



Transport
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SAFETY TIPS

WINTER DRIVING

You, your vehicle and
winter driving



Canada



PREVENT PROBLEMS BEFORE THEY OCCUR: TOP 10 TIPS

1. Get your vehicle ready for winter in the fall.
2. Install four matching winter tires.
3. Pack an emergency kit.
4. Learn and practice winter driving techniques before you need them.
5. Plan your trip, check road and weather conditions.
6. Remove all snow from your vehicle before each trip.
7. Give yourself extra travel time in bad weather.
8. Avoid using overdrive and cruise control on slippery roads.
9. Travel with a fully charged cell phone.
10. SLOW DOWN and WEAR your seatbelt.

 Prevention is better than recovery

WINTER DRIVING CAN BE RISKY, SO BE PREPARED.

Why not keep this in your glove compartment?

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TIP 1: GET READY

GET YOUR VEHICLE READY FOR WINTER

Winter weather is hard on your vehicle and its engine. Prepare for winter **in the fall**, by getting a complete check-up of your:

BATTERY

Your motor needs a fully charged battery to start in cold weather. Clean battery posts and check the charging system and belts. Have your battery tested in the fall and spring. Replace weak batteries before they fail.

IGNITION SYSTEM

Replace defective ignition wires, cracked distributor caps and worn spark plugs, since they can make starting difficult or may cause a sudden breakdown.

LIGHTS

Make sure that all lights work and that headlights are properly aimed.

BRAKES

Check or service your brakes to ensure even braking. Pulling, change in pedal feel, or unusual squealing or grinding may mean they need repair.

TIRES

Check pressures often, especially before any highway driving. Properly inflated, high quality winter tires will give you best traction on winter roads and increase fuel efficiency.



A tire that has good pressure when checked in a warm garage will be under-inflated when it is below zero outside – because tire pressure goes down in the cold. That is why you should do your checks when the tires are cold. Use the maximum pressure amount shown in the owner’s manual or on the doorframe as a guide, but never go above the pressure shown on the tire sidewall. Check your spare tire pressure regularly.

Since having four matching tires improves vehicle handling, don’t mix tires with different tread patterns, internal construction and size.



Winter tires have been designed for use in snow. They carry a pictograph on the side-wall of a peaked mountain with a snowflake, meet high standards for winter traction performance and should not be confused with Mud + Snow (M+S) rated snow tires. Winter tires are a good idea, and may even be legally required where you live. To learn more about winter tires, visit: www.betiresmart.ca

EXHAUST SYSTEM

Check for leaks that could send deadly carbon monoxide into your vehicle.

HEATING AND COOLING SYSTEM

Check your radiator hoses and drive belts for cracks and leaks. Make sure the radiator cap, water pump and thermostat work properly. Test the strength and level of the coolant/anti-freeze, and make sure the heater and defroster work well.

WINDSHIELD WIPERS

Make sure that your wipers are in good condition. Replace blades that streak. Purchase wipers designed for winter use. Fill up on winter washer fluid in the -40°C temperature range and carry an extra jug in your vehicle.

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TIP 2: WATCH THE WEATHER

WATCH THE WEATHER

It's a good idea to visit www.weatheroffice.gc.ca for local weather reports, **before you leave home**. Environment Canada issues warnings when it expects blizzards, heavy snow, freezing rain or drizzle, cold snaps and winds. You can learn about local road conditions on the Web, at:

www.tc.gc.ca/road/provinces.htm#conditions

BLIZZARDS are the worst winter storms. They can last six hours or more and bring: falling, blowing and drifting snow; winds of 40 kilometers per hour or more; poor visibility; and temperatures below -10°C .

 Snow and ice are more slippery at 0°C than at -20°C or below.

HEAVY SNOW can bring **10** centimeters or more in 12 hours, or **15** centimeters or more in 24 hours.

FREEZING RAIN OR DRIZZLE can become an ice storm — coating roads, trees, overhead wires, etc. with ice.

 Watch for black ice at temperatures between $+4^{\circ}\text{C}$ and -4°C , where the road surface ahead looks black and shiny. It is often found on shaded areas of the road, bridges and overpasses long after the sun has come out.

