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by Oldsmobile



# The 1996 Oldsmobile Aurora Owner's Manual

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Please keep this manual in your Oldsmobile, 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. 1500 Bonhill Rd. Mississauga, Ontario L5T 1C7

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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 the back of the manual. It's an alphabetical list of all that'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."

## 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.

#### Vehicle Symbols

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



## NOTES

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# Section 1 Seats and Restraint Systems

Here you'll find information about the seats in your Aurora 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.

#### Seats and Seat Controls

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

#### **Power Seats**



Horizontal Control (A): Raise the front of the seat by raising the forward edge of the button. Lower the front of the seat by lowering the forward edge of the button. Move the seat forward by moving the whole button toward the front of the vehicle. Raise the rear of the seat by raising the rear edge of the button. Lower the rear of the seat by lowering the rear edge of the button. Move the seat back by moving the whole button toward the rear of the vehicle.

Moving the whole button up or down raises or lowers the whole seat.

Vertical Control (B): Move the recliner rearward by moving the button toward the rear of the vehicle. Move the recliner forward by moving the button toward the front of the vehicle.

#### **Power Lumbar Control**



The rear lumbar control adjusts upper lumbar support; the front control adjusts lower lumbar support.

Press the front of the switch to increase support. Press the back of the switch to decrease support.

## Memory Seat



The memory function controls both the driver's seat and outside mirror positions. First, position the seat and mirrors where you want them. Next, press the SET button. You will hear one beep. Within five seconds, press either the 1 or 2 button. You will hear two beeps.

The seat and memory positions will be stored for the number pressed. Repeat the procedure to store another position with the other number if desired. To adjust the seat and mirrors to the stored position, press the number corresponding to the position. The memory function will only work with the gearshift in PARK (P). To stop the automatic movement, move the seat switch in any direction. For easier exiting, press the 1 and 2 buttons at the same time to move the seat completely down and back.

#### Remote Lock Control Personalization Feature

Each Remote Lock Control transmitter can be programmed to move the driver's seat and outside mirrors to a set memory position when the transmitter's UNLOCK button is pressed. For programming instructions, see "Personalization Features" in the Index.

#### Heated Front Seat (Option)



This feature will quickly heat the lower cushions and lower back of the driver and front passenger seats for added comfort.

Press the button once to turn the heater on high. The HI indicator light below the button will glow. Press it again to turn the heater on low. The LO indicator light below the button will glow. Press it a third time to turn the heater off. The heater will turn off automatically when the ignition is turned off.

#### **Reclining Front Seatbacks**

The vertical control described previously in this section reclines the front seatbacks.



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

# **A** 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.

The head restraints tilt forward and rearward also.

There are four different positions. Just grasp the top of the restraint and move it forward the way you want it to go until you hear a click. It will then be locked into that position until you need to move it again. Pulling it forward past the last position will allow the headrest to return to its full rear position.

#### 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.

## **A** 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.



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

### 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.



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 ...



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.

#### 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 Aurora, 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. The shoulder portion of the belt has an energy management loop. It is designed to open and help protect you in certain crashes. If it opens, you will see a label on the safety belt that says to replace the belt. Be sure to do so. If you don't, the safety belt won't work properly and won't protect you in another crash. For more information on replacing safety belts after a crash, see "Replacing Safety Belts" in the Index.

Here's how to wear the lap-shoulder belt properly.

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

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- Pick up the latch plate and pull the belt across you. Don't let it get twisted.
- 4. Push the latch plate into the buckle until it clicks.

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

#### Shoulder Belt Tightness Adjustment

Your car has a shoulder belt tightness adjustment feature. If the shoulder belt seems too tight, adjust it before you begin to drive.

- 1. Sit well back in the seat.
- 2. Start pulling the shoulder belt out.



3. Just before it reaches the end, give it a quick pull.

 Let the belt go back all the way. You should hear a slight clicking sound. If you don't, the adjustment feature won't set, and you'll have to start again.



 Now you can add a small amount of slack. Lean forward slightly, then sit back. If you've added more than 1 inch (25 mm) of slack, pull the shoulder belt out as you did before and start again.

If you move around in the vehicle enough, or if you pull out the shoulder belt, the belt will become tight again. If this happens, you can reset it.

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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. Don't allow more than 1 inch (25 mm) of slack.



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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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.



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.

#### Supplemental Restraint System (SRS)

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

Your Aurora has two air bags -- one air bag for the driver and another air bag for the right front passenger.

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 an air bag. Wearing your safety belt during a crash helps reduce your chance of hitting things inside the vehicle or being ejected from it. The air bag is only a "supplemental restraint." That is, it works with safety belts but doesn'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. Everyone in your vehicle, including the driver, 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. Safety belts help keep you in position for an air bag inflation in a crash. Always wear your safety belt, even with an air bag. The driver should sit as far back as possible while still maintaining control of the vehicle.

## ▲ CAUTION:

An inflating air bag can seriously injure small children. Always secure children properly in your vehicle. To read how, see the part of this manual called "Children" and the caution label on the right front passenger's safety belt.

AIR BAG

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

The system checks the air bag's 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 is the air bag?

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



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

## $\triangle$ CAUTION:

Don't put anything on, or attach anything to, the steering wheel or instrument panel. Also, don't put anything (such as pets or objects) between any occupant and the steering wheel or instrument panel. If something is between an occupant and an air bag, it could affect the performance of the air bag -- or worse, it could cause injury.

#### When should an air bag inflate?

The air bag is designed to inflate in moderate to severe frontal or near-frontal crashes. 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 8 to 11 mph (13 to 18 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 the vehicle's deceleration. Vehicle damage is only one indication of this.

#### What makes an air bag inflate?

In a frontal or near-frontal impact of sufficient severity, the air bag sensing system detects that the vehicle is suddenly stopping as a result of a crash. The sensing system triggers a chemical reaction of the sodium azide sealed in the inflator. The reaction produces nitrogen gas, which inflates the air bag. The inflator, air bag and related hardware are all part of the air bag modules packed 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. The air bag supplements 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 the air bag. 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.

#### What will you see after an air bag inflates?

After the air bag inflates, it quickly deflates. This occurs so quickly that some people may not even realize the air bag inflated. Some components of the air bag module in 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 part of the bag that comes into contact with you may be warm, but it will never be too hot to touch. There will be some smoke and dust coming from vents in the deflated air bags. Air bag inflation will not prevent the driver from seeing or from being able to steer the vehicle, nor will 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.

 The 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.

#### NOTICE:

If you damage the cover for the driver's or the right front passenger's air bag, they 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 covers.

#### Servicing Your Air Bag-Equipped Aurora

Air bags affect how your Aurora 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 Aurora retailer and the Aurora 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 wires wrapped with yellow tape or 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.

## 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. 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.

When the lap portion of the belt is pulled out all the way, it will lock. If it does, let it go back all the way and start again.

#### **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.



- Pick up the latch plate and pull the belt across you. Don't let it get twisted.
- 2. Push the latch plate into the buckle until it clicks.



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.



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



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.

## **▲** 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.



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:



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




 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.



 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.



 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, just perform these steps in reverse order. 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**



## 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. 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:

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.



# **A** 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.



### **Child Restraints**

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.

#### 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. 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.

## 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 Aurora retailer to put it in for you. If you want to install an anchor yourself, your retailer can tell you how to do it.

For cars first sold in Canada, child restraints with a top strap must be anchored according to Canadian law.

Your retailer can obtain the hardware kit and install it for you, or you may install it yourself using the instructions provided in the kit.

Use the tether hardware kit available from the retailer. The hardware and installation instructions were specifically designed for this vehicle.

### 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.

- Put the restraint on the seat. Follow the instructions for the child restraint.
- Secure the child in the child restraint as the instructions say.
- Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.



4. 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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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.



- To tighten the belt, pull up on the shoulder belt while you push down on the child restraint.
- 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.

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



- Make the belt as long as possible by tilting the latch plate and pulling it along the belt.
- Put the restraint on the seat. Follow the instructions for the child restraint.
- Secure the child in the child restraint as the instructions say.



- Run the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.
- 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.
- To tighten the belt, pull its free end while you push down on the child restraint.
- Push and pull the child restraint in different directions to be sure it is secure. If it isn't, secure the restraint in a different place in the vehicle and contact the child restraint maker for their advice about how to attach the child restraint properly.

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

- 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.)
- Put the restraint on the seat. Follow the instructions for the child restraint.
- Secure the child in the child restraint as the instructions say.
- 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.

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





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.



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





- To tighten the belt, feed the lap belt back into the retractor while you push down on the child restraint.
- 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.

## 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.

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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.



# **▲** 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.



# ▲ 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.



## 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 you ever see a label on the driver's or the right front passenger's safety belt that says to replace the belt, be sure to do so. Then the new belt will be there to help protect you in a collision. You would see this label on the belt near the latch plate.

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.

# NOTES


## NOTES

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Here you can learn about the many standard and optional features on your Aurora, 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.

## Keys

# **A** 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.





The ignition keys are for the ignition only.



The door keys are for the doors and all other locks. When a new Aurora is delivered, the retailer removes the plugs from the keys and gives them to the first owner. However, the ignition key may not have a plug. If the ignition key doesn't have a plug, there will be a bar-coded key tag instead.

Each plug or tag has a code on it that tells your retailer or a qualified locksmith how to make extra keys. Keep the plugs or tags in a safe place. If you lose your keys, you'll be able to have new ones made easily using these plugs or tags. If your ignition keys don't have plugs or tags, go to your Aurora retailer for the correct key code if you need a new ignition key.

There are 15 alternative PASS-Key<sup>®</sup>II blanks, to help discourage theft. Your retailer can help determine which key code you need. (See "PASS-Key<sup>®</sup>II" in the Index.)

### NOTICE:

Your Aurora has a number of features that can help prevent theft. But 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.

## 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 door key or Remote Lock Control.



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

To unlock the door, rotate the locking lever rearward. There is a red mark on the switch when the door is unlocked.

#### Central Door Unlocking System

If the driver's door key is held in the unlock position for more than one second, all doors will electronically unlock.

### **Power Door Locks**



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

### Door Ajar Reminder

If a door is not fully closed when the transaxle is in gear, a chime will sound and the Driver Information Center (DIC) will display one of these messages:

DRIVER DOOR AJAR

PASSENGER DOOR AJAR

LEFT REAR DOOR AJAR

RIGHT REAR DOOR AJAR

#### **Programmable Automatic Door Locks**

Close your doors and turn on the ignition. Every time you move your shift lever out of PARK (P) all of the doors will lock. And, every time you stop and move your shift lever into PARK (P), your doors will unlock. If someone needs to get out while you're not in PARK (P), have that person use the manual or power lock. When the door is closed again, it will not lock automatically. Just use the manual or power lock to lock the door again. If you need to lock your doors before shifting out of PARK (P), use the manual or power lock button to lock the doors.

#### **Customizing Your Automatic Door Locks Feature**

You can program the automatic door locks feature to change to the following modes:

#### Mode Operation

- 0 No automatic door lock or unlock.
- All doors automatically lock when shifted out of PARK (P). No automatic door unlock.
- 2 All doors automatically lock when shifted out of PARK (P). Only the driver's door automatically unlocks when shifted into PARK (P).
- 3 All doors automatically lock when shifted out of PARK (P). All doors automatically unlock when shifted into PARK (P).

Vehicles are delivered programmed in Mode 3.

To change modes:

- Close all doors and turn the ignition on. Keep all doors closed throughout this procedure.
- Press and hold the driver's power door lock switch through Step 4.
- Press the LOCK button on the Remote Keyless Entry transmitter. The automatic door locks will remain in the current mode.
- Press the LOCK button on the transmitter again. Each time the transmitter's LOCK button is pressed, the mode will advance by one, going from 3 to 0 to 1, etc.
- Release the power door lock switch. The automatic door locks will remain in the most recent mode selected.

#### Rear Door Security Locks

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

> door all the way up to the ENGAGED position.

#### To Use One of These Locks

1. Open one of the rear doors.



- 3. Close the door.
- Do the same thing to the other rear door lock. 4.

The rear doors of your vehicle cannot be opened from inside when this feature is in use.

#### To Open a Rear Door When the Security Lock is On



 Unlock the door from the inside.

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

 Unlock the door from the inside and open the door from the outside.



- Move the lever all the way down.
- Do the same for the other rear door.

## Anti-Lockout Feature

The power door locks will not work if the key is left in the ignition with the driver's door open. You can override this feature by holding the power door lock switch for more than three seconds, unless the engine is running.

### Leaving Your Vehicle

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

The rear door locks will now work normally.

## **Remote Lock Control**



You can lock and unlock your doors or unlock your trunk from up to 30 feet (9 m) away using the key chain transmitter supplied with your vehicle.

Your Remote Lock Control operates on a radio frequency subject to Federal Communications Commission (FCC) Rules.

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. Should interference to this system occur, try this:

- Check to determine if battery replacement is necessary. See the instructions on battery replacement.
- Check the distance. You may be too far from your vehicle. This product has a maximum range.
- Check the location. Other vehicles or objects may be blocking the signal.
- See your Aurora retailer or a qualified technician for service.

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



### Operation

The driver's door will unlock when UNLOCK is pressed. If pressed again within 25 seconds, all doors will unlock. Pressing the UNLOCK button will also illuminate the interior lamps. (See "Illuminated Entry" in the Index.) All doors will lock when LOCK is pressed.

The trunk will unlock when the opened trunk symbol is pressed, but only when the ignition is off. The trunk symbol will also work when the ignition is on, but only while in PARK (P) or NEUTRAL (N).

#### Panic Mode

When the button with the horn symbol on the key transmitter is pressed, the horn will sound and the headlamps and taillamps will flash for up to two minutes. This can be turned off by pressing the panic button again, unlocking the vehicle with a key or by turning the ignition to on.

If only the panic button works, the transmitter needs to be resynchronized to the receiver. Do this by pressing and holding both the LOCK and UNLOCK buttons for about eight seconds; you must be within range of the vehicle. Once the transmitter has been resynchronized, the horn will chirp and the exterior lamps will flash once. The system should now operate properly.

#### **Personalization Features**

Each key transmitter can be programmed to the driver's preference for programmable automatic door locks, key transmitter response and perimeter lighting. See each feature in the Index.

The transmitters can also be programmed to move the driver's seat and outside mirrors to a set memory position when the key transmitter's UNLOCK button is pressed.

To program the system:

- Adjust the driver's seat to a comfortable position. Adjust both outside mirrors to suit you. See "Outside Mirrors" in the Index.
- Press the SET button on the driver's door armrest. You will hear one beep.
- Within five seconds, press one of the two memory buttons on the armrest. You will hear two beeps to confirm that the mirror and the seat positions are entered into memory.
- Press the UNLOCK button on the appropriate transmitter within five seconds. You will hear two beeps.

The second key transmitter can be programmed to record a different seat and mirror position by following the same steps.

#### **Key Transmitter Response**

This provides feedback to the driver when the vehicle receives a command from the key transmitter. The following modes may be selected:

#### Mode Transmitter Response

- 0 No transmitter response when locking or unlocking vehicle
- No transmitter response when locking; exterior lamps flash when unlocking vehicle
- 2 Exterior lamps flash when locking; no transmitter response when unlocking vehicle
- 3 Exterior lamps flash when locking and when unlocking vehicle
- 4 Exterior lamps flash and horn chirps when locking; no transmitter response when unlocking vehicle
- 5 Exterior lamps flash and horn chirps when locking; exterior lamps flash when unlocking

Vehicles are delivered programmed in Mode 5. To change to another mode:

- 1. Press and hold the power door lock switch.
- Press the opened trunk button on the transmitter. The transmitter will remain in its current mode.
- Press the opened trunk button again. Each time the opened trunk button is pressed, the transmitter will advance to the next mode.
- 4. Release the power door lock switch.

#### Delayed Locking (Option)

Note: This feature is available only if you request your retailer to activate this option. After initial activation, you can turn this feature on and off by using the following procedure.

This feature lets the driver delay the actual locking of the vehicle. When the power door lock switch is pressed, with the key removed from the ignition and the driver's door open, a chime will sound three times to signal that the lock delay mode is active. When all doors have been closed, the doors will lock automatically after five seconds. If any door is opened before this, the five-second timer will reset itself once all the doors have been closed again. Pressing the door lock switch twice within two seconds will override this feature.

The delayed locking feature can be turned on or off for each remote transmitter.

To turn the feature on:

- Press and hold the power door lock switch throughout this procedure. All the doors will lock.
- Press the UNLOCK button on the remote transmitter. The lock delay is still off and all doors will remain locked.
- Press the UNLOCK button on the remote transmitter again. Lock delay is now active and all doors will unlock.
- 4. Release the power door lock switch.

To turn the feature off, repeat the previous procedure.

## Matching Transmitter(s) To Your Vehicle

Each key chain 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 the new transmitter is coded, the lost transmitter will not unlock your vehicle. Each vehicle can have only four transmitters matched to it.

See your retailer to match transmitters to another vehicle.

#### **Battery Replacement**

Under normal use, the battery in your key chain 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.



For battery replacement, use a Duracell<sup>®</sup> battery, type DL-2032, or a similar type.

To replace the battery:

- Insert a coin into the notch near the keyring. Turn the coin counterclockwise to separate the two halves of the transmitter.
- Once the transmitter is separated, use a pencil to remove the old battery. Do not use a metal object.

Replace the battery as the instructions under the cover indicate.

Be sure not to touch any of the black boxes or the green surfaces. Any static transferred from your body to these areas may cause the transmitter to be inoperative.

- Snap the transmitter back together tightly to be sure no moisture can enter.
- Resynchronize the transmitter by pressing and holding the LOCK and UNLOCK buttons for eight seconds in range of the vehicle. Once the transmitter is resynchronized, the horn will chirp and the exterior lamps will flash once.

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# Trunk

### **Trunk Lock Release**

To unlock the trunk from the outside, insert the door key and turn it.

## **Remote Trunk Release**



Press the TRUNK release button located to the right of the steering column to release the trunk lid. The trunk release override switch must be in the ON position. **Remote Trunk Release Lockout** 



The trunk release switch in the glove box allows you to secure items in the trunk.

Move the trunk release switch to off, lock the glove box and take the key with you. Now the trunk release to the right of the steering column will not open the trunk.

The trunk release button will work if the transaxle is in the PARK (P) position. The system also works with the Remote Lock Control.

## **Trunk Security Override**

The Remote Lock Control transmitter will open the trunk even if the override switch is in the OFF position.

# ▲ 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 on any airflow selection except RECIRC. 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.

## Theft

Vehicle theft is big business, especially in some cities. Although your Aurora 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.

With the ignition OFF and the driver's door open, you'll hear a chime reminding you to remove your key from the ignition and take it with you. Always do this. Your steering wheel will be locked, and so will your ignition and transaxle. 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 ignition key? What if you have to leave something valuable in your vehicle?

- Put your valuables in a storage area, like your trunk or glove box.
- · Move the trunk security override switch to OFF.
- Lock the glove box.
- Lock all the doors except the driver's.
- Then take the door key and Remote Lock Control keychain with you.

