

# MOMMY'S GUIDE TO CARS & TIRES

Protecting Everything You Value



Courtesy of our frugal living spokesperson, Kim Danger  
[MommySavers.com](http://MommySavers.com)





## dear moms,

As parents, we always pride ourselves in doing all we can to watch out for our family. In that role, we are constantly learning new ways to ensure all precautions are taken. That is why I have invited nationally known automotive expert Ricardo Rodriguez-Long to co-author this e-book. Together we have partnered with Uniroyal® to share automotive knowledge every mom should know. These tools will not only keep you safe, but will help you save money as well. Our automobiles are such key elements in our daily lives and sometimes we take them for granted. We assume they will always perform correctly without fault. Being an informed mom is the best protection you can have against unforeseen problems.

We hope this e-book helps you better understand the basics about your car and tires. Having these tools can give you peace of mind. Here's to safe travels, fond memories and being your family's automotive champion.

Knowledge is Power!

A handwritten signature in black ink that reads "Kim Danger". The signature is fluid and cursive.

Kim Danger



### Guest Author, Ricardo Rodriguez-Long:

Ricardo Rodriguez-Long is an ASE-certified mechanic, expert in automotive technology, race car driver and former engine builder for Toyota® and Nissan®. He writes about cars and automotive trends and is a regular on-air contributor for radio programming in national English and Spanish media. Rodriguez-Long is an active member of the Motor Press Guild (MPG), the International Motor Press Association (IMPA) and the National Association of Hispanic Journalists (NAHJ). For many years, he has been offering advice to help families who want to save money by teaching them about tires and auto maintenance.

# What You Should Know About Tires



Our cars play a very important role in our daily lives. Most drivers don't think about their tires until something is wrong with them, but learning some basic information and keeping them in proper working condition is essential to saving money and ensuring the safety of your loved ones.

## Differences Between Tires

Going to a tire store can be pretty overwhelming. At first glance, all tires look the same, but they have many different characteristics. There are a few things you'll need to know when choosing your tires. First, identify your type of vehicle: passenger car (P), light truck (LT), sport utility vehicle (SUV), crossover utility vehicle (CUV) or sports car. Then, look for tires classified by their use and benefits:

Tire Type	Vehicle Type	Benefits	Example Vehicles	Uniroyal Tires
All-season	Many vehicle types, including small cars, full-sized cars, minivans, SUVs/CUVs and pickup trucks	Long tread wear and comfortable ride. Made for most weather, including mud and snow, but not made for deep snow.	Honda® CR-V, Honda® Odyssey, Chevrolet® Malibu, Toyota® Prius, Ford® Fusion, Ford® Taurus	Tiger Paw® Touring, Tiger Paw® AWP II, Tiger Paw® AS65, Laredo® Cross Country, Laredo® AWT II
Touring	Upscale sedans	Smooth and quiet ride with quality handling and braking. Often require higher speed rating (H/V) and good wet traction.	Toyota® Camry, Honda® Accord, Volvo® C70	Tiger Paw® Touring
Performance	Sporty sedans and coupes	Good handling, dry traction and great steering response, especially at higher speeds (V/Z). Sporty appearance. Come in summer and all-season versions.	Ford® Mustang, Mitsubishi® Eclipse, Volkswagen® Jetta	Tiger Paw® GTZ All Season launching July 1, 2010
Light Truck and SUV/CUV	Pickup trucks and SUVs/CUVs	For on-road driving, but also provides durability and traction in adverse off-road conditions.	Ford® F-Series Pickup, Toyota® Highlander, Nissan® Pathfinder	Laredo® Cross Country, Laredo® AWT II
Snow/Winter	Passenger cars in winter conditions	Designed to remove snow as the wheels rotate. Made from rubber that stays pliable at freezing temperatures.	Passenger cars needing snow/winter tires	Tiger Paw® Ice & Snow II launching August 1, 2010

# How to Read a Sidewall

1. The first number (205 in this example) is a three-digit number, which refers to the overall width of the tire, in millimeters.
2. The second number (55) refers to the aspect ratio, which is the relationship between the tire's height and its width. In this example, the sidewall's height is about 55% of the tire's width.
3. The letter following the aspect ratio is usually an "R," standing for "radial."
4. The next number indicates the diameter of the wheel rim on which the tire will fit (16 inches, in this example).
5. The final number and letter represent the load index and speed rating. The load index is an assigned number ranging from 0 to 279, corresponding with the load-carrying capacity of the tire; that is, how much weight it is certified to carry at maximum inflation pressure. The rating can be matched against a load index chart to determine corresponding maximum weights.

