-Loading Information label found on the rear edge of the driver's side rear passenger door tells you the proper size, speed rating and recommended inflation pressures for the tires on your vehicle. It also gives you important information about the number of people that can be in your vehicle and the total weight that you can carry. This weight is called the Vehicle Capacity Weight, and includes the weight of all occupants, cargo and all nonfactory-installed options.

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MFD BY GENERAL MOTORS CORP
DATE GVWR GAWR FRT GAWR RR

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

The other label is the Certification label, found on the rear edge of the driver's door. It tells you the gross weight capacity of your vehicle, called the GVWR (Gross Vehicle Weight Rating). The GVWR includes the weight of the vehicle, all occupants, fuel and cargo. Never exceed the GVWR for your vehicle, or the Gross Axle Weight Rating (GAWR) for either the front or rear axle.

And, if you do have a heavy load, you should spread it out. Don't carry more than 132 lbs. (60 kg) in your trunk.

⚠ CAUTION:

Do not load your vehicle any heavier than the GVWR, or either the maximum front or rear GAWR. If you do, parts on your vehicle can break, or it can change the way your vehicle handles. These could cause you to lose control. Also, overloading can shorten the life of your vehicle.

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⚠ 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 trunk of your vehicle. In a trunk, put them as far forward as you can. 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.**
- **Don't leave an unsecured child restraint in your vehicle.**
- **When you carry something inside the vehicle, secure it whenever you can.**
- **Don't leave a seat folded down unless you need to.**

Towing a Trailer

⚠ CAUTION:

If you don't 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 retailer for advice and information about towing a trailer with your vehicle.

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Your vehicle can tow a trailer if it is equipped with the proper trailer towing equipment. To identify what the vehicle trailering capacity is for your vehicle, you should read the information in "Weight of the Trailer" that appears later in this section. But trailering is different than just driving your vehicle by itself. Trailering means changes in handling, 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.

Load-pulling components such as the engine, transaxle, wheel assemblies and tires are forced to work harder against the drag of the added weight. The engine is required to operate at relatively higher speeds and under greater loads, generating extra heat. What's more, the trailer adds considerably to wind resistance, increasing the pulling requirements.

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. You can ask a hitch dealer about sway controls.
- Don't tow a trailer at all during the first 1,000 miles (1 600 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.
- Obey speed limit restrictions when towing a trailer. Don't drive faster than the maximum posted speed for trailers (or no more than 55 mph (90 km/h)) to save wear on your vehicle's parts.

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Three important considerations have to do with weight:

- the weight of the trailer,
- the weight of the trailer tongue
- and the total weight on your vehicle's tires.

Weight of the Trailer

How heavy can a trailer safely be?

It should never weigh more than 1,000 lbs. (450 kg). But even that can be too heavy.

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. And, it can also depend on any special equipment that you have on your vehicle.

You can ask your retailer for our trailering information or advice, or you can write us at:

Oldsmobile Customer Assistance Center
P.O. Box 30095
Lansing, MI 48909

In Canada, write to:

General Motors of Canada Limited
Customer Communication Centre
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Weight of the Trailer Tongue

The tongue load (A) of any trailer is an important weight to measure because it affects the total or 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. And if you 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" in the Index for more information about your vehicle's maximum load capacity.

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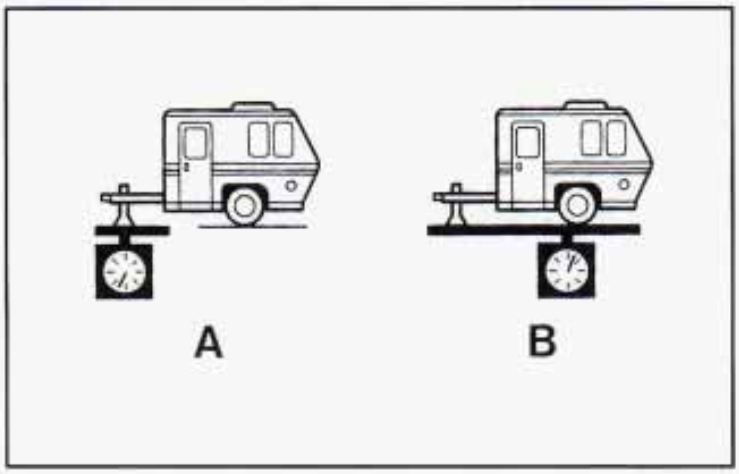

If you're using a weight-carrying hitch, the trailer tongue (A) should weigh 10 percent of the total loaded trailer weight (B). If you have a weight-distributing hitch, the trailer tongue (A) should weigh 12 percent of the total loaded trailer weight (B).

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 label at the rear edge of the driver's door or see "Loading Your Vehicle" in the Index. Then be sure you don't go over the GVW limit for your vehicle, including the weight of the trailer tongue.

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. Here are some rules to follow:

- The rear bumper on your vehicle is not intended for hitches. Do not attach rental hitches or other bumper-type hitches to it. Use only a frame-mounted hitch that does not attach to the bumper.
- Will you have to make any holes in the body of your vehicle when you install a trailer hitch? If you do, then be sure to seal the holes later when you remove the hitch. If you don't seal them, deadly carbon monoxide (CO) from your exhaust can get into your vehicle (see "Carbon Monoxide" in the Index). Dirt and water can, too.

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Safety Chains

You should always attach chains between your vehicle and your trailer. Cross the safety chains under the tongue of the trailer so that the tongue will not drop to the road if it becomes separated from the hitch. Instructions about safety chains may be provided by the hitch manufacturer or by the trailer manufacturer. Follow the manufacturer's recommendation for attaching safety chains and do not attach them to the bumper. Always leave just enough slack so you can turn with your rig. And, never allow safety chains to drag on the ground.

Trailer Brakes

Does your trailer have its own brakes?

Be sure to read and follow the instructions for the trailer brakes so you'll be able to install, adjust and maintain them properly. And because you have anti-lock brakes, do not try to tap into your vehicle's brake system. If you do, both systems won't work well, or at all.

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 the trailer hitch and platform (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.

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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. And, 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.

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Turn Signals When Towing a Trailer

When you tow a trailer, your vehicle may need additional wiring. Check with your retailer. The green 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 green 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.

Driving On Grades

NOTICE:

Do not tow on steep continuous grades exceeding 6 miles (9.6 km). Extended, higher than normal engine and transaxle temperatures may result and damage your vehicle. Frequent stops are very important to allow the engine and transaxle to cool.

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.

On a long uphill grade, shift down and reduce your speed to around 45 mph (70 km/h) to reduce the possibility of engine and transaxle overheating.

Pay attention to the engine coolant gage. If the indicator is in the red area, turn off the air conditioning to reduce engine load (see "Engine Overheating" in the Index).

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Parking on Hills

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.
2. Have someone place chocks under the trailer wheels.
3. When the 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).
5. Release the regular brakes.

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.

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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 transaxle fluid (don't overfill), engine oil, drive belt, cooling system and brake adjustment. 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.

Engine Cooling When Trailer Towing

Your cooling system may temporarily overheat during severe operating conditions. See "Engine Overheating" in the Index.

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Section 5 Problems on the Road

Here you'll find what to do about some problems that can occur on the road.

5-2 Hazard Warning Flashers
5-2 Other Warning Devices
5-3 Jump Starting
5-8 Towing Your Vehicle
5-12 Engine Overheating
5-15 Cooling System
5-22 If a Tire Goes Flat
5-22 Changing a Flat Tire
5-32 Compact Spare Tire
5-33 If You're Stuck: In Sand, Mud, Ice or Snow

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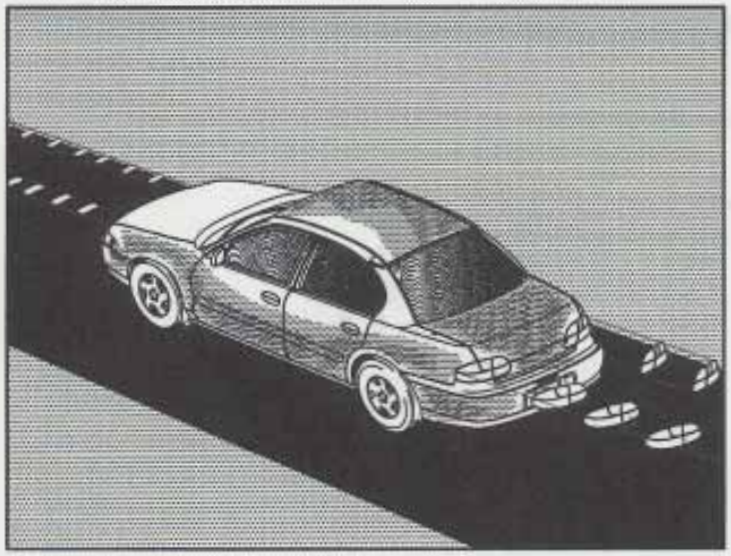
Hazard Warning Flashers



Your hazard warning flashers let you warn others. They also let police know you have a problem. Your front and rear turn signal lamps will flash on and off.

Press the switch once to turn your hazard flashers on. The switch will flash when activated.

Your hazard warning flashers work no matter what position your key is in, and even if the key isn't in.

To turn off the flashers, press the switch again.

When the hazard warning flashers are on, your turn signals won't work.

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.

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Jump Starting

If your battery has run down, you may want to use another vehicle and some jumper cables to start your vehicle. But please follow the steps here 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 don't 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 wouldn't be covered by your warranty.

Trying to start your vehicle by pushing or pulling it won't 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 system isn't a 12-volt system with a negative ground, both vehicles can be damaged.

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2. Get the vehicles close enough so the jumper cables can reach, but be sure the vehicles aren't touching each other. If they are, it could cause a ground connection you don't want. You wouldn't be able to start your vehicle, and the bad grounding could damage the electrical systems.

   You could be injured if the vehicles roll. Set the parking brake firmly on each vehicle. Put the transaxle in PARK (P).

3. Turn off the ignition on both vehicles. Unplug unnecessary accessories plugged into the cigarette lighter or the accessory power outlet. Turn off all lamps that aren't needed, as well as radios. This will avoid sparks and help save both batteries. In addition, it could save your radio.

NOTICE:

Do not leave your radio on while trying to jump start your vehicle. The radio could be badly damaged and the repairs wouldn't be covered by your warranty. Be sure to turn off your radio before following this procedure.

4. Open the hoods and locate the batteries.

⚠ CAUTION:

An electric fan can start up even when the engine is not running and can injure you. Keep hands, clothing and tools away from any underhood electric fan.

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5. Find the positive (+) and negative (-) terminals on each battery.

⚠ 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 battery has enough water. You don't need to add water to the ACDelco Freedom® battery installed in every new GM 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 don't, explosive gas could be present.

Battery fluid contains acid that can burn you. Don't 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.

6. Check that the jumper cables don't 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 things you should know. Positive (+) will go to positive (+) and negative (-) will go to negative (-) or a metal engine part. Don't connect positive (+) to negative (-) or you'll get a short that would damage the battery and maybe other parts, too.

⚠ CAUTION:

Fans or other moving engine parts can injure you badly. Keep your hands away from moving parts once the engine is running.

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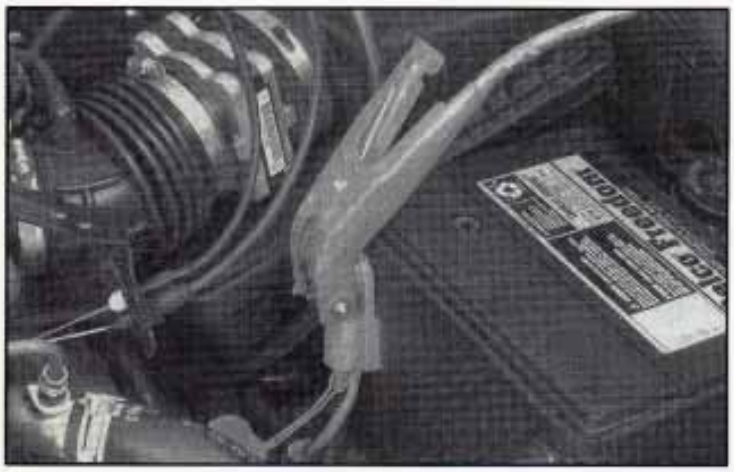

7. Connect the positive (+) cable to the positive (+) terminal of the vehicle with the dead battery. Use a remote positive (+) terminal if the vehicle has one.

8. Don't 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.

9. Now connect the black negative (-) cable to the good battery's negative (-) terminal. Don't let the other end touch anything until the next step. The other end of the negative cable *doesn't* go to the dead battery.

It goes to a heavy unpainted metal part on the engine of the vehicle with the dead battery.

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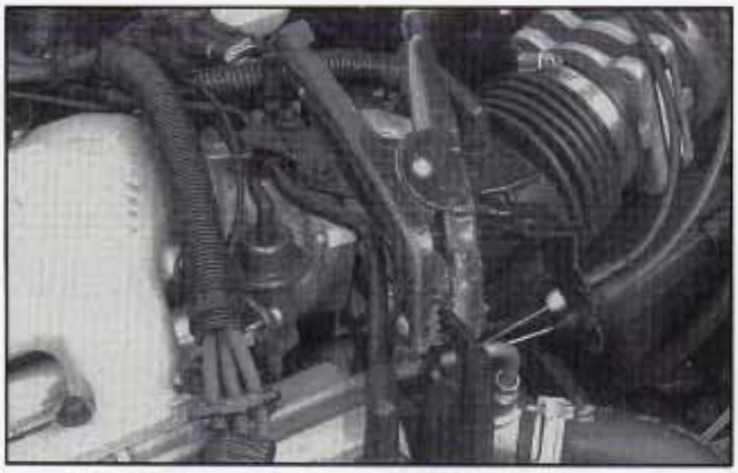
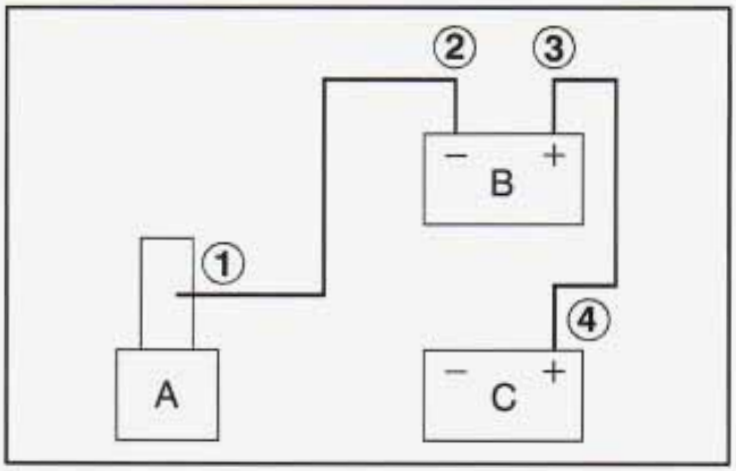


10. Attach the cable at least 18 inches (45 cm) away from the dead battery, but not near engine parts that move. The electrical connection is just as good there, but the chance of sparks getting back to the battery is much less.
11. Now start the vehicle with the good battery and run the engine for a while.
12. Try to start the vehicle with the dead battery. If it won't start after a few tries, it probably needs service.
13. Remove the cables in reverse order to prevent electrical shorting. Take care that they don't touch each other or any other metal.



A. Heavy Metal Engine Part

B. Good Battery

C. Dead Battery

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Towing Your Vehicle

Try to have a retailer or a professional towing service tow your vehicle. They can provide the right equipment and know-how to tow your vehicle without damage. (See "Roadside Assistance" in the Index.)

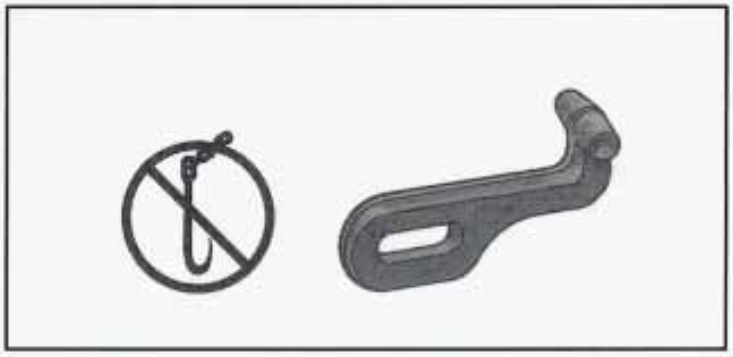
If your vehicle has been changed or modified since it was factory-new by adding aftermarket items like fog lamps, aero skirting, or special tires and wheels, these instructions and illustrations may not be correct.

Before you do anything, turn on the hazard warning flashers.

When you call, tell the towing service:

- That your vehicle cannot be towed from the front or rear with sling-type equipment, as described later in this section.
- That your vehicle cannot be towed from the rear with the front wheels on the ground.
- That your vehicle has front-wheel drive.
- The make, model and year of your vehicle.
- Whether you can still move the shift lever.
- If there was an accident, what was damaged.

When the towing service arrives, let the tow operator know that this manual contains detailed towing instructions and illustrations. The operator may want to see them.



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⚠ CAUTION:

To help avoid injury to you or others:

- **Never let passengers ride in a vehicle that is being towed.**
- **Never tow faster than safe or posted speeds.**
- **Never tow with damaged parts not fully secured.**
- **Never get under your vehicle after it has been lifted by the tow truck.**
- **Always secure the vehicle on each side with separate safety chains when towing it.**
- **Never use J-hooks. Use T-hooks instead.**

⚠ CAUTION:

A vehicle can fall from a car carrier if it isn't adequately secured. This can cause a collision, serious personal injury and vehicle damage. The vehicle should be tightly secured with chains or steel cables before it is transported.

Don't use substitutes (ropes, leather straps, canvas webbing, etc.) that can be cut by sharp edges underneath the towed vehicle. Always use T-hooks inserted in the T-hook slots. Never use J-hooks. They will damage drivetrain and suspension components.

When your vehicle is being towed, turn the ignition key to ACC. The steering wheel should be clamped in a straight-ahead position, with a clamping device designed for towing service. The transaxle should be in NEUTRAL (N) and the parking brake released.