## **Universal Theft-Deterrent**

Your Aurora has this feature, it is a theft-deterrent alarm system. With this system, the SECURITY light will flash as you open the door (if your ignition is off).

This light reminds you to activate the theft-deterrent system. Here's how to do it:

- 1. Open the door.
- Lock the door with the power door lock switch or Remote Lock Control System. The SECURITY light should come on and stay on.
- Close all doors. The SECURITY light should go off after about 30 seconds. The security system is not armed until the SECURITY light is off. If the SECURITY light stays on when the ignition is turned on, there is a problem with the system and the vehicle should be serviced.

If a door or the trunk is opened without the key or Remote Lock Control System, the alarm will go off. It will also go off if the trunk lock is damaged. Your vehicle's lamps will flash and the horn will sound for several minutes, then will go off to save battery power. Remember, the theft-deterrent system won't be activated if you lock the doors with a key or manual door lock. It only activates if you use a power door lock switch or Remote Lock Control System. You should also remember that you can start your vehicle with the correct ignition key if the alarm has been set off, but this does not shut off the alarm.

Here's how to avoid setting off the alarm by accident:

- If you don't want to activate the theft-deterrent system, the vehicle should be locked after the doors are closed.
- Always unlock a door with a key, or use the Remote Lock Control System. Unlocking a door any other way will set off the alarm.

If you set off the alarm by accident, unlock any door with your key.

You can also turn off the alarm by using the Remote Lock Control System. The alarm won't stop if you try to unlock a door any other way.

### Testing the Alarm

The alarm can be tested by first having the driver's window down. Activate the system by locking the doors with the power door lock switch or the Remote Lock Control System. Get out of the car and close the door and wait for the SECURITY light to go out. Then reach in through the window, unlock the door with the manual door lock, and open the door. This should set off the alarm.

If the alarm does not sound when it should, check to see if the horn works. The horn fuse may be blown. To replace the fuse, see "Fuses and Circuit Breakers" in the Index.

To reduce the possibility of theft, always activate the theft-deterrent system when leaving your vehicle.
# PASS-Key® II



Your vehicle is equipped with the PASS-Key II (Personalized Automotive Security System) theft-deterrent system. PASS-Key II is a passive theft-deterrent system. It works when you insert or remove the key from the ignition.

PASS-Key II uses a resistor pellet in the ignition key that matches a decoder in your vehicle.

When the PASS-Key II system senses that someone is using the wrong key, it shuts down the vehicle's starter and fuel systems. For about three minutes, the starter won't work and fuel won't go to the engine. If someone tries to start your vehicle again or uses another key during this time, the vehicle will not start. This discourages someone from randomly trying different keys with different resistor pellets in an attempt to make a match. The ignition key must be clean and dry before it's inserted in the ignition or the engine may not start. If the engine does not start and the SECURITY light is on or you get the CLEAN KEY...WAIT 3 MINUTES message on the DIC, the key may be dirty or wet. Turn the ignition off.

Clean and dry the key. Wait about three minutes and try again. The SECURITY light may remain on during this time. If the starter still won't work, and the key appears to be clean and dry, wait about three minutes and try another ignition key. At this time, you may also want to check the fuses (see "Fuses and Circuit Breakers" in the Index). If the starter won't work with the other key, your vehicle needs service. If your vehicle does start, the first ignition key may be faulty. See your Aurora retailer or a locksmith who can service the PASS-Key II. If you accidentally use a key that has a damaged or missing resistor pellet, the starter won't work and the SECURITY light will flash and the CLEAN KEY... WAIT 3 MINUTES message will appear.

See your Aurora retailer or a locksmith who can service the PASS-Key II to have a new key made.

If you're ever driving and the SECURITY light comes on or PASS-KEY SYSTEM FAULT appears, you will be able to restart your engine if you turn it off. Your PASS-Key II system, however, is not working properly and must be serviced by your Aurora retailer. Your vehicle is not protected by the PASS-Key II system.

If you lose or damage a PASS-Key II ignition key, see your Aurora retailer or a locksmith who can service PASS-Key II to have a new key made.

# New Vehicle "Break-In"

## NOTICE:

Your modern Aurora 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 (804 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.

# **Ignition Positions**



With the ignition key in the ignition switch, you can turn the switch to five positions:

ACC (A): In this position you can operate your electrical power accessories. Press in the ignition switch as you turn the top of it toward you.

LOCK (B): This is the only position in which you can remove the key. This position locks your ignition, steering wheel and transaxle. It's a theft-deterrent feature.

**OFF** (C): This position lets you turn off the engine but still turn the steering wheel. It doesn't lock the steering wheel like LOCK and it doesn't send any electrical power to the accessories. Use OFF if you must have your vehicle in motion while the engine is not running.

**RUN (D):** This is the position that the switch returns to after you start your engine and release the switch. This is the position for driving. Even when the engine is not running, you can use RUN to operate your electrical power accessories and to display some instrument panel warning lights.

**START (E):** This position starts your engine. When the engine starts, release the key. The ignition switch will return to RUN for normal driving.

## NOTICE:

If your key seems stuck in LOCK and you can't turn it, be sure it is all the way in. If it is, then turn the steering wheel left and right while you turn the key hard. But turn the key only with your hand. Using a tool to force it could break the key or the ignition switch. If none of this works, then your vehicle needs service.

#### **Key Reminder Warning**

If you leave your key in the ignition, in the OFF position, you will hear a warning chime when you open the driver's door.

#### **Retained Accessory Power**

After you turn your ignition off and remove the key, you will still have electrical power to such accessories as the radio, power windows, and sunroof (if equipped) for up to 10 minutes. But if you open a door, power is shut off.

## **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 Aurora is moving. If you do, you could damage the transaxle. Shift to PARK (P) only when your vehicle is stopped.

#### **Starting Your 4.0 Liter Engine**

 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.

- If it doesn't start right away, hold your key in START for about three seconds at a time until your engine starts. Wait about 15 seconds between each try to help avoid draining your battery.
- 3. If your engine still 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 about three seconds. If the vehicle starts briefly but then stops again, do the same thing.

## 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 (Option)



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.

#### To use the 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.

# **A** 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.

 After you've used the coolant heater, be sure to 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 Aurora retailer in the area where you'll be parking your vehicle. The retailer can give you the best advice for that particular area.

# **Automatic Transaxle Operation**



There are several different positions for your shift lever.

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.

Ensure the shift lever is fully in the PARK (P) range before starting the engine. Your Aurora has a brake-transaxle shift interlock. You have to fully *apply* your regular brakes *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) and also release the shift lever button on floor shift console models 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 on floor shift console models.) See "Shifting Out of PARK (P)" 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:

Damage to your transaxle caused by shifting out of PARK (P) or NEUTRAL (N) with the engine racing isn't covered by your warranty. AUTOMATIC OVERDRIVE ((1): This position is for normal driving. If you need more power for passing, and you're:

- Going less than approximately 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.

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

- 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.

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 (1) 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 could 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.

### Selectable Shift

This button lets you change from a normal driving mode to a power mode. For general driving conditions, use the normal mode.

Press the button on your shift lever so that it's either in the NORMAL or POWER position. When it's in the NORMAL position, the line on the button will be showing. When in POWER, the line is not showing.

In the NORMAL position, the transaxle shifts at lower engine speeds. For increased performance, you may choose the POWER mode.

# **Parking Brake**



Setting 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, you will hear a single chime and the parking brake indicator light will come on. Releasing the parking brake: You will need to use the PUSH TO RELEASE parking brake pedal. Hold the regular brake down and push the parking brake pedal with your left foot. This will unlock the pedal. When you lift your left foot, the parking brake pedal will follow it to the released position.

If you try to drive off with the parking brake on, the parking brake indicator light stays on. The PARK BRAKE SET message will appear in the Driver Information Center, and a chime will sound until you release the parking brake or recycle the ignition.

## 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 any hill, see "Towing a Trailer" in the Index. That part 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.

 Hold the brake pedal down with your right foot and set the parking brake. Move the shift lever into the PARK (P) position as follows:



- 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 LOCK.
- Remove the key and take it with you. If you can leave your vehicle with the ignition 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 the PARK (P) position, 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 the shift lever wasn't fully locked into PARK (P).

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

# Shifting Out of PARK (P)

Your Aurora has a brake-transaxle shift interlock. You have to fully *apply* your regular brake *before* you can shift from PARK (P) when the ignition is in the RUN position. See "Shifting the 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 lever 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:

- Turn the key to OFF. Open and close the driver's door to turn off the Retained Accessory Power feature.
- 2. Apply and hold the brake until the end of Step 4.
- 3. Shift to NEUTRAL (N).
- Start the vehicle and then shift to the drive gear you want.
- 5. Have the vehicle fixed as soon as you can.

# 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.

## 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 air system control 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.

# Windows Power Windows



Switches on the driver's armrest control each of the windows while the ignition is on or retained accessory power is active. In addition, each passenger door armrest has a switch for its own window.

To lower the passenger window, pull back on the right switch. The window will lower as long as the switch is held. To raise either window, push the switch forward.

#### **Express Down Window**

The switch for the driver's window has an express-down feature. Pull the switch back all the way, release it and the window will lower automatically. To stop the window from lowering, push the switch forward. To partially open the window, pull the switch back and quickly release it. To raise the window, hold the switch forward.

#### Window Lock

Press the right side of the WINDOW LOCK switch on the driver's armrest to disable all passenger window switches. The driver's window controls will still be operable. This is a useful feature when you have children as passengers.

Press the left side of the WINDOW LOCK switch to allow passengers to use their window switches again.

### Horn

Nearly the entire surface of the center pad of the steering wheel is an active horn switch. Press anywhere on the pad to sound the horn.

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# Tilt Wheel



**Turn Signal/Multifunction Lever** 



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

- Turn Signal and Lane Change Indicator
- Cruise Control
- Headlamp High/Low Beam
- Parking Lamps
- Flash-To-Pass Feature

# **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. If you leave the turn signal on, a chime will sound after you drive about 3/4 of a mile (1.2 km).



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.

As you signal a turn or a lane change, if the arrows don't flash but just stay on, 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 arrows don't go on at all when you signal a turn, check the fuse (see "Fuses and Circuit Breakers" in the Index) and for burned-out bulbs.

## Turn Signal On Chime

If your turn signal is left on for more than 3/4 of a mile (1.2 km), a chime will sound at each flash of the turn signal. To turn off the chime, move the turn signal lever to the off position.

### Headlamps



EOOE Turn the band to this symbol to turn on:

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

-Ö- Turn the band to this symbol to turn on:

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

Turn the band to OFF to turn off the lamps/lights.

#### Lamps On Reminder

If the headlamp switch is left on you'll hear a warning chime when you turn the ignition off, remove the key from the ignition and open the driver's door.

#### Headlamp High/Low Beam



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To change the headlamps from low beam to high or high to low, pull the turn signal lever all the way toward you. Then release it.

When the high beams are on, a light on the instrument panel also will 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. It works even if your headlamps are off.

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

If your headlamps are off, your high-beam headlamps will turn on. They'll stay on as long as you hold the lever there. Release the lever to turn them off.

If your headlamps are on, but on low beam, the system works normally. Just pull the lever until it clicks. Your headlamps will shift to high beam and stay there. To return to low beam, just pull the lever toward you.

If your headlamps are on, and on high beam, your headlamps will switch to low beam. To get back to high beam, pull the lever toward you.

## **Cruise Control**

With cruise control, you can maintain a speed of about 25 mph (40 km/h) or more without keeping your foot on the accelerator. This can really help on long trips.

Cruise control does not work at speeds below about 25 mph (40 km/h).

When you apply your brakes, 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.

If your vehicle is in cruise control when the traction control system begins to limit wheel spin, the cruise control will automatically disengage. (See "Traction Control System" in the Index.) When road conditions allow you to safely use it again, you may turn the cruise control back on.

#### 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.



- 1. Move the cruise control switch to ON.
- 2. Get up to the speed you want.



- Push in the button at the end of the lever and release it. The CRUISE light on the instrument panel will come on.
- 4. Take your foot off the accelerator pedal.



# Resuming a Set Speed



Setting the cruise control at a desired speed and then applying the brake will end the cruise control function.

Once you're going about 25 mph (40 km/h) or more, you can move the cruise control switch from ON to RES/ACC (Resume/Accelerate) for about half a second to reset. This returns you to your desired preset speed. Remember, if you hold the switch at RES/ACC longer than half a second, the vehicle will accelerate until you release the switch or apply the brake. You could be startled and even lose control. So unless you want to go faster, don't hold the switch at RES/ACC.

#### Increasing Speed While Using Cruise Control

There are two ways to go to a higher speed. Here's the first:

- 1. Use the accelerator pedal to go to a higher speed.
- Push the button at the end of the lever, then release the button and the accelerator pedal. You'll now cruise at the higher speed.

Here's the second way to go to a higher speed:

- Move the cruise switch from ON to RES/ACC. Hold it there until you reach a desired speed and then release the switch.
- To increase your speed in very small amounts, move the switch to RES/ACC 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 have set the cruise control speed by pushing the SET button.

#### **Reducing Speed While Using Cruise Control**

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

- Push in the button at the end of the lever until you reach a desired lower speed then release it.
- To slow down in very small amounts, push the 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 Cruise Control**

There are two ways to turn off the cruise control:

- Step lightly on the brake pedal, or
- Move the cruise switch to OFF. The CRUISE light will also go out.

#### **Erasing Speed Memory**

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

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# Windshield Wipers



The lever on the right side of your steering column controls your windshield wipers.

For a single wiping cycle, move the lever up to MIST. Hold it there until the wipers start, then let go. The wipers will stop after one cycle. If you want more cycles, hold the lever to MIST longer.

For steady wiping at low speed, push the lever down to the LO position. For high speed wiping, push the lever down further, to HI. To stop the wipers, move the lever to OFF.



You can set the wiper speed for a long or short delay between wiper cycles. This can be very useful in light rain or snow. Push the lever down to the first detent, DELAY. Turn the band closer to the short lines for fewer wiper passes per minute. As you turn the band toward the long lines, the wiper cycles per minute will increase.

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.

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

### Windshield Washer

The lever on the right side of your steering column also controls your windshield washer. To spray washer fluid on the windshield, pull the lever toward you. The wipers will clear the window and then either stop or return to your preset speed. For more washer cycles, pull and hold the lever.

If the fluid level in the windshield washer bottle is low, the message LOW WASHER FLUID will appear in the Driver Information Center. See "Windshield Washer Fluid" in the Index.

Driving without washer fluid can be dangerous. A bad mud splash can block your vision. You could hit another vehicle or go off the road. Check your washer fluid level often.

# $\triangle$ 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.

# Lamps

### Headlamps

See "Turn Signal/Multifunction Lever" in the Index.

#### **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.

A light sensor on top of the instrument panel makes the DRL work, so be sure it isn't covered.

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

- The ignition is on,
- · The headlamp switch is off, and
- The transaxle is not in PARK (P).

When DRL are on, only your low-beam headlamps will be on. The parking lamps, taillamps, sidemarker and other lamps won't be on. Your instrument panel won't be lit up either.

When it's dark enough outside, your low-beam headlamps will change to full brightness. The other lamps that come on with your headlamps will also come on. When it's bright enough outside, the regular lamps will go off, and your low-beam headlamps change to the reduced brightness of DRL.

To idle your vehicle with the DRL off, shift the transaxle into PARK (P). The DRL will stay off until you shift out of PARK (P).

To turn off all exterior lighting at night when you are parked, turn off the headlamps and move the twilight sentinel control all the way toward MIN.

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

# Fog Lamps



To turn on the fog lamps, first turn on the parking lamps or headlamps. Then press the fog lamp switch. A light will glow on the switch when the switch is on. To turn off the fog lamps, press it again.

The fog lamps will also switch off when you turn on your high-beam headlamps, but will turn on again when you switch to low beams.

# Cornering Lamps



The cornering lamps are designed to come on when you signal a turn. This will provide more light for cornering at night.

### **Twilight Sentinel**



Twilight sentinel turns your headlamps, taillamps and parking lamps on and off by sensing how dark it is outside.

To operate it, leave the headlamp switch off and move the twilight sentinel control toward MAX.

If you move the control all the way to MAX, your lamps will remain on for three minutes after you turn off your engine. If you move the control toward MIN, the lamps will go off quickly when you turn off your engine. You can set this delay time for only a few seconds or up to three minutes.

#### Light Sensor

Your twilight sentinel and daytime running lamps work with the light sensor on top of the instrument panel. Don't cover it up. If you do it will read "dark" and the headlamps will come on.

# **Interior Lamps**

### **Instrument Panel Brightness**



You can brighten or dim your instrument cluster, radio and climate control displays and control lights by rotating the INTERIOR LIGHTS control between LO and HI when your lights are on. Rotate the control all the way to HI and you will turn on the interior courtesy lamps.

#### **Time Out Feature**

The interior lamps will automatically shut off after 10 minutes if a door is left open. This feature is designed to help eliminate battery wear down.

### **Courtesy Lamps**

When any door is opened, several lamps go on. They make it easy for you to enter and leave the car. To turn on these lamps, rotate the INTERIOR LIGHTS knob all the way to HI.

#### **Delayed Illumination**

When you open the door, the interior lamps will come on. When you close the door with the ignition off, the interior lamps will stay on for 25 seconds or until the ignition is turned to the on position. Please note that locking the doors will override the delayed illumination feature and the lights will turn off right away.

#### **Theater Dimming**

This feature allows for a three to five-second fade out of the courtesy lamps instead of immediate turn off.

#### **Parade Dimming**

This feature prohibits the dimming of your instrument panel displays during daylight while your headlamps are on. This feature operates with the light sensor for the twilight sentinel and is fully automatic. When the light sensor reads darkness outside, you will be able to dim your instrument panel displays once again.

### **Exit Lighting**

With this feature, the interior lamps will come on for 25 seconds after you remove the key from the ignition. This will give you time to find the door pull handle or lock switches.

#### **Illuminated Entry**

Press the UNLOCK button on the key transmitter and the interior courtesy lamps will come on and stay on for up to a minute. The lamps will turn off immediately by pressing the LOCK button on the key transmitter, starting the ignition or activating the power door locks.

#### **Perimeter Lighting**

When the UNLOCK button on the key transmitter is pressed, the headlamps, parking lamps, back-up lamps and cornering lamps will come on if it is dark enough outside according to the twilight sentinel.

This option can be programmed on or off for each transmitter.

To turn the feature off:

- Press and hold the door lock switch throughout this procedure. All doors will lock.
- Press the panic button on the transmitter. Perimeter lighting remains on at this time and the horn will chirp two times.
- Press the panic button on the key transmitter again. Perimeter lighting is disabled and the horn will chirp one time.
- Release the door lock switch. The perimeter lighting option is now off.

To turn the feature on:

- Press and hold the door lock switch throughout this procedure. All doors will lock.
- Press the panic button on the key transmitter. Perimeter lighting remains off at this time and the horn will chirp one time.
- Press the panic button on the transmitter again. Perimeter lighting is now enabled and the horn will chirp two times.
- Release the door lock switch. The perimeter lighting option is now on.

