

*W*inter

# ***Safety Guide***



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# Winter Driving

What would winter be like without beautiful white snow? Well, driving would probably be a lot safer. Many people don't realize the increased risks of driving in inclement weather. Just taking a simple trip to the grocery store can be dangerous in some cases. The leading cause of death during winter months is due to transportation accidents. During inclement weather it is best to stay home; however, this is not always feasible. Taking a few simple precautionary steps can help make a difference in your winter travels.

## **VEHICLE PREPARATION**

Wintertime is the harshest season for vehicles. Prepare your vehicle for winter by scheduling a complete maintenance check in the fall.

**Battery:** Cold weather starts require a battery that is fully charged. Recharge or replace weak batteries. Have your charging system checked, too.

**Ignition system:** Damaged ignition wires or a cracked distributor cap may cause a sudden breakdown.

**Lights:** Regularly check that *all* lights are functioning properly and that headlights are properly aimed.

**Brakes:** Brakes should be checked and, if needed, serviced to ensure even braking.

**Tires:** The traction between the tires and the road surface determines how well your vehicle starts, turns and stops. Make certain your snow tires or all-season radials are properly inflated and in good condition. Ensure all four tires have the same tread pattern for even traction.

**Exhaust system:** Have the exhaust system fully checked for leaks that could send carbon monoxide into your vehicle.

**Heating and cooling system:** Check your radiator and hoses for cracks and leaks. Make sure the radiator cap, water pump and thermostat work properly. Test the strength of the anti-freeze, and test the functioning of the heater and defroster.

**Windshield:** Make sure wipers are in good condition and fill up on winter washer fluid.



## **Driving in Bad Weather**

When driving in bad weather plan ahead. It may save you a lot of hassle. The following are some things to think about during your planning process.

- \* Make sure you have enough fuel
- \* Clear your vehicle of ice and snow. Make sure your windows are clear of ice and fog. Turn on your lights when driving. If visibility becomes poor while driving pull off until it clears up.
- \* Measure your speed conditions
- \* Sticks to main roads so if you have car trouble you can seek help easier, back roads are not always maintained.
- \* Wear your seat belt at ALL TIMES
- \* Let someone know where you plan to travel and the route you are taking so you can be searched if you don't show up at a reasonable time
- \* Listen on your radio for current and future weather conditions

## Winter car survival kit

- ✓ Shovel
- ✓ Sand, salt or kitty litter
- ✓ Traction mats
- ✓ Tow chain
- ✓ Compass
- ✓ Cloth or roll of paper towels
- ✓ Warning light or road flares
- ✓ Extra clothing and footwear
- ✓ Emergency food pack
- ✓ Axe or hatchet
- ✓ Booster cables
- ✓ Knife
- ✓ Booster cables
- ✓ Water containers
- ✓ Ice scraper and brush
- ✓ Water-proof matches or lighter
- ✓ Road maps
- ✓ Matches and a 'survival' candle in a deep can (to warm hands, heat a drink or use as an emergency light)
- ✓ Fire extinguisher
- ✓ Methyl hydrate (for fuel line and windshield de-icing)
- ✓ The following items should be kept in the cab of your car:
  - ✓ Flashlight with extra batteries
  - ✓ First-aid kit
  - ✓ Blanket (special 'survival' blankets are best)/sleeping bags
  - ✓ Non-perishable, high-energy foods



## TRAPPED IN VEHICLE DURING SEVERE WEATHER

- ⊕ If you have a cellular phone, call for help.
- ⊕ Stay in your vehicle. Disorientation occurs quickly in wind-driven snow and cold.
- ⊕ Run the engine about ten minutes each hour for heat.
- ⊕ Watch out for Carbon Monoxide poisoning. Keep exhaust pipe clear of snow and open a window slightly for ventilation.
- ⊕ Make yourself visible to rescuers. Turn on the dome light at night when running engine. Tie a brightly colored cloth to your antenna or door. Raise the hood indicating trouble after snow stops falling.
- ⊕ Do mild exercises to sustain circulation. Avoid staying in one place too long.
- ⊕ If more than one person is in the car, take turns sleeping



# Black Ice!

When it's forecasted for temperatures near freezing, always expect **BLACK ICE**. Remember bridges and over passes freeze up before and remain frozen longer than other road surfaces. Also don't forget those shaded areas of road – they can and do hold treacherous ice patches. The following tips are especially relevant to county roads and need to be stressed:

- Be exceptionally wary during early morning and late evening when road icing is most likely to occur
- Icy sections are most likely to be found on and under bridges, on high sections of roads, at the tops of hills exposed to wind, in valleys and forest, and on roads near rivers, lakes and along foggy areas.
- When driving on a wet road, there is always a strong possibility that black ice may lie ahead
- Once on an icy section, do not accelerate, brake, downshift or make a sudden change in steering direction. Keep a safe distance from other vehicles.
- If you should get into trouble, try to steer to the edge of the road. Sand and salt from previous road "dustings" may have blown to the road edges by past traffic and will help you regain control.
- Slow down and drive with care. Driving too fast allows you less time to react and reduces your chances of recovering from a mistake.