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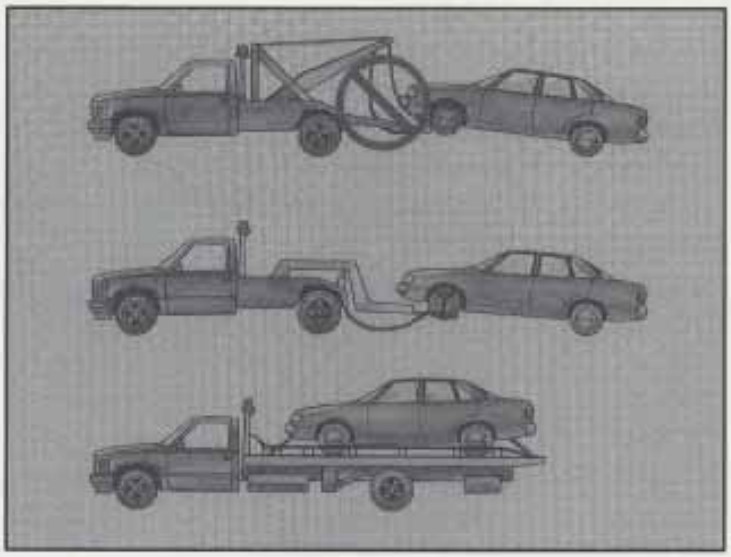
Front Towing



NOTICE:

Do not tow with sling-type equipment or fascia damage will occur. Use wheel-lift or car-carrier equipment. Additional ramping may be required for car-carrier equipment. Use safety chains and wheel straps.

NOTICE: (Continued)

NOTICE: (Continued)

Towing a vehicle over rough surfaces could damage a vehicle. Damage can occur from vehicle to ground or vehicle to wheel-lift equipment. To help avoid damage, install a towing dolly and raise the vehicle until adequate clearance is obtained between the ground and/or wheel-lift equipment.

Do not attach winch cables or J-hooks to suspension components when using car-carrier equipment. Always use T-hooks inserted in the T-hook slots.

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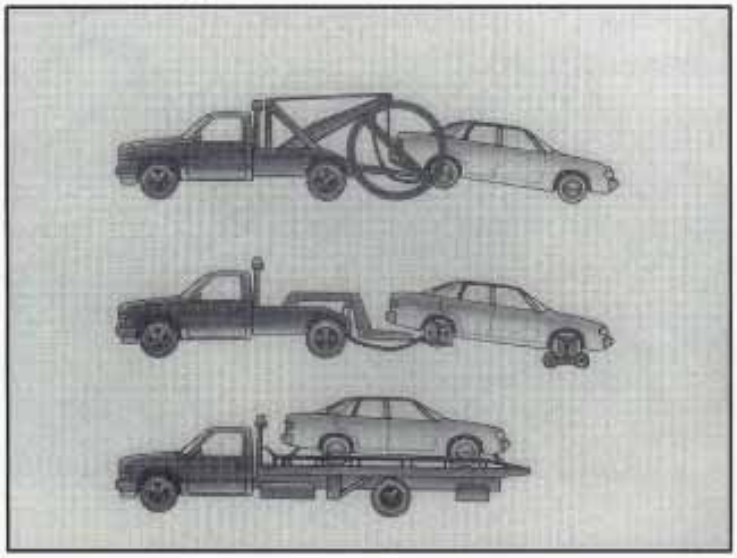
Rear Towing



NOTICE:

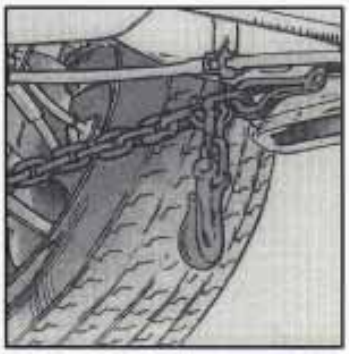
Do not tow with sling-type equipment or the rear bumper valance will be damaged. Use wheel-lift or car-carrier equipment. Additional ramping may be required for car-carrier equipment. Use safety chains and wheel straps.

NOTICE: (Continued)

NOTICE: (Continued)

Towing a vehicle over rough surfaces could damage a vehicle. Damage can occur from vehicle to ground or vehicle to wheel-lift equipment. To help avoid damage, install a towing dolly and raise the vehicle until adequate clearance is obtained between the ground and/or wheel-lift equipment.

Do not attach winch cables or J-hooks to suspension components when using car-carrier equipment. Always use T-hooks inserted in the T-hook slots.



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Engine Overheating

You will find a coolant temperature gage on your vehicle's instrument panel. See "Engine Coolant Temperature Gage" in the Index. You will also find a low coolant level warning light on your vehicle's instrument panel. See "Low Coolant Warning Light" in the Index.

If Steam Is Coming From Your Engine

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⚠ 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.

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If No Steam Is Coming From Your Engine

If you get the 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.

If you get the overheat warning with no sign of steam, try this for a minute or so:

1. Turn off your air conditioner.
2. Turn on your heater to full hot at the highest fan speed and open the window as necessary.
3. If you're in a traffic jam, shift to NEUTRAL (N); otherwise, shift to the highest gear while driving -- AUTOMATIC OVERDRIVE (D) or THIRD (3).

If you no longer have the overheat warning, you can drive. Just to be safe, drive slower for about 10 minutes. If the warning doesn't come back on, you can drive normally.

If the warning continues, pull over, stop, and park your vehicle right away.

If there's still no sign of steam, you can idle the engine for two or three minutes while you're parked, to see if the warning stops. But then, 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.

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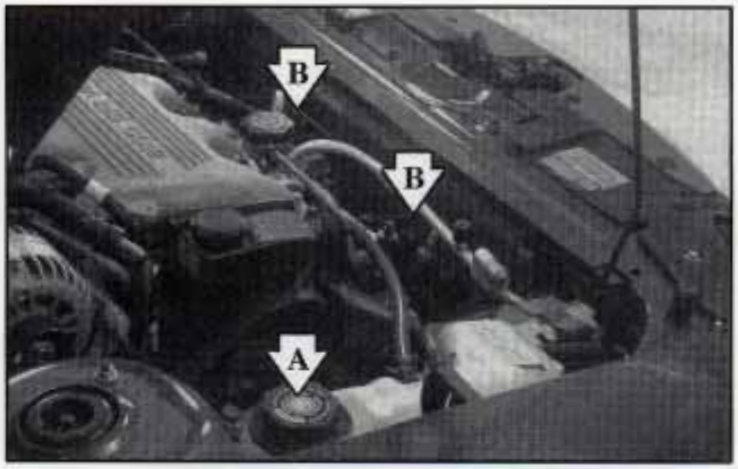
Cooling System

When you decide it's safe to lift the hood, here's what you'll see:



A. Coolant Surge Tank with Pressure Cap

B. Electric Engine Cooling Fans

⚠ CAUTION:

An electric engine cooling fan under the hood can start up even when the engine is not running and can injure you. Keep hands, clothing and tools away from any underhood electric fan.

If the coolant inside the coolant surge tank is boiling, don't do anything else until it cools down.

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The coolant level should be at or above FULL COLD mark or slightly higher.

If it isn't, you may have a leak 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. Don't touch them. If you do, you can be burned.

Don't run the engine if there is a leak. If you run the engine, it could lose all coolant. That could cause an engine fire, and you could be burned. Get any leak fixed before you drive the vehicle.

NOTICE:

Engine damage from running your engine without coolant isn't covered by your warranty.

If there seems to be no leak, with the engine on, check to see if the electric engine cooling fans are running. If the engine is overheating, both fans should be running. If they aren't, your vehicle needs service.

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How to Add Coolant to the Coolant Surge Tank

If you haven't found a problem yet, but the coolant level isn't at FULL COLD mark or slightly higher, add a 50/50 mixture of *clean water* (preferably distilled) and DEX-COOL® coolant at the coolant surge tank, but be sure the cooling system, including the coolant surge tank pressure cap, is cool before you do it. (See "Engine Coolant" in the Index for more information.)

⚠ 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 coolant surge tank pressure cap -- even a little -- they can come out at high speed. Never turn the cap when the cooling system, including the coolant surge tank pressure cap, is hot. Wait for the cooling system and coolant surge tank pressure cap to cool if you ever have to turn the pressure cap.

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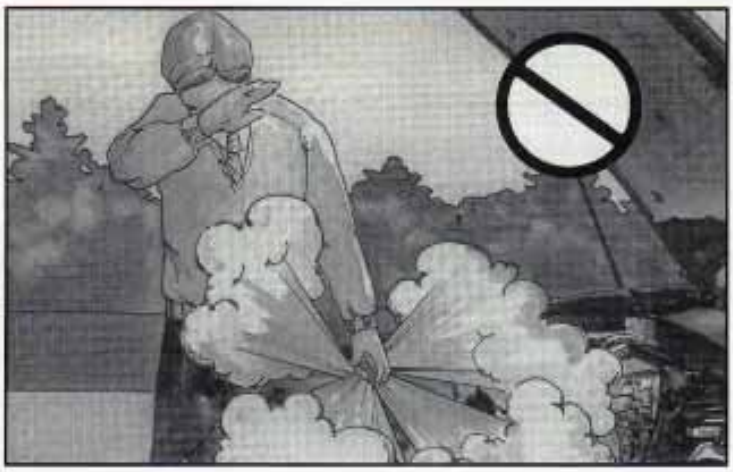

⚠ CAUTION:

Adding only plain water to your cooling system can be dangerous. Plain water, or some other liquid like 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 wouldn't get the overheat warning. Your engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean water and DEX-COOL® coolant.

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NOTICE:

In cold weather, water can freeze and crack the engine, radiator, heater core and other parts. So use the recommended coolant.

⚠ 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. Don't spill coolant on a hot engine.

1. You can remove the coolant surge tank pressure cap when the cooling system, including the coolant surge tank pressure cap and upper radiator hose, is no longer hot. Turn the pressure cap slowly about one-quarter turn to the left and then stop.

   If you hear a hiss, wait for that to stop. A hiss means there is still some pressure left.

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2. Then keep turning the pressure cap slowly, and remove it.

3. Then fill the coolant surge tank with the proper mixture, up to FULL COLD mark or slightly higher.

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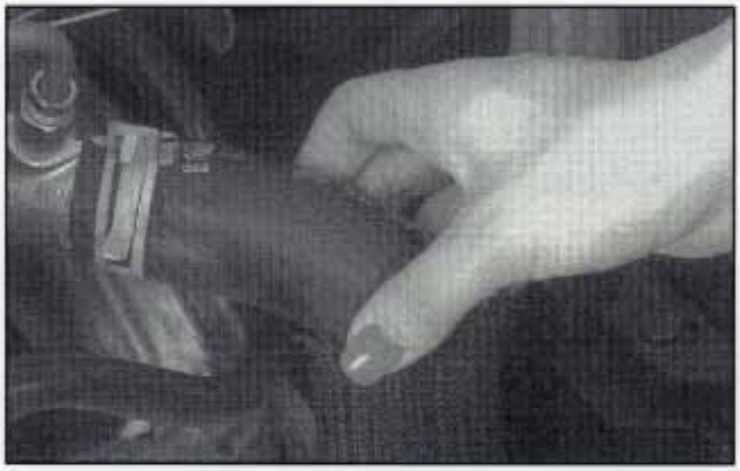

4. With the coolant surge tank pressure cap off, start the engine and let it run until you can feel the upper radiator hose getting hot. Watch out for the engine cooling fans.

   By this time, the coolant level inside the coolant surge tank may be lower. If the level is lower, add more of the proper mixture to the coolant surge tank until the level reaches FULL COLD.

5. Then replace the pressure cap. Be sure the pressure cap is tight.

   Check the level in the surge tank when the cooling system has cooled down. If the coolant isn't at the proper level, repeat Steps 1 to 3 and reinstall the pressure cap or see your retailer.

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If a Tire Goes Flat

It's unusual for a tire to "blow out" while you're driving, especially if you maintain your tires properly. If air goes out of a tire, it's 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 will create 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'd 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.

If a tire goes flat, the next part shows how to use your jacking equipment to change a flat tire safely.

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 cause an injury. The vehicle can slip off the jack and roll over you or other people. You and they could be badly injured. Find a level place to 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. **Turn off the engine.**

To be even more certain the vehicle won't move, you can 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 of the vehicle, at the opposite end.

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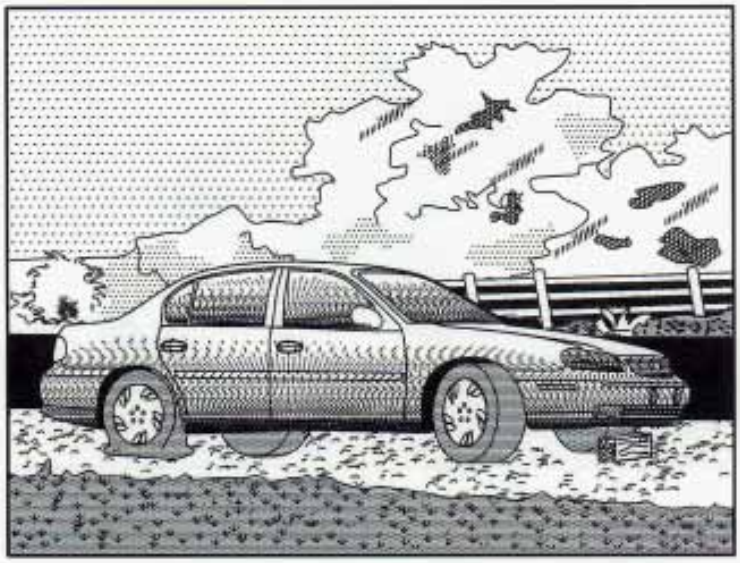

The following steps will tell you how to use the jack and change a tire.

Removing the Spare Tire and Tools

The equipment you'll need is in the trunk. Turn the center retainer nut on the compact spare cover to the left to remove it.

Lift and remove the cover. (See "Compact Spare Tire" later in this section for more information about the compact spare.) You will find the jacking instructions label on the underside of the tire cover.

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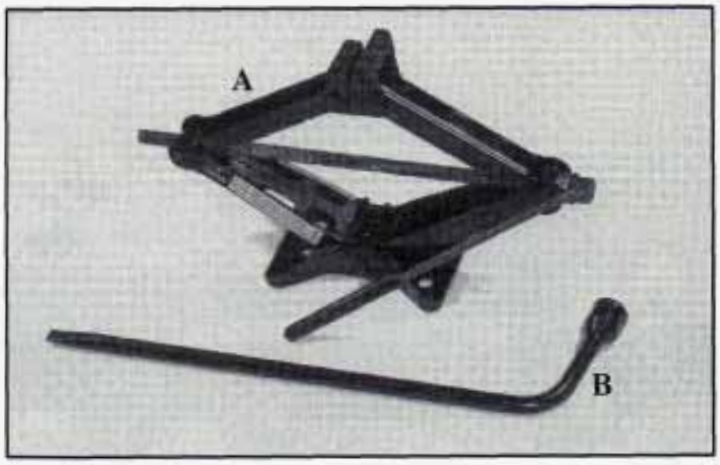
Turn the wing nut to the left and remove it. Then lift off the adapter and remove the spare tire.

Remove the jack and wheel wrench from the trunk. Your vehicle's jack and wheel wrench are stored in a foam tray.



The tools you'll be using include the jack (A) and wheel wrench (B).

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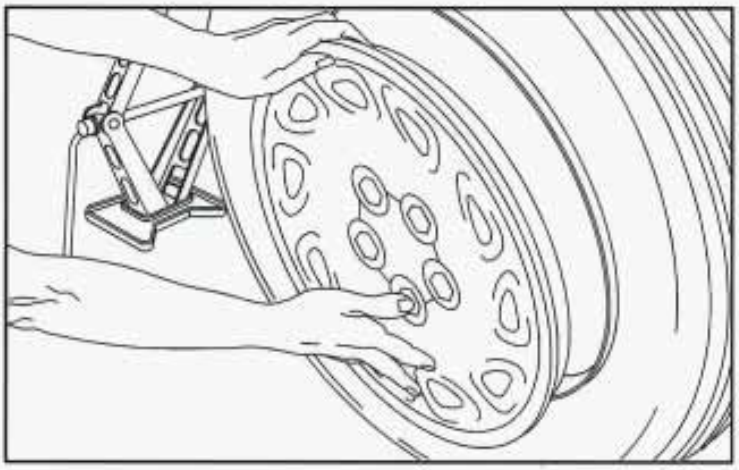
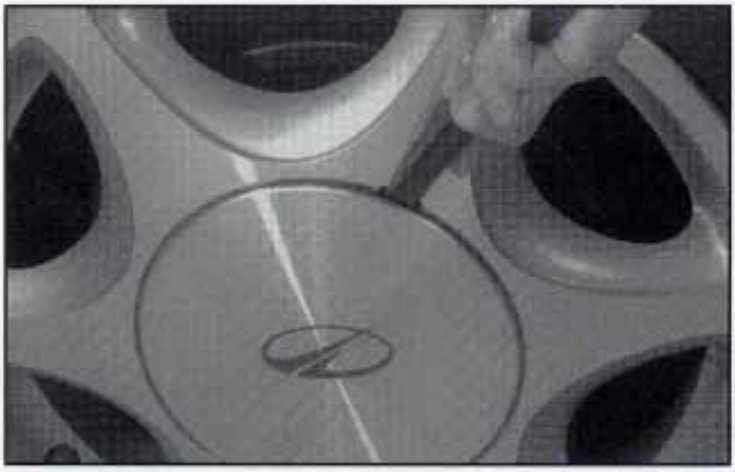
Removing the Flat Tire and Installing the Spare Tire

1. On vehicles equipped with steel wheel covers, do not try to remove the nut caps from the wheel cover. Give the cover a sharp pull or gently pry on the edge of the cover to remove it from the wheel.





2. Some models are equipped with aluminum wheels. Remove the cover plate to find the wheel nuts. Carefully use the wedge end of the wheel wrench to pry it off.