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## Front Reading Lamps



These lamps and the interior courtesy lamps will come on when you open a door. They will turn off when you turn on the ignition. If the door is left open, they will turn off after about 10 minutes.

To turn on the reading lamps when the doors are closed, press the button behind the lamp you want on. Press it again to turn the lamp off.

These lamps work even when the ignition is off. To avoid draining your vehicle's battery, be sure to turn off all front and rear reading lamps when leaving your vehicle.

## **Rear Reading Lamps**



These lamps go on when you open the doors. You can also turn them on by pressing the button to the side of the lamp. Press it again to turn them off.

#### **Trunk Lamp**

When you open the trunk to its full open position, a lamp will come on inside the trunk. This lamp will automatically turn off when the trunk is closed.

#### Inadvertent Load Protection

This feature shuts off the courtesy, reading, trunk, glove box and visor vanity mirror lamps, if any are left on for more than 10 minutes when the ignition is off. This will keep your battery from running down.

## Mirrors

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## **Electrochromic Day/Night Rearview Mirror**



Your vehicle may have an automatic electrochromic day/night rearview mirror.

This mirror automatically changes to reduce glare from headlamps behind you. A photocell on the back of the mirror senses when it is becoming dark outside. Another photocell built into the mirror surface, senses when headlamps are behind you. At night, when the glare is too high, the mirror will gradually darken to reduce glare (this change may take a few seconds). The mirror will return to its clear daytime state when the glare is reduced.

Press the button at the base of the mirror to turn on the automatic feature. The button has an indicator light to show it is on. Press the button again to turn the automatic feature off.

#### **Time Delay**

The automatic mirror has a time delay feature which prevents unnecessary switching from the night back to the day position. This delay prevents rapid changing of the mirror as you drive under lights and through traffic.

#### Reverse Gear Day Mode

The reverse day mode is another important feature of the electrochromic mirror. When you shift into REVERSE (R), the mirror changes to the day mode. This gives you a bright image in the mirror as you back up.

#### **Cleaning the Photocells**

Use a cotton swab and glass cleaner to clean the photocells when necessary.

# Power Remote Control Mirror



The controls on the far left of the instrument panel control both outside rearview mirrors. Move the center switch to the left to select the driver's side rearview mirror, or to the right to select the passenger's side rearview mirror.

Then press the arrows to adjust each mirror so that you can just see the side of your vehicle when you are sitting in a comfortable driving position.

To lock the controls, leave the selector switch in the middle position.

When you operate the rear window defogger, a defogger also warms the driver's and passenger's outside rearview mirrors to help clear them of ice and snow.

### **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.



### Heated Outside Rearview Mirror (Option)

When you operate the rear window defogger, a defogger also warms the optional heated driver's outside rearview mirror to help clear it of ice and snow. This is an electrochromic mirror that operates with the same controls as the Electrochromic Day/Night Rearview Mirror, and it works the same way. See "Electrochromic Day/Night Rearview Mirror" earlier in this section.

### **Storage Compartments**

### **Glove Box**

Use the door key to lock and unlock the glove box. To open, pull the latch release on the left side of the glove box door.

## Front Storage Armrest



The front armrest opens into a storage area. To open it, lift the front edge. Inside you will find storage for cassettes, compact discs and coins.

In front of the storage area is a cupholder. Press and release the cupholder cover to open. Push the cupholder forward to lock it when in use. Press the cupholder back to its recessed position when not in use.

Pull down the bolster in the back seat to reveal cupholders and an armrest, which opens into a storage area.

## **Convenience** Net

Your vehicle has a convenience net 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.

Two positions exist for the convenience net, depending on the size of the cargo.





Use this position for slightly larger loads.

When installing the net in either position, be sure the "up label" (A) is pointing up.

Use this position for small loads.

## Ashtrays and Cigarette Lighter

Push and release the cover to reveal the front ashtray, lighter and accessory power outlet.

## NOTICE:

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Don't put papers and other things that burn into your ashtrays. If you do, cigarettes or other smoking materials could set them on fire, causing damage. To open either rear ashtray, press and release the cover.

To clean an ashtray, make sure the cover is open fully, then lift out the ashtray by pulling on the snuffer.

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

### NOTICE:

Don't hold a cigarette lighter in with your hand while it is heating. If you do, it won't be able to back away from the heating element when it's ready. That can make it overheat, damaging the lighter and the heating element.
# Sun Visors



To block out glare, you can swing down the visors. You can also remove them from the center mount and swing them to the side, while the auxiliary visor remains to block glare from the front.

To extend the visor at the sides, pull out the extension.

## **Illuminated Visor Vanity Mirrors**



When you open the cover to the driver or passenger side visor vanity mirror, the lamps will come on. You can adjust the brightness of the lamps with the switch by sliding the lever up or down.

# **Accessory Power Outlet**

The power outlet inside the front ashtray can be used to plug in electrical equipment such as a cellular telephone, CB radio, etc. Follow the proper installation instructions that are included with any electrical equipment you install. The accessory power outlet is off if the ignition is turned off.

## NOTICE:

When using the accessory power outlet, the maximum load of any electrical equipment should not exceed 15 amps.

# Sunroof (Option)

Your express open sunroof provides an airy, spacious feel to your vehicle's interior and can also increase ventilation. It includes a sliding glass panel and a sliding sunshade. The control switch will work only when the ignition is on, or when Retained Accessory Power is active.



To open the sunroof, press the control switch rearward and release it to open the glass panel and sunshade. If you want to stop the sunroof in a partially open position, lightly press the switch again. To fully open the sunroof, press the switch rearward again. The sunshade can also be opened by hand.

To close the sunroof, press and hold the control switch forward to close the glass panel.

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

To open the sunroof rear vent, open the sunshade by hand. Press the control switch forward when the sunroof is closed.

To close the sunroof rear vent, press the switch rearward.

# **Universal Transmitter**



This transmitter allows you to consolidate the functions of up to three individual hand-held transmitters. It will operate garage doors and gates, or with the accessory package, other devices controlled by radio frequency such as home/office lighting systems and security systems.

The transmitter will learn and transmit the frequencies of most current transmitters and is powered by your vehicle's battery and charging system. 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.

## **Programming the Transmitter**

Do not use the universal transmitter with any garage door opener that does not have the "stop and reverse" safety feature. This includes any garage door opener model manufactured before April 1, 1982.

# Be sure that people and objects are clear of the garage door you are programming!

Your vehicle's engine should be turned off while programming your transmitter. Follow these steps to program up to three channels:

 If you have not previously programmed a universal transmitter channel, proceed to Step 2. Otherwise, hold down the two outside buttons on the universal transmitter until the red light begins to flash rapidly (approximately 20 seconds). Then release the buttons. This procedure initializes the memory and erases any previous settings for all three channels.

- Hold the end of your hand-held transmitter against the bottom surface of the universal transmitter so that you can still see the red light.
- Decide which one of the three channels you want to program. Using both hands, press the hand-held transmitter button and the desired button on the universal transmitter. Continue to hold both buttons through Step 4.
- 4. Hold down both buttons until you see the red light on the universal transmitter flash rapidly. The rapid flashing, which could take up to 90 seconds, indicates that the universal transmitter has been programmed. Release both buttons once the light starts to flash rapidly.

If you have trouble programming the universal transmitter, make sure that you have followed the directions exactly as described and that the batteries in the hand-held transmitter are not dead. If you still cannot program it, rotate your hand-held transmitter end over end and try again. The universal transmitter may not work with older garage door openers that do not meet current Federal Consumer Safety Standards. If you cannot program the transmitter after repeated attempts, consult your Aurora retailer. Be sure to keep your original hand-held transmitter in case you need to erase and reprogram the universal transmitter.

Note to Canadian Owners: During programming, your hand-held transmitter may stop transmitting after one or two seconds. If you are programming from one of these transmitters, you should press and repress the button on the hand-held transmitter every two seconds without ever releasing the button on the universal transmitter. Release both buttons when the red light on the universal transmitter begins to flash rapidly.

### **Operating the Transmitter**

Press the appropriate button on the universal transmitter. The red light comes on while the signal is being transmitted.

Note that the effective transmission range of the universal transmitter may differ from your hand-held transmitter and from one channel to another.

## **Erasing Channels**

To erase all three programmed channels, hold down the two outside buttons until the red light begins to flash. Individual channels cannot be erased, but can be reprogrammed using the procedure for programming the transmitter explained earlier.

## Accessories

Accessories for your universal transmitter are available from the manufacturer of the unit. If you would like additional information please call 1-800-355-3515.

# **Instrument Panel**



The Aurora 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:

- 1. Power Mirrors Control Switch
- 2. Fog Lamp Switch
- 3. Turn Signal/Multifunction Lever
- 4. Instrument Cluster/Gages
- 5. Hazard Warning Flashers Switch
- 6. Horn
- 7. Windshield Wiper/Washer Control
- 8. Driver Information Center
- 9. Climate Controls
- 10. Audio System
- 11. Glove Box (Trunk Security Override Switch inside)
- 12. Passenger Side Air Bag
- 13. Accessory Power Outlet
- 14. Gearshift Lever

- 15. Selectable Shift
- 16. Traction Control Button
- 17. Ashtray and Lighter
- 18. Fuel Door Release Switch
- 19. Trunk Release Switch
- 20. Steering Wheel Touch Controls for Audio System
- 21. Ignition Switch
- 22. Driver Side Air Bag
- 23. Tilt Steering Wheel Lever
- 24. Steering Wheel Touch Controls for Climate Control System
- 25. Twilight Sentinel Control
- 26. Instrument Panel Intensity Control/Interior Lamp Control

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# **Instrument Panel Cluster**

Your Aurora is equipped with this instrument panel cluster, which includes indicator warning lights and gages that are explained on the following pages.



## Speedometer



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

## **Odometer and Trip Odometer**

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

Your trip odometer tells you how far you have driven since you last reset it. Press the trip button located next to the trip odometer below the fuel gage.

Your Aurora has a tamper resistant odometer. If you see silver lines between the numbers, you'll know someone has probably tampered with it and the numbers may not be true.

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.



# Tachometer



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

If your engine speed equals or exceeds the safe limit for operation, the message HOT...REDUCE ENGINE RPM is displayed on the information center.

## NOTICE:

Do not operate the engine with the tachometer in the red area, or when the message HOT...REDUCE ENGINE RPM is displayed. 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. 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.

Your vehicle may also have a driver information system that works along with the warning lights and gages. See "Driver Information System" in the Index.

## Safety Belt Reminder Light

When the key is turned to RUN or START, a chime will come on for about eight seconds to remind people to fasten their safety belts.



The safety belt light will also come on and stay on for about 70 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 AIR BAG. 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 sensors, 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.



You will see this light flash for a few seconds when you turn your ignition to RUN or START. Then the light should go out. This means the system is ready.

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

# **Battery Warning Light**



This light will come on briefly when you start the vehicle, as a check to show you it is working, then it should go out. If it stays on, or comes on while you are driving, you may have a problem with the electrical charging system.

A warning chime and the message CHECK CHARGE SYSTEM may also come on. 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 climate control.

## Brake System Warning Light

Your Aurora'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.



This light should come on when you turn the ignition key to START. If it doesn't come on then, have it fixed so it will be ready to warn you if there's a problem. If this warning light stays on after you start the engine, there could be a brake problem. Have your brake system inspected right away. 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.)

# **A** CAUTION:

Your brake system may not be working properly if the brake warning light is on. Driving with the brake 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.

## Parking Brake Indicator Light



Vehicles with hydraulic brakes have a parking brake indicator light. When the ignition is on, this light will come on when you set your parking brake. The light will stay on if your parking brake doesn't release fully. If you try to drive off with the parking brake set, a chime will also come on until you release the parking brake.

This light should also come on when you turn the ignition key to START. If it doesn't come on then, have it fixed so it will be ready to remind you if the parking brake hasn't released fully.

### Anti-Lock Brake System Warning Light



With the anti-lock brake system, this light will come on when you start your engine and may stay on for several seconds. That's normal.

If the light stays on, turn the ignition off. Or, if the light comes on 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 Aurora 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 part.

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

## **Traction Control System Warning Light**



This warning light should come on briefly as you start the engine. If the warning light doesn't come on then, have it fixed so it will be ready to warn you if there's a problem.

If it stays on, or comes on when you're driving, there may be a problem with your traction control system and your vehicle may need service. When this warning light is on, the system will not limit wheel spin. Adjust your driving accordingly. The traction control system warning light may come on for the following reasons:

- If you turn the system off by pressing the TRACTION CONTROL button located on the center console, the warning light will come on and stay on. To turn the system back on, press the button again. The warning light should go off. (See "Traction Control System" in the Index for more information.)
- If there's a brake system problem that is specifically related to traction control, the traction control system will turn off and the warning light will come on. If your brakes begin to overheat, the traction control system will turn off and the warning light will come on until your brakes cool down.
- If the traction control system is affected by an engine-related problem, the system will turn off and the warning light will come on.

If the traction control system warning light comes on and stays on for an extended period of time when the system is turned on, your vehicle needs service.

# **Traction Control System Active Light**



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When your traction control system is limiting wheel spin, this light will come on. Slippery road conditions may exist if the traction control system active light comes on, so adjust your driving accordingly.

#### The light will stay on for a few seconds after the traction control system stops limiting wheel spin.

# **Engine Coolant Temperature Gage**



This gage shows the engine coolant temperature.

If the gage pointer moves into the red warning zone, your engine is hot. To prevent engine overheating, the air conditioning compressor will turn off automatically, a fast-pulsed chime will sound, and the message ENGINE HOT...A/C OFF will appear in the information center. As the engine cools down, the air conditioning compressor will automatically turn back on. If the coolant temperature is over 261°F (127°C), the message HOT...STOP ENGINE will appear. 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.

If your coolant level is low, the message LOW ENGINE COOLANT will appear on the Driver Information Center. Check your coolant level as soon as possible. See "Engine Coolant" in the Index.

## Malfunction Indicator Lamp (Service Engine Soon Light)



Your Aurora 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. (In Canada, OBD II is replaced by Enhanced Diagnostics.) The SERVICE ENGINE SOON 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, which 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.

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 is 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:

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

If the light 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. Put your vehicle in PARK (P). 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 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.

Are you low on fuel?

As your engine starts to run out of fuel, your engine may not run as efficiently as designed since small amounts of air are sucked into the fuel line causing a misfire. The system can detect this. Adding fuel should correct this condition. Make sure to install the fuel cap properly. It will take a few driving trips to turn the light off. 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 this condition, 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 problem with your oil, this light may stay on after you start your engine, or come on when you are driving. A warning chime and the message LOW OIL PRESSURE may also come on.

These indicate that oil is not going through your engine quickly enough to keep it cool. The engine could be low on oil, or could have some other oil problem. Have it fixed right away.

The oil light could also come on in three other situations:

 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 you turn the ignition to START. 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.

- Sometimes when the engine is idling at a stop, the light may blink on and off. This is normal.
- If you make a hard stop, the light may come on for a moment. This is normal.

# **A** 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.

# Fuel Gage



When the ignition is on, your fuel gage tells you about how much fuel you have left.

When you have approximately 2.6 gallons (9 L) of fuel remaining, the message LOW FUEL will be displayed and a chime will sound. You need to get more fuel right away. Press any button on the Driver Information Center to turn off the warning.

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 "F" (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 tank is not necessarily empty when the pointer is over the "E" (Empty) mark. There is a reserve of up to 1.5 gallons (5.6 L) in the tank. You should still get more fuel as soon as possible.

# **Driver Information Center**



The Driver Information Center (DIC) displays information in either English or metric. When the system is on or off, hold the OFF button down for five seconds to change the display between English and metric. This will also change the digital screen for the climate control system between English and metric.

In addition to the functions described in this part, the DIC also displays various warning messages under appropriate conditions.

Turn on the system by pressing any button except RESET, ENTER or OFF. When you turn on the ignition, the Driver Information Center will be in the mode last displayed when the engine was turned off. Keep in mind that this also applies to the OFF mode.

To turn off messages on the DIC (except LOW OIL PRESSURE, LOW BRAKE FLUID, PARK BRAKE SET and the hot engine warnings), press any button on the DIC.



You will need to open the cover to access the control buttons. To open the cover, push the button located to the right of the cover.

To close the cover, push it down to its closed position.

# Fuel Economy

The ECON button displays average fuel economy and instantaneous fuel economy calculated for your specific driving conditions. Press ECON to display average fuel economy, such as:

25.2 AVG MI/GAL or

9.3 AVG L/100 KM

Press ECON again to display instantaneous fuel economy, such as:

28 INST MI/GAL or

8.4 INST L/100 KM

Press again to return to average fuel economy.

The average fuel economy is viewed as a long-term approximation of your overall driving conditions.

If you press RESET in this mode while you're driving, the system will begin figuring fuel economy from that point in time.

# Fuel

Press FUEL to see how much fuel has been used since you last pressed the reset button. The display will show a reading such as:

10.4 GALLONS USED or

39.4 LITERS USED

To learn how much fuel will be used from a specific starting point, first press FUEL to display fuel used, then press RESET.

Don't confuse fuel used with the amount of fuel in your tank.

## **Fuel Range**

RANGE calculates the remaining distance you can drive without refueling. It's based on fuel economy and the fuel remaining in the tank. The display will show a reading such as:

FUEL RANGE 235 MI or

FUEL RANGE 378 KM

If the range is less than 50 miles (80 km), the display will read LOW FUEL RANGE.

The fuel economy data used to determine fuel range is an average of recent driving conditions. As your driving conditions change, this data is gradually updated. Resetting fuel range causes the fuel economy data to be updated immediately. To reset fuel range, press RANGE, then RESET.

## Average Speed

The calculation for average speed begins when SPEED is reset. Press SPEED to display the average speed, such as:

AVG SPEED 56 MPH or

AVG SPEED 90 KM/H

To reset the average speed, press SPEED and then RESET.

## Engine

The ENG button scrolls through the following functions:

Oil pressure such as:

OIL PRESSURE 40 PSI or

OIL PRESSURE 276 kPa

Battery voltage such as:

BATTERY 13.8 VOLTS

Transaxle fluid life, such as:

TRANS FLUID LIFE 40%

This is an estimate of the transaxle fluid's remaining useful life. It will show 100% when the system is reset after a transaxle fluid change. It will alert you to change your transaxle fluid on a schedule consistent with your driving conditions.

Engine oil life, such as:

OIL LIFE 30%

This is an estimate of the oil's remaining useful life. It will show 100% when the system is reset after an oil change. It will alert you to change your oil on a schedule consistent with your driving conditions.

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When the remaining oil life or transaxle fluid life is low, the system will alert you with a message:

#### CHANGE OIL SOON or

#### CHANGE TRNS FLUID SOON

When the oil or transaxle fluid life is down to zero, you will receive the message:

#### CHANGE OIL NOW or

#### CHANGE TRNS FLUID NOW

To reset the OIL LIFE reminder after an oil change or the TRNS FLUID LIFE reminder after a transaxle fluid change:

With the ignition on, press the ENG button so the OIL LIFE percentage or the TRNS LIFE percentage is displayed.

Press RESET and hold for five seconds. The word RESET will appear, then OIL LIFE 100% or TRNS FLUID 100%.