COLD SNAPS are rapid drops in temperature.

WINDS cause blizzard conditions, drifting, poor visibility and wind-chill effects.

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TIP 3: PREPARE FOR DRIVING

PREPARE FOR DRIVING



- **The safest strategy is to avoid driving in bad weather conditions.** If you must drive, check weather and travel conditions before heading out. Give yourself extra time for travel and, if weather is bad, wait for conditions to improve. Always tell someone where you are going, the route you plan to take and when you expect to arrive. If you don't arrive on time, and people are worried about your safety, they will know where to search for you. If driving becomes too risky, turn back or look for a safe place to stop until it is safe to drive. Make sure you have enough fuel. Try to keep the fuel tank at least half-full.
- **Be alert, well rested and sober behind the wheel and always wear your seat belt.** When worn correctly, seat belts save lives. Lap belts should be kept low and snug over the hips, while shoulder belts should always be worn across the chest. Learn more about seat belt safety at <http://www.tc.gc.ca/roadsafety/tp/tp14646/menu.htm>. Children aged 12 and under should ride in the back seat, safely seated in a car seat or booster seat made for their size and age.
- **See and be seen.** Remove all snow from your vehicle's hood, roof, windows and lights. Clear all windows of frost and fog. If visibility becomes poor, find a place to safely pull off the road as soon as you can. It's best to stop at a rest area or exit the roadway and take shelter in a building.

If you can't exit, pull off the road as far as you can. Get out from the passenger side, to reduce the risk of being hit by other drivers. If visibility is poor, put on your emergency flashers.

- **Stay on main roads and drive carefully:** Match your speed to the road and weather conditions. Avoid passing another vehicle when weather and road conditions are bad.
- **Wear warm clothes** that do not restrict movement.
- **Be prepared to make a call.** Take a fully charged cell phone with you. These are very useful in an emergency or if you need help. *911 is often a free call. But don't talk and drive. Let someone with you make the call, or pull over to a safe spot to place a call.

If you do a lot of winter driving in areas with poor reception, think about getting a citizen's band (CB) radio.

- **Pack a winter survival kit.** The Canadian Automobile Association (CAA®) recommends you:
Keep the following items in your trunk.
 - shovel
 - sand 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
 - booster cables
 - matches and a "survival" candle in a deep can (to warm hands, heat a drink or use as an emergency light)
 - fire extinguisher
 - extra windshield washer fluid
 - fuel line antifreeze
 - reflective vest

Keep the following items inside your vehicle.

- road maps
- ice scraper and brush
- flashlight
- first aid kit
- blanket (special "survival" blankets are best)



In bad weather, put more distance between you and the vehicle in front of you.

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TIP 4: AVOID COLLISIONS

AVOID COLLISIONS

The danger of skidding is greatest when you are taken by surprise. Since not all vehicles respond in the same way to icy, slippery roads, learn how to handle your vehicle in all types of weather. Read the owner's manual to learn about your vehicle's braking system and tire traction. You may also consider taking a winter driving course.



In extreme weather avoid using overdrive or cruise control.

Having the latest safety features on new vehicles and/or knowing how to handle your vehicle are good ways to keep control.

NEW SAFETY FEATURES

Electronic Stability Control (ESC) helps drivers avoid crashes. ESC sensors compare the direction of the steering wheel to the direction the vehicle is going. When they are not the same, and the vehicle begins to skid, ESC applies the brakes to one or more wheels, or reduces engine power, or both, to help keep the vehicle under control.

ESC is 'On' when you start your engine. If your vehicle has an ESC 'Off' switch, turn off ESC when you are stuck in deep snow. A dashboard light will remind you to turn it back on.

The only way to get ESC is to buy a new or used vehicle that is already equipped with it. If you are thinking about buying a new vehicle, ask your dealer to show you models with ESC. To learn more, visit www.tc.gc.ca/ESC.



The best way to avoid a skid is by driving at speeds that are safe for the weather and road conditions.