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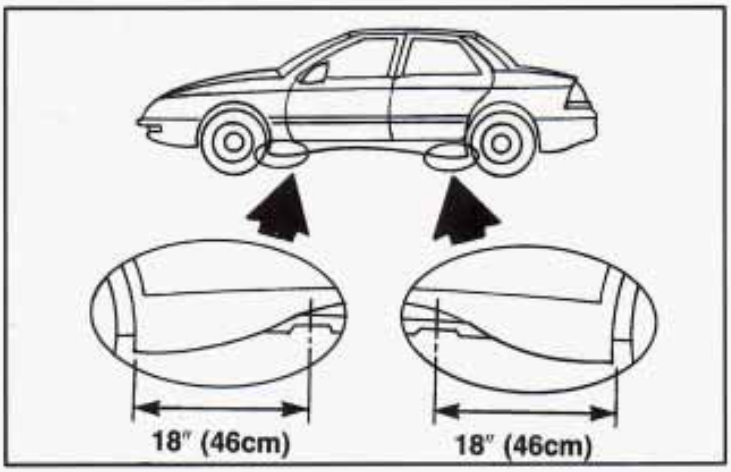
3. Then use the wheel wrench to *loosen* all the wheel nuts. Don't remove them yet.



4. Position the jack and raise the jack head until it fits firmly into the notch in the vehicle's frame nearest the flat tire. Put the compact spare tire near you.

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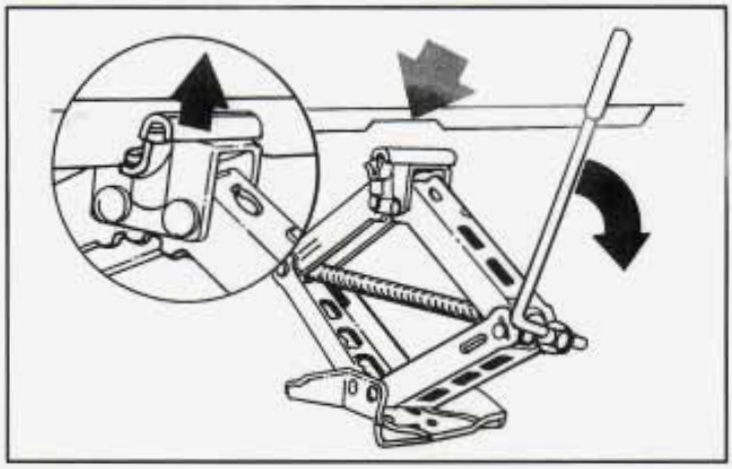
⚠ CAUTION:

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.



5. Raise the vehicle by turning the wheel wrench to the right. Raise the vehicle far enough off the ground so there is enough room for the spare tire to fit.
6. Remove all of the wheel nuts.
7. Then take off the flat tire.

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8. Remove any rust or dirt from the wheel bolts, mounting surfaces and spare wheel.

⚠ CAUTION:

Rust or dirt on the wheel, or on the parts to which it is fastened, can make the wheel nuts become loose after a time. The wheel could come off and cause an accident. When you change a wheel, remove any rust or dirt from the 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 you need to, to get all the rust or dirt off.

⚠ CAUTION:

Never use oil or grease on studs or nuts. If you do, the nuts might come loose. Your wheel could fall off, causing a serious accident.

9. Replace the wheel nuts with the cone end of the nuts toward the wheel. Tighten each nut by hand or with the wheel wrench until the wheel is held against the hub.

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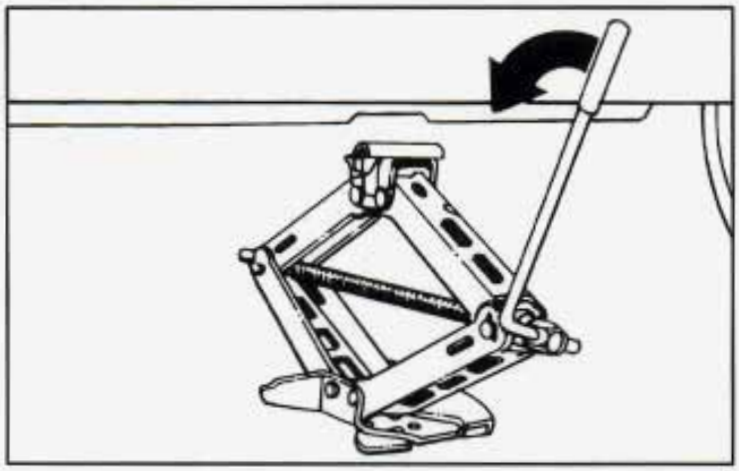
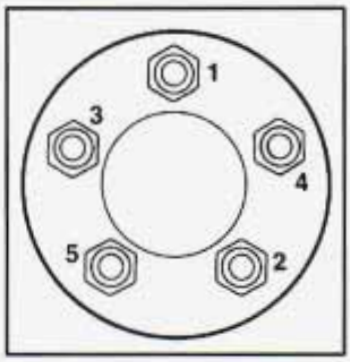


10. Lower the vehicle by turning the wheel wrench to the left. Lower the jack completely.



11. Tighten the wheel nuts firmly in a crisscross sequence, as shown.

⚠ CAUTION:

Incorrect wheel nuts or improperly tightened wheel nuts can cause the wheel to become loose and even come off. This could lead to an accident. Be sure to use the correct wheel nuts. If you have to replace them, be sure to get new GM original equipment wheel nuts.

Stop somewhere as soon as you can and have the nuts tightened with a torque wrench to 100 lb-ft (140 N•m).

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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.

NOTICE:

Wheel covers won't fit on your compact spare. If you try to put a wheel cover on your compact spare, you could damage the cover or the spare.

Storing the Flat 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.

Store the jack and wheel wrench in the foam tray. Place the foam tray in the spare tire compartment. Store the flat tire in the compact spare tire compartment. Place the tire in the compartment, then secure the adapter, extension (aluminum wheels only) and wing bolt.

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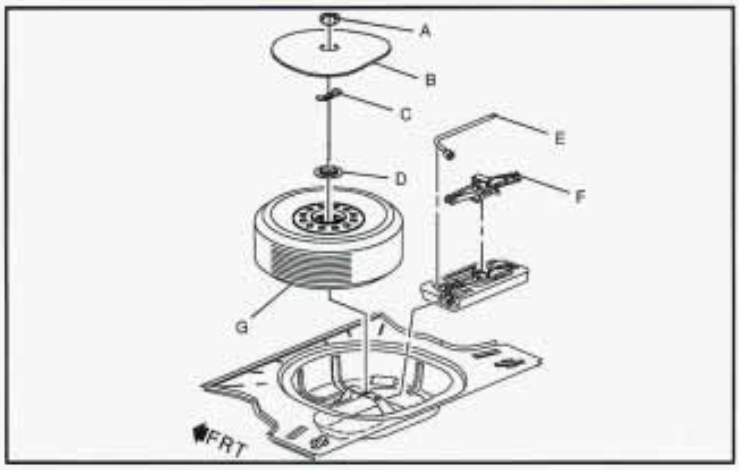

A. Nut
B. Cover
C. Wing Nut
D. Adapter
E. Wrench
F. Jack
G. Flat Road Tire

Storing the 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.

The compact spare is for temporary use only. Replace the compact spare tire with a full-size tire as soon as you can. See "Compact Spare Tire" in the Index. See the storage instructions label to replace your compact spare into your trunk properly.

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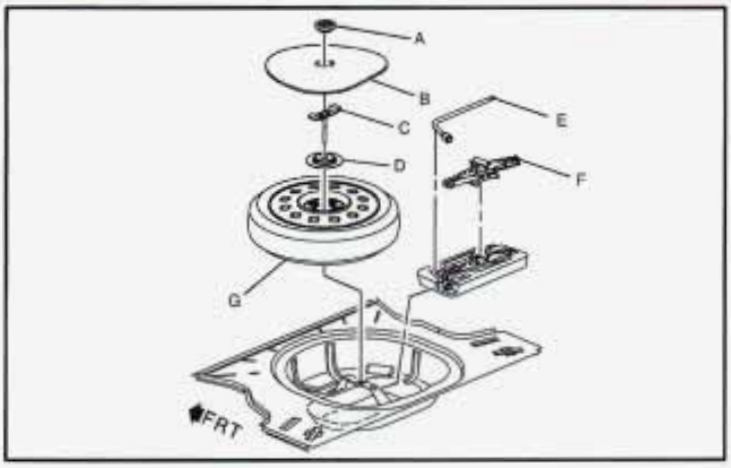

A. Nut
B. Cover
C. Wing Nut
D. Adapter
E. Wrench
F. Jack
G. Spare Tire

Compact Spare Tire

Although the compact spare tire was fully inflated when your vehicle was new, it can lose air after a time. Check the inflation pressure regularly. It should be 60 psi (420 kPa).

After installing the compact spare on your vehicle, you should stop as soon as possible and make sure your spare tire is correctly inflated. The compact spare is made to perform well at speeds up to 65 mph (105 km/h) for distances up to 3,000 miles (5 000 km), so you can finish your trip and have your full-size tire repaired or replaced where you want. Of course, it's best to replace your spare with a full-size tire as soon as you can. Your spare will last longer and be in good shape in case you need it again.

NOTICE:

When the compact spare is installed, don't take your vehicle through an automatic car wash with guide rails. The compact spare can get caught on the rails. That can damage the tire and wheel, and maybe other parts of your vehicle.

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Don't use your compact spare on other vehicles.

And don't mix your compact spare tire or wheel with other wheels or tires. They won't fit. Keep your spare tire and its wheel together.

NOTICE:

Tire chains won't fit your compact spare. Using them can damage your vehicle and can damage the chains too. Don't use tire chains on your compact spare.

If You're Stuck: In Sand, Mud, Ice or Snow

What you don't want to do when your vehicle is stuck is to spin your wheels too fast. The method known as "rocking" can help you get out when you're stuck, but you must use caution.

⚠ CAUTION:

If you let your tires spin at high speed, they can explode, and you or others could be injured. And, the transaxle or other parts of the vehicle can overheat. That could cause an engine compartment fire or other damage. When you're stuck, spin the wheels as little as possible. Don't spin the wheels above 35 mph (55 km/h) as shown on the speedometer.

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NOTICE:

Spinning your wheels can destroy parts of your vehicle as well as the tires. If you spin the wheels too fast while shifting your transaxle back and forth, you can destroy your transaxle.

For information about using tire chains on your vehicle, see "Tire Chains" in the Index.

Rocking Your Vehicle To Get It Out

First, turn your steering wheel left and right. That will clear the area around your front wheels. Then shift back and forth between REVERSE (R) and a forward gear, spinning the wheels as little as possible. Release the accelerator pedal while you shift, and press lightly on the accelerator pedal when the transaxle is in gear. If that doesn't get you out after a few tries, you may need to be towed out. If you do need to be towed out, see "Towing Your Vehicle" in the Index.

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Section 6 Service and Appearance Care

Here you will find information about the care of your vehicle. This section begins with service and fuel information, and then it shows how to check important fluid and lubricant levels. There is also technical information about your vehicle, and a part devoted to its appearance care.

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6-3 Fuel
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Service

Your retailer knows your vehicle best and wants you to be happy with it. We hope you'll go to your retailer for all your service needs. You'll get genuine GM parts and GM-trained and supported service people.

We hope you'll want to keep your GM vehicle all GM. Genuine GM parts have one of these marks:

ACDelco®

Genuine GM® Parts

GM® Goodwrench

Doing Your Own Service Work

If you want to do some of your own service work, you'll want to use the proper Oldsmobile 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 and Owner Publications" in the Index.

Your vehicle has an air bag system. Before attempting to do your own service work, see "Servicing Your Air Bag-Equipped Vehicle" in the Index.

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" in the Index.

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⚠ 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.**

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 may cause wind noise and affect windshield washer performance. Check with your retailer before adding equipment to the outside of your vehicle.

Fuel

Use regular unleaded gasoline rated at 87 octane or higher. At a minimum, it should meet specifications ASTM D4814 in the United States and CGSB 3.5-M93 in Canada. Improved gasoline specifications have been developed by the American Automobile Manufacturers Association (AAMA) for better vehicle performance and engine protection. Gasolines meeting the AAMA specification could provide improved driveability and emission control system protection compared to other gasolines.

Be sure the posted octane is at least 87. If the octane is less than 87, you may get a heavy knocking noise when you drive. If it's bad enough, it can damage your engine.

If you're using fuel rated at 87 octane or higher and you hear heavy knocking, your engine needs service. But don't worry if you hear a little pinging noise when you're accelerating or driving up a hill. That's normal, and you don't have to buy a higher octane fuel to get rid of pinging. It's the heavy, constant knock that means you have a problem.

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If your vehicle is certified to meet California Emission Standards (indicated on the underhood emission control label), it is designed to operate on fuels that meet California specifications. If such fuels are not available in states adopting California emissions standards, your vehicle will operate satisfactorily on fuels meeting federal specifications, but emission control system performance may be affected. The malfunction indicator lamp on your instrument panel may turn on and/or your vehicle may fail a smog-check test. If this occurs, return to your authorized Oldsmobile retailer for diagnosis to determine the cause of failure. In the event it is determined that the cause of the condition is the type of fuels used, repairs may not be covered by your warranty.

Some gasolines that are not reformulated for low emissions contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT); ask your service station operator whether or not his fuel contains MMT. General Motors does not recommend the use of such gasolines. If fuels containing MMT are used, spark plug life may be reduced and your emission control system performance may be affected. The malfunction indicator lamp on your instrument panel may turn on. If this occurs, return to your authorized Oldsmobile retailer for service.

To provide cleaner air, all gasolines in the United States are now required to contain additives that will help prevent deposits from forming in your engine and fuel system, allowing your emission control system to function properly. Therefore, you should not have to add anything to the fuel. In addition, gasolines containing oxygenates, such as ethers and ethanol, and reformulated gasolines may be available in your area to help clean the air. General Motors recommends that you use these gasolines if they comply with the specifications described earlier.

NOTICE:

Your vehicle was not designed for fuel that contains methanol. Don't use it. It can corrode metal parts in your fuel system and also damage plastic and rubber parts. That damage wouldn't be covered under your warranty.

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Fuels in Foreign Countries

If you plan on driving in another country outside the United States or Canada, the proper fuel may 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 wouldn't be covered by your warranty.

To check on fuel availability, ask an auto club, or contact a major oil company that does business in the country where you'll be driving.

You can also write us at the following address for advice. Just tell us where you're going and give your Vehicle Identification Number (VIN).

General Motors Overseas Distribution Corporation
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Filling Your Tank

⚠ CAUTION:

Gasoline vapor is highly flammable. It burns violently, and that can cause very bad injuries. Don't smoke if you're near gasoline or refueling your vehicle. Keep sparks, flames and smoking materials away from gasoline.

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The cap is behind a hinged door on the right side of your vehicle. To open the door, insert your finger into the finger depression next to the fuel door.

While refueling, hang the tethered cap inside the fuel door.

To remove the cap, turn it slowly to the left (counterclockwise). The cap has a spring in it; if you let go of the cap too soon, it will spring back to the right.

⚠ CAUTION:

If you get gasoline on yourself and then something ignites it, you could be badly burned. Gasoline can spray out on you if you open the fuel filler cap too quickly. This spray can happen if your tank is nearly full, and is more likely in hot weather. Open the fuel filler cap slowly and wait for any "hiss" noise to stop. Then unscrew the cap all the way.

Be careful not to spill gasoline. Clean gasoline from painted surfaces as soon as possible. See "Cleaning the Outside of Your Vehicle" in the Index.

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When you put the cap back on, turn it to the right (clockwise) until you hear a clicking sound. Make sure you fully install the cap. 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" in the Index.

NOTICE:

If you need a new cap, be sure to get the right type. Your 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 your fuel tank and emissions system may be damaged. See "Malfunction Indicator Lamp" in the Index.

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 gasoline vapor. You can be badly burned and your vehicle damaged if this occurs. To help avoid injury to you and others:

- **Dispense gasoline 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.**
- **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.**
- **Don't smoke while pumping gasoline.**

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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 gasoline, 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

The following sections tell you how to check fluids, lubricants and important parts under the hood.

To open the hood, first pull the HOOD release handle inside the vehicle.

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Then go to the front of the vehicle and lift the secondary hood release handle before lifting.

Lift the hood, release the hood prop from its retainer and put the hood prop rod into the slot marked PROP ROD.

Before closing the hood, be sure all the filler caps are on properly. Then let the hood drop from about 8 to 12 inches (20 to 30 cm).