Remember, you must reset the OIL LIFE or TRNS FLUID yourself after each oil or transaxle fluid change. It will not reset itself. Also, be careful not to reset the OIL LIFE or TRNS FLUID accidentally at any time other than when the oil or transaxle fluid has just been changed. It can't be reset accurately until the next oil or transaxle fluid change.

The Driver Information Center does not replace the need to maintain your vehicle as recommended in the Maintenance Schedule in this manual. Also, the oil change reminder will not detect dusty conditions or engine malfunctions that may affect the oil. If you drive in dusty areas, change your oil after every 3,000 miles (5 000 km) or three months, whichever occurs first, unless the DIC instructs you to do so sooner. Also, the oil change reminder does not measure how much oil you have in your engine. So, be sure to check your oil level often. See "Engine Oil" in the Index.

### **Check Oil Level Warning**

When CHECK OIL LEVEL appears, it indicates that the engine oil level is 1 to 1 1/2 quarts (0.9 L to 1.4 L) low. The message will appear only if the engine is running and it's been at least eight minutes since the engine was last running. If the message appears, check the oil dipstick level. If it reads low, your oil level should be brought up to the proper level (see "Engine Oil" in the Index). After bringing the oil to the proper level, the ignition must be off for eight minutes to allow the majority of oil to drain into the oil pan.

### **Distance to Destination**

This feature acts as a reverse trip odometer by counting backward from an estimated distance which you enter before starting your trip. It also uses that information to determine the estimated time of arrival.

To set, press DEST, then RESET and enter a maximum of four digits for the length of your trip. (Always use whole miles or kilometers.) Then press ENTER. The system will only accept the last four digits you enter as your distance to destination.

The system will display the total distance to destination, such as:

#### 365 MI TO DEST or

#### 587 KM TO DEST

When the system counts down to zero distance remaining, even if you're in another display, a chime will sound and the display will show:

#### TRIP COMPLETE

The TRIP COMPLETE message will go off when you press any button, or when you turn your ignition off, then on. The display returns to the mode displayed prior to the interruption.

## Estimated Time of Arrival (ETA)

ETA is based on the average speed, the date and time of the day, and the estimated distance to your destination.

After you have entered your distance to destination, press ETA to display estimated time of arrival, such as:

#### ETA TUE 12:56 PM

Press ETA again to display the time to destination. The display will show the current time as the hours and minutes to destination, such as:

#### 12:50 TIME TO DEST

If the time to destination calculation is seven days or greater, the display will read:

#### TRIP OVER 7 DAYS

When the trip is complete a chime will sound and the display will show:

### TRIP COMPLETE

The trip complete message will go off when you press any button, or when you turn your ignition off, then on. The display returns to the mode displayed prior to the interruption.

## Elapsed Time (ET)

When the ignition is on, the Driver Information Center can be used as a stopwatch. The display will show hours and minutes. The elapsed time indicator will record up to 100 hours, then it will reset to zero and continue counting. Press ET, and the display will show the amount of time that has elapsed since the elapsed time indicator was last reset (not including time the ignition is off), such as:

#### 01:08 ELAPSED TIME

To reset elapsed time to zero, press RESET while the elapsed time is displayed.

## Date

Press DATE to display the date. To change the date, press DATE then RESET. The following display will appear:

#### MONTH? XX/DD/YY

MM, DD and YY represent the month, date and year you currently have in your system. Check to make sure your clock is in the correct AM or PM mode. Notice that each key has a number. Push the key to enter the number. The first XX's will flash until you enter the first digit for the month. You don't need to enter the leading zero if the number is under 10. Press ENTER after you've entered the month. The display will change to:

#### DAY? MM/XX/YY

Set the day just as you set the month. After the day entry is made, press ENTER, and the display will change to:

#### YEAR? MM/DD/XX

Set the year just as you set the month and day. If a valid date is entered, the display will automatically exit to the date mode and display the day of the week, the month and the date. If an invalid date is entered, the display will return to MONTH? XX/DD/YY and you'll need to repeat the above steps.

After a battery reconnect (loss of power), the display will read CONFIRM TIME AND DATE.

### RECALL



When you press the RCL button, the system scrolls through any currently active warning messages, then returns to the mode the system was in before you pressed RCL.



If no warning messages exist, MONITORED SYSTEMS OK will be displayed.

# NOTES

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# NOTES

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

## **Comfort Controls**

This section tells you how to operate your climate control system. Your climate control system uses ozone-friendly R-134a refrigerant.

### Automatic Electronic Climate Control



Your Aurora is equipped with a Dual Zone Automatic Electronic Climate Control System. You can use the automatic setting or override the automatic setting by using the manual controls. Your vehicle also has the flow-through ventilation system described later in this section. If the display ever starts flashing after the automatic electronic climate control system is started, there is a problem with the electronic climate control system and you should see your dealer for service.

### **AUTO-PUSH Knob**

By pressing the AUTO-PUSH knob, you have selected the electronic climate control system to be in the automatic mode. The climate control system will automatically control the air temperature, air distribution and the fan speed based on the temperature inside the vehicle, the outside temperature and the sun load.

- Press the AUTO-PUSH knob. The lights on the AUTO-PUSH and the AUTO FAN knobs will illuminate. Your current comfort setting will be shown in the digital display.
- Set the comfort level you want inside the vehicle by using the colored buttons located below the climate control display.

#### **Temperature Buttons**

To adjust the comfort level you want maintained inside the vehicle, use the red and blue buttons located below the digital display. If you want a warmer comfort level, push the red button. If you want a cooler comfort level, push the blue button. Your selected comfort setting will be displayed on the digital screen for five seconds, then the outside temperature will be displayed.

#### **Mode Control**

Rotate the AUTO-PUSH knob to deliver air through the floor, upper or windshield outlets. The system will stay in the selected mode until the AUTO-PUSH knob is pressed.

#### **AUTO FAN Knob**

This knob controls the fan speed in either an automatic mode or a manual mode.

- Depressing the AUTO FAN knob puts the fan control in the automatic mode. The AUTO FAN light will appear below the knob. The fan speed indicators will not be illuminated when the system is in the automatic fan control mode.
- Rotating the AUTO FAN knob selects a manual fan speed. Rotate this knob to the right to raise the fan speed. Rotate this knob to the left to lower the fan speed. Rotating the AUTO FAN knob overrides the automatic fan control mode. The fan speed indicators will be illuminated while in the manual fan control mode.

### **Automatic Operation**

Press the AUTO-PUSH knob when you want the system to automatically adjust to changes in the temperature inside the vehicle, the outside temperature and the sun load on the vehicle. When the system is set for automatic operation, air will come from the floor, upper or the windshield outlets depending on the temperature inside the vehicle, the outside temperature and the sun load. Fan speed will vary as the system reaches and maintains the comfort setting you have selected.

To find your comfort setting, start with the system in automatic mode by depressing the AUTO-PUSH knob. Adjust the comfort setting by using the red and blue buttons located below the digital display until you reach a value of 75°F (24°C), on the display. Give the vehicle about 20 minutes to stabilize and then adjust the comfort setting if necessary, through the use of the red and blue buttons. The display will show the comfort setting for five seconds and then it will show the outside temperature.

In cold weather, the system will delay turning on the fan to avoid blowing cold air. The length of the delay depends on the engine coolant temperature and the outside temperature. Rotating the AUTO FAN knob will override this delay by turning off the automatic fan mode and changing the fan speed.



Your automatic electronic climate control system has two sun sensors located on the top of the instrument panel that detect direct sunlight. To keep you and your passengers comfortable, the system may supply cooler air to the side towards the sun. Be careful not to put anything over these sun sensors. The automatic electronic climate control system may not operate correctly if these sensors are covered.

To change the automatic electronic climate control display from an English display to a Metric display, hold down the OFF button located in the Driver Information Center for five seconds. The display in the Driver Information Center will also change from an English to a Metric display. To return to an English display, repeat the above procedure.

### **Manual Operation**

You may override the automatic airflow distribution by rotating the AUTO-PUSH knob. After you rotate this knob, the comfort setting will be displayed for five seconds then the outside temperature will be displayed. The fan control will remain in the automatic control mode unless you rotate the AUTO FAN knob to select a manual fan speed.

**Upper:** Directs airflow through the upper air outlets located in the instrument panel and door panels.

**Bi-Level:** Directs the airflow through both the upper air outlets and the lower floor outlets. There is also a small amount of air directed to the front defroster and the side window defrosters.

Heat: Directs most of the airflow to the lower floor outlets with some airflow directed to the side window defrosters. There is also a small amount of airflow directed to the front defroster. Defog: Directs the majority of the airflow to the lower floor outlets and the front defroster. A small amount of airflow is directed to the side window defroster outlets. This mode can be useful to remove the moisture from the inside of the windshield when the outside temperature is cold or the humidity is high.

**DEF (Defrost):** Directs the majority of the airflow to the windshield with some airflow to the side window defrosters and lower floor outlets. To increase the fan speed, rotate the AUTO FAN knob to the right.

**RECIRC:** Press this button to limit the amount of outside air entering your vehicle. This is helpful when you are trying to cool the interior of the vehicle quickly or limit the amount of outside air entering your vehicle for some other reason. The RECIRC button and the AUTO-PUSH knob may be selected at the same time. The system will remain in RECIRC for 12 minutes or until the ignition is turned off, then the system will return back to the previously selected mode. RECIRC may be selected in all manual airflow modes except FRONT Defrost. Operating the RECIRC mode in cold temperatures or under high humidity conditions may cause moisture to form on the inside of the windshield. If this condition occurs, deselect the RECIRC button.

A/C ON: Press this button to turn the air conditioning on and off. If the system is operating in the automatic mode, the A/C ON indicator light will automatically illuminate. In the auto mode, the A/C compressor will only operate when the system determines it is needed.

OFF: Rotate the AUTO-PUSH knob to the OFF position. Turning the system off will cause the fan to turn off and the airflow to be directed out the lower floor outlets. The system will still try to keep the interior of the vehicle at the previously chosen comfort setting. The outside temperature will show in the display when the system is OFF.

## Air Conditioning

The air conditioner cools, dehumidifies and filters the air for the inside of the vehicle.

The air conditioning compressor is enabled in all modes unless the A/C ON button is in the off position (indicator light will not be illuminated). However, the air conditioning compressor will not operate when the outside temperature is below 44°F (7°C). When the air conditioner is on, you may sometimes notice slight changes in your vehicle's engine speed and power. This is normal, because the system is designed to cycle the compressor on and off to keep the desired cooling and help fuel economy.

On very hot days, open the windows long enough to let the hot air out. This reduces the time required to cool the interior of the vehicle to a comfortable level. If the system is in the automatic mode (AUTO-PUSH knob indicator light is on), during very hot days the system will automatically go to the RECIRC mode and the temperature door will be positioned at the full cold position for maximum cooling. You can choose the extreme comfort setting of 60°F (16°C), but the system will not cool any faster by choosing the extreme comfort setting.

## Heating

In cold weather, if the automatic mode is selected (AUTO-PUSH knob indicator light is on), the system will automatically direct the airflow out of the lower floor outlets and the temperature door will be positioned at the full hot position. You can choose the extreme comfort setting of 90°F (32°C) but the system will not warm up any faster by selecting the extreme comfort setting.

In cold weather, the system will delay turning on the fan to avoid blowing cold air. The length of the delay depends on the engine coolant temperature and the outside temperature. The fan speed will increase as the temperature of the engine coolant increases. Rotating the AUTO FAN knob will override this delay by turning off the automatic fan control mode and changing the fan speed.

### Ventilation System

Your Aurora's flow-through ventilation system always allows outside air to flow through your vehicle when it is moving, even when the system is in the OFF position.



The direction of the air can be controlled by adjusting or closing the outlets in the instrument panel. Rotate the control between the front outlets upward to open the outlets and downward to close the outlets. Adjust the direction of airflow from side to side with the controls in each outlet.


Rotate the control between the rear outlets up to direct air through the upper outlets. Rotate the control down to direct air through the lower outlets. Adjust the direction of airflow from side to side with the controls in each outlet.

### Ventilation Tips

- Keep the hood and front air inlet area between the base of the windshield and the hood free of ice, snow, or any other obstruction (such as leaves). The DEF and heater will work far better, reducing the chance of fogging the inside of your windows if this area is clear.
- Keep the air path under the front seats clear of objects. This helps air to circulate throughout your vehicle.

# Defogging and Defrosting



On cool, humid days use the defog setting to keep the windows clear while also providing heat through the lower outlets. Use the DEF setting to quickly remove fog or ice from the windshield.

# **Rear Window Defogger**



R. DEFOG: Press this button to warm the defogger grid on the rear window. An indicator light in the button will glow while the rear window defogger is operating.

At speeds above 35 mph (56 km/h), the rear defogger will stay on until you press the R. DEFOG button again. At speeds below 35 mph (56 km/h), the rear window defogger will turn off automatically after about 10 minutes of use. If you press it again, the defogger will operate for about five minutes only. You can also turn the defogger off by turning off the ignition. Do not attach a temporary vehicle license across the defogger grid on the rear window.

When you operate the rear window defogger, the outside rearview mirrors are also heated to help remove ice and fog.

# NOTICE:

Don't use a razor blade or something 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.

# Passenger Temperature Control



With this feature, the right front seat passenger can control the comfort setting for their own zone. To use this feature, adjust the control on the passenger side armrest to the desired comfort level.

The passenger temperature control on the passenger armrest will illuminate only if the headlamps or parking lamps are on.

## Steering Wheel Controls for Climate Control



Some heating and cooling controls can be adjusted at the steering wheel. Other touch controls also operate some audio controls. See "Steering Wheel Controls for Audio System" later in this section.

Press the upper part of the fan symbol button to override the automatic fan control and increase the fan speed. Press the lower part of the fan symbol button to override the automatic fan control and reduce the fan speed. Press either arrow on the TEMP button once to display your current comfort setting in the digital display. Press the upper part of the TEMP button again to provide a warmer comfort setting or press the lower part of the TEMP button again to provide a cooler comfort setting.

# Audio Systems

Your Delco<sup>®</sup> 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 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.

# Delco-Bose<sup>®</sup> AM-FM Stereo with Cassette Tape Player and Compact Disc Changer



#### **Playing the Radio**

PWR: Press the upper knob to turn the system on or off.

VOL: Turn the upper knob to adjust the volume. Volume increases when you turn the knob clockwise and decreases when you turn the knob counterclockwise.

**RECALL:** Press this button to recall the station being played or to display the clock. RECALL may be pressed with the ignition off to display the time. Press this button twice in a row to switch between the time of day and frequency. Hold the button for about three seconds and RECALL will appear on the display. This allows you to change the display default from station to clock display.

#### **Finding a Station**

AM-FM: Press this button to get AM, FM1 or FM2. Your selection will appear on the display.

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

SEEK: Press the up or down arrow to go to the next higher or lower station. The sound will be muted 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 be muted while scanning, and SCAN will appear on the display.

**PSCAN:** Press SCAN for more than two seconds, and PSCAN 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. 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).

- 1. Press AM-FM to select the band.
- Find the station you want by using TUNE, SCAN or SEEK.
- 3. 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.

#### Setting the Tone

**BASS:** Press this knob lightly so it extends. Turn the knob to increase or decrease bass. Push the knob back in when you're not using it.

**TREB:** Press this knob lightly so it extends. Then pull the knob all the way out. Turn the knob to increase or decrease treble. Push the knob back in when you're not using it.

#### Adjusting the Speakers

**BAL:** Press this knob lightly so it extends. Turn the knob to move the sound to the left or right speakers. Use the middle position to balance these speakers. Push the knob back in when you're not using it.

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. Use the middle position to balance these speakers. Push the knob back in when you're not using it.

#### 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 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 and BASS 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 counterclockwise 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 thecd .. 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.

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.

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

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SEEK: Press the up or down arrow to search for the next or previous selection on the tape. To go to the start of the last selection played, press the down arrow again as it stops at the start of a selection. The radio will not play while seeking. 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 be muted and SCAN will appear on the display.

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 to change to the tape function when the radio is on. A box will appear around TP on the display when the tape is active. Press AM-FM to return to the radio while a tape is playing.

**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 off if this button is pressed first.

CLN: This message may appear on the display. If it does, 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. 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.

### Playing a Compact Disc

If you have the optional trunk mounted CD changer, you can play up to 12 discs continuously. Normal size discs may be played using the trays supplied in the magazine.

The small discs (8 cm) can be played only with specially designed trays.



You must first load the magazine with discs before you can play a compact disc. Each of the 12 trays holds one disc. Press the button on the back of the magazine and pull gently on one of the trays. Load the trays from bottom to top, placing a disc on the tray label side down. If you load a disc label side up, the disc will not play and an error will occur. Gently push the tray back into the magazine slot. Repeat this procedure for loading up to 12 discs in the magazine.



Once you have loaded the discs in the magazine, slide open the door of the compact disc (CD) changer. Push the magazine into the changer in the direction of the arrow marked on top of the magazine.



Close the door by sliding it all the way to the left. If the door is left partially open the changer will not operate and an error will occur. When the door is closed, the changer will begin checking for discs in the magazine. This will continue for up to 1 1/2 minutes depending on the number of discs loaded.

To eject the magazine from the player, slide the CD changer door all the way open. The magazine will automatically eject. Remember to keep the door closed whenever possible to keep dirt and dust from getting inside the changer. All of the CD functions are controlled by the radio buttons except for ejecting the magazine. Whenever a CD magazine with discs is loaded in the changer, CD will appear on the radio display. If the CD changer is checking the magazine for CDs, CD will flash on the display until the changer is ready to play. When a CD begins playing, CD will appear in the bottom left corner and a disc and track number will be displayed. The disc numbers are listed on the front of the magazine.

PUSHBUTTONS: Press buttons one through six to go from one compact disc to another that is loaded in the changer.

**REV (1):** Press and hold this button to reverse quickly through a track selection. The display will show elapsed time.

FWD (2): Press and hold this button to advance to a passage quickly. The display will show elapsed time.

**PROG (3):** Press this button to go to the next track. Each time you press PROG, the disc number on the radio display will increment to the next available CD. If one of your CD's cannot be played, its number will be skipped when selecting discs with PROG.

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

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If you press PROG or SEEK while RDM is displayed, the next disc will be selected randomly. If you press SCAN while RDM is displayed, discs will be scanned randomly. Press pushbutton number 5 again to turn off the RANDOM feature.

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

SEEK: Press the down arrow to go to the start of the current track if more than eight seconds have played. If you press SEEK again, the changer will go to the previous track. Press the up arrow to go to the next track.

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 be muted and SCAN will appear on the display.

TAPE-CD: Press this button if you have a disc loaded in the changer 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.

EJECT: Slide the CD changer door all the way open and the disc will automatically eject.

#### Compact Disc Changer Errors

If the error occurred while trying to play a CD in the compact disc changer, the following conditions may have caused the error:

- The road is too rough. The disc should play when the road is smoother.
- The disc is dirty, scratched, wet or upside down.
- The air is very humid. If so, wait about an hour and try again.
- E34: The CD changer door is open. Completely close the door to restore normal operation.
- E35: An empty magazine is inserted in the CD changer. Try the magazine again with a disc loaded on one of the trays.