6. The speed rating tells you the top speed at which the tire can operate. Speed ratings were developed to control the safe performance of tires at standardized speeds. A letter from A to Z symbolizes a tire's certified speed rating. To maintain the speed capability of a vehicle, use replacement tires with ratings equal to or greater than those of the original tires.

It is important to note that markings do not always appear exactly as they do in this example, as tires can be certified under a variety of designations.





## Pressure Mistakes

- Under-inflation — Tires wear unevenly, producing excessive shoulder wear. They handle poorly and may have excessive flex that causes overheating and possible ride failure.
- Over-inflation — Tires wear prematurely in the center of the tread. They ride harshly and can be more susceptible to impact damage.

## Know the Correct Tire Pressure

In a recent study, the Rubber Manufacturers Association (RMA) stated more than half of all drivers ignore adequate inflation pressure for their tires and 85 percent fail to properly check tire pressure.

Source: [RoadandTravel.com](http://RoadandTravel.com)

### Why Is Pressure Important?

Proper inflation helps a tire have a better footprint/tread contact with the ground, which improves traction, braking and reduces tire wear. Heat is the worst enemy of a tire, so maintaining the right amount of air keeps temperatures low and results in fewer blowouts. Also, by keeping tires properly inflated and aligned, you can improve your gas mileage by more than 3 percent. Source: [ftc.gov](http://ftc.gov)

### Checking the Air Pressure

Recommended tire pressure can be found on your vehicle's tire placard on the doorjamb, the glove box or your vehicle's owner's manual — not on the tire's sidewall, which is actually the maximum air pressure allowed. Check your tire pressure at least once a month when tires are cold (before driving one mile or three hours after driving). Don't forget to check the pressure on your spare tire as well. Pressure is affected by changes in temperature, which can cause air loss of at least one pound per square inch (PSI) per month. Keep a tire gauge handy or visit your local [Uniroyal dealer](#) to assess your tires.

# Tire Maintenance 101

When driving, your tires are the only thing between you and the road; that's why it's crucial not to ignore them. In 2009, nearly one million motorists required roadside assistance in just three months due to tire-related issues. Avoid being one of them by regularly maintaining your tires and learning key facts such as tire pressure, wheel alignment and tread and sidewall conditions.

Source: [RoadandTravel.com](http://RoadandTravel.com)

## Additional Tire Maintenance Tips

Good maintenance doesn't stop with checking your tires' air pressure. There are a few more things you need to know to ensure your tires take you safely wherever you need to go.

### Check the Tread Condition of Your Tires

Place a penny upside down in the most shallow tread groove. If you can see the top of Lincoln's head, then your tires need to be replaced (they are under 2/32" of an inch).

### Rotate Tires Regularly

Front tires tend to wear more quickly than rear tires. Periodical rotation of front and rear tires helps balance tread wear and extend the life of your tires. A good rule of thumb is to rotate them at every other oil change (or every 6,000 miles).

### Proper Wheel Alignment

Driving out of alignment causes your car to compensate by overworking other internal components. Visit your local [Uniroyal dealer](#) to have your alignment checked.

Here are the signs to look for if you think your vehicle is out of alignment:

- If your steering wheel pulls one way or the other while driving straight at a constant speed.
- If your front tires are showing uneven wear across the tread width of your tire.

## Inspect Your Tires

Regularly checking your tires keeps you safe and can minimize costs if slashes, cuts or other irregularities are found early. Here's what can happen if you don't inspect your tires:

### Tread Cut or Puncture

This can lead to air loss or tire destruction. It can be repaired within recommended limits. Repairs cannot be made if your car has been driven while the tire is flat or the puncture is more than 1/4 inch or more than the tread section of your tire.

### Sidewall Cut or Puncture

Happens when foreign objects penetrate the sidewall. Repairs are not recommended, so you will need to purchase a new tire to replace the damaged one.

### Sidewall Cracking

Caused by over-exposure to harsh environmental conditions. When possible, avoid leaving tires exposed to extreme hot or cold weather.

### Rubber Deterioration

Using chemical agents to clean or shine tires reduces tire life. Instead, use a non-petroleum product or warm water and soap.

### Severe Under-Inflation

May cause tires to overheat, resulting in a wide range of visible damages.

For questions, call or visit your local [Uniroyal dealer](#) or call the Uniroyal Consumer Care toll-free line at 1-877-458-5878.



## Be An Informed Consumer

Here are some tips to help you save money and feel better about your next tire purchase.