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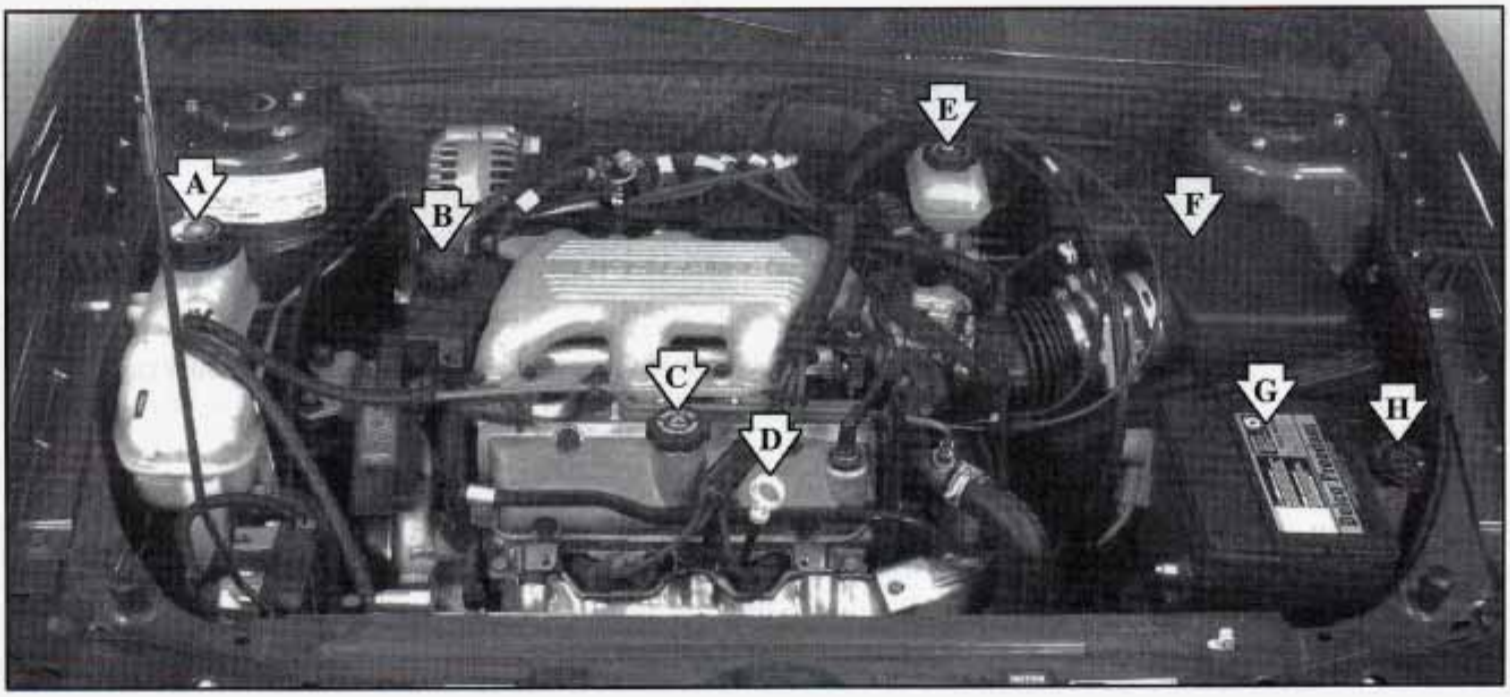
3100 (CODE M) Engine

When you open the hood, you'll see:



A. Engine Coolant Surge Tank
B. Power Steering Fluid Reservoir
C. Engine Oil Fill Cap
D. Engine Oil Dipstick
E. Brake Fluid Reservoir
F. Air Cleaner
G. Battery
H. Windshield Washer Fluid Reservoir

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Engine Oil

CHECK OIL

If the CHECK OIL light on the instrument panel comes on, it means you need to check your engine oil level right away.

For more information, see "Check Oil Light" in the Index. You should check your engine oil level regularly; this is an added reminder.

It's a good idea to check your 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 is yellow and located on the front of the engine.

Turn off the engine and give the oil a few minutes to drain back into the oil pan. If you don't, the oil dipstick might not show the actual level.

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Checking Engine Oil

Pull out the dipstick and clean it with a paper towel or cloth, then push it back in all the way. Remove it again, keeping the tip down, and check the level.

When to Add Engine Oil

If the oil is at or below the ADD line, then you'll need to add at least one quart of oil. But you must use the right kind. This part explains what kind of oil to use. For crankcase capacity, see "Capacities and Specifications" in the Index.

NOTICE:

Don't add too much oil. If your engine has so much oil that the oil level gets above the upper mark that shows the proper operating range, your engine could be damaged.

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The engine oil fill cap is located on the front of the engine.

Be sure to fill it enough to put the level somewhere in the proper operating range. Push the dipstick all the way back in when you're through.

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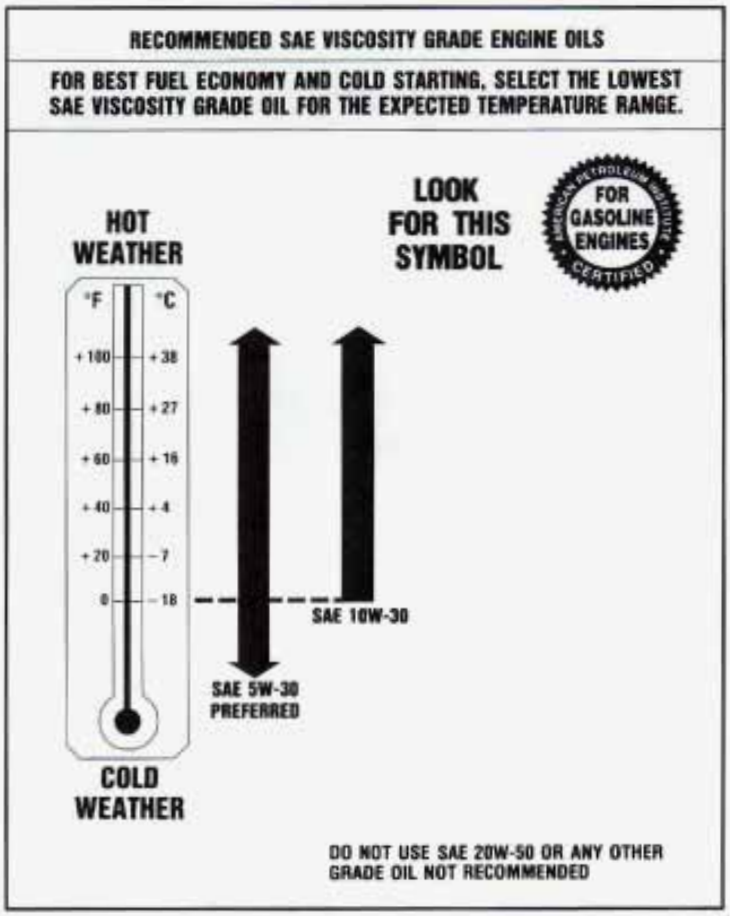
What Kind of Engine Oil to Use

Oils recommended for your vehicle can be identified by looking for the "Starburst" symbol. This symbol indicates that the oil has been certified by the American Petroleum Institute (API). Do not use any oil which does not carry this Starburst symbol.

If you change your own oil, be sure you use oil that has the Starburst symbol on the front of the oil container.

If you have your oil changed for you, be sure the oil put into your engine is American Petroleum Institute certified for gasoline engines.

You should also use the proper viscosity oil for your vehicle, as shown in the following chart:



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As shown in the chart, SAE 5W-30 is best for your vehicle. However, you can use SAE 10W-30 if it's going to be 0°F (-18°C) or above. These numbers on an oil container show its viscosity, or thickness. Do not use other viscosity oils, such as SAE 20W-50.

NOTICE:

Use only engine oil with 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.

GM Goodwrench® oil meets all the requirements for your vehicle.

If you are in an area where the temperature falls below -20°F (-29°C), consider using either an SAE 5W-30 synthetic oil or an SAE 0W-30 oil. Both will provide easier cold starting and better protection for your engine at extremely low temperatures.

Engine Oil Additives

Don't add anything to your oil. Your retailer is ready to advise if you think something should be added.

When to Change Engine Oil

If any one of these is true for you, use the short trip/city maintenance schedule:

- Most trips are less than 5 to 10 miles (8 to 16 km). This is particularly important when outside temperatures are below freezing.
- Most trips include extensive idling (such as frequent driving in stop-and-go traffic).
- Most trips are through dusty areas.
- You frequently tow a trailer or use a carrier on top of your vehicle.
- The vehicle is used for delivery service, police, taxi or other commercial application.

Driving under these conditions causes engine oil to break down sooner. If any one of these is true for your vehicle, then you need to change your oil and filter every 3,000 miles (5 000 km) or 3 months -- whichever occurs first.

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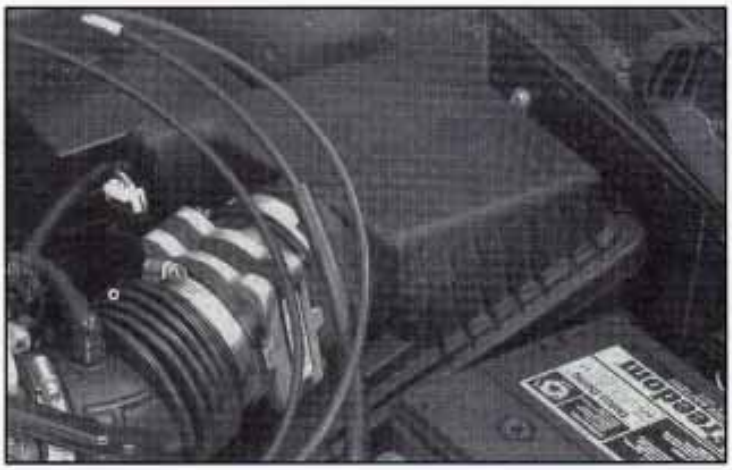
If none of them is true, use the long trip/highway maintenance schedule. Change the oil and filter every 7,500 miles (12 500 km) or 12 months -- whichever occurs first. Driving a vehicle with a fully warmed engine under highway conditions causes engine oil to break down slower.

What to Do with Used Oil

Did you know that used engine oil contains certain elements that may be unhealthy for your skin and could even cause cancer? Don't 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 throw away 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 real threat to the environment. If you change your own oil, be sure to drain all free-flowing oil from the filter before disposal. Don't ever 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 your used oil, ask your retailer, a service station or a local recycling center for help.

Air Cleaner



The air cleaner is located on the driver's side of the engine compartment.

To check or replace the air filter:

1. Unscrew the four Phillips-head screws, then pull the cover back.
2. Remove the air cleaner filter.
3. Be sure to install the air cleaner filter and replace the cover tightly.

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Refer to the Maintenance Schedule to determine when to replace the air filter.

See "Scheduled Maintenance Services" in the Index.

⚠ CAUTION:

Operating the engine with the air cleaner off can cause you or others to be burned. The air cleaner not only cleans the air, it stops flame if the engine backfires. If it isn't there, and the engine backfires, you could be burned. Don't drive with it off, and be careful working on the engine with the air cleaner off.

NOTICE:

If the air cleaner 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 in place when you're driving.

Automatic Transaxle Fluid

It is not necessary to check the transaxle fluid level. A transaxle fluid leak is the only reason for fluid loss. If a leak occurs, take the vehicle to your Oldsmobile retail facility Service Department and have it repaired as soon as possible. You may also have your fluid level checked by your retailer or service center when you have your oil changed.

Change both the fluid and filter every 50,000 miles (83 000 km) 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.

If you do not use your vehicle under any of these conditions, the fluid and filter do not require changing.

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NOTICE:

We recommend you use only fluid labeled DEXRON®-III, because fluid with that label is made especially for your automatic transaxle. Damage caused by fluid other than DEXRON-III is not covered by your new vehicle warranty.

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 5 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" in the Index.

A 50/50 mixture of 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:

When adding coolant, it is important that you use only DEX-COOL® (silicate-free) coolant.

If coolant other than DEX-COOL is added to the system, premature engine, heater core or radiator corrosion may result. In addition, the engine coolant will require change sooner -- at 30,000 miles (50 000 km) or 24 months, whichever occurs first. Damage caused by the use of coolant other than DEX-COOL® is not covered by your new vehicle warranty.

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What to Use

Use a mixture of one-half *clean water* (preferably distilled) and one-half DEX-COOL® coolant which won't damage aluminum parts. If you use this mixture, you don't need to add anything else.

⚠ CAUTION:

Adding only plain water to your cooling system can be dangerous. Plain water, or some other liquid like 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 wouldn't get the overheat warning. Your engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean water and DEX-COOL® coolant.

NOTICE:

If you use an improper coolant mixture, your engine could overheat and be badly damaged. The repair cost wouldn't be covered by your warranty. Too much water in the mixture can freeze and crack the engine, radiator, heater core and other parts.

If you have to add coolant more than four times a year, have your retailer check your cooling system.

NOTICE:

If you use the proper coolant, you don't have to add extra inhibitors or additives which claim to improve the system. These can be harmful.

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Checking Coolant

The surge tank is located on the passenger's side of the engine compartment.

⚠ CAUTION:

Turning the surge tank pressure cap when the engine and radiator are hot can allow steam and scalding liquids to blow out and burn you badly. Never turn the surge tank pressure cap -- even a little -- when the engine and radiator are hot.

When your engine is cold, the coolant level should be at the FULL COLD mark or slightly higher.

If the light comes on, it means you're low on engine coolant.

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Adding Coolant

If you need more coolant, add the proper DEX-COOL® coolant mixture *at the surge tank*, but only when the engine is cool.

⚠ 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. Don't spill coolant on a hot engine.

When replacing the pressure cap, make sure it is tight.

Surge Tank Pressure Cap

NOTICE:

Your pressure cap is a 15 psi (105 kPa) pressure-type cap and must be tightly installed to prevent coolant loss and possible engine damage from overheating.

When you replace your surge tank pressure cap, a GM cap is recommended.

Thermostat

Engine coolant temperature is controlled by a thermostat in the engine coolant system. The thermostat stops the flow of coolant through the radiator until the coolant reaches a preset temperature.

When you replace your thermostat, an ACDelco® thermostat is recommended.

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Power Steering Fluid

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

When the engine compartment is cool, wipe the cap and the top of the reservoir clean, then unscrew the cap and wipe the dipstick with a clean rag. Replace the cap and completely tighten it. Then remove the cap again and look at the fluid level on the dipstick.

The level should be at the FULL COLD mark. If necessary, add only enough fluid to bring the level up to the mark.

What to Use

To determine what kind of fluid to use, see "Recommended Fluids and Lubricants" in the Index. Always use the proper fluid. Failure to use the proper fluid can cause leaks and damage hoses and seals.

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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 labeled WASHER FLUID ONLY. Add washer fluid until the tank is full.

NOTICE:

- **When using concentrated washer fluid, follow the manufacturer's instructions for adding water.**
- **Don't 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 doesn't clean as well as washer fluid.**
- **Fill your washer fluid tank only three-quarters full when it's very cold. This allows for expansion if freezing occurs, which could damage the tank if it is completely full.**
- **Don't use engine coolant (antifreeze) in your windshield washer. It can damage your washer system and paint.**

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Brakes

Brake Fluid

Your brake master cylinder reservoir is here. It is filled with DOT-3 brake fluid.

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 system. If it is, you should have your brake system fixed, since a leak means that sooner or later your brakes won't work well, or won't work at all.

So, it isn't a good idea to "top off" your brake fluid. Adding brake fluid won't correct a leak. If you add fluid when your linings are worn, then you'll have too much fluid when you get new brake linings. You should 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.

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BRAKE

When your brake fluid falls to a low level, your brake warning light will come on. See "Brake System Warning Light" in the Index.

What to Add

When you do need brake fluid, use only DOT-3 brake fluid -- such as Delco Supreme 11® (GM Part No. 12377967). Use new brake fluid from a sealed container only.

Always clean the brake fluid reservoir cap and the area around the cap before removing it. This will help keep dirt from entering the reservoir.

⚠ CAUTION:

With the wrong kind of fluid in your brake system, your brakes may not work well, or they may not even work at all. This could cause a crash. Always use the proper brake fluid.

NOTICE:

- **Using the wrong fluid can badly damage brake system parts. For example, just a few drops of mineral-based oil, such as engine oil, in your brake system can damage brake system parts so badly that they'll have to be replaced. Don't 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 "Appearance Care" in the Index.**

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Brake Wear

Your vehicle has front disc brakes and rear drum 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 may 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 your brakes won't 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 may cause a brake squeal when the brakes are first applied or lightly applied. This does not mean something is wrong with your brakes.

Properly torqued wheel nuts are necessary to help prevent brake pulsation. When tires are rotated, inspect brake pads for wear and evenly torque wheel nuts in the proper sequence to GM specifications.

Your rear drum brakes don't have wear indicators, but if you ever hear a rear brake rubbing noise, have the rear brake linings inspected immediately. Also, the rear brake drums should be removed and inspected each time the tires are removed for rotation or changing. When you have the front brake pads replaced, have the rear brakes inspected, too.

Brake linings should always be replaced as complete axle sets.

See "Brake System Inspection" in Section 7 of this manual under Part C "Periodic Maintenance Inspections."

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Brake Pedal Travel

See your 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 of brake trouble.

Brake Adjustment

Every time you make a moderate brake stop, your disc brakes adjust for wear. If you rarely make a moderate or heavier stop, then your brakes might not adjust correctly. If you drive in that way, then -- very carefully -- make a few moderate brake stops about every 1,000 miles (1 600 km), so your brakes will adjust properly.

If your brake pedal goes down farther than normal, your rear drum brakes may need adjustment. Adjust them by pumping the brake pedal repeatedly while the engine is running with the shift lever in PARK (P).

Replacing Brake System Parts

The braking system on a modern 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 GM brake parts. When you replace parts of your braking system -- for example, when your brake linings wear down and you have to have new ones put in -- be sure you get new approved GM replacement parts. If you don't, your brakes may no longer work properly. For example, if someone puts in brake linings that are wrong for your vehicle, the balance between your front and rear brakes can change -- for the worse. The braking performance you've come to expect can change in many other ways if someone puts in the wrong replacement brake parts.

Battery

Every new Oldsmobile has an ACDelco Freedom® battery. You never have to add water to one of these. When it's time for a new battery, we recommend a Delco Freedom battery. Get one that has the replacement number shown on the original battery's label.

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Vehicle Storage

If you're not going to drive your vehicle for 25 days or more, remove the black, negative (-) cable from the battery. This will help keep your battery from running down.

⚠ CAUTION:

Batteries have acid that can burn you and gas that can explode. You can be badly hurt if you aren't careful. See "Jump Starting" in the Index for tips on working around a battery without getting hurt.

Contact your retailer to learn how to prepare your vehicle for longer storage periods.

Also, for your audio system, see "Theft-Deterrent Feature" in the Index.

Bulb Replacement

This section describes bulb changing procedures for some of your interior and exterior lamps. For bulb sizes, see "Replacement Bulbs" in the Index. For any bulbs not listed in this section, contact your retail facility.

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.