SKIDDING

A good way to avoid skidding is to drive appropriately for road and weather conditions: **SLOW DOWN**. Allow extra travel time and be very careful when you brake, change lanes, make turns and take curves.

Even careful and experienced drivers can skid, so be prepared. Skidding may be the result of panic braking when you are trying to avoid an obstacle on the road. What should you do?

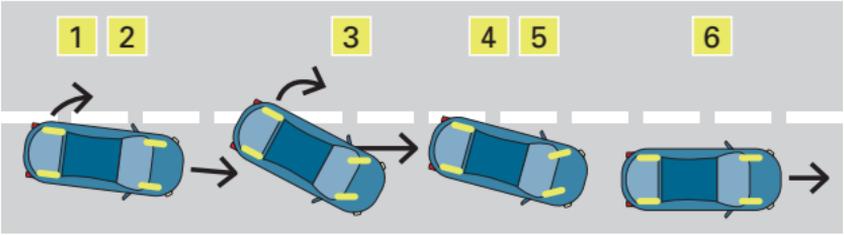
- Learn to handle a skid. Practice the steps on pages 12 & 13 in a safe location, until correcting a skid becomes a reflex – and remember that sometimes the vehicle will skid a second and even a third time before you regain complete control.
- Avoid forceful braking or sudden, jerking movement of the wheel.

 **Electronic Stability Control helps to avoid skidding.**

How your vehicle responds to a skid may be related to whether it has rear wheel drive, front wheel drive or four wheel drive. Rear wheel drive pushes the vehicle and may not have the benefit of weight unless you have rear passengers or a load in the trunk. Front wheel drive pulls the vehicle and carries the weight of the engine and transmission. Four or all-wheel drive delivers power to all wheels.

 **When driving on a snow-covered road there may be more snow/slush between lanes than in the lane, making changing lanes more difficult.**

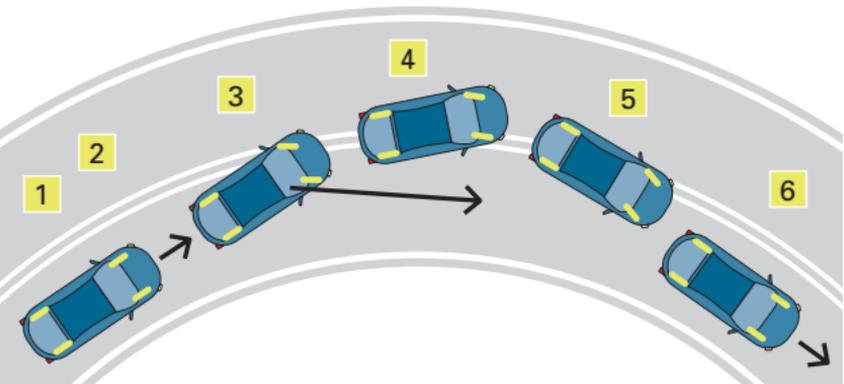
REAR-WHEEL SKIDS



A skid occurs when the rear wheels lock or lose traction. To regain steering control:

1. Take your foot off the brake pedal, if hard braking causes the rear wheels to skid.
2. Ease off the gas pedal if the rear wheels lose traction.
3. Shift to neutral (automatic) or push in the clutch pedal (standard).
4. Look down the road in the direction you want the front of the vehicle to go, and be aware of the vehicle and how it is responding to your steering.
5. To regain control, steer gently in the direction you want to go.
6. Once the vehicle is straight, return to a driving gear.
7. Accelerate gently.
8. Drive at a safe speed.