### Choose Tires that Best Suit Your Vehicle

You can search by vehicle type, tire size, tire name or vehicle category with the [Uniroyal Tire Selector](#).

### Get the Facts

Check the size, load index, speed and traction ratings. Never choose tires that are smaller or have less load capacity than your original tires.

### Consider Your Typical Driving Conditions

All-season tires are ideal unless you live in an area with extreme weather conditions, such as heavy snow and winter conditions.

### Don't Buy Used Tires

Don't buy tires based on the cheapest price you can find. You might pay slightly less for them, but warranty is also important during the life of your tires.

### Replace Your Tires Properly

When replacing tires, try to replace all four with the same type of tire. If you only change two, place the new ones on the rear axle. Newer tires have much better traction and prevent your chances of fishtailing or hydroplaning during wet conditions.

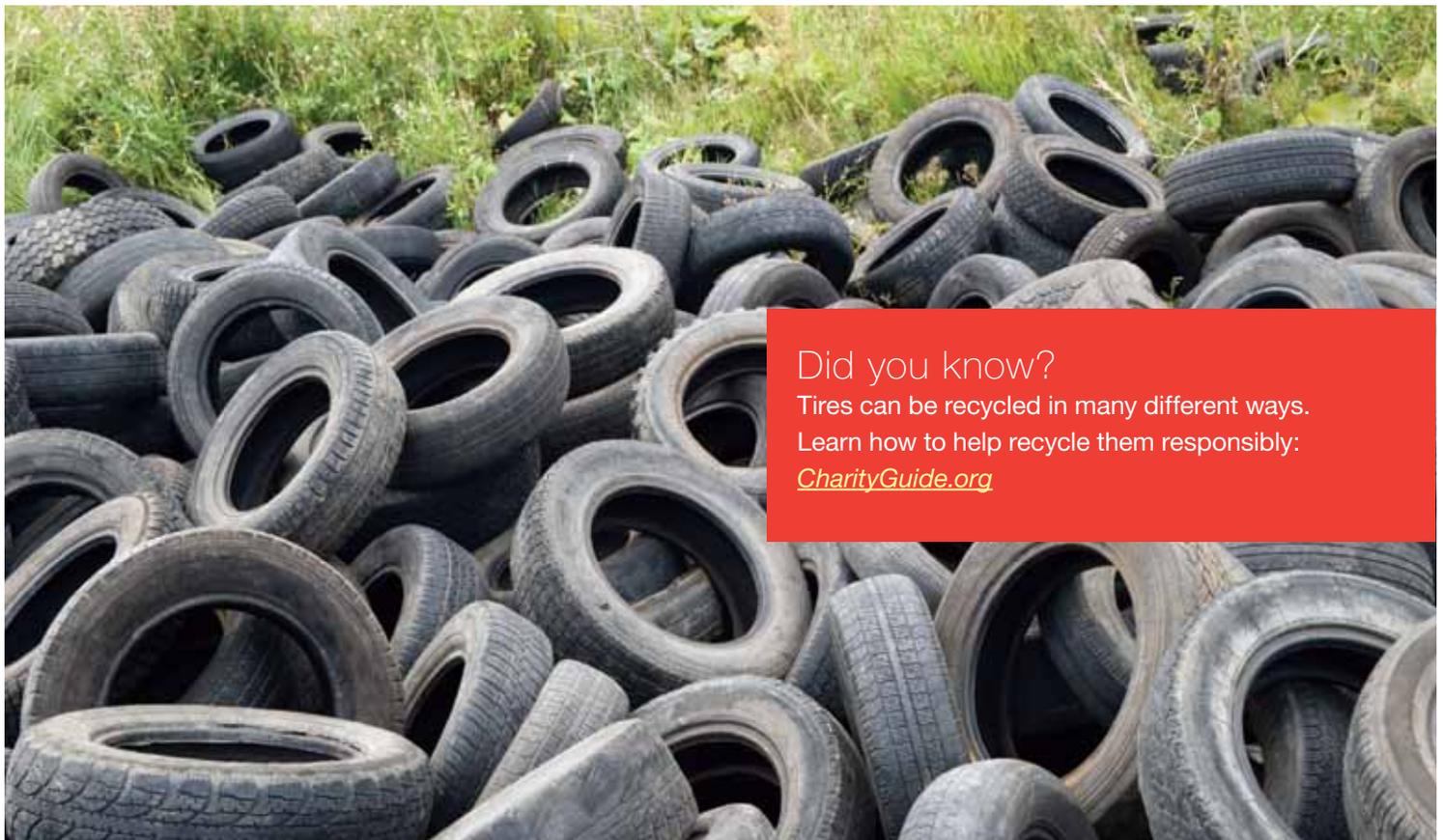


## Avoid Costly Repairs

Beware of the costs of not caring for your tires. Take a look at these statistics:

- The Tire Maintenance Council reports that tires running 10 percent under-inflated lose up to 16 percent of their tread life, causing you to replace them much sooner.
- Tires under-inflated by 30 percent lose up to 10 percent fuel economy and increase gas costs.
- The average downtime on the highway due to a flat tire is three to four hours.
- Roadside repairs cost an average of \$400+.