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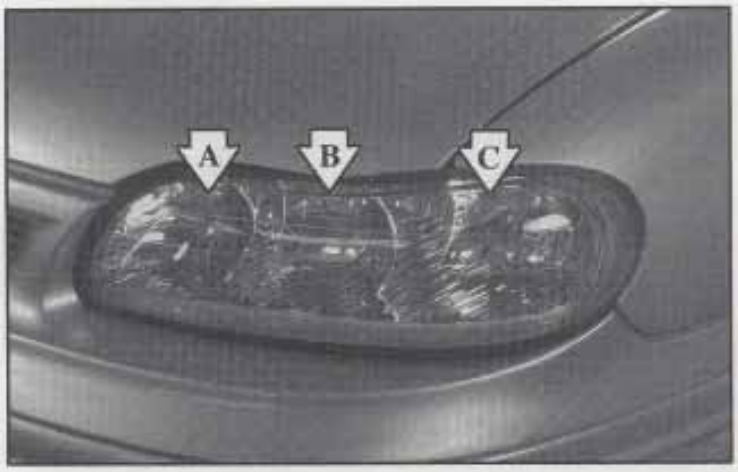
Front Exterior Bulbs



A. Front Turn Signal

B. High-Beam Headlamp

C. Low-Beam Headlamp

Headlamp and Front Turn Signal Lamp Bulb Replacement

When replacing a halogen bulb, do not touch the glass portion of the bulb. The oil from your fingers will shorten the life of your new halogen bulb. For the type of bulb to use, see "Replacement Bulbs" in the Index.

1. With the hood open and the engine off, pull the fastener out of the plastic splash shield covering the top of the headlamp assembly and remove it.

2. Carefully pull directly up on the two latches.

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3. Remove the lamp assembly from the vehicle by pulling forward. Use care not to scratch the vehicle with the lamp or the lamp with the fender.
4. For the high or low-beam bulbs, unclip the wiring harness and twist the bulb less than one-quarter of a turn to the left and remove. Gently wiggle the bulb out of the socket.
5. For the turn signal bulb, press the tab on the white bulb socket and twist it less than one-quarter of a turn to the left.
6. Reconnect the wiring harness to the bulb or lamp assembly.
7. Replace the lamp to its original position by carefully lining up the lamp to the mounting balls.
8. Press down on the two latches. Replace the splash shield by pushing down on the retainer.

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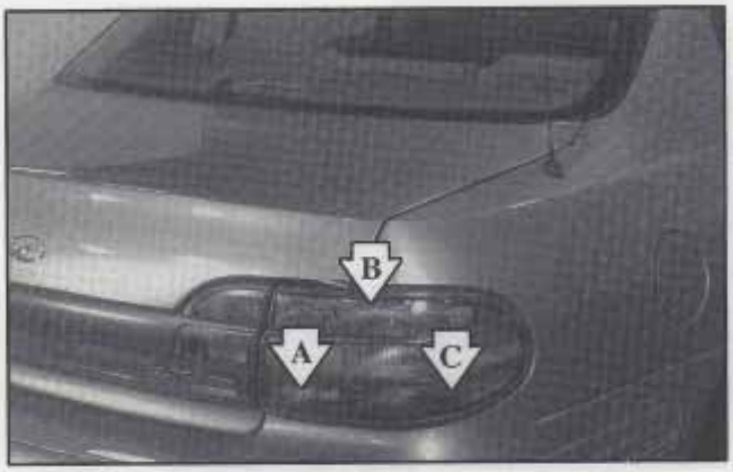
Center High-Mounted Stoplamp (CHMSL)

1. Open the trunk and locate the CHMSL housing at the top of the trunk.
2. Twist the bulb housing one-quarter of a turn to remove it.
3. Gently remove the bulb(s) and replace with a new one.

Rear Exterior Lamps



A. Back-Up Lamp

B. Taillamp/Stoplamp

C. Rear Turn Signal Lamp

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Tail/Stop/Turn Signal/Back-Up Lamps

1. Unscrew the fastener that holds in the trunk trim.

2. Gently pull back the trunk trim.

3. Remove the three plastic wingnuts.

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4. Pull out the taillamp assembly to expose the backplate.

5. Carefully remove the backplate by pulling the four outer tabs and two inner tabs sideways away from the backplate.
6. Gently wiggle the bulbs to remove them from the socket. Replace the bulb.
7. Reverse the steps to reassemble the rear lamp assembly and mount to the car.

   Make sure that all six tabs are securely fastened to the backplate before reassembling the lamp.
8. When securing the lamp back into place, align the lamp so that the trunk lid doesn't contact it.

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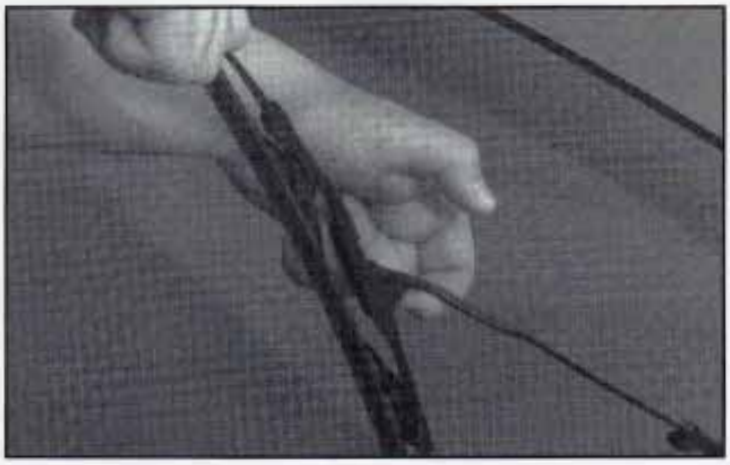
Dome Lamp

To change your dome lamp bulb, grasp the center front and center rear portion of the housing and squeeze firmly but gently. The housing should pop off.

If this doesn't work, you may need to use a small flat-head screwdriver under the side of the housing to help pry it off.

Windshield Wiper Blade Replacement



Replacement blades come in different types and are removed in different ways. For the proper type and length, see "Capacities and Specifications" in the Index. Here's how to remove the Sheppard's Hook type:

1. Pull the windshield wiper arm away from the windshield.
2. Push the release lever and slide the wiper assembly toward the driver's side of the vehicle.
3. Install a new blade by reversing Steps 1 and 2.

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 Oldsmobile Warranty booklet for details.

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⚠ CAUTION:

Poorly maintained and improperly used tires are dangerous.

- **Overloading your 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" in the Index.**
- **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 tires are cold.**
- **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 your tread is badly worn, or if your tires have been damaged, replace them.**

Inflation -- Tire Pressure

The Tire-Loading Information label, which is located on the driver's side rear passenger door, shows the correct inflation pressures for your tires when they're cold. "Cold" means your vehicle has been sitting for at least three hours or driven no more than 1 mile (1.6 km).

NOTICE:

Don't let anyone tell you that underinflation or overinflation is all right. It's not. If your tires don't have enough air (underinflation), you can get the following:

- **Too much flexing**
- **Too much heat**
- **Tire overloading**
- **Bad wear**
- **Bad handling**
- **Bad fuel economy.**

NOTICE: (Continued)

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NOTICE: (Continued)

If your tires have too much air (overinflation), you can get the following:

- **Unusual wear**
- **Bad handling**
- **Rough ride**
- **Needless damage from road hazards.**

When to Check

Check your tires once a month or more.

Don't forget your compact spare tire. It should be at 60 psi (420 kPa).

How to Check

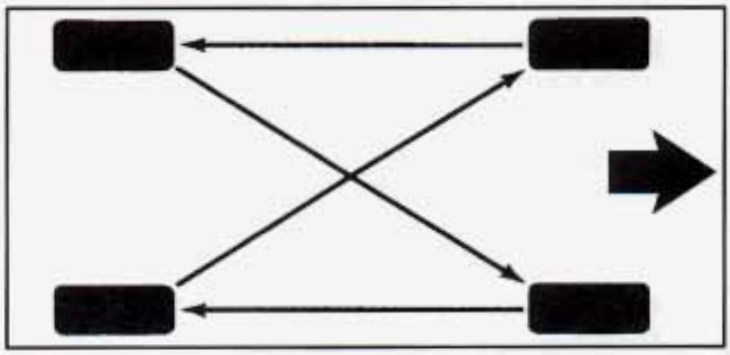
Use a good quality pocket-type gage to check tire pressure. You can't tell if your tires are properly inflated simply by looking at them. Radial tires may look properly inflated even when they're underinflated.

Be sure to put the valve caps back on the valve stems. They help prevent leaks by keeping out dirt and moisture.

Tire Inspection and Rotation

Tires should be rotated every 6,000 to 8,000 miles (10 000 to 13 000 km). 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's Time for New Tires" and "Wheel Replacement" later in this section for more information.

The purpose of regular rotation is to achieve more uniform wear for all tires on the vehicle. The first rotation is the most important. See "Scheduled Maintenance Services" in the Index for scheduled rotation intervals.



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When rotating your tires, always use the correct rotation pattern shown here.

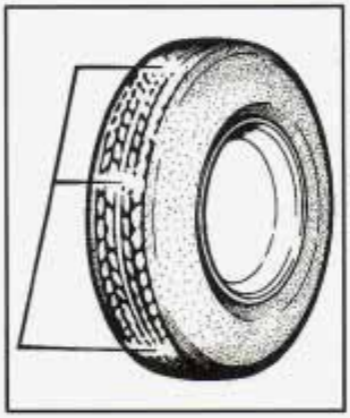
Don't include the compact spare tire in your tire rotation.

After the tires have been rotated, adjust the front and rear inflation pressures as shown on the Tire-Loading Information label. Make certain that all wheel nuts are properly tightened. See "Wheel Nut Torque" in the Index.

⚠ CAUTION:

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after a 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 you need to, to get all the rust or dirt off. (See "Changing a Flat Tire" in the Index.)

When It's Time for New Tires



One way to tell when it's time for new tires is to check the treadwear indicators, which will appear when your tires have only 1/16 inch (1.6 mm) or less of tread remaining.

You need a new tire 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 can't be repaired well because of the size or location of the damage.

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Buying New Tires

To find out what kind and size of tires you need, look at the Tire-Loading Information label.

The tires installed on your vehicle when it was new had a Tire Performance Criteria Specification (TPC Spec) number on each tire's sidewall. When you get new tires, get ones with that same TPC Spec number. That way your vehicle will continue to have tires that are designed to give proper endurance, handling, speed rating, traction, ride and other things during normal service on your vehicle. If your tires have an all-season tread design, the TPC number will be followed by an "MS" (for mud and snow).

If you ever replace your tires with those not having a TPC Spec number, make sure they are the same size, load range, speed rating and construction type (bias, bias-belted or radial) as your original tires.

⚠ CAUTION:

Mixing tires could cause you to lose control while driving. If you mix tires of different sizes or types (radial and bias-belted tires), the vehicle may not handle properly, and you could have a crash. Using tires of different sizes may also cause damage to your vehicle. Be sure to use the same size and type tires on all wheels.

It's all right to drive with your compact spare, though. It was developed for use on your vehicle.

⚠ 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.

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Uniform Tire Quality Grading

The following information relates to the system developed by the United States National Highway Traffic Safety Administration, 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 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 1/2) 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 -- A, B, C

The traction grades, from highest to lowest, are A, B, and C, and they 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 braking (straight ahead) traction tests and does not include cornering (turning) traction.

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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 wheels on your vehicle were aligned and balanced carefully at the factory to give you the longest tire life and best overall performance.

Scheduled wheel alignment and wheel balancing are not needed. However, if you notice unusual tire wear or your vehicle pulling one way or the other, the alignment may need to be reset. If you notice your vehicle vibrating when driving on a smooth road, your wheels may need to be rebalanced.

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 retailer if any of these conditions exist.

Your retailer will know the kind of wheel you need.

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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 or wheel nuts, replace them only with new GM original equipment parts. This way, you will be sure to have the right wheel, wheel bolts and wheel nuts for your Oldsmobile model.

⚠ 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" in the Index for more information.

Used Replacement Wheels

⚠ CAUTION:

Putting a used wheel on your vehicle is dangerous. You can't know how it's been used or how far it's been driven. It could fail suddenly and cause an accident. If you have to replace a wheel, use a new GM original equipment wheel.

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Tire Chains

NOTICE:

Use tire chains only where legal and only when you must. Use only SAE Class "S" type chains that are the proper size for your tires. Install them on the front tires and 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.

Appearance Care

Remember, cleaning products can be hazardous. Some are toxic. Others can burst into flame if you strike a match or get them on a hot part of the vehicle. Some are dangerous if you breathe their fumes in a closed space. When you use anything from a container to clean your vehicle, be sure to follow the manufacturer's warnings and instructions. And always open your doors or windows when you're cleaning the inside.

Never use these to clean your vehicle:

- Gasoline
- Benzene
- Naphtha
- Carbon Tetrachloride
- Acetone
- Paint Thinner
- Turpentine
- Lacquer Thinner
- Nail Polish Remover

They can all be hazardous -- some more than others -- and they can all damage your vehicle, too.

Don't use any of these unless this manual says you can. In many uses, these will damage your vehicle:

- Alcohol
- Laundry Soap
- Bleach
- Reducing Agents

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Cleaning the Inside of Your Vehicle

Use a vacuum cleaner often to get rid of dust and loose dirt. Wipe vinyl or leather, plastic and painted surfaces with a clean, damp cloth.

Your retailer has two cleaners, Multi-Purpose Interior Cleaner and Capture Non-Solvent Dry Spot and Soil Remover for cleaning fabric and carpet. They will clean normal spots and stains very well. You can get GM-approved cleaning products from your retailer. (See "Appearance Care and Materials" in the Index.)

Here are some cleaning tips:

- Always read the instructions on the cleaner label.
- Clean up stains as soon as you can -- before they set.
- Carefully scrape off any excess stain.
- Use a clean cloth or sponge, and change to a clean area often. A soft brush may be used if stains are stubborn.
- If a ring forms after spot cleaning, clean the entire area immediately or it will set.

Using Multi-Purpose Interior Cleaner on Fabric

1. Vacuum and brush the area to remove any loose dirt.
2. Always clean a whole trim panel or section. Mask surrounding trim along stitch or welt lines.
3. Mix powdered cleaner following the directions on the container label to form thick suds.
4. Use suds only and apply with a clean sponge. Don't saturate the material and don't rub it roughly.
5. As soon as you've cleaned the section, use a sponge to remove the suds.
6. Wipe cleaned area with a clean, damp towel or cloth.
7. Wipe with a clean cloth and let dry.

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Special Fabric Cleaning Problems

Stains caused by such things as catsup, coffee (black), egg, fruit, fruit juice, milk, soft drinks, vomit, urine and blood can be removed as follows:

1. Carefully scrape off excess stain, then sponge the soiled area with cool water.
2. If a stain remains, follow the multi-purpose interior cleaner instructions described earlier.
3. If an odor lingers after cleaning vomit or urine, treat the area with a water/baking soda solution: 1 teaspoon (5 ml) of baking soda to 1 cup (250 ml) of lukewarm water.
4. Let dry.

Stains caused by candy, ice cream, mayonnaise, chili sauce and unknown stains can be removed as follows:

1. Carefully scrape off excess stain.
2. First, clean with cool water and allow to dry completely.
3. If a stain remains, follow instructions for Multi-Purpose Interior Cleaner.

Cleaning Vinyl

Use warm water and a clean cloth.

- Rub with a clean, damp cloth to remove dirt. You may have to do it more than once.
- Things like tar, asphalt and shoe polish will stain if you don't get them off quickly. Use a clean cloth and a vinyl/leather cleaner. See your retailer for this product.

Cleaning Leather

Use a soft cloth with lukewarm water and a mild soap or saddle soap and wipe dry with a soft cloth. Then, let the leather dry naturally. Do not use heat to dry.

- For stubborn stains, use a leather cleaner. See your retailer for this product.
- *Never* use oils, varnishes, solvent-based or abrasive cleaners, furniture polish or shoe polish on leather.
- Soiled or stained leather should be cleaned immediately. If dirt is allowed to work into the finish, it can harm the leather.

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Cleaning the Top of the Instrument Panel

Use only mild soap and water to clean the top surfaces of the instrument panel. Sprays containing silicones or waxes may cause annoying reflections in the windshield and even make it difficult to see through the windshield under certain conditions.

Cleaning Interior Plastic Components

Use only a mild soap and water solution on a soft cloth or sponge. Commercial cleaners may affect the surface finish.

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.

Cleaning Glass Surfaces

Glass should be cleaned often. GM Glass Cleaner (GM Part No. 1050427) or a liquid household glass cleaner will remove normal tobacco smoke and dust films on interior glass.

Don't use abrasive cleaners on glass, because they may cause scratches. Avoid placing decals on the inside rear window, since they may have to be scraped off later. If abrasive cleaners are used on the inside of the rear window, an electric defogger element may be damaged. Any temporary license should not be attached across the defogger grid.

Cleaning the Outside of the Windshield and Wiper Blades

If the windshield is not clear after using the windshield washer, or if the wiper blade chatters when running, wax, sap or other material may be on the blade or windshield.

Clean the outside of the windshield with GM Windshield Cleaner, Bon Ami® Powder (non-scratching glass cleaning powder), GM Part No. 1050011. The windshield is clean if beads do not form when you rinse it with water.

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Grime from the windshield will stick to the wiper blades and affect their performance. Clean the blade by wiping vigorously with a cloth soaked in full-strength windshield washer solvent. Then rinse the blade with water.

Check the wiper blades and clean them as necessary; replace blades that look worn.

Weatherstrips

Silicone grease on weatherstrips will make them last longer, seal better, and not stick or squeak. Apply silicone grease with a clean cloth at least every six months. During very cold, damp weather more frequent application may be required. (See "Recommended Fluids and Lubricants" in the Index.)

Cleaning the Outside of Your Vehicle

The paint finish on your vehicle provides beauty, depth of color, gloss retention and durability.

Washing Your Vehicle

The best way to preserve your vehicle's finish is to keep it clean by washing it often with lukewarm or cold water.

Don't wash your vehicle in the direct rays of the sun. Don't use strong soaps or chemical detergents. Use liquid hand, dish or car washing (mild detergent) soaps. You can get GM-approved cleaning products from your retailer. (See "Appearance Care and Materials" in the Index.) Don't use cleaning agents that are petroleum based, or that contain acid or abrasives. All cleaning agents should be flushed promptly and not allowed to dry on the surface, or 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 your vehicle.

Cleaning Exterior Lamps/Lenses

Use lukewarm or cold water, a soft cloth and a liquid hand, dish or car washing (mild detergent) soap to clean exterior lamps and lenses. Follow instructions under "Washing Your Vehicle."