## Alcohol and Parties

Every year thousands of people are fatally injured or killed due to alcohol related vehicle accidents. During the holidays alcohol is one of the temptations that people face. If you or your guests are going to consume alcohol keep these few things in mind.

- Y Limit to one drink per hour.
- Y Make sure you or your guest avoid straight shot drinks.
- Y Keep plenty of snacks around to help absorb the alcohol and avoid drinking on an empty stomach.
- Y Stop serving or consuming drinks at least one hour before the party starts or departure.
- Y Choose designated drivers



# Vehicle Skids



Winter collisions can occur when your vehicle skids. A skid occurs when you apply the brakes so hard that one or more wheels lock, or if you press hard on the accelerator and spin the drive wheels. Skids also occur when you are traveling too fast on a curve and encounter a slippery surface. Skids can best be avoided by anticipating lane changes, turns and curves; slowing down in advance; and by making smooth, precise movements of the steering wheel. Regardless of the type of skid you encounter, to regain control of your vehicle, DO NOT PANIC.

## Rear Wheel Skids

1. Take your foot off the brake or accelerator.
2. De-clutch on a car with a manual transmission, or shift to neutral on a car with automatic transmission.
3. Look and steer in the direction you want the front of the car to go.
4. As the rear wheels stop skidding to the right or left, counter-steer until you are going in the desired direction.
5. In a rear-wheel drive vehicle, if you over-correct the first skid (Step 4), be prepared for a rear-wheel skid in the opposite direction. Practice and the use of timely, gentle movement of the steering wheel are necessary to avoid this type of skid.
6. Once the vehicle is straight, release the clutch or shift to drive, apply gentle accelerator pressure so that the engine speed matches the road speed, and accelerate smoothly to a safe speed

## Front Wheel Skids

Front-wheel skids are caused by hard braking or acceleration if your vehicle has front-wheel drive. When the front wheels lose traction, you will not be able to steer the vehicle. Regardless of whether the vehicle has front-, rear- or four-wheel drive, the best way to regain control if the front wheels skid is:

Take your foot off the brake or accelerator.

1. De-clutch on a car with manual transmission, or shift to neutral on a car with automatic transmission.
2. If the front wheels have been turned prior to the loss of traction, don't move the steering wheel. Since the wheels are skidding sideways, a certain amount of braking force will be exerted. (Unwinding the steering wheel will result in regaining steering sooner; however, the vehicle will be travelling faster because there is little sideways braking force. This technique should only be attempted in situations where limited space and sharp curves exist -- however, in this case do not reduce pressure on the brakes, because the vehicle will shoot off in the direction the wheels are facing.)
3. Wait for the front wheels to grip the road again. As soon as traction returns, the vehicle will start to steer again.
4. When the front wheels have regained their grip, steer the wheels gently in the desired direction of travel.
5. Release the clutch or shift to drive and apply gentle accelerator pressure so that the engine speed matches the road speed, and accelerate smoothly to a safe speed.

There is no risk at all of the car skidding in the opposite direction

## Four Wheel Skids

Sometimes all four wheels lose traction. This generally occurs when the vehicle is driven at a speed too fast for conditions. The most effective way to get your vehicle back under control when all four wheels skid is:

1. Ease foot off the accelerator or take your foot off the brake.
2. De-clutch on a car with manual transmission or shift to neutral on a car with an automatic transmission, if you can do so quickly.
3. Look and steer in the direction you want the front of the car to go.
4. Wait for the wheels to grip the road again. As soon as traction returns, the vehicle will travel in the desired direction.
5. Release the clutch or shift to drive and maintain a safe speed.

NOTE: Avoid using overdrive on slippery surfaces

# Proper Braking

To survive on the road in winter, proper braking is essential. Stopping on slippery surfaces means motorists must increase sight lines, following and stopping distances. Beware of shaded spots, bridges, overpasses and intersections. These are areas where ice is likely to form first or be the most slippery.

## **Braking if you don't have anti-lock brakes:**

If you don't have anti-lock brakes, the most efficient technique for braking under these conditions is to use threshold braking together with de-clutching (manual shift) or shifting to neutral (automatic transmission). The best way to threshold brake (to make a controlled stop) is the heel-and-toe method. Keep the heel of your foot on the floor and use your toes to apply firm, steady pressure on the brake pedal just short of lockup to the point at which the wheels stop turning.

Under the stress of trying to stop quickly, drivers almost inevitably overreact and lock the wheels. If this happens, use toe-and-heel action to release brake pressure one or two degrees, then immediately reapply it with slightly less pressure.