Source: [RVTirePressure.com](http://RVTirePressure.com)



### Did you know?

Tires can be recycled in many different ways. Learn how to help recycle them responsibly:

[CharityGuide.org](http://CharityGuide.org)



## Top Maintenance Tips Every Mom Should Know

In addition to extending the life of your car, keeping it well-maintained helps your family stay safe and enables you to keep money in your pocket. By following some simple steps, you can make sure both your vehicle and your budget stay in shape.

### Regular Car Maintenance

Following a regular car maintenance schedule helps you plan ahead for future costs, avoid major repairs down the road and extend the life of your vehicle. Keep these tips in mind and be sure to refer to your owner's manual for any of your car's specifications.

#### **Change Engine Oil and Filter**

Your engine's oil and oil filter should be changed every 3,000 to 4,000 miles. Engine oil lubricant breaks down over time and needs to be changed frequently to protect the engine. When changing your oil, also have the oil filter replaced. It keeps dirt and particles away from the critical components in your engine, so be sure to have it changed to ensure clean burning and maximum efficiency.

#### **Replace Clogged Air Filters**

Change your air filter every 15,000 miles to prevent long-term damage to your engine's internal components. Air filters help extend the life of the engine by keeping impurities in the air from penetrating it.

#### **Check Your Fluids**

Make sure your brake, power steering, coolant and transmission fluids are changed every 30,000 miles or so. The fluids can break down over time and need to be replaced. While they usually can be topped off at routine service intervals, be sure to change them regularly to protect your engine.

#### **Tune Your Engine**

Keep your engine properly tuned to extend its life and performance. A poorly tuned engine can increase fuel consumption and make your engine work harder, causing it to wear down faster. Schedule a basic tune up, which includes replacement of spark plugs and inspection of other car fluids and parts, every 30,000 miles.

# Car Cleaning & Detailing

Cleaning your vehicle regularly enhances its appearance and maintains its value over time. While the standard carwash will do, it's important to detail your car every so often to truly make it sparkle. Here are some tips to help keep your vehicle shiny for less:

## Interior Cleaning

- Start by cleaning the interior of your vehicle first.
- Vacuum and clean all of the seats, floor, floor mats and carpeting.
- Wipe down hard surfaces using Windex® or Formula 409®.
- Use cotton swabs for crevices such as the dashboard and air vent grilles that are hard to reach with a cleaning rag.
- Clean minor stains with an interior cleaner such as Meguiar's Quick Out™ Carpet & Upholstery and blot dry with paper towels.

## Exterior Cleaning

- Park in the shade to keep the car surface cool.
- Use a soap made specifically for washing cars, not a household detergent, to prevent damage to your car's finish. Apply soap with a natural sponge or lamb's-wool mitt.
- Use two buckets — one for a mixture of water and cleaning solution and the other for rinsing.
- Work from top to bottom in sections since the lower areas accumulate more abrasive dust.
- Don't forget the tires! Clean them with warm water and soap or Michelin® Wheel & Tire Cleaner since other chemical agents can deteriorate the rubber.
- Dry your car using a terry cloth or microfiber towel. Use a different one for the wheels.
- It's time to polish your car when the water stops "beading" on the exterior after it rains or when washing. Follow the recommended instructions and use smooth, circular motions, then back and forth motions for good coverage.

Sources: [DiyYourself.com](http://DiyYourself.com) and [PopularMechanics.com](http://PopularMechanics.com)



## Handy Cleaning Tips

1. Avoid odors by placing baking soda or potpourri in your car's ashtray or another hidden compartment like your glove box.
2. Keep wet wipes handy to clean up the steering wheel, dashboard, cup holders, center console and other areas of your car.