If any error occurs repeatedly or if an error cannot 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.

### AM-FM Stereo with Cassette Tape and Compact Disc Player with Automatic Tone Control



#### **Playing the Radio**

PWR: Press the upper knob to turn the system on or off.

VOL: Turn the upper knob clockwise to increase volume. Turn it counterclockwise 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 get AM, FM1 or FM2. The display shows your selection.

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

SEEK: Press the up or down arrow to go to the next higher or lower station. The sound will be muted 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 be muted while scanning, and SCAN will appear on the display. If you press SCAN for more than two seconds, the radio will change to PSCAN mode. PSCAN will appear on the display. **PSCAN:** Press SCAN for more than two seconds, and PSCAN 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.

**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).

- 1. Press AM-FM to select the band.
- 2. Find the station you want by using TUNE or SEEK.
- Press TONE to select the graph that best suits the type of station selected.
- 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 and the TONE equalization that you selected will also be automatically selected for that button.

If you manually tune or use SEEK or SCAN to find a frequency stored in a preset, the TONE equalization stored for that frequency will not be recalled. Always check the display first to make sure you have the correct band.

### Setting the Tone

**TONE:** This feature allows you to choose preset treble and bass 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 TREB and BASS knobs. Also, if you use the TREB and BASS knobs, control will return to them and MANUAL will appear.

**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. Push the knob back in when you're not using it.

**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. Push the knob back in when you're not using it.

### Adjusting the Speakers

**BAL:** Press this knob lightly so it extends. Turn the knob to move the sound to the left or right speakers. Use the middle position to balance these speakers. Push the knob back in when you're not using it.

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. Use the middle position to balance these speakers. Push the knob back in when you're not using it.

#### 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 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 and TONE 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 counterclockwise 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.

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.

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

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**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. Press RDM again to turn off random play.

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 be muted, SCAN will appear on the display and the tape direction arrow will blink while scanning.

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

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 changer 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. **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: This message may appear on the display. If it does, 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. 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.

#### **Playing a Compact Disc**

The CD player will play either normal-size discs or the smaller 8 cm discs without an adapter.

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.

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 you're driving on a very rough road or if it's very hot, the disc may not play and E (error) and a number may appear on the radio display. If the disc comes out, it could be that:

- The disc is upside down.
- It is dirty, scratched or wet.
- 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.

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

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

PROG (3): Press this button to go to the next track. If you hold the button or press it more than once, the player will continue moving forward through the disc. The sound will be muted while seeking.

**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.

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

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 be muted, SCAN will appear on the display and the disc direction arrow will blink while scanning.

**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.

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.

EJECT: Press this button to remove the compact disc or cassette tape. The item 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<sup>™</sup> 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.

- Write down any three or four-digit number from 000 to 1999 and keep it in a safe place separate from the vehicle.
- Turn the ignition to the ACCESSORY or RUN position.
- 3. Turn the radio off.
- 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.
- Press MN again to make the last two digits agree with your code.
- Press HR to make the first one or two digits agree with your code.
- 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.
- Press AM-FM and this time the display will show SEC to let you know that your radio is secure. The indicator by the volume control will begin flashing when the ignition is turned off.

#### 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.
- Press MN again to make the last two digits agree with your code.
- Press HR to make the first one or two digits agree with your code.
- 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.

### **Disabling the Theft-Deterrent Feature**

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

- Turn the ignition to the ACCESSORY or RUN position.
- 2. Turn the radio off.
- 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.
- Press MN again to make the last two digits agree with your code.
- Press HR to make the first one or two digits agree with your code.
- 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 given to a secured radio, the radio won't turn on and LOC will appear on the display.

### Steering Wheel Controls for Audio System (Option)



If your vehicle has this feature, you can control certain radio functions using the buttons on your steering wheel.

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Some steering wheel controls operate climate controls. See "Steering Wheel Controls for Climate Control" earlier in this section.

VOL: Press the up arrow to increase the volume and the down arrow to decrease volume.

SEEK: Press this button to tune to a higher radio station. When playing a cassette tape or compact disc, press SEEK to hear the next selection. There must be at least a four-second gap between selections on a cassette tape.

**PROG:** Press this button to tune in a higher preset radio station. When playing a cassette tape, press PROG to hear the other side of a tape that is playing.

# **Understanding Radio Reception**

#### 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.

### 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.

#### **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.

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 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 you notice a reduction in sound quality, try a known good cassette to see if the tape or the tape player is at fault. If this other cassette has no improvement in sound quality, clean the tape player.

Cleaning may be done with a scrubbing action, non-abrasive cleaning cassette with pads which scrub the tape head as the hubs of the cleaner cassette turn. A scrubbing action cleaning cassette is available through your Aurora retailer. You may also choose a non-scrubbing action, wet-type cleaner which uses a cassette with a fabric belt to clean the tape head. It may not clean as thoroughly as the scrubbing type cleaner.

Cassettes are subject to wear and the sound quality may degrade over time. Always make sure that 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.

#### **Power Antenna Mast Care**

Your power antenna will look its best and work well if it's cleaned from time to time. To clean the antenna mast:

- 1. Turn on the ignition and radio to raise the antenna.
- Dampen a clean cloth with mineral spirits or equivalent solvent.
- Wipe the cloth over the mast sections, removing any dirt.
- 4. Wipe dry with a clean cloth.
- Make the antenna go up and down by turning the radio or ignition off and on.
- 6. Repeat if necessary.

# NOTICE:

Don't lubricate the power antenna. Lubrication could damage it.

# NOTICE:

Before entering an automatic car wash, turn off your radio to make the power antenna go down. This will prevent the mast from possibly getting damaged. If the antenna does not go down when you turn the radio off, it may be damaged or need to be cleaned. In either case, lower the antenna by hand by carefully pressing the antenna down.

If the mast portion of your antenna is damaged, you can easily replace it. See your retailer for a replacement kit and follow the instructions in the kit.

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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.

# **Defensive Driving**

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

Please start with a very important safety device in your Aurora: 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.

# **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, some 18,000 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.



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!

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.

# **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; and the condition of your brakes. 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**

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

When you start your engine and begin to drive away, your anti-lock brake system will check itself. You may hear a momentary motor or clicking noise while this test is going on, and you may even notice that your brake pedal moves a little. This is normal.



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.



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 the 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. 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 and let anti-lock work for you. You may hear a motor or clicking noise during a hard stop, but this is normal.

#### **Traction Control System**

Your vehicle has a traction control system that limits wheel spin. This is especially useful in slippery road conditions. The system operates only if it senses that one or both of the front wheels are spinning or beginning to lose traction. When this happens, the system works the front brakes and reduces engine power to limit wheel spin.



This light will come on when your traction control system is limiting wheel spin. See "Traction Control System Active Light" in the Index.

You may feel or hear the system working, but this is normal.

If your vehicle is in cruise control when the traction control system begins to limit wheel spin, the cruise control will automatically disengage. When road conditions allow you to safely use it again, you may re-engage the cruise control. (See "Cruise Control" in the Index.)



When the system is on, this warning light will come on to let you know if there's a problem with your traction control system.

See "Traction Control System Warning Light" in the Index. When this warning light is on, the system will not limit wheel spin. Adjust your driving accordingly.

The traction control system automatically comes on whenever you start your vehicle. To limit wheel spin, especially in slippery road conditions, you should always leave the system on. But you can turn the traction control system off if you ever need to. (You should turn the system off if your vehicle ever gets stuck in sand, mud, ice or snow. See "Rocking Your Vehicle" in the Index.)



To turn the system off, press the TRACTION CONTROL button on the center console.

The traction control system warning light will come on and stay on. If the system is limiting wheel spin when you press the button, the warning light will come on -- but the system won't turn off right away. It will wait until there's no longer a current need to limit wheel spin.

You can turn the system back on at any time by pressing the button again. The traction control system warning light should go off.



### **Braking in Emergencies**

Use your anti-lock braking system when you need to. 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.

# Magnasteer ™

Your vehicle is equipped with GM Magnasteer<sup>™</sup>, a steering system that continuously adjusts the effort you feel when steering at all vehicle speeds. It provides ease when parking yet a firm, solid feel at highway speeds.

## 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. Unless your traction control system is on, adding the sudden acceleration can demand too much of those places. You can lose control.

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.

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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 Aurora 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.



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 sometime 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.

# 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.

- 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

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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 Aurora'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.

Remember: Any traction control system helps avoid only the acceleration skid. If your traction control system is off, then an acceleration skid is also 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.

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.

Here are some tips on night driving.

- Drive defensively.
- Don't drink and drive.
- 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.

### **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 wiping equipment in good shape and keep your windshield washer tank filled. 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.



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 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.

## 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 haven't 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

- Turn on your low-beam headlamps -- not just your parking lamps -- to help make you more visible to others.
- 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.

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 Have good tires with proper tread depth. (See "Tires" in the Index.)

## **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.

# 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.

The exit speed is usually posted.

4.77

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 Aurora retailers 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?

### **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. 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. Shift down to THIRD (3). This will help cool your engine and transaxle, and you can climb the hill better.
- In hilly terrain, you may want to switch to the POWER mode for better performance.
- 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.

# Winter Driving



Here are some tips for winter driving:

- Have your Aurora 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.

#### **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.

Keep your traction control system on. It improves your ability to accelerate when driving on a slippery road. Even though your vehicle has a traction control system, you'll want to slow down and adjust your driving to the road conditions. See "Traction Control System" in the Index. 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.

- 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 awhile.

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.

# Loading Your Vehicle

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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 door tells you the proper size, speed rating and recommended inflation pressure 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.

4-30

MFD BY GENERAL MOTORS CORP DATE GVWR GAWR FRT GAWR RR

THIS VEHICLE CONFORMS TO ALL APPLI-CABLE 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 of rear axle.

And, if you do have a heavy load, you should spread it out. Don't carry more than 176 lbs. (80 kg) in your trunk.

The electronic level control automatically keeps the rear of the vehicle level as you load or unload your vehicle.

# **▲** 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.

### NOTICE:

Your warranty does not cover parts or components that fail because of overloading.

If you put things inside your vehicle— like suitcases, tools, packages, or anything else — they will go as fast as the vehicle goes. If you have to stop or turn quickly, or if there is a crash, they'll keep going.

# **A** 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.

#### **Electronic Level Control**

This feature keeps the rear of your vehicle level as the load changes. It is automatic -- you don't need to adjust anything.

# 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. Pull a trailer only if you have followed all the steps in this section. Ask your Aurora retailer for advice and information about towing a trailer with your vehicle.

#### NOTICE:

Pulling a trailer improperly can damage your vehicle and result in costly repairs not covered by your warranty. To pull a trailer correctly, follow the advice in this part, and see your Aurora retailer for important information about towing a trailer with your vehicle. Your vehicle can tow a trailer. 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.

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:

Customer Assistance Representative Oldsmobile Central Office 920 Townsend Street P.O. Box 30095 Lansing, MI 48909 In Canada, write to:

General Motors of Canada Limited Customer Assistance Center 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 capacity weight of your vehicle. The capacity weight 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 will tow a trailer, you must subtract the tongue load from your vehicle's capacity weight 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.



If you're using a weight-carrying hitch, the trailer tongue (A) should weigh 10% of the total loaded trailer weight (B). If you have a weight-distributing hitch, the trailer tongue (A) should weigh 12% 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.

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#### **Total Weight on Your Vehicle's Tires**

Be sure your vehicle's tires are inflated to the recommended pressure 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:

- 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.
- The bumpers on your vehicle are not intended for hitches. Do not attach rental hitches or other bumper-type hitches to them. Use only a frame-mounted hitch that does not attach to the bumper.

### 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.

Because you have anti-lock brakes, do not try to tap into your vehicle's brake system. If you do, both brake 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.



#### **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.

### **Turn Signals When Towing a Trailer**

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.

Your vehicle may have bulb warning messages. When you plug a trailer lighting system into your vehicle's lighting system, its bulb warning messages may not let you know if one of your lamps goes out. So, when you have a trailer lighting system plugged in, be sure to check your vehicle and trailer lamps from time to time to be sure they're all working. Once you disconnect the trailer lamps, the bulb warning messages again can tell you if one of your vehicle lamps is out.

## **Driving On Grades**

Reduce speed and shift to a lower gear *before* you start down a long or steep downgrade. If you don't shift down, you might have to use your brakes so much that they would get hot and no longer work well.

#### **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:

- Apply your regular brakes, but don't shift into PARK (P) yet.
- 2. Have someone place chocks under the trailer wheels.
- When the wheel chocks are in place, release the regular brakes until the chocks absorb the load.
- Reapply the regular brakes. Then apply your parking brake, and then shift to PARK (P).
- 5. Release the regular brakes.

#### When You Are Ready to Leave After Parking on a Hill

- 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.

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- 3. Drive slowly until the trailer is clear of the chocks.
- 4. Stop and have someone pick up and store the chocks.

## **Maintenance When Trailer Towing**

Your vehicle will need service more often when you're pulling a trailer. See the Maintenance Schedule for more on this. Things that are especially important in trailer operation are automatic transaxle fluid (don't overfill), engine oil, 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.

## NOTES

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## NOTES

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Here you'll find what to do about some problems that can occur on the road.

## **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 down on the button located on top of the steering column, then release it to turn on the hazard warning flashers.



The HAZARD light on the instrument panel will also come on.

Your hazard 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 button down again.

When the 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.

#### **Jump Starting**

If your battery has run down, you may want to use another vehicle and some jumper cables to start your Aurora. But please follow the steps below to do it safely.

## NOTICE:

Ignoring these steps could result in costly damage to your vehicle that wouldn't be covered by your warranty.

Trying to start your Aurora by pushing or pulling it won't work, and it could damage your vehicle.

# ▲ 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.  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.

 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 Aurora, and the bad grounding could damage the electrical systems.

You could be injured if the vehicle rolls. Set the parking brake firmly on each vehicle. Put an automatic transaxle in PARK (P) or a manual transaxle in NEUTRAL (N).  Turn off the ignition on both vehicles. Unplug unnecessary accessories plugged into the cigarette lighter or 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:

If you leave your radio on, it could be badly damaged. The repairs wouldn't be covered by your warranty.



 Open the hoods and locate the other vehicle's battery and the Aurora's remote positive (+) jump starting terminal in the box on the passenger side of the engine compartment. (Your Aurora's battery isn't under the hood.)

# ▲ 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.

 Find the positive (+) and negative (-) terminals on each battery or remote terminal. You should always use the remote positive (+) terminal instead of the positive (+) terminal on your battery.

To open the remote positive (+) terminal box, pull the tab and open the cover.

# ▲ 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 Delco Freedom<sup>®</sup> 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.  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 engines are running.



 Connect the red positive (+) cable to the remote positive (+) terminal of the vehicle with the dead battery.



 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.



 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.



- 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.
- Now start the vehicle with the good battery and run the engine for a while.



- Try to start the vehicle with the dead battery. If it won't start after a few tries, it probably needs service.
- 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

## **Towing Your Vehicle**

Try to have a GM dealer or a professional towing service tow your vehicle.

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 can only be towed from the front with sling type equipment.
- · 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.


# ▲ 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.

# **A** 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, have the ignition key turned to the OFF position. The steering wheel should be clamped in a straight-ahead position, with a clamping device designed for towing service. Do not use the vehicle's steering column lock for this. The transaxle should be in NEUTRAL (N) and the parking brake released.

Don't have your vehicle towed on the drive wheels, unless you must. If the vehicle must be towed on the drive wheels, be sure to follow the speed and distance restrictions later in this section or your transaxle will be damaged. If these limitations must be exceeded, then the drive wheels have to be supported on a dolly.

#### **Front Towing**



### NOTICE:

Do not tow with sling-type equipment or fascia/fog lamp 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.

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. These slots are to be used when loading and securing to car carrier equipment.



Attach T-hook chains on both sides, in the slotted holes in the bottom of the body rail, behind the front wheels and cradle.



Attach a separate safety chain around the outboard end of each lower control arm.

### NOTICE:

Be sure not to attach the safety chain to the drive axle. This could cause damage to the drive axle boot.

#### **Rear Towing**

Tow Limits -- 55 mph (88 km/h), 500 miles (800 km)



Attach T-hook chains to the T-hook slots in the floor pan support rails just ahead of the rear wheels on both sides.



Position the lower sling crossbar just ahead of the front edge of the rear bumper.



Attach a separate safety chain around the outboard end of each lower control arm.

### **Engine Overheating**

You will find a coolant temperature gage on your Aurora's instrument panel. Your information center will also display messages about engine overheating. See "Coolant Temperature Gage" in the Index.

#### Overheated Engine Protection Operating Mode

Should a low coolant condition exist and the message HOT STOP ENGINE is displayed, an overheat protection mode which alternates firing groups of four cylinders helps prevent engine damage. This operating mode allows your vehicle to be driven to a safe place in an emergency; you may drive up to 50 miles (80 km). Towing a trailer in the overheat protection mode should be avoided.

### NOTICE:

After driving in the overheated engine protection operating mode, to avoid engine damage, allow the engine to cool before attempting any repair. The engine oil may be severely degraded. Change the oil and reset the oil life indicator. See "Engine Oil, When to Change" in the Index.

### If Steam Is Coming From Your Engine



# ▲ CAUTION:

Steam from an overheated engine can burn you badly, even if you just open the hood. Stay away from the engine if you see or hear steam coming from it. Just turn it off and get everyone away from the vehicle until it cools down. Wait until there is no sign of steam or coolant before opening 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. See "Overheated Engine Protection Operating Mode" in the Index.

#### 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.
- Turn on your heater to full hot at the highest fan speed and open the window as necessary.
- If you're in a traffic jam, shift to NEUTRAL (N); otherwise, shift to the highest gear while driving -- AUTOMATIC OVERDRIVE (<sup>®</sup>) 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. Also, see "Overheated Engine Protection Operating Mode" listed previously in this section.

You may decide not to lift the hood but to get service help right away.

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When you decide it's safe to lift the hood, here's what you'll see:



# ▲ CAUTION:

An electric 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.

- A. Coolant Surge Tank with Pressure Cap
- B. Two Electric Engine Cooling Fans



The coolant level should be indicated by a CHECK COOLANT LEVEL message on the Driver Information Center. 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 if you keep running your engine without coolant isn't covered by your warranty. See "Overheated Engine Protection Operating Mode" in the Index.

If there seems to be no leak, with the engine on, check to see if the electric engine fan(s) are running. If the engine is overheating, both fan(s) should be running. If they aren't, your vehicle needs service.

#### 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, add a 50/50 mixture of *clean water* (preferably distilled) and DEX-COOL<sup>™</sup> antifreeze 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.



# **A** 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 mix will. Your vehicle's coolant warning system is set for the proper coolant mix. With plain water or the wrong mix, 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 mix of clean water and DEX-COOL<sup>™</sup> antifreeze.

#### 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.



 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.



Then keep turning the pressure cap slowly, and remove it.



3. Then fill the coolant surge tank with the proper mix, up to FULL COLD.



 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 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 mix to the coolant surge tank until the level reaches FULL COLD.



Then replace the pressure cap. Be sure the pressure cap is tight.