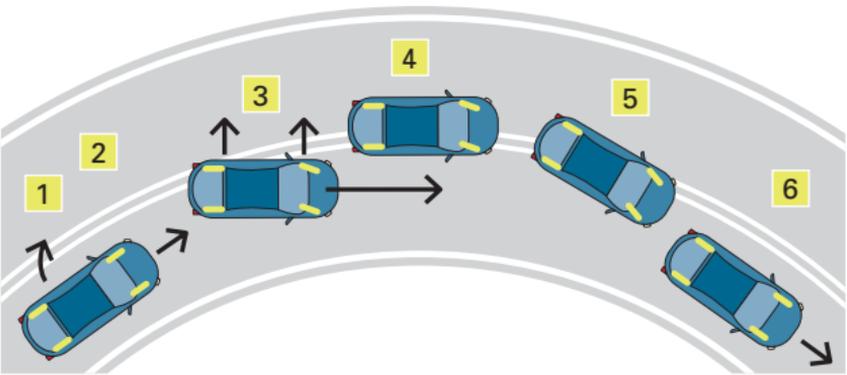
FRONT-WHEEL SKIDS



Front-wheel skids are caused by hard braking, acceleration or by driving too fast for the road conditions. You can't steer when the front wheels lose traction. To regain steering control:

1. Release the brake if the front wheels skid from hard braking.
2. Ease off the gas pedal if the front wheels lose traction.
3. Shift to neutral (automatic) or push in the clutch (standard).
4. Wait for the front wheels to grip the road again.
5. Select drive (automatic) or release the clutch (standard).
6. Accelerate gently.
7. Drive at a safe speed.

FOUR-WHEEL SKIDS



Sometimes all four wheels lose traction – generally at high speeds or under poor road conditions. To regain steering control:

1. Remove your foot from the brake or accelerator.
2. Shift into neutral.
3. Look and steer in the direction you want the front of the vehicle to go.
4. Wait for the wheels to grip the road again.
5. Return to a driving gear.
6. Drive at a safe speed.

SAFE BRAKING

Proper braking is important to safe winter driving. Since it takes longer to stop on a slippery road, you should:

- Leave more distance than normal between and your vehicle and the vehicle in front of you.
- Pay close attention to the road – as far ahead as you can.

If you don't have **anti-lock brakes (ABS)**, the best way to stop on a slippery road is to brake but not so hard that your tires stop turning. If you brake too hard and cause the wheels to lock (stop turning), release the pedal just enough to get the wheels rolling. Then, brake again right away, with slightly less force than before.

ABS is a system that allows you to steer while braking hard.

ABS prevents wheels from locking and allows you to control steering during hard braking. When wheel sensors detect lock-up, the system relieves enough pressure to keep the tires rolling, while you brake hard. You will feel the brake pedal rapidly pulse back against your foot and may hear some mechanical noise. **DO NOT** lift your foot from the brake or pump the pedal. In an emergency stop, press the brake quickly and hard. The ABS system will **NOT** shorten stopping distance. For more information on ABS check out the Transport Canada site at: www.tc.gc.ca/roadsafety/tp/tp13082/absind_e.htm

Practice techniques before you need to use them.



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TIP 5: STAY CALM

STAY CALM IF YOU GET TRAPPED IN A STORM OR SNOW BANK

Don't do any heavy lifting, shoveling or pushing in the bitter cold – it can kill. **Do** make sure the tailpipe is not blocked by snow, to keep carbon monoxide from getting into your vehicle. Then, if your vehicle is not at risk of being hit by other drivers, stay inside so you have shelter. Going out into a storm puts you at risk of getting lost, or suffering from the cold.

You should also:

- Keep a window on the side sheltered from the wind open a bit, to give you a good supply of fresh air.
- Run your motor as little as possible.
- Use a survival candle for heat if you have one, instead of the vehicle's heater.
- Wear a hat, since you can lose up to 60 per cent of your body heat through your head.
- Set out a warning light or flares.
- Put on the dome light. (Overuse of headlights may run your battery down.)
- Exercise your arms and legs often.
- Stay awake.
- Watch for traffic or searchers.





To find out more about national road safety programs and initiatives or if you have questions on any aspects of motor vehicle safety standards, including winter tires and ESC, contact Transport Canada at:

Road Safety and Motor Vehicle Regulation

Transport Canada

330 Sparks St., Ottawa, ON Canada K1A 0N5

Toll Free: 1 800 333-0371

Web: www.tc.gc.ca/roadsafety

Email: roadsafetywebmail@tc.gc.ca



Road Safety Vision 2010

Making Canada's Roads the Safest in the World