## Money-Saving Driving Habits

The way you drive impacts your vehicle's efficiency and wear over time. Here are some do's and don'ts to help you get more life out of your car:

- ✓ **DO** drive the speed limit. At speeds above 60 miles per hour, gas mileage decreases rapidly.
- ✓ **DO** use the air conditioning sparingly to save gas. Instead, while in town, roll down your car's windows and enjoy the breeze.
- ✓ **DO** lighten up your load. Rid your car of extra baggage since it limits your car's fuel efficiency.
- ✓ **DO** park in the first spot you find. Not only is the exercise good, but you'll save gas that would be used up driving around the parking lot in search of a closer spot.
- ✓ **DO** come to a complete stop before switching gears. Not doing so puts extra strain on your transmission, which wears it down significantly over time. It also damages the drive shafts, which affect the suspension and handling.
- ✗ **DON'T** idle. Even on the coldest mornings, 30 to 45 seconds is plenty of time for your vehicle to warm up. You should also avoid long drive-thru lines; park and go inside instead.
- ✗ **DON'T** drive on a near-empty tank of gas. You could circulate sediment from the bottom of your tank through your fuel system, which can destroy your fuel injector.
- ✗ **DON'T** ignore your warning lights. Doing so can potentially lead to major, costly repairs if something is seriously wrong.
- ✗ **DON'T** be an aggressive driver. Excessive speeding, accelerating quickly and abrupt stopping/braking lowers gas mileage and wastes fuel.
- ✗ **DON'T** pack items on top of your car. A loaded roof rack creates wind resistance. If everything doesn't fit inside your vehicle, use a trailer hitch rack instead.

# Pump up the Gas Savings

As gas prices continue to fluctuate, there are steps you can take to save at the pump and stay within your budget. Here are some simple things to conserve how much gas your car uses:

- Always tighten your vehicle's gas cap. A loose gas cap allows fuel to evaporate.
- Pay for your gas with cash. Some gas stations offer incentives for cash payments.  
*Source: [PersonalFinanceAnalyst.com](http://PersonalFinanceAnalyst.com)*
- Purchase gas during cooler hours or on cooler days since gas is denser in cooler temperatures. Because gas pumps measure by volume, you are buying more "mass" of fuel for the same price, thereby getting more gas for the same amount of money.
- Resist topping off when filling your car's gas tank. Any additional gas will just slop around or seep out, causing you to spend money on gas your car won't use. Instead, use the automatic shut-off nozzle and stop pumping when it clicks to indicate your tank is full.
- Since gas prices tend to rise during peak travel periods, fill up three days before a holiday.
- Use lower octane fuel. Car engines designed for lower octane gasoline don't benefit from using higher octane fuel. However, be sure to consult your car owner's manual — some vehicles require premium gasoline in order to maintain the car's warranty.
- Consider joining a discount warehouse superstore that offers discounted prices on gas. You could also use a fuel credit card that offers cash back earnings on fuel purchases.



## Did You Know?

Gas prices are statistically cheaper on Wednesdays. While this won't be true every week, over time this can add to your savings. Check out [FuelEconomy.gov](http://FuelEconomy.gov) or [GasBuddy.com](http://GasBuddy.com) for prices in your area.

# Car Safety Basics for the Whole Family

Car safety is important for every member of the family no matter the age. When you think about all of the different things to worry about, it can be a bit daunting. Keeping key facts and tips in mind when you and your loved ones get in your vehicle can help cut down on stress and reduce road dangers.

## Car Tips for New Moms

Are you in the market for a car seat? Probably the most frequently asked question by parents is, “Which is the safest seat?” There is no perfect answer to this question. The National Highway Traffic Safety Administration (NHTSA) provides [ratings](#) of car seats on the market. When you are searching for the right car seat, there are several things to keep in mind:

### Look For a Seat That Has a Harness

A five-point harness fits most kids well and reduces the chance of being ejected from the vehicle during an accident. Always make sure the harness is snug. The easier it is to adjust its tightness, the more likely you will adjust a harness properly for each car ride; pick a seat that allows for front adjustments.

### Keep Your Child’s Weight in Mind

While you are on the hunt, weight and height are important factors in choosing the best car seat. Be sure to look at the weight limits on seats. For example, newer models have 80 to 100 pound limits.

### Consider the Height of Your Child

Some seats have higher backs than others. Seats that have room for taller children allow for a more accurate, safer fit and may also allow you to use the car seat for a longer period of time, since your child is less likely to outgrow it as quickly.

### The Age of the Car Seat Plays a Factor

Buying a new car seat is the best option. If you are using an older car seat, either one that was handed down or purchased at a thrift store, you may not know the history of the seat. You may be unaware if it is damaged, has been in a previous accident or if the restraint ratings are out of date. If a new car seat is out of your budget, be sure to have the seat inspected by a professional to make sure it is in good working condition.