### 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.



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.

Instructions for changing your tires are on the inside of the tire cover. You can rest the cover near you for easy reference while you change the tire.



Turn the center retainer bolt on the spare tire cover counterclockwise to remove it, then lift and remove the tire cover.



Turn the spare tire retainer bolt counterclockwise and remove the retainer assembly.

Remove the wheel wrench and jack from the jack container.

Remove the spare tire from the trunk.



The tools you'll be using include the jack (A) and the wheel wrench (B).



Insert the hooked end of the wheel wrench in one of the two small notches in the center cover and pry the cover off. Do not drop the cover or lay it face down, as it could be scratched or damaged.

Do not use a hammer or mallet to install the cover when replacing the cover after the wheel is put back on the vehicle.

# Removing the Flat Tire and Installing the Spare Tire



 Use the wheel wrench to loosen the wheel nuts, but don't remove them. Insert the pointed end of the wheel wrench into the slot on the jack to create a jack handle.



 Turn the end of the jack clockwise by hand to raise the jack head a few inches.



4. Near each wheel well is a notch in the frame to position the jack head. You'll find the word JACK and an arrow stamped into the plastic near each notch. Position the jack under the vehicle and raise the jack head until it fits firmly against the sheet metal next to the word JACK. Do not raise the vehicle yet. Put the compact spare near you.

# ▲ 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.

### NOTICE:

Raising your vehicle with the jack improperly positioned will damage the vehicle or may allow the vehicle to fall off the jack. Be sure to fit the jack lift head into the proper location before raising your vehicle.



- Raise the vehicle by rotating the wheel wrench clockwise in the jack. Raise the vehicle far enough off the ground so there's enough room for the spare tire to fit.
- 6. Remove all the wheel nuts and take off the flat tire.



 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.

8. Place the spare on the wheel mounting surface.



Replace the wheel nuts with the rounded end of the nuts toward the wheel. Tighten each nut by hand until the wheel is held against the hub.



 Lower the vehicle by rotating the wheel wrench counterclockwise on the jack. Lower the jack completely.



 Using the wheel wrench, 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 the right kind.

Stop somewhere as soon as you can and have the nuts tightened with a torque wrench to 100 lb-ft (140 N·m).

### 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.

 Then replace the wheel cover. Be sure to position the alignment pin on the cover with the notch in the wheel. Apply pressure around the edge of the cap to snap it in place.

Don't try to put the wheel cover on the compact spare tire. It won't fit. Store the wheel cover in the trunk until you have replaced the compact spare tire with a regular tire.

#### 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.

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### 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 flat tire as far forward in the trunk as possible. Store the jack and wheel wrench in their compartment in the trunk.

### **Storing the Spare Tire and Tools**

The compact spare tire is for temporary use only. Replace the compact spare tire with a full-size tire as soon as you can. See "Compact Spare Tire" later in this section. See the storage instructions label to replace your compact spare into your trunk properly.



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### **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 posted speed limits 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. 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.



### 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. You should turn your traction control system off. (See "Traction Control System" in the Index.) 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 Aurora. 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.

#### Service

Your Aurora 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:



#### **Doing Your Own Service Work**

If you want to do some of your own service work, you'll want to get the proper Aurora Service Manual. It tells you much more about how to service your Aurora 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 Aurora" 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.

# ▲ 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, and 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.

### Fuel

Use premium unleaded gasoline rated at 91 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 for premium is at least 91. If the octane is less than 91, you may get a heavy knocking noise when you drive. (In an emergency, you may be able to use a lower octane -- as low as 87 -- if heavy knocking does not occur.) If you're using 91 or higher octane unleaded gasoline and you still hear heavy knocking, your engine needs service.

If your vehicle is certified to meet California Emission Standards (indicated on the underhood tune-up 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 Aurora 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 Canadian gasolines contain an octane enhancing additive called methlycyclopentadienyl manganese tricarbonyl (MMT). If such fuels are used, 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 Aurora retailer for service.

To provide cleaner air, all gasolines 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.

#### **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 North American Export Sales (NAES) 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. The cap is behind a hinged door on the left side of your vehicle.

The remote fuel door release can help keep your fuel tank from being siphoned. Always be sure the fuel door is closed and latched after refueling.



To open the fuel door (on the left of the vehicle), press the button next to the trunk release button, to the right of the steering column. The ignition does not need to be on. The remote fuel door release will work in all transaxle positions.



The fuel door can be opened manually in case of an electrical power failure. To do so, first open the trunk. The release mechanism is on the driver's side of the vehicle, at the top of the trunk compartment. Pull the tab toward you to release the fuel door.

#### NOTICE:

Prying on a locked fuel filler door could damage it. Use the remote fuel door manual release located in the trunk.



While refueling, hang the cap inside the fuel door. Twist it clockwise to secure it, if necessary.

To take off the cap, turn it slowly to the left (counterclockwise).

# ▲ 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 Aurora" in the Index. When you put the cap back on, turn it to the right until you hear at least three clicks. 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 or have proper venting, and your fuel tank and emissions system might be damaged.
# **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.

# $\triangle$ 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.

The following sections tell you how to check fluids, lubricants and important parts underhood.

#### Hood Release



To open the hood, first pull the hood release handle inside the vehicle, located to the left of the steering wheel under the instrument panel.



Then go to the front of the vehicle and pull up on the underhood release.

Lift the hood.

Before closing the hood, be sure all the filler caps are on properly. Then pull the hood down and close it firmly.



#### 4.0L V8 Engine (Code C)

When you open the hood, you'll see:



- A. Remote Positive Battery Terminal
- B. Windshield Washer Fluid Reservoir
- C. Power Steering Fluid Reservoir
- D. Engine Oil Fill Cap
- E. Engine Oil Dipstick

- F. Brake Fluid Reservoir
- G. Automatic Transaxle Fluid Dipstick (behind air cleaner)
- H. Engine Coolant Surge Tank
- I. Air Cleaner

## **Engine Oil**



If the CHECK OIL LEVEL message or the oil warning 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 Level Message" or "Oil Pressure Warning 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.

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.

### **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 Oil

If the oil is at or below the ADD line, then you'll need to add some 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.

Just 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.

### What Kind of 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:



As shown in the chart, SAE 10W-30 is best for your vehicle. However, you can use SAE 5W-30 if it's going to be colder than 60°F (16°C) before your next oil change. When it's very cold, you should use SAE 5W-30. 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<sup>®</sup> oil meets all the requirements for your vehicle.

#### **Engine Oil Additives**

Don't add anything to your oil. Your Aurora retailer is ready to advise if you think something should be added.

### When to Change Engine Oil

See if any one of these is true for you:

- 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. (See "Change Oil Message" in the Index.) If the CHANGE OIL NOW message appears in the Driver Information Center, you should change your oil.

If none of them is true, 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.

(See "Change Oil Message" in the Index.) Always reset the engine oil life to 100% after every oil change.

#### 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

To Check or Replace the Air Filter:



1. Remove hose from resonator channel.



- Release tension of the wing screw clamp on the air intake duct where it attaches to the air cleaner cover near the top of the engine. Just turn the wing screw counterclockwise, then detach the duct from the air cleaner cover.
- Push the duct and resonator assembly rearward and up, and hold out of the way.



 There's a temperature sensor on the corner of the air cleaner cover. Use a screwdriver to release the sensor's electrical connector retainer, and pull up.



Unsnap the two clamps by pushing down on the top of the air cleaner cover and pushing in on the clamps toward the center of the cover. Then remove the cover.





- 6. Remove the air filter.
- Install the new air filter and reverse all steps to reinstall the cover, electrical wires, duct and clamp. Be sure the tabs of the air cleaner cover fit into the slots of the air cleaner housing. Then make sure both clamps are fully engaged.

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.

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# Automatic Transaxle Fluid

### When to Check and Change

A good time to check your automatic transaxle fluid level is when the engine oil is 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.

See "Scheduled Maintenance Services" in the Index.

## How to Check

Because this operation can be a little difficult, you may choose to have this done at your Aurora retailer Service Department.

If you do it yourself, be sure to follow all the instructions here, or you could get a false reading on the dipstick.

## NOTICE:

Too much or too little fluid can damage your transaxle. Too much can mean that some of the fluid could come out and fall on hot engine parts or exhaust system parts, starting a fire. Be sure to get an accurate reading if you check your transaxle fluid.



Wait at least 30 minutes before checking the transaxle fluid level if you have been driving:

- When outside temperatures are above 90°F (32°C).
- At high speed for quite a while.
- In heavy traffic -- especially in hot weather.
- While pulling a trailer.

To get the right reading, the fluid should be at normal operating temperature, which is 180°F to 200°F (82°C to 93°C).

Get the vehicle warmed up by driving about 15 miles (24 km) when outside temperatures are above 50°F (10°C). If it's colder than 50°F (10°C), you may have to drive longer.

#### Checking the Fluid Level

- Park your vehicle on a level place. Keep the engine running.
- With the parking brake applied, place the shift lever in PARK (P).

- With your foot on the brake pedal, move the shift lever through each gear range, pausing for about three seconds in each range. Then, position the shift lever in PARK (P).
- Let the engine run at idle for three to five minutes.

Then, without shutting off the engine, follow these steps:



 Pull out the dipstick and wipe it with a clean rag or paper towel.

Push it back in all the way, wait three seconds and then pull it back out again.



- Check both sides of the dipstick, and read the lower level. The fluid level must be in the cross-hatched area.
- If the fluid level is in the acceptable range, push the dipstick back in all the way.

#### How to Add Fluid

Refer to the Maintenance Schedule to determine what kind of transaxle fluid to use. See "Recommended Fluids and Lubricants" in the Index.

If the fluid level is low, add only enough of the proper fluid to bring the level into the cross-hatched area on the dipstick.

- 1. Pull out the dipstick.
- 2. Using a long-neck funnel, add enough fluid at the dipstick hole to bring it to the proper level. It doesn't take much fluid, generally less than a pint (0.5 L). Don't overfill. We recommend you use only fluid labeled DEXRON<sup>®</sup>-III, because fluid with that label is made especially for your automatic transaxle. Damage caused by fluid other than DEXRON<sup>®</sup>-III is not covered by your new vehicle warranty.
- After adding fluid, recheck the fluid level as described under "How to Check."
- When the correct fluid level is obtained, push the dipstick back in all the way.

## **Engine Coolant**

The cooling system in your vehicle is filled with new DEX-COOL<sup>™</sup> (orange-colored, silicate-free) engine coolant. This coolant is designed to remain in your vehicle for 5 years or 100,000 miles (166 000 km), whichever occurs first.

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 the proper coolant for your Aurora 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 DEX-COOL<sup>™</sup> (orange-colored, silicate-free) coolant meeting GM Specification 6277M. If *silicated* coolant 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.

#### What to Use

Use a mixture of one-half *clean water* (preferably distilled) and one-half DEX-COOL<sup>™</sup> (orange-colored, silicate-free) antifreeze that meets GM Specification 6277M, which won't damage aluminum parts. Use GM Engine Coolant Supplement (sealer) (GM Part No. 3634621) with any complete coolant change. If you use this mixture, you don't need to add anything else. A special procedure is required for adding sealer; see the Aurora Service Manual. (To order a service manual, see "Service Publications" in the Index.)

# ▲ 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 mix will. Your vehicle's coolant warning system is set for the proper coolant mix. With plain water or the wrong mix, 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 mix of clean water and DEX-COOL<sup>™</sup> (orange-colored, silicate-free) antifreeze.

## NOTICE:

If you use an improper coolant mix, your engine could overheat and be badly damaged. The repair cost wouldn't be covered by your warranty. Too much water in the mix 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.



### **Checking Coolant**



The engine coolant surge tank is located on the driver's side of the engine compartment.

# **A** CAUTION:

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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 a little higher.



If the message LOW ENGINE COOLANT is displayed on your message center, it means you're low on engine coolant.



#### Adding Coolant

If you need more coolant, add the proper mix *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.

#### 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 AC<sup>®</sup> thermostat is recommended.

## **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, 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

Refer to the Maintenance Schedule 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.

## 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



There are two windshield washer fluid tanks. The upper tank (shown above) will empty first. When the lower tank contains 0.5 quarts (0.5 liters) or less, the message LOW WASHER FLUID will be displayed on the Driver Information Center.



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 3/4 full when it's very cold. This allows for expansion, which could damage the tank if it is completely full.
- Don't use radiator antifreeze in your windshield washer. It can damage your washer system and paint.

# 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.

# **A** 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. When your brake fluid falls to a low level, your brake warning light will come on. A chime will sound if you try to drive with this warning light 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<sup>®</sup> (GM Part No. 1052535). Use new brake fluid from a sealed container only, and always clean the brake fluid reservoir cap before removing it.

# ▲ 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:

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- 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.

#### **Brake Wear**

Your Aurora has four-wheel disc brakes.

Disc brake pads have built-in wear indicators that make a high-pitched warning sound when the brake pads are worn and new pads are needed. The sound 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 sooner or later 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.

Brake linings should always be replaced as complete axle sets.

#### **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 apply the brakes, with or without the vehicle moving, your brakes adjust for wear.

### **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. Vehicles we design and test have top-quality GM brake parts in them, as your Aurora does when it is new. 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 genuine 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 Aurora has a Delco Freedom<sup>®</sup> battery. You never have to add water to one of these. When it's time for a new battery, we recommend a Delco Freedom<sup>®</sup> battery. Get one that has the replacement number shown on the original battery's label.

The battery is located under the rear seat cushion. To access the battery, see "Removing the Rear Seat Cushion" in the Index. You don't need to access the battery to jump start your vehicle. See "Jump Starting" in the Index.

# **▲** CAUTION:

A battery that isn't properly vented can let sulfuric acid fumes into the area under the rear seat cushion. These fumes can damage your rear seat safety belt systems. You may not be able to see this damage, and the safety belts might not provide the protection needed in a crash. If a replacement battery is ever needed, it must be vented in the same manner as the original battery. Always make sure that the vent hose is properly reattached before reinstalling the seat cushion.



To be sure the vent hose (A) is properly attached, the vent hose connectors (B) must be securely reattached to the vent outlets (C) on each side of the battery, and the vent assembly grommet (D) must be secured to the floor pan (E).

### Vehicle Storage

If you're not going to drive your vehicle for 25 days or more, take off 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 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. Take special care when handling and disposing of halogen bulbs.

#### Headlamps

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For the type of bulb, see "Replacement Bulbs" in the Index.

#### Low-Beam Bulbs

 Remove the air cleaner cover to get to the driver's side headlamp bulb.



Remove the radiator hose from the resonator channel.



- Release tension of the wing screw clamp on the air intake duct where it attaches to the air cleaner cover near the top of the engine. Turn the wing screw counterclockwise, then detach the hose from the air cleaner cover.
- Push the duct and resonator assembly rearward and up, and hold them out of the way.



Twist the bulb assembly 1/6 turn and pull out the bulb assembly.



Unclip the bulb assembly from the wiring harness and replace the bulb assembly.

Reverse Steps 1-6 to replace the bulb assembly, headlamp housing and air cleaner cover and tube.

#### **High-Beam Bulbs**

1. Pull up on the wiring harness. This unlocks the bulb.



- Now you can reach in behind the lamp housing and pull out the bulb.
- To replace the bulb, angle the new bulb into the empty socket.
- Push the base of the bulb down to lock it into place.

# Headlamp Aiming

Your vehicle has the composite headlamp system. These headlamps have horizontal and vertical aim indicators. The aim has been pre-set at the factory and should need no further adjustment.

If your vehicle is damaged in an accident and the headlamp aim seems to be affected, see your Aurora retailer. Headlamps on damaged vehicles may require recalibration of the horizontal aim by your Aurora retailer.

To check the aim, the vehicle should be properly prepared as follows:

- The vehicle must have all four tires on a perfectly level surface.
- The vehicle should not have any snow, ice, or mud attached to it.
- There should not be any cargo or loading of vehicle, except it should have a full tank of gas and one person or 160 pounds (75 kg) on the driver's seat.
- Tires should be properly inflated.

## NOTICE:

To make sure your headlamps are aimed properly, read all the instructions before beginning. Failure to follow these instructions could cause damage to headlamp parts.

State inspection stations will allow a vertical reading of plus 0.76 degrees or minus 0.76 degrees from the center of the bubble.

It is recommended that the upper limit not exceed plus 0.4 degrees from the center of the bubble. Other drivers may flash their bright lights at you if your adjustment is much above plus 0.4 degrees.

If you find that the headlamp aiming needs adjustment, follow these steps:



Start with the vertical headlamp aim. Don't try to adjust the horizontal aim first. Adjustment screws can be turned with an E8 Torx<sup>®</sup>socket or T15 Torx screwdriver.



 Check the vertical aim for each headlamp and adjust it as necessary. Turn the vertical aiming screw until the bubble in the level is centered at 0 (zero).



- Now adjust the horizontal aim. Check the horizontal aim for each headlamp and adjust it as necessary. Turn the horizontal aiming screw until the pointer is lined up with the 0 (zero).
- Now, re-check the vertical aim, to make sure it is still correct after the horizontal aim adjustment. Readjust, if necessary.

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#### Taillamps

For the type of bulb, see "Replacement Bulbs" in the Index.



 In the trunk, remove the convenience net from the hooks. Next remove the plastic screws holding the carpeting in place and pull back the carpeting.





 Unscrew the convenience net attachment nut. Open the trim panel door.

Remove the two wing nuts now exposed.



Remove the taillamp filler screw located to the side of the taillamp filler panel.



- Pull out the lamp to reach the bulb. Pull out the bulb. To replace, push the bulb back in.
- Reverse Steps 1-5 to replace the taillamp filler, wing nuts and carpeting.

### Windshield Wiper Blade Replacement



Replacement blades come in different types and are removed in different ways. Here's how to remove the type with a release hole:

- Pull the windshield wiper arm away from the windshield.
- Insert a small screwdriver into the hole (A) and pull the blade assembly off the wiper arm (B).
- 3. Push the new wiper blade securely on the wiper arm.

For the proper windshield wiper blade length and type, see "Normal Replacement Parts" in the Index.

### Tires

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We don't make tires. Your new Aurora 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 Aurora Warranty booklet for details.

# ▲ 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 on the rear edge of the driver's 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 a mile.

### 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)

#### 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 inspected every 6,000 to 8,000 miles (10 000 to 13 000 km) for any signs of unusual wear. If unusual wear is present, 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. 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.)

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## 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.

### **Buying New Tires**

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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.

# **A** 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 four wheels.

It's all right to drive with your compact spare, though. It was developed for use on your vehicle.

## **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 (straightahead) traction tests and does not include cornering (turning) traction.

#### 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.

In most cases, you will not need to have your wheels aligned again. 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 Aurora retailer if any of these conditions exist.

Your retailer will know the kind of wheel you need.

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 Aurora 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.

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### NOTICE:

The wrong wheel can also cause problems with bearing life, brake cooling, speedometer/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 many miles 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.

## **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 Aurora, 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

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- 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

# **Cleaning the Inside of Your Aurora**

Use a vacuum cleaner often to get rid of dust and loose dirt. Wipe vinyl or leather with a clean, damp cloth.