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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 GM-approved cleaning products from your retailer. (See "Appearance Care and Materials" in the Index.)

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 dull the finish or leave swirl marks.

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.

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Cleaning Aluminum Wheels (If Equipped)

Keep your 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.

The surface of these wheels is similar to the painted surface of your vehicle. Don't use strong soaps, chemicals, abrasive polishes, abrasive cleaners or abrasive cleaning brushes on them because you could damage the surface.

Don't take your vehicle through an automatic car wash that has silicon carbide tire cleaning brushes. These brushes can also damage the surface of these wheels.

Cleaning Tires

To clean your tires, use a stiff brush with a tire cleaner.

NOTICE:

When applying a tire dressing always take care to wipe off any overspray or splash from all painted surfaces on the body or wheels of the vehicle. Petroleum-based products may damage the paint finish.

Sheet Metal Damage

If your vehicle is damaged and requires sheet metal repair or replacement, make sure the body repair shop applies anti-corrosion material to the parts repaired or replaced to restore corrosion protection.

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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 a major repair expense.

Minor chips and scratches can be repaired with touch-up materials available from your retailer or other service outlets. Larger areas of finish damage can be corrected in your 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, accelerated corrosion (rust) can occur on the underbody parts such as fuel lines, frame, floor pan and exhaust system even though they have corrosion protection.

At least every spring, flush these materials from the underbody with plain water. Clean any areas where mud and other debris can collect. Dirt packed in closed areas of the frame should be loosened before being flushed. Your 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 your vehicle. This damage can take two forms: blotchy, ringlet-shaped discolorations, and small irregular dark spots etched into the paint surface.

Although no defect in the paint job causes this, Oldsmobile 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.

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Appearance Care Materials Chart

PART NUMBER	SIZE	DESCRIPTION	USAGE
994954	23 in. x 25 in.	Polishing Cloth – Wax Treated	Exterior polishing cloth
1050172	16 oz. (0.473 L)	Tar and Road Oil Remover	Removes tar, road oil and asphalt
1050173	16 oz. (0.473 L)	Chrome Cleaner and Polish	Use on chrome, stainless steel, nickel, copper and brass
1050174	16 oz. (0.473 L)	White Sidewall Tire Cleaner	Removes soil and black marks from whitewalls
1050214	32 oz. (0.946 L)	Vinyl Cleaner	Cleans vinyl tops, upholstery and convertible tops
1050427	23 oz. (0.680 L)	Glass Cleaner	Removes dirt, grime, smoke and fingerprints
1052870	16 oz. (0.473 L)	Wash Wax Concentrate	Cleans and lightly waxes
1052918**	8 oz. (0.237 L)	Armor All™ Protectant	Protects leather, wood, acrylics, Plexiglas™, plastic, rubber and vinyl
1052925	16 oz. (0.473 L)	Multi-Purpose Interior Cleaner	Cleans carpets, seats, interior trim, door panels and floor mats
1052929	16 oz. (0.473 L)	Wheel Cleaner	Spray on and rinse with water
1052930	8 oz. (0.237 L)	Capture Dry Spot Remover	Attracts, absorbs and removes soils
12345002	16 oz. (0.473 L)	Armor All™ Cleaner	Cleans and shines a variety of surface types
12345721	2.5 sq. ft.	Synthetic Chamois	Shines vehicle without scratching
12345725	12 oz. (0.354 L)	Silicone Tire Shine	Spray on tire shine
12377964	16 oz. (0.473 L)	Finish Enhancer	Removes dust, fingerprints and surface contaminants
12377966	16 oz. (0.473 L)	Cleaner Wax	Removes light scratches and oxidation and protects finish
12377984	16 oz. (0.473 L)	Surface Cleaner	Removes contaminants, blemishes and swirl marks

See your General Motors Parts Department for these products. See "Fluids and Lubricants" in the Index.

**Not recommended for use on instrument panel vinyl.

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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's side. You can see it if you look through the windshield from outside your vehicle. The VIN also appears on the Vehicle Certification and Service Parts labels and the certificates of title and registration.

Engine Identification

The 8th character in your VIN is the engine code. This code will help you identify your engine, specifications and replacement parts.

Service Parts Identification Label

You'll find this label on the bottom of your spare tire cover. It's very helpful if you ever need to order parts. On this label is:

- your VIN,
- the model designation,
- paint information and
- a list of all production options and special equipment.

Be sure that this label is not removed from the vehicle.

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Electrical System

Add-On Electrical Equipment

NOTICE:

Don't add anything electrical to your vehicle unless you check with your retailer first. Some electrical equipment can damage your vehicle and the damage wouldn't be covered by your warranty. Some add-on electrical equipment can keep other components from working as they should.

Your vehicle has an air bag system. Before attempting to add anything electrical to your vehicle, see "Servicing Your Air Bag-Equipped Oldsmobile" in the Index.

Headlamp Wiring

The headlamp wiring is protected by fuses, one for each headlamp, in the fuse block. An electrical overload will cause the lamps to turn off. If this happens, have your headlamp wiring checked right away.

Windshield Wipers

The windshield wiper motor is protected by an internal 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 and not snow, etc., be sure to get it fixed.

Power Windows and Other Power Options

Circuit breakers in the fuse block 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.

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Fuses and Circuit Breakers

The wiring circuits in your vehicle are protected from short circuits by a combination of fuses, circuit breakers and fusible thermal links in the wiring itself. 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 don't have a spare fuse, you can borrow one that has the same amperage. Just pick a 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. Also, there are spare fuses in the left side instrument panel fuse block.

There are three fuse blocks in your vehicle: two instrument panel fuse blocks and the engine compartment fuse block.

Instrument Panel Fuse Block

The instrument panel fuse blocks are located at each end of the instrument panel. To access the fuses, open the fuse panel door by pulling out.

To replace the door, insert the hooks at the front end first, then push the door in to the instrument panel to secure it.

Instrument Panel Fuse Block - Left

In the left instrument panel fuse block, there are spare fuses and a fuse puller.

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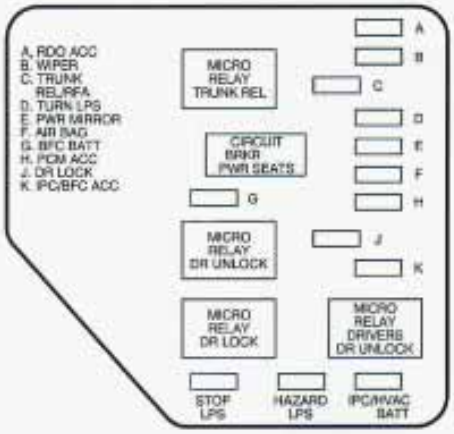

Fuse	Usage
A)	Radio
B)	Wipers
C)	Trunk Release and Remote Lock Control
D)	Turn Signals
E)	Power Mirrors
F)	Air Bag
G)	Body Function Control Module
H)	Powertrain Control Module
J)	Door Locks
K)	Body Function Control Module, Cluster
STOP LPS	Stoplamps
HAZARD LPS	Hazard Lamps
IPC/HVAC BATT	Cluster, Climate Control
MICRO RELAY TRUNK REL	Remote Trunk Release
CIRCUIT BRKR PWR SEATS	Power Seats
MICRO RELAY DR UNLOCK	Door Locks
MICRO RELAY DR LOCK	Door Locks
MICRO RELAY DRIVERS DR UNLOCK	Not Used

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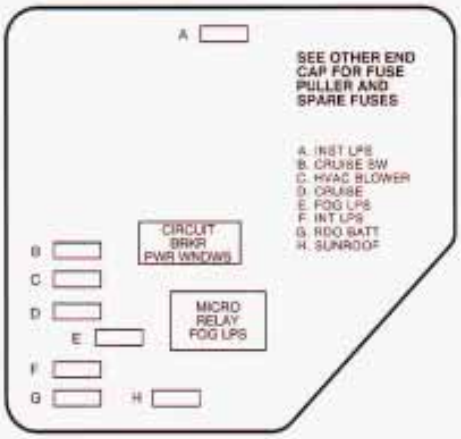
Instrument Panel Fuse Block - Right



Fuse	Usage
A)	Instrument Panel Lights, Dimmer
B)	Cruise Control
C)	Climate Control System
D)	Cruise Control
E)	Fog Lamps
F)	Interior Lamps, Body Function Control Module
G)	Radio
H)	Sunroof
CIRCUIT BRKR PWR WINDOWS	Power Windows
MICRO RELAY FOG LPS	Fog Lamps

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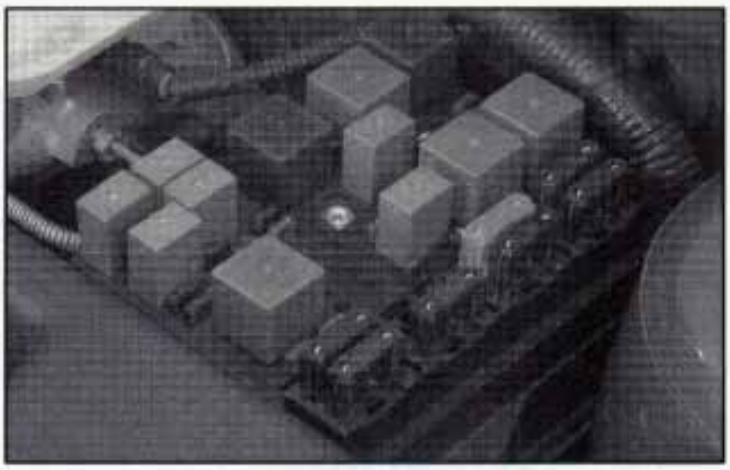
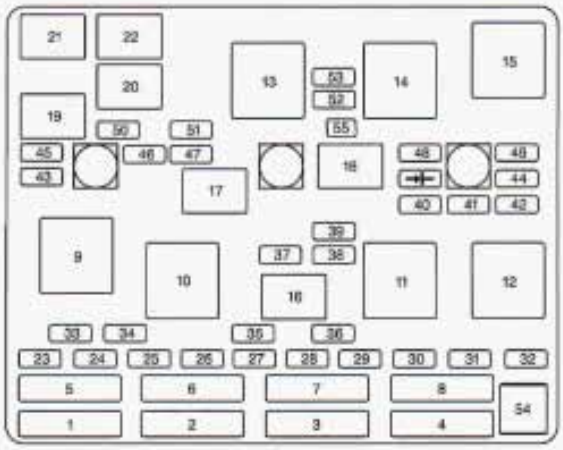
Engine Compartment Fuse Block





The engine compartment fuse block is located on the driver's side of the engine compartment, near the air cleaner.

Fuse	Usage
Maxi-Fuses	
1)	Ignition Switch
2)	Left-Hand Electrical Center-Power Seats, Power Mirrors, Door Locks, Trunk Release and Remote Lock Control

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Fuse	Usage
3)	Left-Hand Electrical Center-Stop Lamps, Hazard Lamps, Body Function Control Module, Cluster, Climate Control System
4)	Right-Hand Electrical Center-Fog Lamps, Radio, Body Function Control Module, Interior Lamps
5)	Ignition Switch
6)	Not Used
7)	Anti-Lock Brakes
8)	Cooling Fans
Mini-Relays	
9)	Rear Defog
10)	Not Used
11)	Anti-Lock Brakes
12)	Cooling Fan
13)	HVAC Blower (Climate Control)
14)	Cooling Fans
15)	Cooling Fans

Fuse	Usage
Micro-Relays	
16)	Air Conditioning Compressor
17)	Not Used
18)	Fuel Pump
19)	Automatic Light Control
20)	Automatic Light Control
21)	Horn
22)	Daytime Running Lamps
Mini-Fuses	
23 - 32)	Spare Fuse Holder
33)	Rear Defog
34)	Accessory Power Outlets, Cigar Lighter
35)	Anti-Lock Brakes
36)	Anti-Lock Brakes
37)	Air Conditioning Compressor, Body Function Control Module
38)	Automatic Transaxle

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Fuse	Usage
39)	Powertrain Control Module, Ignition
40)	Anti-Lock Brakes
41)	Ignition System
42)	Back-Up Lamps, Brake-Transaxle Shift Interlock
43)	Horn
44)	Powertrain Control Module
45)	Parking Lamps
46)	Rear Defog, Daytime Running Lamps, Climate Control System

Fuse	Usage
47)	Canister Purge Valve, Powertrain Control Module, Exhaust Gas Recirculation, Heated O2 Sensor
48)	Fuel Pump, Injectors
49)	Generator
50)	Right-Hand Headlamp
51)	Left-Hand Headlamp
52)	Cooling Fan
53)	HVAC Blower (Climate Control)
54)	Fuse Puller for Mini-Fuses
55)	Tach Test Point for Diagnostic Testing

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Replacement Bulbs

Outside Lamps	Bulb
High-Beam Headlamp	9005
Low-Beam Headlamp	9006
Front Park/Turn	3157 NA
Back-Up	3057
Rear Turn Signal	3357
High Level Stop	912
Tail/Stop Lamp	3057
Inside Lamps	**Bulb**
Dome	561

Capacities and Specifications

Engine Crankcase
3100 Engine ..... 4.5 quarts (4.3 L)

Cooling System
3100 Engine ..... 13.6 quarts (12.9 L)

Refrigerant, Air Conditioning ..... See refrigerant charge label under the hood.

Fuel Tank ..... 15.0 gallons (56.8 L)

Tire Pressures, Sizes . See Tire-Loading Information label on the driver's side rear passenger door.

Wheel Nut Torque 100 lb-ft (140 N·m)

NOTE: All capacities are approximate. When adding, be sure to fill to the appropriate level or as recommended in this manual.

See "Fluids and Lubricants" in the Index.

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3100 Engine Specifications

VIN Engine Code	M
Type	V6
Displacement	3.1 Liters
Firing Order	1-2-3-4-5-6
Horsepower	155
Thermostat Temperature	195°F (91°C)

Air Conditioning Refrigerants

Not all air conditioning refrigerants are the same. If the air conditioning system in your vehicle needs refrigerant, be sure the proper refrigerant is used. If you're not sure, ask your retailer.

Normal Maintenance Replacement Parts

Air Cleaner Element	AC Type A-1279C
Engine Oil Filter	AC Type PF-47
Spark Plugs	AC Type •41-940 (Platinum Plug) Gap: 0.060 inch (1.52 mm)
Windshield Wiper Blades	
Driver's Side	22 inches (56 cm)
Passenger's Side	19 inches (48 cm)

Vehicle Dimensions

Length	192 inches (487.8 cm)
Width	69.4 inches (176.3 cm)
Height	56.4 inches (143.2 cm)
Wheelbase	107 inches (271.9 cm)
Front Tread	59 inches (149.9 cm)
Rear Tread	59.3 inches (150.5 cm)

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Section 7 Maintenance Schedule

This section covers the maintenance required for your vehicle. Your vehicle needs these services to retain its safety, dependability and emission control performance.

7-2 Introduction
7-3 How this Section is Organized
7-4 Part A: Scheduled Maintenance Services
7-5 Short Trip/City Definition
7-5 Short Trip/City Intervals
7-6 Long Trip/Highway Definition
7-6 Long Trip/Highway Intervals
7-7 Short Trip/City Maintenance Schedule
7-19 Long Trip/Highway Maintenance Schedule
7-26 Part B: Owner Checks and Services
7-30 Part C: Periodic Maintenance Inspections
7-31 Part D: Recommended Fluids and Lubricants
7-32 Part E: Maintenance Record

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IMPORTANT:
KEEP ENGINE OIL AT THE PROPER LEVEL AND CHANGE AS RECOMMENDED

GM **Protection Plan**

Have you purchased the GM Protection Plan? The Plan supplements your new vehicle warranties. See your Warranty and Owner Assistance booklet, or your Oldsmobile retailer for details.

Introduction

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 procedures are 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, please maintain your vehicle properly.

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How This Section is Organized

The remainder of this section is divided into five parts:

"Part A: Scheduled Maintenance Services" shows what to have done and how often. Some of these services can be complex, so unless you are technically qualified and have the necessary equipment, you should let your retailer's service department or another qualified service center do these jobs.

⚠ 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. If you have any doubt, have a qualified technician do the work.

If you are skilled enough to do some work on your vehicle, you will probably want to get the service information. See "Service and Owner Publications" in the Index.

"Part B: Owner Checks and Services" tells you what should be checked and when. It also explains what you can easily do to help keep your vehicle in good condition.

"Part C: Periodic Maintenance Inspections" explains important inspections that your retailer's service department or another qualified service center should perform.

"Part D: Recommended Fluids and Lubricants" lists some recommended products to help keep your vehicle properly maintained. These products, or their equivalents, should be used whether you do the work yourself or have it done.

"Part E: Maintenance Record" provides a place for you to record the maintenance performed on your vehicle. Whenever any maintenance is performed, be sure to write it down in this part. This will help you determine when your next maintenance should be done. In addition, it is a good idea to keep your maintenance receipts. They may be needed to qualify your vehicle for warranty repairs.

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Part A: Scheduled Maintenance Services

Using Your Maintenance Schedule

We at General Motors want to help you keep your vehicle in good working condition. But we don't know exactly how you'll drive it. You may drive very short distances only a few times a week. Or you may drive long distances all the time in very hot, dusty weather. You may use your vehicle in making deliveries. Or you may 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 may even need more frequent checks and replacements than you'll find in the schedules in this section. So please read this section and note how you drive. If you have any questions on how to keep your vehicle in good condition, see your retailer.

This part tells you the maintenance services you should have done and when you should schedule them. If you go to your retailer for your service needs, you'll know that GM-trained and supported service people will perform the work using genuine GM parts.

The proper fluids and lubricants to use are listed in Part D. Make sure whoever services your vehicle uses these. All parts should be replaced and all necessary repairs done before you or anyone else drives the vehicle.

These schedules are for vehicles that:

- carry passengers and cargo within recommended limits. You will find these limits on your vehicle's Tire-Loading Information label. See "Loading Your Vehicle" in the Index.
- are driven on reasonable road surfaces within legal driving limits.
- use the recommended fuel. See "Fuel" in the Index.