Source: [Car-Safety.org](http://Car-Safety.org)



### Here are some tips if you are concerned about your child’s seat:

- Consider replacing it with a new one.
- Don’t allow your child to ride in a seat that is poorly restrained.
- Use the seat as stated in the instruction manual.
- Click [here](#) to find a child safety seat inspection station near you.

## Car Seat Usage Statistics

### Lead By Example

Almost 40 percent of unbuckled drivers were unrestrained as kids themselves.

### Always Buckle Up

Child safety seats reduce the risk of death by 71 percent for infants and by 54 percent for toddlers ages 1 to 4 years.

### Check and Double Check

A study found that 72 percent of car and booster seats were misused, leading to an increase in a child’s risk of injury during a crash.

### Use Your Best Judgment

According to the Children’s Hospital of Philadelphia, booster seats reduce injury risk by 59 percent in children ages 4 to 7 years compared to seat belts alone. Source: [CDC.gov](http://CDC.gov)

## Teen Drivers

Most parents of teen drivers are primarily concerned about protecting their child's safety and well-being. Over the past several years, many states have enacted driving laws like the Graduated Driver License (GDL) program for new, inexperienced drivers. GDL programs, coupled with good parenting in the passenger seat, can aid in preventing teen car crashes. Here are some tips for keeping your teen's hands at ten and two, eyes on the road and out of harm's way:

### Teens with Learner's Permits

Once your teen has received his or her learner's permit, practice driving with them as often as possible. Make sure you ride with them in a variety of weather conditions, road conditions and different times of the day. Within a six month period, try to supervise their driving for at least 30 hours, or better yet 60 hours if you can.

### Before Your Teen Hits the Road Alone

Be sure to set some ground rules. Always make sure they buckle up. If the GDL program in your area does not set rules, make sure you cap their night driving as well as limit the amount of passengers allowed in their vehicle until they have either graduated from this stage of the program or until you feel confident in your teen's driving abilities.

### Enforce Driving Rules with a Contract

The Center for Disease Control and Prevention (CDC) has a great [example contract](#) on their website to use as a template. It includes a promise for your teen to make in regards to staying focused, respecting state laws and being a responsible driver. It also includes setting restrictions on your teen's driving schedule until he or she is a conscientious driver, plus penalties for violating the contract.

## Graduated Driver License Program

Find state-specific information on [GDL laws](#). There are typically three stages of a GDL.

1. A specified, supervised learning driving period.
2. After passing the driving test, an intermediate level of driving that provides limitations on night driving, the amount of passengers, etc.
3. A full driver's license once passing the above two stages.

### Instate a Policy About Cell Phone Usage

As much as 50 percent of drivers between the ages of 18 and 24 text while driving. Parents should enforce putting away the distractions while driving. Make sure you and your family are in the know about your [state's laws](#) on cell phone usage while driving.

## TEEN DRIVING STATISTICS

**PROVEN RESULTS.** Research shows that the most comprehensive GDL programs reduce car crashes up to 40 percent.

**LIMIT PASSENGERS.** Double the teens in the car, double the risk of a crash. With three or more passengers, the risk of crashing is three times higher than if he/she were driving alone.

**BUCKLE UP.** Seat belt usage drops to less than 40 percent when Mom or Dad isn't in the car.

**LIMIT DRIVING HOURS.** Driving between 9 p.m. and 6 a.m. triples the risk of crashing for 16 year-old drivers.

Sources: [CDC.gov](#) and [Edmunds.com](#)





## Cell Phone Usage

According to USA Today, last year, more than 250 bills prohibiting or restricting cell phone usage while driving were pending in 42 states. Some states are even considering banning all cell phone usage, including hands-free devices.

There are serious risks associated with using a cell phone while driving. In addition to being aware for yourself, lead by example and show your children the importance of paying attention to the road. The primary responsibility of drivers is to operate a motor vehicle safely. The task of driving requires full attention and focus. Cell phone use can distract drivers from this task, risking harm to themselves, passengers and others on the road. Therefore, the safest course of action is to refrain from using a cell phone when driving at all times.

If you must use your phone, make the road a little safer with these suggestions:

- While driving, do not answer or initiate calls. Let calls go to voicemail whenever possible.
- If you are expecting a call, find a safe area to exit from the roadway and traffic before checking voicemail or returning the call.
- The more time spent with your eyes on the road is best, so don't take notes, look up phone numbers or program your GPS while driving.

Four out of five accidents are because of distracted drivers. While there are debates on whether using a hands-free device is safer than talking on the phone at all, statistics show that of the phone-related tasks (reaching for the phone, dialing, talking and texting), texting is the most dangerous.