Your Aurora retailer has two GM cleaners, a solvent-type spot lifter and a foam-type powdered cleaner. They will clean normal spots and stains very well. Do not use them on vinyl or leather.

Here are some cleaning tips:

- Always read the instructions on the cleaner label.
- Clean up stains as soon as you can -- before they set.
- Use a clean cloth or sponge, and change to a clean area often. A soft brush may be used if stains are stubborn.
- Use solvent-type cleaners in a well-ventilated area only. If you use them, don't saturate the stained area.
- If a ring forms after spot cleaning, clean the entire area immediately or it will set.

## Using Foam-Type Cleaner on Fabric

- Vacuum and brush the area to remove any loose dirt.
- Always clean a whole trim panel or section. Mask surrounding trim along stitch or welt lines.
- Mix Multi-Purpose Powdered Cleaner following the directions on the container label.
- Use suds only and apply with a clean sponge.
- Don't saturate the material.
- Don't rub it roughly.
- As soon as you've cleaned the section, use a sponge to remove the suds.
- Rinse the section with a clean, wet sponge.
- Wipe off what's left with a slightly damp paper towel or cloth.
- · Then dry it immediately with a blow dryer.
- Wipe with a clean cloth.

### Using Solvent-Type Cleaner on Fabric

First, see if you have to use solvent-type cleaner at all. Some spots and stains will clean off better with just water and mild soap.

If you need to use a solvent:

- Gently scrape excess soil from the trim material with a clean, dull knife or scraper. Use very little cleaner, light pressure and clean cloths (preferably cheesecloth). Cleaning should start at the outside of the stain, "feathering" toward the center. Keep changing to a clean section of the cloth.
- When you clean a stain from fabric, immediately dry the area with a blow dryer to help prevent a cleaning ring.



### Special Cleaning Problems

#### Greasy or Oily Stains

Stains caused by grease, oil, butter, margarine, shoe polish, coffee with cream, chewing gum, cosmetic creams, vegetable oils, wax crayon, tar and asphalt can be removed as follows:

- Carefully scrape off excess stain.
- Follow the solvent-type instructions described earlier.
- Shoe polish, wax crayon, tar and asphalt will stain if left on a vehicle's seat fabric. They should be removed as soon as possible. Be careful, because the cleaner will dissolve them and may cause them to spread.

#### **Non-Greasy Stains**

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Stains caused by catsup, coffee (black), egg, fruit, fruit juice, milk, soft drinks, wine, vomit, urine and blood can be removed as follows:

- Carefully scrape off excess stain, then sponge the soiled area with cool water.
- If a stain remains, follow the foam-type instructions described earlier.

- 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.
- If needed, clean lightly with solvent-type cleaner.

#### **Combination Stains**

Stains caused by candy, ice cream, mayonnaise, chili sauce and unknown stains can be removed as follows:

- Carefully scrape off excess stain, then clean with cool water and allow to dry.
- If a stain remains, clean it with solvent-type 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 GM Vinyl/Leather Cleaner or equivalent product.

# **Cleaning Leather**

Use a soft cloth with lukewarm water and a mild soap or saddle soap.

- For stubborn stains, use a GM Vinyl/Leather Cleaner or equivalent product.
- Never use oils, varnishes, solvent-based or abrasive cleaners, furniture polish or shoe polish on leather.
- Soiled leather should be cleaned immediately. If dirt is allowed to work into the finish, it can harm the leather.

#### **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 Wood Panels**

Use a clean cloth moistened in warm, soapy water (use mild dish washing soap). Dry the wood immediately with a clean cloth.

# **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.

### Glass

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.

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 or other material may be on the blade or windshield.

Clean the outside of the windshield with GM Windshield Cleaner, Bon-Ami Powder<sup>®</sup> (GM Part No. 1050011). The windshield is clean if beads do not form when you rinse it with water.

Clean the blade by wiping vigorously with a cloth soaked in full-strength windshield washer solvent. Then rinse the blade with water.

Wiper blades should be checked on a regular basis and replaced when worn.

### Weatherstrips

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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 Aurora**

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. 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 a 100% cotton towel to avoid surface scratches and water spotting.

High pressure car washes may cause water to enter your vehicle.

## Finish Care

Occasional waxing or mild polishing of your Aurora 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 Aurora 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 Aurora garaged or covered whenever possible.

### Aluminum or Chrome Wheels

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.

### 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.

## **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 vehicle 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.

# **Appearance Care Materials Chart**

PART NUMBER	SIZE	DESCRIPTION	USAGE
1050004	2.75 sq. ft.	Chamois	Shines vehicle without scratching
1050172	16 oz. (0.473 L)	Tar and Road Oil Remover	Also removes old waxes and polishes
1050173	16 oz. (0.473 L)	Chrome Cleaner and Polish	Removes rust and corrosion
1050174	16 oz. (0.473 L)	White Sidewall Tire Cleaner	Removes soil and black marks
1050201	16 oz. (0.473 L)	Magic Mirror Cleaner Polish	Exterior cleaner and polish
1050214	32 oz. (0.946 L)	Vinyl and Leather Cleaner	Spot and stain removal
1050427	23 oz. (0.680 L)	Glass Cleaner	Cleans grease, grime and smoke film
1050429	6 lbs. (2.72 kg)	Multi-Purpose Powdered Cleaner	Cleans vinyl, cloth, tires and mats
1051398*	8 oz. (0.237 L)	Spot Lifter	For cloth
1051515	32 oz. (0.946 L)	Optikleen	Windshield washer solvent and antifreeze
1052349	12 oz. (0.354 L)	Lubriplate (White Grease)	For hood, trunk, door hinges and latches
1052870	16 oz. (0.473 L)	Wash and Wax Concentrate	Exterior wash
1052918	8 oz. (0.237 L)	Armor All <sup>™</sup> Protector	Protects vinyl, leather and rubber
1052929	16 oz. (0.473 L)	Wheel Cleaner	Spray on wheel cleaner
1052930	8 oz. (0.237 L)	Capture Dry Spot Remover	Attracts and absorbs soils
12345002	16 oz. (0.473 L)	Armor All <sup>**</sup> Cleaner	Cleans vinyl, leather and rubber
12345725	12 oz. (0.354 L)	Silicone Tire Shine	Shines tires

\* Not recommended for pigskin suede leather.

See your General Motors Parts Department for these products.

See your Maintenance Schedule for other products.

# Vehicle Identification Number (VIN)



This is the legal identifier for your Aurora. 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 eighth 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 underside of the 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.



# Electrical System

Add-On Electrical Equipment

### NOTICE:

Don't add anything electrical to your Aurora 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 Aurora, see "Servicing Your Air Bag-Equipped Aurora" in the Index.

### **Headlamp Wiring**

The headlamp wiring is protected by a circuit breaker in the wiring harness. An electrical overload will cause the lamps to go on and off, or in some cases to remain off. If this happens, have your headlamp system checked right away.

# Windshield Wiper Fuses

The windshield wiper motor is protected by an internal circuit breaker and a fuse in the fuse panel on the other side of the instrument panel. If the motor overheats due to heavy snow, etc., the wiper will stop until the motor cools. If the overload is caused by some electrical problem, have it fixed.

### **Power Windows and Other Power Options**

Circuit breakers in the fuse panel 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.

## Maxifuse/Relay Center



It's easy to check the fuses in this underhood relay center. There are two locking arms on either side of the base of the cover. Reach down and unsnap each one by pulling the cover toward you, then pushing it away while pulling up. Remove the cover. The inside of the cover has a chart that explains the features and controls governed by each fuse and relay.

### **Fuses and Circuit Breakers**

The wiring circuits in your vehicle are protected from short circuits by a combination of fuses and circuit breakers. This greatly reduces the chance of damage 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 correct amp rating.

Two spare fuses are located below the fuse puller. You'll also find spare fuses in the slots labeled "Spare" in the following charts.

There are three main fuse panels: the instrument panel fuse block and two (driver's side and passenger's side) rear compartment fuse blocks.

#### Instrument Panel Fuse Block

This is located on the left side of the instrument panel. To open it, push the latch to the left, then pull, and the door will open.

You'll find a fuse puller clipped to the inside of the cover. Place the wide end of the fuse puller over the plastic end of the fuse. Squeeze the ends over the fuse and pull it out. To close the fuse door, press the door closed and it will latch.



1	2	3	4
AIR BAG	INJ 2	ABS	LH EXT LPS
5	6	7	8
TURN LPS	INJ 1	HVAC CONT	RH EXT LPS
9	10	11 AUX	12 INT
CHIME	PCM	PWR	LPS
13	14	15	16
SHIFT	LINEAR EGR	CRUISE CNTRL	PERIM
17	18 CNVRTR	19	20
DIS	OXYGEN SENSORS	RADIO	
21 HVAC	22	23 WSW	24
RELAY			
25	26 C/LTR	27 CRANK	28 HVAC

Fuse	Usage
1	Supplemental Inflatable Restraint (Air Bag)
2	Injectors
3	Anti-Lock Brake System
4	Left Exterior Lamps
5	Turn Signal Lamps
6	Injectors
7	Climate Controls, Magnetic Speed
8	Right Exterior Lamps
9	Chime (Ignition 1), Memory Set
10	Powertrain Control Module, VATS PASS-Key®II
11	Auxiliary Power
12	Interior Lamps
13	Shift Sols
14	Linear EGR
15	Cruise Control
16	Perimeter Lights

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Fuse	Usage							
17	Driver Information Center							
18	Converter Oxygen Sensors							
19	Radio							
20	Open							
21	Climate Control Relay							
22	Open							
23	Windshield Wipers							
24	Open							
25	TMNSS							
26	Cigarette Lighter							
27	Crank, Air Bag Module							
28	Climate Control Blower							

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# **Removing the Rear Seat Cushion**

To access the battery and rear compartment fuse panels, the rear seat cushion must be removed. This procedure is somewhat difficult. You may wish to have your retailer do this for you.

## NOTICE:

The battery and main fuse boxes are located under the rear seat cushion. The battery's ground terminal and some relay wires are exposed. To help avoid damage to the battery and wires, be careful when removing or reinstalling the seat cushion. Do not remove covers from covered parts. Do not store anything under the seat, as objects could touch exposed wires and cause a short.

#### To Remove the Rear Seat Cushion

- Pull up on the front of the cushion to release the front hooks.
- Pull the cushion up and out toward the front of the vehicle.

### To Reinstall the Rear Seat Cushion



# ▲ CAUTION:

A safety belt that isn't properly routed through the seat cushion or is twisted won't provide the protection needed in a crash. If the safety belt hasn't been routed through the seat cushion at all, it won't be there to work for the next

CAUTION: (Continued)

#### **CAUTION: (Continued)**

passenger. The person sitting in that position could be badly injured. After reinstalling the seat cushion, always check to be sure that the safety belts are properly routed and are not twisted.

- Buckle the center passenger position safety belt, and then route the safety belts through the proper slots in the seat cushion. Don't let the safety belt get twisted.
- Slide the rear of the cushion up and under the seatback so the rear locating guides hook into the wire loops on the back frame.
- With the seat cushion lowered, push rearward and then press down on the seat cushion until the spring locks on both ends engage.
- Check to make sure the safety belts are properly routed and that no portion of any safety belt is trapped under the seat. Also make sure the seat cushion is secured.

#### **Rear Compartment Fuse Blocks**



Once the seat is removed, you'll find two fuse panels on the driver's side of the battery. Each is protected by a plastic box with four tabs. Pull up on all four tabs at the same time to loosen them and pull off the box.

Of these two panels, the cover on the passenger's side fuse panel has an extra plastic cap attachment. You'll need to slide this out of the grooves which hold it there before removing the rest of the box.

To replace the covers, line the four tabs up and simply snap them back into place. The extra plastic cap attachment slides back into place.

#### REAR COMPARTMENT DRIVER SIDE FUSE BLOCK



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Fuse	Usage	Fuse	Usage
1	Open	12	Rear Defogger Relay (Upper Zone)
2	Electronic Level Control Relay	12	
3	Trunk Release Relay	13	Open
		14	Spare
4	Open	15	Spare
5	Fuel Pump Relay		
6	Driver Door Unlock Relay	16	Spare
		17-22	Open
7-10	Open	23	Direct Accessory Power Acces
11	Rear Defogger Relay (Lower Zone)	25	Direct Accessory Power Acces- sory Relay
	(Lower Zone)	24	Open

1 SPAR	É.	2 SP	ARE	3	OPEN	4 PWR WDO.SUN				
5 SPAR	E.	<sup>6</sup> sp	ARE	17	OPEN					
8 SPARI	E.	9 SP	ARE	10	OPEN	11 PW	R ST			
12 SPARI	c	<sup>13</sup> SP.	ARE	H	OPEN					
15	10	1	17	1	114	19	20			
PWR ST	,	юця	BL	HVAC BLO P MOT V		KiN 3	IGN (			
21	22	-	23		34	s	26			
DEFOG RR	RE Tr	TDR LEASE RUNK ULL OWN		ITTD I ST		EXT LP	BOSE 5			
17 PWR DR	LK			INTR LP 29 HZI005ST		30 PARK	LP			
31 HIDT MIR		32 OF	EN	33	FDR REL	24 OPEN				
35 BATT		36 10	• 2.	37	1491	3a EFC.				
39 EIPMP		40 CI	EN	41,	IR DUPOG	AT NR DEFT	x			

Fuse	Usage
1,2	Spare
3	Open
4	Breaker Power Window, Sunroof
5,6	Spare
7	Open
8,9	Spare
10	Open
11	Breaker Power Seat
12, 13	Spare
14	Open
15	Power Seat
16	Breaker Headlamps
17	HVAC Blower Motor
18	Powertrain Control Module, PASS-Key <sup>®</sup> II
19	Ignition 3
20	Ignition 1

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Fuse	Usage	Fuse	Usage				
21	Rear Defogger	33	Fuel Door Release				
22	Trunk and Fuel Door Releases and	34	Open				
	Trunk Pull Down	35	Battery Thermistor				
23	Heated Seat	36	Instrument Panel Power				
24	Electronic Level Control, Instrument Panel		Antenna, Remote CD Changer, Radio Chassis				
25	Exterior Lamps	37	Instrument Panel Remote				
26	Bose <sup>®</sup> Stereo (If so equipped)		Accessory Power Module, Oil Level Indicator, ALDL				
27	Power Door Locks	38	Electronic Level Control				
28	Interior Lamps	39	Fuel Pump				
29	Hazard Lamps, Stoplamps	40	Open				
30	Parking Lamps						
31	Heated Outside Mirror	41	Rear Defog 1				
32	Open	42	Rear Defog 2				





Fuse	Usage
1	Air Conditioning Center
2	Open
3	Open
4	Horn
5	Open
6	Fog Lamp 2
7	Cooling Fan #2
8	Cooling Fan #3
9	Cooling Fan
10	ABS Main
11	ABS Pump Motor
12	Fog Lamp
13	Horn
14	Flash to Pass

# **Replacement Bulbs**

### OUTSIDE LAMPS

#### BULB

#### Front

Cornering Lamps 30	)57
Front Parking Lamps	NA
Front Turn Signal Lamps	NA
Halogen Headlamps	

Low Beam	i ,	3	i.		*	÷.	•	•	•	•	•	1	•	•	•				1	9006
High Bean																				
Fog Lamps																				

#### Rear

Back-up Lamps 3155
License Plate Lamp 194
Center High-Mounted Stoplamp 1156
Rear Sidemarker Lamps 194
Stop/Taillamps 3057
Rear Turn Signal 3057
Trunk Lamp 211-2

INSIDE LAMPS		B	ULB
Overhead			
Front Overhead Lamps	÷	÷	168
Visor Vanity Lamps		÷	7065
Rail Courtesy/Reading Lamps	•	• •	168
Doors			
Front Courtesy Lamps	•		. 74
Front Warning Lamps			. 74
Rear Courtesy/Warning Lamps	÷.		. 74
Driver Door Floodlamp			. 74
Instrument Panel and Console			
Sound Insulator Panel (Lower Floor Lighting)	1		168
Glove Compartment Lamp		• •	194
Ashtray Lamp		• •	194
Center Console Storage Compartment Lamp			161

# **Capacities and Specifications**

#### Automatic Transaxle (Overdrive)

When draining or replacing torque converter, more fluid may be needed. Pan Removal and Replacement ..... 6.5 quarts (6.0 L) Cooling System ...... 13 quarts (12.0 L) When changing filter, up to 0.5 quart (0.5 L) more oil may be needed. Windshield Wiper Blades (6.32 Pin Type) ..... 22 inches (565 mm) Power Steering Complete System ..... 1.5 pints (0.7 L) Tire Pressures, Sizes ...... See Tire-Loading Information label on driver's door. Refrigerant (R-134a), Air Conditioning ...... See refrigerant change label the hood.

NOTE: All capacities are approximate. When adding, be sure to fill to the appropriate level as recommended in this manual.



# **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 Aurora retailer.

#### **Vehicle Dimensions**

Length	205.4 inches (5 217 mm)
Width	. 74.4 inches (1 890 mm)
Height	. 55.4 inches (1 407 mm)
Wheelbase	113.8 inches (2 891 mm)
Front Tread	. 62.5 inches (1 587 mm)
Rear Tread	. 62.5 inches (1 587 mm)

# **Engine Specifications**

VIN Engine Code C
Type
Displacement 4.0 Liters
Horsepower
Compression Ratio 10.3:1
Firing Order2-7-3-4-5-6-8
Thermostat Temperature Specification

### Normal Maintenance Replacement Parts

Air Cleaner Element AC Type A-1096C
Engine Oil Filter AC Type PF-58
Spark Plugs AC Type•41-900
Gap: 0.050 inch (1.52 mm)

# **Engine Accessory Belt**



The 4.0L Aurora engine uses an engine accessory belt. This diagram shows the features connected by the belt routing. See"Maintenance Schedule"in the Index for when to check the belt.

- 1. Tensioner Arm Pulley
- 2. Power Steering Pump Pulley
- 3. Idler Pulley
- 4. Alternator Pulley
- 5. Air Conditioner Compressor Pulley
- 6. Harmonic Balancer



# NOTES

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	 	 _	_	
	 	 		_

# NOTES






This section covers the maintenance required for your Aurora. Your vehicle needs these services to retain its safety, dependability and emission control performance.



Have you purchased the GM Protection Plan? The Plan supplements your new vehicle warranties. See your Warranty and Owner Assistance booklet, or your Aurora 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.



### 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 GM publishes. See "Service and Owner Publications" in the Index. "Part B: Owner Checks and Services" tells you what should be checked whenever you stop for fuel. 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 Aurora retailer's service department or another qualified service center should perform.

"Part D: Recommended Fluids and Lubricants" lists some products GM recommends 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.

# 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 GM 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 Aurora 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:

# 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): Chassis Lubrication (or 6 months, whichever occurs first).

At 6,000 Miles (10 000 km) - Then Every 12,000 Miles (20 000 km): Tire Rotation.

Every 15,000 Miles (25 000 km): Air Cleaner Filter Inspection, if driving in dusty conditions.

At 15,000 Miles (25 000 km) - Then Every 30,000 Miles (50 000 km): Throttle Body Bore and Valve Plates Inspection.