Selecting the Right Schedule

First you'll need to decide which of the two schedules is right for your vehicle. Here's how to decide which schedule to follow:

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Maintenance Schedule

Short Trip/City Definition

Follow the Short Trip/City Maintenance Schedule if any one of these conditions is true for your vehicle:

- Most trips are less than 5 to 10 miles (8 to 16 km). This is particularly important when outside temperatures are below freezing.
- Most trips include extensive idling (such as frequent driving in stop-and-go traffic).
- Most trips are through dusty areas.
- You frequently tow a trailer or use a carrier on top of your vehicle.
- If the vehicle is used for delivery service, police, taxi or other commercial application.

One of the reasons you should follow this schedule if you operate your vehicle under any of these conditions is that these conditions cause engine oil to break down sooner.

Short Trip/City Intervals

Every 3,000 Miles (5 000 km): Engine Oil and Filter Change (or 3 months, whichever occurs first).

Every 6,000 Miles (10 000 km): Tire Rotation.

Every 15,000 Miles (25 000 km): Air Cleaner Filter Inspection, if driving in dusty conditions.

Every 30,000 Miles (50 000 km): Air Cleaner Filter Replacement. Fuel Tank, Cap and Lines Inspection.

Every 50,000 Miles (83 000 km): Automatic Transaxle Service (severe conditions only).

Every 60,000 Miles (100 000 km): Engine Accessory Drive Belt Inspection.

Every 100,000 Miles (166 000 km): Spark Plug Wire Inspection. Spark Plug Replacement.

Every 150,000 Miles (240 000 km): Cooling System Service (or every 60 months, whichever occurs first).

These intervals only summarize maintenance services. Be sure to follow the complete maintenance schedule on the following pages.

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Maintenance Schedule

Long Trip/Highway Definition

Follow this maintenance schedule *only* if none of the conditions from the Short Trip/City Maintenance Schedule is true. Do not use this schedule if the vehicle is used for trailer towing, driven in a dusty area or used off paved roads. Use the Short Trip/City schedule for these conditions.

Driving a vehicle with a fully warmed engine under highway conditions causes engine oil to break down slower.

Long Trip/Highway Intervals

Every 7,500 Miles (12 500 km): Engine Oil and Filter Change (or every 12 months, whichever occurs first). Tire Rotation.

Every 30,000 Miles (50 000 km): Air Cleaner Filter Replacement. Fuel Tank, Cap and Lines Inspection.

Every 50,000 Miles (83 000 km): Automatic Transaxle Service (severe conditions only).

Every 60,000 Miles (100 000 km): Engine Accessory Drive Belt Inspection.

Every 100,000 Miles (166 000 km): Spark Plug Wire Inspection. Spark Plug Replacement.

Every 150,000 Miles (240 000 km): Cooling System Service (or every 60 months, whichever occurs first).

These intervals only summarize maintenance services. Be sure to follow the complete maintenance schedule on the following pages.

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Short Trip/City Maintenance Schedule

The services shown in this schedule up to 100,000 miles (166 000 km) should be performed after 100,000 miles (166 000 km) at the same intervals. The services shown at 150,000 miles (240 000 km) should be performed at the same interval after 150,000 miles (240 000 km).

See "Owner Checks and Services" and "Periodic Maintenance Inspections" following.

Footnotes

† The U.S. Environmental Protection Agency or the California Air Resources Board has determined that the failure to perform this maintenance item will not nullify the emission warranty or limit recall liability prior to the completion of the vehicle's useful life. We, however, urge that all recommended maintenance services be performed at the indicated intervals and the maintenance be recorded.

+ A good time to check your brakes is during tire rotation. See "Brake System Inspection" under "Periodic Maintenance Inspections" in Part C of this schedule.

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Short Trip/City Maintenance Schedule

3,000 Miles (5 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

DATE	
ACTUAL MILEAGE	SERVICED BY:

6,000 Miles (10 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

9,000 Miles (15 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

DATE	
ACTUAL MILEAGE	SERVICED BY:

12,000 Miles (20 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Short Trip/City Maintenance Schedule

15,000 Miles (25 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first).
  An Emission Control Service.
- ☐ Inspect air cleaner filter if you are driving in dusty conditions. Replace filter if necessary.
  An Emission Control Service. (See footnote†.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

18,000 Miles (30 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first).
  An Emission Control Service.
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

21,000 Miles (35 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first).
  An Emission Control Service.

DATE	
ACTUAL MILEAGE	SERVICED BY:

24,000 Miles (40 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first).
  An Emission Control Service.
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Short Trip/City Maintenance Schedule

27,000 Miles (45 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first).
An Emission Control Service.

DATE	
ACTUAL MILEAGE	SERVICED BY:

30,000 Miles (50 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first).
An Emission Control Service.

☐ Replace air cleaner filter.
An Emission Control Service.

☐ Inspect fuel tank, cap and lines for damage or leaks. Inspect fuel cap gasket for any damage. Replace parts as needed.
An Emission Control Service. (See footnote†.)

☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

33,000 Miles (55 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first).
An Emission Control Service.

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Short Trip/City Maintenance Schedule

36,000 Miles (60 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

39,000 Miles (65 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

DATE	
ACTUAL MILEAGE	SERVICED BY:

42,000 Miles (70 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

45,000 Miles (75 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*
- ☐ Inspect air cleaner filter if you are driving in dusty conditions. Replace filter if necessary. *An Emission Control Service.* (See footnote†.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Short Trip/City Maintenance Schedule

48,000 Miles (80 000 km)

DATE	
ACTUAL MILEAGE	SERVICED BY:

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

50,000 Miles (83 000 km)

DATE	
ACTUAL MILEAGE	SERVICED BY:

- ☐ Change automatic transaxle 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.

  If you do not use your vehicle under any of these conditions, the fluid and filter do not require changing.

51,000 Miles (85 000 km)

DATE	
ACTUAL MILEAGE	SERVICED BY:

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

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Short Trip/City Maintenance Schedule

54,000 Miles (90 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first).
  An Emission Control Service.
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

57,000 Miles (95 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first).
  An Emission Control Service.

DATE	
ACTUAL MILEAGE	SERVICED BY:

60,000 Miles (100 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first).
  An Emission Control Service.
- ☐ Inspect engine accessory drive belt.
  An Emission Control Service.
- ☐ Replace air cleaner filter.
  An Emission Control Service.
- ☐ Inspect fuel tank, cap and lines for damage or leaks. Inspect fuel cap gasket for any damage. Replace parts as needed.
  An Emission Control Service. (See footnote†.)
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Short Trip/City Maintenance Schedule

63,000 Miles (105 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

DATE	
ACTUAL MILEAGE	SERVICED BY:

66,000 Miles (110 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

69,000 Miles (115 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

DATE	
ACTUAL MILEAGE	SERVICED BY:

72,000 Miles (120 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Short Trip/City Maintenance Schedule

75,000 Miles (125 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*
- ☐ Inspect air cleaner filter if you are driving in dusty conditions. Replace filter if necessary. *An Emission Control Service.* (See footnote†.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

78,000 Miles (130 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

81,000 Miles (135 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*

DATE	
ACTUAL MILEAGE	SERVICED BY:

84,000 Miles (140 000 km)

- ☐ Change engine oil and filter (or every 3 months, whichever occurs first). *An Emission Control Service.*
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Short Trip/City Maintenance Schedule

87,000 Miles (145 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first).
An Emission Control Service.

DATE	
ACTUAL MILEAGE	SERVICED BY:

90,000 Miles (150 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first).
An Emission Control Service.

☐ Replace air cleaner filter.
An Emission Control Service.

☐ Inspect fuel tank, cap and lines for damage or leaks. Inspect fuel cap gasket for any damage. Replace parts as needed.
An Emission Control Service. (See footnote†.)

☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

93,000 Miles (155 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first).
An Emission Control Service.

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Short Trip/City Maintenance Schedule

96,000 Miles (160 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first).
An Emission Control Service.

☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

99,000 Miles (165 000 km)

☐ Change engine oil and filter (or every 3 months, whichever occurs first).
An Emission Control Service.

DATE	
ACTUAL MILEAGE	SERVICED BY:

100,000 Miles (166 000 km)

☐ Inspect spark plug wires.
An Emission Control Service.

☐ Replace spark plugs.
An Emission Control Service.

☐ Change automatic transaxle 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.

DATE	
ACTUAL MILEAGE	SERVICED BY:

(Continued)

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Short Trip/City Maintenance Schedule

100,000 Miles (166 000 km) (Continued)

- When doing frequent trailer towing.
- Uses such as found in taxi, police or delivery service.

If you do not use your vehicle under any of these conditions, the fluid and filter do not require changing.

150,000 Miles (240 000 km)

☐ Drain, flush and refill cooling system (or every 60 months since last service, whichever occurs first). See "Engine Coolant" in the Index for what to use. Inspect hoses. Clean radiator, condenser, pressure cap and neck. Pressure test cooling system and pressure cap.
An Emission Control Service.

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Long Trip/Highway Maintenance Schedule

The services shown in this schedule up to 100,000 miles (166 000 km) should be performed after 100,000 miles (166 000 km) at the same intervals. The services shown at 150,000 miles (240 000 km) should be performed at the same interval after 150,000 miles (240 000 km).

See "Owner Checks and Services" and "Periodic Maintenance Inspections" following.

Footnotes

† The U.S. Environmental Protection Agency or the California Air Resources Board has determined that the failure to perform this maintenance item will not nullify the emission warranty or limit recall liability prior to the completion of the vehicle's useful life. We, however, urge that all recommended maintenance services be performed at the indicated intervals and the maintenance be recorded.

+ A good time to check your brakes is during tire rotation. See "Brake System Inspection" under "Periodic Maintenance Inspections" in Part C of this schedule.

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Long Trip/Highway Maintenance Schedule

7,500 Miles (12 500 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first). *An Emission Control Service.*
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

15,000 Miles (25 000 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first). *An Emission Control Service.*
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

22,500 Miles (37 500 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first). *An Emission Control Service.*
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

30,000 Miles (50 000 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first). *An Emission Control Service.*
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Long Trip/Highway Maintenance Schedule

- ☐ Replace air cleaner filter.
  An Emission Control Service.
- ☐ Inspect fuel tank, cap and lines for damage or leaks. Inspect fuel cap gasket for any damage. Replace parts as needed.
  An Emission Control Service. (See footnote†.)

37,500 Miles (62 500 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first).
  An Emission Control Service.
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

45,000 Miles (75 000 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first).
  An Emission Control Service.
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Long Trip/Highway Maintenance Schedule

50,000 Miles (83 000 km)

DATE	
ACTUAL MILEAGE	SERVICED BY:

☐ Change automatic transaxle 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.

If you do not use your vehicle under any of these conditions, the fluid and filter do not require changing.

52,500 Miles (87 500 km)

DATE	
ACTUAL MILEAGE	SERVICED BY:

☐ Change engine oil and filter (or every 12 months, whichever occurs first). *An Emission Control Service.*

☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

60,000 Miles (100 000 km)

DATE	
ACTUAL MILEAGE	SERVICED BY:

☐ Change engine oil and filter (or every 12 months, whichever occurs first). *An Emission Control Service.*

☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

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Long Trip/Highway Maintenance Schedule

- ☐ Inspect engine accessory drive belt.
  An Emission Control Service.
- ☐ Replace air cleaner filter.
  An Emission Control Service.
- ☐ Inspect fuel tank, cap and lines for damage or leaks. Inspect fuel cap gasket for any damage. Replace parts as needed.
  An Emission Control Service. (See footnote†.)

67,500 Miles (112 500 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first).
  An Emission Control Service.
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

75,000 Miles (125 000 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first).
  An Emission Control Service.
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Long Trip/Highway Maintenance Schedule

82,500 Miles (137 500 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first).
  An Emission Control Service.
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

90,000 Miles (150 000 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first).
  An Emission Control Service.
- ☐ Replace air cleaner filter.
  An Emission Control Service.
- ☐ Inspect fuel tank, cap and lines for damage or leaks. Inspect fuel cap gasket for any damage. Replace parts as needed.
  An Emission Control Service. (See footnote†.)
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

97,500 Miles (162 500 km)

- ☐ Change engine oil and filter (or every 12 months, whichever occurs first).
  An Emission Control Service.
- ☐ Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information. (See footnote +.)

DATE	
ACTUAL MILEAGE	SERVICED BY:

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Long Trip/Highway Maintenance Schedule

100,000 Miles (166 000 km)

DATE	
ACTUAL MILEAGE	SERVICED BY:

☐ Inspect spark plug wires.
An Emission Control Service.

☐ Replace spark plugs.
An Emission Control Service.

☐ Change automatic transaxle 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.

If you do not use your vehicle under any of these conditions, the fluid and filter do not require changing.

150,000 Miles (240 000 km)

DATE	
ACTUAL MILEAGE	SERVICED BY:

☐ Drain, flush and refill cooling system (or every 60 months since last service, whichever occurs first). See "Engine Coolant" in the Index for what to use. Inspect hoses. Clean radiator, condenser, pressure cap and neck. Pressure test the cooling system and pressure cap.
An Emission Control Service.

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Part B: Owner Checks and Services

Listed below are owner checks and services which should be performed at the intervals specified to help ensure the safety, dependability and emission control performance of your vehicle.

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 Part D.

At Each Fuel Fill

It is important for you or a service station attendant to perform these underhood checks at each fuel fill.

Engine Oil Level Check

Check the engine oil level and add the proper oil if necessary. See "Engine Oil" in the Index for further details.

Engine Coolant Level Check

Check the engine coolant level and add DEX-COOL® coolant mixture if necessary. See "Engine Coolant" in the Index for further details.

Windshield Washer Fluid Level Check

Check the windshield washer fluid level in the windshield washer tank and add the proper fluid if necessary. See "Windshield Washer Fluid" in the Index for further details.

At Least Once a Month

Tire Inflation Check

Make sure tires are inflated to the correct pressures. See "Tires" in the Index for further details.

Cassette Deck Service

Clean cassette deck. Cleaning should be done every 50 hours of tape play. See "Audio Systems" in the Index for further details.

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At Least Twice a Year

Restraint System Check

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. Have any torn or frayed safety belts replaced.

Also look for any opened or broken air bag coverings, and have them repaired or replaced. (The air bag system does not need regular maintenance.)

Wiper Blade Check

Inspect wiper blades for wear or cracking. Replace blade inserts that appear worn or damaged or that streak or miss areas of the windshield. Also see "Wiper Blades, Cleaning" in the Index.

Automatic Transaxle Inspection

Check the transaxle fluid level; add if needed. See "Automatic Transaxle" in the Index. A fluid loss may indicate a problem. Check the system and repair if needed.

At Least Once a Year

Key Lock Cylinders Service

Lubricate the key lock cylinders with the lubricant specified in Part D.

Body Lubrication Service

Lubricate all body door hinges and latches, including those for the hood, trunk lid, glove box door and console door. Part D tells you what to use. More frequent lubrication may be required when exposed to a corrosive environment.

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Starter Switch Check

⚠ CAUTION:

When you are doing this check, the vehicle could move suddenly. If it does, you or others could be injured. Follow the steps below.

1. Before you start, be sure you have enough room around the vehicle.
2. Firmly apply both the parking brake (see "Parking Brake" in the Index if necessary) and the regular brake.

   NOTE: Do not use the accelerator pedal, and be ready to turn off the engine immediately if it starts.
3. Try to start the engine in each gear. The starter should work only in PARK (P) or NEUTRAL (N). If the starter works in any other position, your vehicle needs service.

Brake-Transaxle Shift Interlock (BTSI) Check

⚠ CAUTION:

When you are doing this check, the vehicle could move suddenly. If it does, you or others could be injured. Follow the steps below.

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" in the Index if necessary).

   NOTE: Be ready to apply the regular brake immediately if the vehicle begins to move.
3. With the engine off, turn the key to the ON position, but don't 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), your vehicle's BTSI needs service.

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Ignition Transaxle Lock Check

While parked, and with the parking brake set, try to turn the ignition key to OFF in each shift lever position. The key should turn to OFF only when the shift lever is in PARK (P).

On all vehicles, the key should come out only in OFF.

Parking Brake and Automatic Transaxle 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 transaxle 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 all brakes.

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.

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Part C: Periodic Maintenance Inspections

Listed below are inspections and services which should be performed at least twice a year (for instance, each spring and fall). You should let your retailer's service department or other qualified service center do these jobs. Make sure any necessary repairs are completed at once.

Proper procedures to perform these services may be found in a service manual. See "Service and Owner Publications" in the Index.

Steering, Suspension and Front Drive Axle Boot and Seal Inspection

Inspect the front and rear suspension and steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect the power steering lines and hoses for proper hook-up, binding, leaks, cracks, chafing, etc. Clean and then inspect the drive axle boot seals for damage, tears or leakage. Replace seals if necessary.

Exhaust System Inspection

Inspect the complete exhaust system. Inspect the body near the exhaust system. Look for broken, damaged, missing or out-of-position parts as well as open seams, holes, loose connections or other conditions which could cause a heat build-up in the floor pan or could let exhaust fumes into the vehicle. See "Engine Exhaust" in the Index.

Engine Cooling System Inspection

Inspect the hoses and have them replaced if they are cracked, swollen or deteriorated. Inspect all pipes, fittings and clamps; replace as needed. Clean the outside of the radiator and air conditioning condenser. To help ensure proper operation, a pressure test of the cooling system and pressure cap is recommended at least once a year.

Throttle System Inspection

Inspect the throttle system for interference or binding, and for damaged or missing parts. Replace parts as needed. Replace any components that have high effort or excessive wear. Do not lubricate accelerator and cruise control cables.

Brake System Inspection

Inspect the complete system. 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. Also inspect drum brake linings for wear and cracks. Inspect other brake parts, including drums, wheel cylinders, calipers, parking brake, etc. The parking brake is self-adjusting and no manual adjustment is required. You may need to have your brakes inspected more often if your driving habits or conditions result in frequent braking.

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Part D: Recommended Fluids and Lubricants

NOTE: Fluids and lubricants identified below by name, part number or specification may be obtained from your retailer.