## Did you know?

In 2008, CTIA - The Wireless Association® estimated that 270 million people in the U.S. have cell phones. That's 90 percent of our population! In 2007, the NHTSA (National Highway Travel & Safety Administration) estimated about 11 percent of the population used a phone while driving at any moment during the day.

Source: [USAToday.com](http://USAToday.com)



## Distractions Are Risky

**20 PERCENT:** The percentage of adult drivers who send text messages while driving.

**25 PERCENT:** The percentage of car crashes caused by talking on a cell phone.

**76 PERCENT:** The percent of time a driver's eyes are off the road while either sending or receiving a text message.

Source: [EdgarSnyder.com](http://EdgarSnyder.com)

# Are You Prepared for the Unexpected?

Emergency situations can happen at any time. That's why it's important for you and your family to know what to do when these situations arise. Knowing how to handle your automobile during these times can put your mind at ease and help keep your family safe on the road.

## Tire Blowouts

A tire blowout, which is characterized by the loud noise of your tire bursting and the sudden loss of air, can happen without warning. Taking the right actions can help you safely maintain control of your vehicle and maneuver your car to a safe stop. Here are some tips to help you make the right decisions:

- ✓ **DO** slightly accelerate. This will keep the vehicle momentum constant and will compensate for the pulling of the vehicle towards the flat tire.
- ✓ **DO** keep the steering wheel held straight and firm.
- ✓ **DO** put on your hazard lights. Once the vehicle is under control, slow down and when safe, move to the side of the road out of traffic.
  
- ✗ **DON'T** panic.
- ✗ **DON'T** step on the brake.
- ✗ **DON'T** abruptly release your foot from the accelerator.
- ✗ **DON'T** jerk or overcorrect the steering.

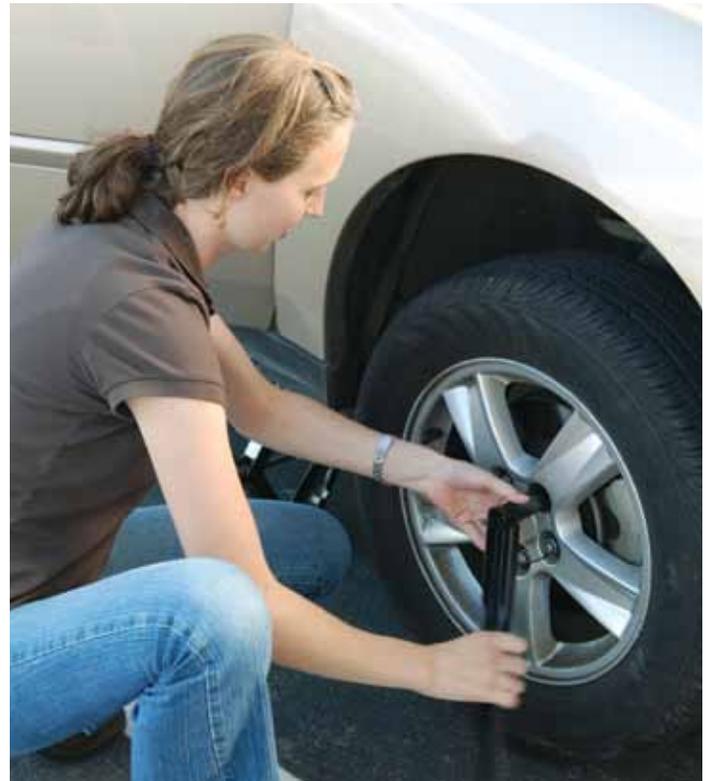
## When Your Brakes Fail

No one wants to think about their brakes failing while driving. It can be a scary situation. Having the knowledge to handle this type of emergency and keep your family safe in the process is priceless.

### What to do:

1. Take your foot off the gas pedal.
2. Quickly pump your brakes to try to use any residual pressure in the brakes.
3. Shift into a lower gear, release the clutch pedal (for manual transmissions) and apply the emergency brake.
4. If your automobile has an automatic transmission, simply apply the emergency brake.
5. Try to ease the car to the side of the road safely or look for something to rub against. A fence, guardrail or bushes would work. If possible, select something that will give way when you hit against it to reduce damage to you and the car.