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): Cooling System Service (or every 60 months, whichever occurs first). Spark Plug Wire Inspection. Spark Plug Replacement. These intervals only summarize maintenance services. Be sure to follow the complete maintenance schedule on the following pages.

# **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.

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). Chassis Lubrication (or every 12 months, whichever occurs first).

At 7,500 Miles (12 500 km) - Then Every 15,000 Miles (25 000 km): Tire Rotation.

At 15,000 Miles (25 000 km) - Then Every 30,000 Miles (50 000 km): Throttle Body Bore and Valve Plates Inspection.

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): Cooling System Service (or every 60 months, whichever occurs first). Spark Plug Wire Inspection. Spark Plug Replacement.

These intervals only summarize maintenance services. Be sure to follow the complete maintenance schedule on the following pages.

## 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.

#### Footnotes

<sup>†</sup> 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. \* Your vehicle has an Engine Oil Life Monitor. This monitor will show you when to change the oil -- usually between 3,000 miles (5 000 km) and 7,500 miles (12 500 km) since your last oil change. Under severe conditions the indicator may come on before 3,000 miles (5 000 km). Never drive your vehicle more than 7,500 miles (12 500 km) or 12 months without an oil change.

The system won't detect dust in the oil. So if you drive in a dusty area be sure to change your oil every 3,000 miles (5 000 km) or sooner if the CHANGE OIL light comes on. Remember to reset the Oil Life Monitor when the oil has been changed. For more information, see "Engine Oil Life Monitor" in the Index.
# 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. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

ACTUAL MILEAGE	SERVICED BY:
	ACTUAL MILEAGE

a sa ana ana ana	Frip/City Mainten			Miles (20 000 k	
Change 3 mont	tiles (15 000 km e engine oil and filter ( hs, whichever occurs) sion Control Service. *	(or every	Change 3 mont	Miles (20 000 ki e engine oil and filter hs, whichever occurs sion Control Service. *	(or every
			linkage brake c points a	te the suspension and , transaxle shift linkag able guides and under and linkage (or every ver occurs first).	ge, parking rbody contact
DATE	ACTUAL MILEAGE	SERVICED BY:	DATE	ACTUAL MILEAGE	SERVICED BY:
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# 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. <sup>†</sup>
- Inspect throttle body bore and valve plates for deposits, open the throttle valve and inspect all surfaces. Clean as required.

18,000 Miles	(30 000	) km)
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- Change engine oil and filter (or every 3 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

DATE	ACTUAL MILEAGE	SERVICED BY:

DATE	ACTUAL MILEAGE	SERVICED BY:

Short 7	<b>Frip/City Mainten</b>	ance Schedul	e		
21,000	Miles (35 000 ki	n)	24,000	Miles (40 000 ki	m)
3 mont	e engine oil and filter ( hs, whichever occurs f sion Control Service. *	•	3 month	e engine oil and filter hs, whichever occurs sion Control Service. *	
			linkage brake c points a	te the suspension and , transaxle shift linkag able guides and under and linkage (or every ver occurs first).	ge, parking rbody contact
DATE	ACTUAL MILEAGE	SERVICED BY:	DATE	ACTUAL MILEAGE	SERVICED BY:
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# 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. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).
- Replace air cleaner filter. An Emission Control Service.

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### 30,000 Miles (50 000 km) (Continued)

- 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. <sup>+</sup>
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

# 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:

ACTUAL MILEAGE	SERVICED BY:

## 36,000 Miles (60 000 km)

- □ Change engine oil and filter (or every 3 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).

## 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:

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. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

# 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. <sup>†</sup>
- Inspect throttle body bore and valve plates for deposits, open the throttle valve and inspect all surfaces. Clean as required.

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DATE	ACTUAL MILEAGE	SERVICED BY:

# 48,000 Miles (80 000 km)

- Change engine oil and filter (or every 3 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).

DATE	ACTUAL MILEAGE	SERVICED BY:

## 50,000 Miles (83 000 km)

- Change automatic transaxle fluid and bottom screens 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.

DATE	ACTUAL MILEAGE	SERVICED BY:

# 51,000 Miles (85 000 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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# 54,000 Miles (90 000 km)

- Change engine oil and filter (or every 3 months, whichever occurs first).
   An Emission Control Service. \*
   Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

ACTUAL MILEAGE	SERVICED BY:
	ACTUAL MILEAGE

#### Short Trip/City Maintenance Schedule 60,000 Miles (100 000 km) 57,000 Miles (95 000 km) Change engine oil and filter (or every Change engine oil and filter (or every 3 months, whichever occurs first). 3 months, whichever occurs first). An Emission Control Service \* An Emission Control Service. \* Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first). Inspect engine accessory drive belt. An Emission Control Service Replace air cleaner filter. An Emission Control Service. (Continued) DATE SERVICED BY: DATE ACTUAL MILEAGE ACTUAL MILEAGE SERVICED BY:

#### 60,000 Miles (100 000 km) (Continued)

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. <sup>+</sup>

## 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:
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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. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

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. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).

## 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. <sup>†</sup>
- Inspect throttle body bore and valve plates for deposits, open the throttle valve and inspect all surfaces. Clean as required.

DATE	ACTUAL MILEAGE	SERVICED BY:

DATE	ACTUAL MILEAGE	SERVICED BY:
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### 78,000 Miles (130 000 km)

- Change engine oil and filter (or every 3 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

DATE	ACTUAL MILEAGE	SERVICED BY:
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## 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:

Short 7	Frip/City Mainter	ance Schedul	e		
84,000	Miles (140 000 )	km)	87,000	Miles (145 000	km)
3 month	e engine oil and filter hs, whichever occurs sion Control Service. *		3 mont	e engine oil and filter hs, whichever occurs sion Control Service. *	
linkage brake c points a	te the suspension and , transaxle shift linkag able guides and under and linkage (or every ver occurs first).	ge, parking body contact	DATE	ACTUAL MILEAGE	SERVICED BY:
DATE	ACTUAL MILEAGE	SERVICED BY:	DATE	ACTUAL MILEAGE	SERVICED BY:

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# 90,000 Miles (150 000 km)

- Change engine oil and filter (or every 3 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 6 months, whichever occurs first).
- 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. \*
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

DATE	ACTUAL MILEAGE	SERVICED BY
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93,000	Miles (155 000 )	km)	96,000	Miles (160 000 )	km)
3 month	engine oil and filter ( ns, whichever occurs i tion Control Service. *		3 month	engine oil and filter ( ns, whichever occurs f tion Control Service. *	
			linkage brake ca points a	te the suspension and , transaxle shift linkag able guides and under and linkage (or every over occurs first).	ge, parking body contact
DATE	ACTUAL MILEAGE	SERVICED BY:	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)

- 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. †
- Inspect spark plug wires. An Emission Control Service.

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### 100,000 Miles (166 000 km) (Continued)

- Replace spark plugs. An Emission Control Service.
- Change automatic transaxle fluid and bottom screens 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.

DATE	ACTUAL MILEAGE	SERVICED BY:

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.

#### Footnotes

<sup>†</sup> 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 vehicle useful life. We, however, urge that all recommended maintenance services be performed at the indicated intervals and the maintenance be recorded. \* Your vehicle has an Engine Oil Life Monitor. This monitor will show you when to change the oil -- usually between 3,000 miles (5 000 km) and 7,500 miles (12 500 km) since your last oil change. Under severe conditions, the indicator may come on before 3,000 miles (5 000 km). Never drive your vehicle more than 7,500 miles (12 500 km) or 12 months without an oil change.

The system won't detect dust in the oil. So if you drive in a dusty area, be sure to change your oil every 3,000 miles (5 000 km) or sooner if the CHANGE OIL light comes on. Remember to reset the Oil Life Monitor when the oil has been changed. For more information, see "Engine Oil Life Monitor" in the Index.

# 7,500 Miles (12 500 km)

- Change engine oil and filter (or every 12 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

DATE	ACTUAL MILEAGE	SERVICED BY
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# 15,000 Miles (25 000 km)

- Change engine oil and filter (or every 12 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Inspect throttle body bore and valve plates for deposits, open the throttle valve and inspect all surfaces. Clean as required.

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. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

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. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Replace air cleaner filter. An Emission Control Service.

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DATE	ACTUAL MILEAGE	SERVICED BY

### 30,000 Miles (50 000 km) (Continued)

or leaks damage	fuel tank, cap and line s. Inspect fuel cap gas e. Replace parts as nee sion Control Service. <b>†</b>	ket for any	12 mon An Emiss	e engine oil and filter oths, whichever occur sion Control Service. *	s first).
An Linuss	ion Comio Service.		linkage brake c points a	ate the suspension and , transaxle shift linka able guides and under and linkage (or every ver occurs first).	ge, parking rbody contact
			Rotatio	tires. See "Tire Inspec n" in the Index for pr and additional inform	oper rotation
DATE	ACTUAL MILEAGE	SERVICED BY:	DATE	ACTUAL MILEAGE	SERVICED BY:

37,500 Miles (62 500 km)

# 45,000 Miles (75 000 km)

- Change engine oil and filter (or every 12 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Inspect throttle body bore and valve plates for deposits, open the throttle valve and inspect all surfaces. Clean as required.

DATE	ACTUAL MILEAGE	SERVICED BY:

# 50,000 Miles (83 000 km)

- Change automatic transaxle fluid and bottom screens 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.

DATE	ACTUAL MILEAGE	SERVICED BY

# 52,500 Miles (87 500 km)

- Change engine oil and filter (or every 12 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

ACTUAL MILEAGE	SERVICED BY:
	ACTUAL MILEAGE

# 60,000 Miles (100 000 km)

- Change engine oil and filter (or every 12 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- ☐ Inspect engine accessory drive belt. An Emission Control Service.
- Replace air cleaner filter. An Emission Control Service.

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### 60,000 Miles (100 000 km) (Continued)

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. <sup>†</sup>

DATE	ACTUAL MILEAGE	SERVICED BY:

# 67,500 Miles (112 500 km)

- □ Change engine oil and filter (or every 12 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

ACTUAL MILEAGE	SERVICED BY
	ACTUAL MILEAGE

# 75,000 Miles (125 000 km)

- Change engine oil and filter (or every 12 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Inspect throttle body bore and valve plates for deposits, open the throttle valve and inspect all surfaces. Clean as required.

ACTUAL MILEAGE	SERVICED BY:
	ACTUAL MILEAGE

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# 82,500 Miles (137 500 km)

- Change engine oil and filter (or every 12 months, whichever occurs first). An Emission Control Service. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

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. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- 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. <sup>+</sup>

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. \*
- Lubricate the suspension and steering linkage, transaxle shift linkage, parking brake cable guides and underbody contact points and linkage (or every 12 months, whichever occurs first).
- Rotate tires. See "Tire Inspection and Rotation" in the Index for proper rotation pattern and additional information.

100,000 Miles (	166 000 km)
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- 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. <sup>†</sup>
- Inspect spark plug wires. An Emission Control Service.

DATE	ACTUAL MILEAGE	SERVICED BY

- Control Service.
  Replace spark plugs. An Emission Control Service.
- Change automatic transaxle fluid and bottom screens 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.

DATE	ACTUAL MILEAGE	SERVICED BY:

### 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 the proper coolant mix 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.

#### **Power Antenna Service**

Clean power antenna mast. See "Audio Systems" in the Index for further details.

### 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 covers, and have them repaired or replaced. (The air bag system does not need regular maintenance.)

#### Automatic Transaxle Check

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. Also lubricate all hinges and latches, including those for the hood, rear compartment, glove box door, console door and any folding seat hardware. Part D tells you what to use. More frequent lubrication may be required when exposed to a corrosive environment.

### 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.

- Before you start, be sure you have enough room around the vehicle.
- 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.

 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 (Automatic Transaxle)

# ▲ 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.

- Before you start, be sure you have enough room around the vehicle. It should be parked on a level surface.
- 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.

 With the engine off, turn the key to the RUN 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.

### Steering Column Lock Check

While parked, and with the parking brake set, try to turn the key to LOCK in each shift lever position.

- The key should turn to LOCK only when the shift lever is in PARK (P).
- The key should come out only in LOCK.

#### 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: 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: 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.

### 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 GM 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 an Aurora service manual. See "Service and Owner Publications" in the Index.

#### Steering, Suspension and Front-Wheel-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.

#### **Radiator and Heater Hose Inspection**

Inspect the hoses and have them replaced if they are cracked, swollen or deteriorated. Inspect all pipes, fittings and clamps; replace as needed.

#### **Throttle Linkage Inspection**

Inspect the throttle linkage for interference or binding, and for damage or missing parts. Replace parts as needed. Replace any cables 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. Inspect other brake parts, including calipers, parking brake, etc. You may need to have your brakes inspected more often if your driving habits or conditions result in frequent braking.
#### Part D: Recommended Fluids and Lubricants

NOTE: Fluids and lubricants identified below by name, part number or specification may be obtained from your GM 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 water (preferably distilled) and GM Goodwrench <sup>®</sup> DEX-COOL <sup>™</sup> or Havoline <sup>®</sup> DEX-COOL <sup>™</sup> (orange-colored, silicate-free) antifreeze conforming to GM Specification 6277M. See "Engine Coolant" in the Index.							

USAGE	FLUID/LUBRICANT
Coolant Supplement Sealer	GM Part No. 3634621 or equivalent with a complete flush and refill.
Hydraulic Brake System	Delco Supreme 11 <sup>®</sup> Brake Fluid (GM Part No. 1052535 or equivalent DOT-3 brake fluid).
Parking Brake Cable Guides	Chassis Lubricant (GM Part No. 1052497 or equivalent) or lubricant meeting requirements of NLGI Grade 2, Category LB or GC-LB.
Power Steering System	GM Power Steering Fluid (GM Part No. 1052884 - 1 pt., 1050017 - 1 qt., or equivalent).
Automatic Transaxle	DEXRON <sup>®</sup> -III Automatic Transmission Fluid.
Key Lock Cylinders	Multi-Purpose Lubricant, Superlube <sup>®</sup> (GM Part No. 12346241 or equivalent).

USAGE	AGE FLUID/LUBRICANT		FLUID/LUBRICANT
Floor Shift Linkage	Lubriplate Lubricant aerosol (GM Part No. 12346293 or equivalent) or lubricant meeting requirements of NLGI Grade 2 Category LB or GC-LB.	Hood Latch Assembly Pivots, Spring Anchor and Release Pawl	Lubriplate Lubricant aerosol (GM Part No. 12346293 or equivalent) or lubricant meeting requirements of NLGI Grade 2, Category LB or GC-LB.
Chassis Lubrication	Chassis Lubricant (GM Part No. 1052497 or equivalent) or lubricant meeting requirements of NLGI Grade 2, Category LB or GC-LB.	Hood and Door Hinges, Fuel Door Hinge, Rear Compartment	Multi-Purpose Lubricant, Superlube <sup>®</sup> (GM Part No. 12346241 or equivalent).
Windshield Washer Solvent	GM Optikleen <sup>®</sup> Washer Solvent (GM Part No. 1051515) or equivalent.	Lid Hinges Weatherstrip Conditioning	Dielectric Silicone Grease (GM Part No. 12345579 or equivalent).

See "Replacement Parts" in the Index for recommended replacement filters and spark plugs.

## 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.

		Maintenar	nce Record
DATE	ODOMETER READING	SERVICED BY	MAINTENANCE PERFORMED

		Maintenar	ice 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.

This section includes information on:

- The Customer Satisfaction Procedure
- Customer Assistance for Text Telephone (TTY) Users
- Roadside Assistance
- Courtesy Transportation
- BBB Auto Line Alternative Dispute Resolution Program
- Reporting Safety Defects
- Service and Owner Publications

#### **Customer Satisfaction Procedure**



Your satisfaction and goodwill are important to your retailer and Oldsmobile. Normally, any concern you

may have with your vehicle can be handled by your selling or servicing retailer. Your retailer has the facility, trained technicians, special tools and up-to-date information to promptly address any issue which may arise. Oldsmobile has empowered its retailers to make decisions and repair vehicles, and they are eager to resolve your concern to your complete satisfaction. If your concern has not been resolved to your satisfaction, take the following steps:

STEP ONE -- Discuss your concern with a member of retailer 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.

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 Assistance Center 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: 1-809-763-1315
- In other overseas locations, call GM North American Export Sales in Canada at: 1-905-644-4112

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, write to:

#### **United States**

Customer Assistance Representative Oldsmobile Central Office 920 Townsend Street P.O. Box 30095 Lansing, MI 48909

#### Canada

Customer Assistance Center General Motors of Canada Limited 1908 Colonel Sam Drive Oshawa, Ontario L1H 8P7

Refer to your Warranty and Owner Assistance Information booklet for addresses of Canadian and 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 Center. Any TTY user can communicate with Oldsmobile by dialing: 1-800-833-OLDS. (TTY users in Canada can dial 1-800-263-3830.)

#### 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 Advisors 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 Advisors, on-call to render assistance to Oldsmobile drivers, can dispatch roadside assistance and towing service, locate the nearest 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.

#### Who Is Covered?

Oldsmobile Roadside Assistance covers all 1996 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. 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.

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.



#### GM Participation in BBB AUTO LINE - Alternative Dispute Resolution Program\*

\*This program may not be available in all states, depending on state law. Canadian owners refer to your Warranty and Owner Assistance Information booklet. 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 disputes between customers and automobile manufacturers. 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 4200 Wilson Boulevard Suite 800 Arlington, VA 22203

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. 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 between you and Oldsmobile. 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.

#### 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.

#### 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 P.O. Box 30095 Lansing, MI 48909

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 Assistance Center 1908 Colonel Sam Drive Oshawa, Ontario L1H 8P7



# Service and Owner Publications



Service manuals, service bulletins, owner's manuals and other service literature are available for purchase for all current and many past model General Motors vehicles.

Toll-free telephone numbers for ordering information:

United States	1-800-551-4123
Canada	1-800-668-5539

#### Service Manuals

Service manuals contain diagnostic and repair information for all chassis and body systems. They may be useful for owners who wish to get a greater understanding of their vehicle. They are also useful for owners with the appropriate skill level or training who wish to perform "do-it-yourself" service. These are authentic General Motors service manuals meant for professional, qualified technicians.

#### Service Bulletins

Service bulletins covering various subjects are regularly sent to all General Motors retail facilities. GM monitors product performance in the field. When service methods are found which promote better service on GM vehicles. bulletins are created to help the technician perform better service. Service bulletins may involve any number of vehicles. Some will describe inexpensive service; others will describe expensive service. Some will advise of new or unexpected conditions, and others may help avoid future costly repairs. Service bulletins are meant for qualified technicians. In some cases bulletins refer to service manuals, specialized tools, equipment and safety procedures necessary to service the vehicle. Since these bulletins are issued throughout the model year and beyond, an index is required and published quarterly to help identify specific bulletins. Subscriptions are available. You can order an index at the toll-free numbers listed previously, or ask a GM retailer to see an index or individual bulletin.

#### **Owner Publications**

Owner's manuals, warranty folders and various owner assistance booklets provide owners with general operation and maintenance information.



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