USAGE	FLUID/LUBRICANT
Engine Oil	Engine Oil with the American Petroleum Institute Certified For Gasoline Engines "Starburst" symbol of the proper viscosity. To determine the preferred viscosity for your vehicle's engine, see "Engine Oil" in the Index.
Engine Coolant	50/50 mixture of clean water (preferably distilled) and use only GM Goodwrench® DEX-COOL® or Havoline® DEX-COOL® Coolant. See "Engine Coolant" in the Index.
Hydraulic Brake System	Delco Supreme 11® Brake Fluid (GM Part No. 12377967 or equivalent DOT-3 Brake Fluid).
Power Steering System	GM Power Steering Fluid (GM Part No. 1052884 - 1 pint, 1050017 - 1 quart, or equivalent).
Automatic Transaxle	DEXRON®-III Automatic Transmission Fluid.
Key Lock Cylinders	Multi-Purpose Lubricant, Superlube® (GM Part No. 12346241 or equivalent).
Windshield Washer Solvent	GM Optikleen® Washer Solvent (GM Part No. 1051515) or equivalent.
Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor and Release Pawl	Lubriplate® Lubricant Aerosol (GM Part No. 12346293 or equivalent) or lubricant meeting requirements of NLGI # 2, Category LB or GC-LB.
Hood and Door Hinges	Multi-Purpose Lubricant, Superlube® (GM Part No. 12346241 or equivalent).
Weatherstrip Conditioning	Dielectric Silicone Grease (GM Part No. 12345579 or equivalent).

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Part E: Maintenance Record

After the scheduled services are performed, record the date, odometer reading and who performed the service in the boxes provided after the maintenance interval. Any additional information from "Owner Checks and Services" or "Periodic Maintenance" can be added on the following record pages. Also, you should retain all maintenance receipts. Your owner information portfolio is a convenient place to store them.

Maintenance Record

DATE	ODOMETER READING	SERVICED BY	MAINTENANCE PERFORMED

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Maintenance Record

DATE	ODOMETER READING	SERVICED BY	MAINTENANCE PERFORMED

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Maintenance Record

DATE	ODOMETER READING	SERVICED BY	MAINTENANCE PERFORMED

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Maintenance Record

DATE	ODOMETER READING	SERVICED BY	MAINTENANCE PERFORMED

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Maintenance Record

DATE	ODOMETER READING	SERVICED BY	MAINTENANCE PERFORMED

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Section 8 Customer Assistance Information

Here you will find out how to contact Oldsmobile if you need assistance. This section also tells you how to obtain service publications and how to report any safety defects.

8-2 Customer Satisfaction Procedure
8-4 Customer Assistance for Text Telephone (TTY) Users
8-5 Oldsmobile Roadside Assistance Program Features and Benefits
8-6 Canadian Roadside Assistance
8-6 Courtesy Transportation
8-7 GM Participation in an Alternative Dispute Resolution Program
8-8 Warranty Information
8-8 Reporting Safety Defects to the United States Government
8-9 Reporting Safety Defects to the Canadian Government
8-9 Reporting Safety Defects to General Motors
8-9 Ordering Service and Owner Publications in Canada

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Customer Satisfaction Procedure

Oldsmobile retailers have the facilities, trained technicians and up-to-date information to promptly address any concerns you may have. However, if a concern has not been resolved to your complete satisfaction, take the following steps:

STEP ONE -- Discuss your concern with a member of retail facility 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 retail facility or the general manager.

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STEP TWO -- If after contacting a member of retail facility management, it appears your concern cannot be resolved by the retail facility without further help, contact the Oldsmobile Customer Assistance Network by calling 1-800-442-6537. In Canada, contact GM of Canada Customer Communication Centre in Oshawa by calling 1-800-263-3777 (English) or 1-800-263-7854 (French).

For help outside of the United States and Canada, call the following numbers as appropriate:

- In Mexico: (525) 625-3256
- In Puerto Rico: 1-800-496-9992 (English) or 1-800-496-9993 (Spanish)
- In the U.S. Virgin Islands: 1-800-496-9994
- In the Dominican Republic: 1-800-751-4135 (English) or 1-800-751-4136 (Spanish)
- In the Bahamas: 1-800-389-0009
- In Bermuda, Barbados, Antigua and the British Virgin Islands: 1-800-534-0122
- In all other Caribbean countries: (809) 763-1315
- In other overseas locations, call GM Overseas Distribution Corporation in Canada at: (905) 644-4112.

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For prompt assistance, please have the following information available to give the Customer Assistance Representative:

- Your name, address, home and business telephone numbers
- Vehicle Identification Number (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.)
- Retail facility name and location
- Vehicle delivery date and present mileage
- Nature of concern

We encourage you to call us so we can give your inquiry prompt attention. However, if you wish to write Oldsmobile, address your inquiry to:

Customer Assistance Representative
Oldsmobile Customer Assistance Network
16 E. Judson Street
P.O. Box 436006
Pontiac, MI 48343-6006

In Canada, write to:

General Motors of Canada Limited
Customer Communication Centre, 163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Refer to your Warranty and Owner Assistance Information booklet for addresses of GM Overseas offices.

When contacting Oldsmobile, please remember that your concern will likely be resolved in the retail facility, using the retailer's facilities, equipment and personnel. That is why we suggest you follow Step One first if you have a concern.

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), Oldsmobile has TTY equipment available at its Customer Assistance Network. Any TTY user can communicate with Oldsmobile by dialing: 1-800-833-OLDS. (TTY users in Canada can dial 1-800-263-3830.)

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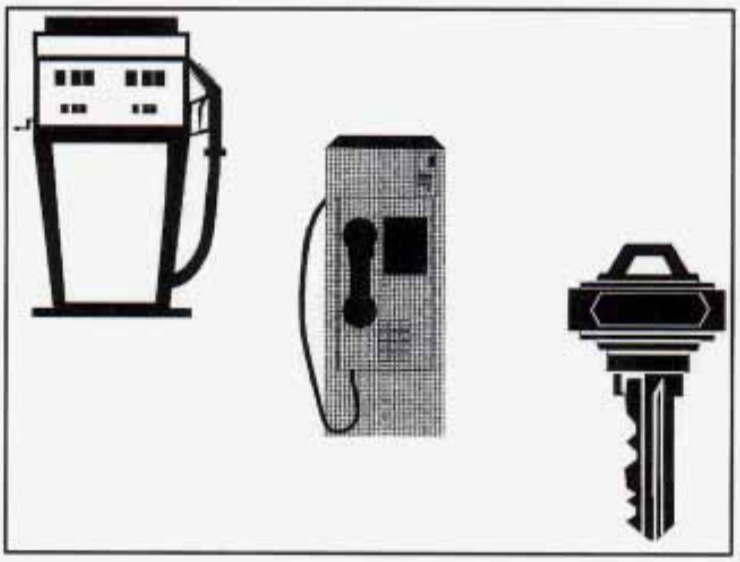
Oldsmobile Roadside Assistance Program Features and Benefits



The Oldsmobile Roadside Assistance program means help is just a toll-free call away -- 24 hours a day, 365 days a year.

Courteous and capable Customer Assistance Representatives are on-call to provide you with prompt assistance.

24-Hour Oldsmobile Roadside Assistance Telephone Number

1-800-442-OLDS (6537) is the one number to call for assistance in the United States. Trained Customer Assistance Representatives, on-call to render assistance to Oldsmobile drivers, can dispatch roadside assistance and towing service, locate the nearest Oldsmobile retail facility, take your request for an Oldsmobile computerized trip routing or simply answer any questions the Oldsmobile driver may have about the coverage provided by your Oldsmobile Roadside Assistance Program. The Oldsmobile Roadside Assistance number is fully staffed and operational 24 hours a day, 365 days a year.

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Who Is Covered?

Oldsmobile Roadside Assistance covers all 1998 Oldsmobile vehicles.*

Coverage is for the Oldsmobile vehicle, *regardless of the driver*, and is concurrent with the Bumper to Bumper warranty period.

Oldsmobile reserves the right to limit services or reimbursement to an owner or driver when in Oldsmobile's judgement the claims become excessive in frequency or type of occurrence.

**Vehicles sold in Canada have a separate roadside assistance program, as described next in this section.*

Canadian Roadside Assistance

Vehicles purchased in Canada have an extensive roadside assistance program accessible from anywhere in Canada or the United States. Please refer to the separate brochure provided by the retailer or call 1-800-268-6800 for emergency services.

Courtesy Transportation

We're here to help. That's why whenever your Oldsmobile is undergoing any Bumper to Bumper Warranty service, we'll make sure you don't end up stranded at the retail facility. It's called Courtesy Transportation and it's our way to make sure you're able to get out even when your car is in. For same-day service, we'll give you a one-way shuttle ride of up to 10 miles (16 km). If your vehicle requires overnight warranty repairs, we'll provide a loaner car or reimburse you up to $30 a day for the cost of alternate transportation -- a cab, a bus or even a rental car if necessary. Having your car serviced is rarely convenient, but with Courtesy Transportation, at least you'll be able to get where you need to go, whether it's here, or there.

Some state insurance regulations make it impractical to rent vehicles to people under 21 years of age. If you are under 21 and have difficulty renting a vehicle, Oldsmobile will reimburse up to $30/day for documented transportation you receive. Please consult your retailer for details.

For warranty repairs during the Complete Vehicle Coverage period in the New Vehicle Limited Warranty, interim transportation may be available under the Courtesy Transportation Program. Please consult your retailer for details. The Roadside Assistance program is available only in the United States and Canada.

In Canada, please consult your GM dealer for information on Courtesy Transportation.

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GM Participation in an Alternative Dispute Resolution Program

This program is available in all 50 states and the District of Columbia. Canadian owners refer to your Warranty and Owner Assistance Information booklet for information on the Canadian Motor Vehicle Arbitration Plan (CAMVAP). General Motors reserves the right to change eligibility limitations and/or to discontinue its participation in this program.

Both Oldsmobile and your Oldsmobile retailer are committed to making sure you are completely satisfied with your new vehicle. Our experience has shown that, if a situation arises where you feel your concern has not been adequately addressed, the Customer Satisfaction Procedure described earlier in this section is very successful.

There may be instances where an impartial third party can assist in arriving at a solution to a disagreement regarding vehicle repairs or interpretation of the New Vehicle Limited Warranty. To assist in resolving these disagreements, Oldsmobile voluntarily participates in BBB AUTO LINE.

BBB AUTO LINE is an out-of-court program administered by the Better Business Bureau system to settle automotive disputes. This program is available free of charge to customers who currently own or lease a GM vehicle.

If you are not satisfied after following the Customer Satisfaction Procedure, you may contact the BBB using the toll-free telephone number, or write them at the following address:

BBB AUTO LINE
Council of Better Business Bureaus, Inc.
4200 Wilson Boulevard
Suite 800
Arlington, VA 22203-1804

Telephone: 1-800-955-5100

To file a claim, you will be asked to provide your name and address, your Vehicle Identification Number (VIN) and a statement of the nature of your complaint. Eligibility is limited by vehicle age and mileage, and other factors.

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We prefer you utilize the Customer Satisfaction Procedure before you resort to AUTO LINE, but you may contact the BBB at any time. The BBB will attempt to resolve the complaint serving as an intermediary. If this mediation is unsuccessful, an informal hearing will be scheduled where eligible customers may present their case to an impartial third-party arbitrator.

The arbitrator will make a decision which you may accept or reject. If you accept the decision, GM will be bound by that decision. The entire dispute resolution procedure should ordinarily take about 40 days from the time you file a claim until a decision is made.

Some state laws may require you to use this program before filing a claim with a state-run arbitration program or in the courts. For further information, contact the BBB at 1-800-955-5100 or the Oldsmobile Customer Assistance Network at 1-800-442-6537.

Warranty Information

Your vehicle comes with a separate warranty booklet that contains detailed warranty information.

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 retailer or General Motors.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in the Washington, D.C. area) or write to:

NHTSA, U.S. Department of Transportation
Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from the Hotline.

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REPORTING SAFETY DEFECTS TO THE CANADIAN GOVERNMENT

If you live in Canada, and you believe that your vehicle has a safety defect, you should immediately notify Transport Canada, in addition to notifying General Motors of Canada Limited. You may write to:

Transport Canada
Box 8880
Ottawa, Ontario K1G 3J2

REPORTING SAFETY DEFECTS TO GENERAL MOTORS

In addition to notifying NHTSA (or Transport Canada) in a situation like this, we certainly hope you'll notify us. Please call us at 1-800-442-6537 or write:

Oldsmobile Customer Assistance Network
16 E. Judson Street
P.O. Box 436006
Pontiac, MI 48343-6006

In Canada, please call us at 1-800-263-3777 (English) or 1-800-263-7854 (French). Or, write:

General Motors of Canada Limited
Customer Communication Centre, 163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Ordering Service and Owner Publications in Canada

Service manuals, owner's manuals and other service literature are available for purchase for all current and past model General Motors vehicles.

The toll-free telephone number for ordering information in Canada is 1-800-668-5539.

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The following publications covering the operation and servicing of your vehicle can be purchased by filling out the Service Publication Order Form in this book and mailing it in with your check, money order, or credit card information to Helm, Incorporated (address below.)

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This manual provides information on unit repair service procedures, adjustments and specifications for the 1998 GM transmissions, transaxles and transfer cases.
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Service Bulletins give 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.

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Owner publications are written directly for Owners and intended to provide basic operational information about the vehicle. The owner's manual will include the Maintenance Schedule for all models.

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REPLACEMENT BULBS

Application	Number
Headlamps	
High-Beam	9005
Low-Beam	9006
Front Park and Turn Signal	3157 NA
Rear Stop/Tail and Turn Signal	3057

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CAPACITIES AND SPECIFICATIONS

Engine Specifications

Displacement	3.1 Liters
Horsepower	V6 155
Type	V6 3.1L
Firing Order	V6 1-2-3-4-5-6
VIN Engine Code	V6 M

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CAPACITIES AND SPECIFICATIONS (CONTINUED)

Capacities

Crankcase (Engine Oil with Filter Change) V6	4.5 quarts (4.3 L)
Engine Cooling System 3100 Engine	13.6 quarts (12.9 L)
Fuel Tank	15.0 gallons (56.8 L)

Vehicle Dimensions

Length	192 inches (487.8 cm)
Height	56.4 inches (143.2 cm)
Front Tread	59 inches (149.9 cm)
Rear Tread	59.3 inches (150.5 cm)

Torque

Wheel Nut Torque	100 lb-ft (140 N·m)

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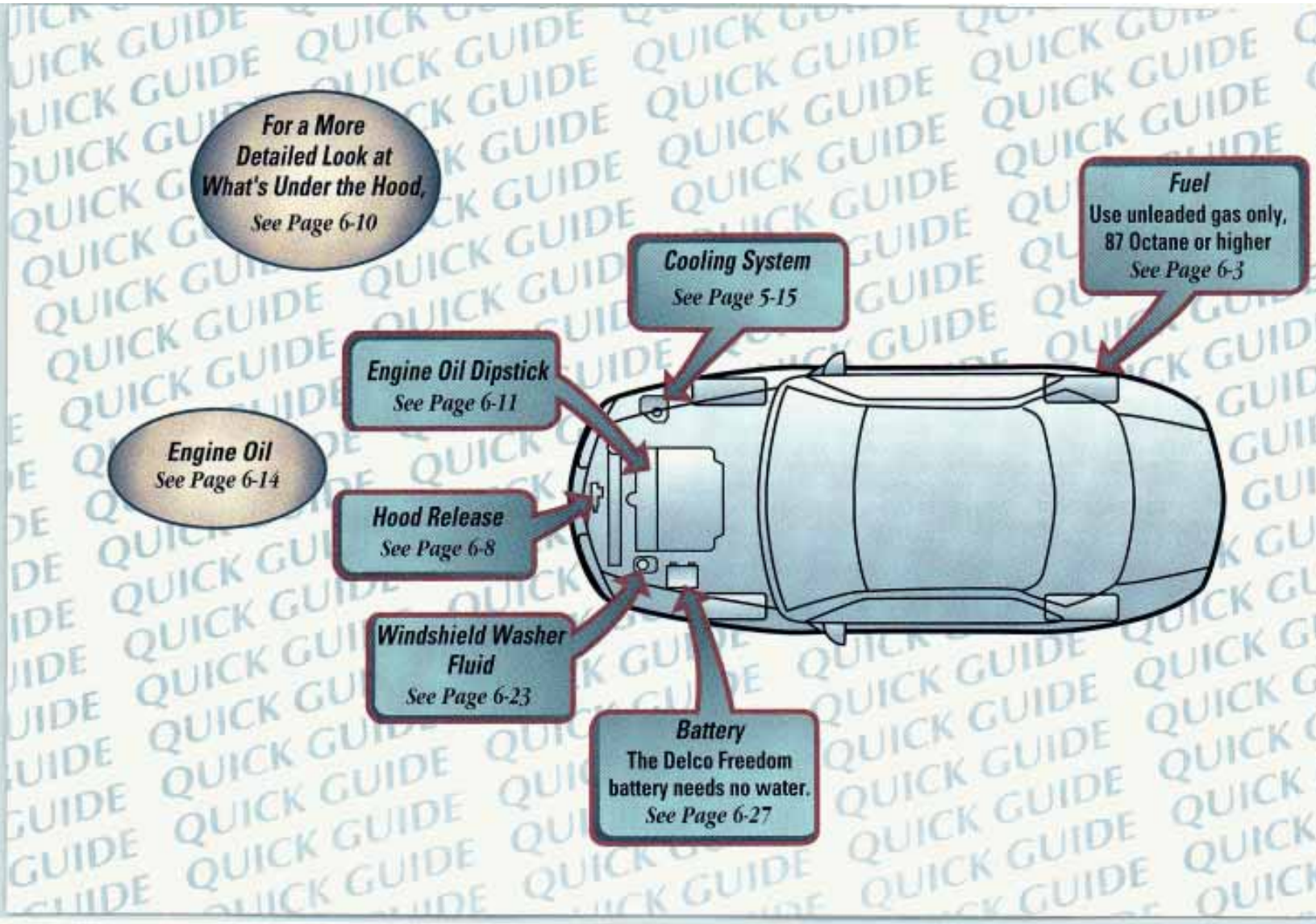

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