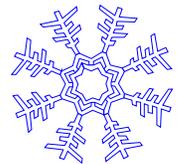
## **Braking with anti-lock brakes:**

According to a survey conducted by the AAA Foundation for Traffic Safety, 50% of people are unaware of how anti-lock brakes and traditional brakes differ. If you have an anti-lock brake system (ABS), use the heel-and-toe method, but do not remove your foot from the brake. When you put on the brakes hard enough to make the wheels lock momentarily, you will typically feel the brake pedal pulse back against your foot. Don't let up!

(Novice ABS users can try hard braking in a vacant snow-covered parking lot.)

## **How ABS works:**

A sensor located at each wheel detects when the wheel stops turning and starts to skid. As soon as the skid is detected, the anti-lock system relieves the pressure just enough to allow the wheel to turn again. This allows you to steer while you continue to bring the vehicle to a stop.



# Winter Sports and Recreation



Winter sports are very popular and are a great during family vacations. Generally all sports have risks involved, but winter sports tend to generate more concern for accidents are prone due to the weather conditions and environment. Many mishaps are caused by lack of experience and complacency.

## Tips to for every winter sport

- ❖ *Clothing:* Dress warm and avoid outer cotton clothing for it absorbs moisture.
- ❖ *Sunburn:* Sun will reflect off the snow and hit the face.
- ❖ *Frostbite:* See page 9
- ❖ *Fatigue:* Get a good night's sleep and eat regularly.

## Skiing and Cross Country skiing

Skiing is a popular, physically challenging sport that requires extreme physical endurance. Many skiers can sustain sprains and muscle injuries due to fatigue so preparing yourself for the high physical endurance can decrease the chances of injury.

- ✦ *Protective gear:* Helmets, gloves, goggles, sunscreen, and protective clothing.
- ✦ *Fatigue:* high-energy snacks, take breaks when needed, and get at least 7 hours of sleep the night before.
- ✦ *Preseason exercise:* keep in shape throughout the year to avoid overexertion and stretch.
- ✦ *Beginners:* Take lessons and stay on the beginner's slopes.
- ✦ *Falling:* keep arms forward, skis together and hands over skis. Don't use hands to break your fall and wait until you stop sliding to get up. If you feel you are getting out of control fall to your rear or side.



## Snowboarding

Snowboarding has become increasingly popular over a couple of decades. Most of the injuries result from lack of experience and jumping.

- ✦ *Beginners:* Take a lesson
- ✦ *Protective gear:* wrist guards and kneepads
- ✦ *Helmets:* Highly recommended
- ✦ *Trails:* Stay on groomed trails
- ✦ *Jumping:* Avoid jumping until you are more experienced



## Ice Skating

It may seem customary to skate on frozen ponds; however, skating rinks are more ideal because of the risks of falling through thin ice.

- ✦ When falling try to relax and move with the fall, lean forward and bend elbows.
- ✦ Quickly get up after falling to avoid the risk of other skaters tripping on you.
- ✦ Keep hands close and fingers tucked inward when getting up
- ✦ Skate on the outer edge of the rink. Save the inner rink for experienced skaters
- ✦ Wear gloves, pants, and long sleeve jacket.



## Sledding

- ✦ Use sleds that you can steer
- ✦ Children should not be unsupervised while sledding.
- ✦ Inspect hills for steepness
- ✦ Wear helmets and protective clothing



# Frostbite

## How to Prevent Frostbite

- \* Proper clothing for winter weather insulates from the cold, lets perspiration evaporate and provides protection against wind, rain and snow. Wear several layers of light, loose clothing that will trap air but provide adequate ventilation. This is better protection than one bulky or heavy covering. Choice fabrics for the cold are wool, polyester substitutes and water-repellent materials (not waterproof, which holds in perspiration). Down coats and vests are warm; however, if down gets wet it is not an effectively warm fabric.
- \* Coverings for the head and neck are important. Hats, hoods, scarves, earmuffs and facemasks all add up to good protection.
- \* Protect your feet and toes. Wear two pairs of socks -- wool is best, or cotton socks with a pair of wool on top. Wear well-fitted boots, high enough to cover the ankles.
- \* Hand coverings are vital. Mittens are warmer than gloves, but may limit what you can do with your fingers. Wear lightweight gloves under mittens so you'll still have protection if you need to take off your mittens to use your fingers.
- \* Be sure your clothing and boots are not tight. A decrease in blood flow makes it harder to keep the body parts warm and increases the risk of frostbite.
- \* When in frostbite-causing conditions, remember to dress appropriately, stay near adequate shelter, avoid alcohol and tobacco, and avoid remaining in the same position for long periods.



## Symptoms of Frostbite

- \* Mild frostbite (frostnip) affects the outer skin layers and appears as a blanching or whitening of the skin. Usually, these symptoms disappear as warming occurs, but the skin may appear red for several hours after.
- \* In severe cases, the skin will appear waxy-looking with a white, grayish-yellow or grayish-blue color. The affected part(s) will have no feeling (numbness) and blisters may be present. The tissue will feel frozen or "wooden". This indicates a very serious condition.
- \* Other symptoms are swelling, itching, burning and deep pain as the area is warmed