**Concerned about your brakes?** Find out the most common signs they are failing [here](#).



## Be Prepared

Always have an emergency kit in your vehicle. According to the National Highway Safety Commission, you should have a minimum of these items in your kit:

- Car jack
- Lug nut wrench
- Jumper cables (the longer and heavier duty, the better)
- Two 30 minute flares
- A reflective triangle
- A "Help" sign or white cloth to tie to the antenna
- A flashlight with extra batteries (small LED flashlights are tiny, long lasting and surprisingly bright)
- Small tool kit including screwdrivers, pliers, needle-nose pliers or wire cutters and a small knife
- Two quarts of oil
- A gallon of water
- Windshield washer fluid

Being prepared for the unexpected includes knowing how to change a flat tire. Visit [eHow.com](http://eHow.com) to watch a great tutorial video.



## Driving on Ice & Snow

Winter weather can make driving conditions treacherous. Making the wrong decision while driving on ice or snow can mean serious consequences for you and your precious cargo. According to the U.S. Department of Transportation, over 450,000 crashes involving injury occur annually in adverse weather conditions or on slick pavement. The best solution to bad weather driving is to not drive at all.

### **If you must venture out into winter weather, follow these tips:**

- Don't start driving until all the windows are defrosted and clean — even if you're only going a short distance.
- Allow extra time to reach your destination.
- If possible, wait for snow plows to clear roads before heading out.
- Decrease your speed and leave yourself plenty of room to stop. You should allow at least three times more space than usual between you and the car in front of you.
- Turn on your lights to increase visibility on the road.
- Apply the brake pedal gently. If your wheels begin to lock, ease off the brakes.
- Avoid unnecessary braking on the road. This is what causes most winter weather accidents.
- Black ice, which will make asphalt appear shiny, wet or slick, can sneak up on you. If you encounter while driving, don't panic. Just keep driving at the same speed without heavy braking, acceleration or turning of the steering wheel.

### **If your vehicle gets stuck in winter weather, try the following tips:**

1. First, put on your hazard lights to make other motorists aware.
2. Turn your wheels from side-to-side to move snow out of the way.
3. Try to gently move your car by lightly touching the gas pedal.
4. Don't spin your wheels. This will only anchor your car in the snow.
5. After parking, use a shovel to clear away snow from the wheel area and underneath your car.

During winter months, it is also a good idea to keep an extra blanket, clothing and supplies in your car in case you are stuck in winter weather for an extended period of time.

Sources: [Weather.com](http://Weather.com) and [SafeMotorist.com](http://SafeMotorist.com)



# What to do in Wet Conditions

## Hydroplaning

Everyone has encountered areas of standing water while driving in wet road conditions. Usually you feel a minor resistance and continue on your way. However, this standing water, given the right situation, can cause your car to rise up and slide out of control. Learning the proper techniques to regain control can help you avoid an accident.

- Always keep your tires properly inflated and in good condition.
- Slow down during wet weather.
- Stay out of lanes that appear to have standing water.
- If you begin to skid, ease your foot off the gas and steer in the direction you want the car to go.
- Don't make sudden turns.
- When you need to stop or slow your vehicle, do it slowly to prevent skidding.

## Vehicle Submersion

This water situation can be one of the scariest scenarios a motorist can face. Although it's not one of the most common types of accidents, knowing what to do can save your life and the lives of your passengers. First, try to stay calm. Although this will be difficult, it is the key to survival in any submersion situation.

### **If your vehicle floats for a few minutes:**

- Quickly unbuckle your seat belt.
- Roll down your window and get out.
- Don't waste time trying to open the door of the vehicle. Pressure from the water will prevent the door from opening.

### **If your vehicle sinks immediately:**

- Keep your seat belt on until you exit the vehicle. It can help steady you as you try to open a door or break a window as well as prevent rushing water from trapping you in the vehicle.
- If you have power locks and windows, break a window with a spring-loaded center punch (available at any hardware store) or an escape hammer (available in most auto parts stores). If you do not have a tool to break a window, you can kick out a side window.
- Remember you can only break the side windows as the front and rear windshields are made of tempered glass and are very difficult to break.
- If you have manual locks and windows, make sure the doors are unlocked and wait until the water level has equalized on both sides of the vehicle before trying to open the door.
- While you wait for pressure to equalize, keep your shoes on and remove any heavy garments that will weigh you down and cause you to sink.
- If you cannot open any windows or doors, there will be a small air pocket near the part of the vehicle that is highest in the water. Move to this location, take a deep breath and kick a side window.
- Once you have cleared an opening, now is the time to unlock your seat belt and get out of the vehicle.

It is always a good idea to practice emergency situations like these with your family, especially if you live near large bodies of water. It could save a life!

Sources: [NSC.org](http://NSC.org) and [NationalSafetyCommission.com](http://NationalSafetyCommission.com)

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