Safe winter driving: six hazards and how to manage them

Unpredictable winter weather conditions and fewer hours of light can place extra demands on your vehicle and your driving skills. Heed the following hazards and precautions.

1. **Poor traction**. Before you turn off the ignition, move your vehicle back and forth one to two metres (four – five feet). This packs the heavy snow for easier starting. When pulling out, use a light foot on the accelerator, easing forward gently. Don’t spin your wheels. In deep snow, try turning your wheels from side to side to push the snow.
2. **Reduced ability to stop**. Stopping on ice- and snow-covered roads requires three to 12 times the distance needed on dry roads. Test studies show that the heavier the vehicle, the greater the stopping distance. The simple answer: leave a greater following distance between you and the vehicle in front. Gearing down also helps bring you to a safe stop.

The recommended safe following distance under ideal conditions is one second for each three metres (10 feet) of vehicle length. For example, an 18-metre tractor-trailer combination following distance is six seconds. Widen this gap in the winter according to current conditions.
3. **Starting and stopping**. Braking on ice is never easy, but as the temperature rises ice becomes even more slippery. For example, your braking distance can double with a temperature variation from zero to -18° C. Check the feel of the road when you start out and at regular intervals on your trip.
4. **Slippery surfaces**. Tires that spin and slide on snow and ice polish the surface. This greatly reduces traction on already hazardous road surfaces, most often at intersections, on curves and on hills. The slippery road surface increases braking distances and slows traffic. Compensate by slowing down early when approaching a slippery intersection, curve or hill. Consider gearing down to start the slowing process.

Watch out for black ice. The road ahead may appear to be black and shiny asphalt. Beware: it may be covered by a thin layer of ice known as black ice. Generally, in the winter, asphalt is a grey-white colour. If you see a black surface ahead, slow down and brake smoothly and gently. Proceed with caution.
5. **Reduced ability to see and be seen**. Before starting your trip, clean off the entire windshield, all the windows, and the roof of your vehicle. Wipe off the headlights, turn signals, and stop and tail lights so that others can see you. You may need to do this frequently during a heavy storm.

Road splatter can leave you blind. Use your windshield washer often. To prevent a windshield freeze-up, be sure you use washer fluid that’s right for the winter temperatures in your area, and don‘t dilute it. This will weaken its effectiveness.

Before using the washer fluid, prepare the windshield by heating it with a full blast of the defroster. Run your heater and defroster for a few minutes before you start out. This prevents sudden fogging of your windshield.

At night, stop occasionally to clean the headlights. In fog or heavy snowfall, keep lights on low beam and adjust your speed according to the conditions.
6. **For tractor-trailer combinations: jackknifing**. There are two distinct kinds of jackknifing:
	* the rear of the tractor skids sideways
	* the rear of the trailer comes around.

Repeated tests have shown that if a jackknife develops beyond 15 degrees, it is almost impossible to recover. A jackknife can go to 15 degrees in one and a half seconds. You must react fast in order to take preventative action and recover control of your vehicle. The faster this 15-degree angle develops, the greater the severity and potential damage of the jackknife.

**How to prevent jackknifing**

Safe defensive driving and adjusting to conditions offer the best safeguard against jackknifing. Going over a hilltop at 60 km/h to discover a sheet of ice or cars and trucks piled up below invites tragedy. Letting the truck build up speed downhill before a turn or a stop invites danger by having to overbrake, which could result in a skidding or jackknife incident. Consider the following options.

* **Control and recovery**. The most effective technique for recovery from a jackknife on ice is almost complete reliance on steering with little or no use of accelerator or brakes. A prompt start in correcting a jackknife is important. So too experience and practice. Drivers with the most experience have greater confidence and better control.
* **Directional control**. Directional control is best with all the wheels rolling. The tractor is most likely to jackknife when the drive wheels of the tractor are locked and the front and trailer wheels are rolling. A trailer jackknife can also develop when the trailer wheels are locked. Avoid overbraking when the truck is unloaded. Brakes on empty vehicles still have all the power necessary for a full load. So, when driving on a light or empty unit, brake with extra care.
* **Overpowering and spinning**. Apply power cautiously. Spinning the drive wheels risks a jackknife. This can easily occur on icy upgrades and usually results in a tractor jackknife that blocks the road and ties up traffic.
* **Brake before turning**. Jackknifing often occurs while braking for a curve. Do your braking or gearing down well before the turn, get down to a safe and easy turning speed, then take the turn with all the wheels rolling.

**Techniques for skillful winter driving**

Keep the following general tips in mind while driving this winter.

* Start smoothly. Don’t spin your tires.
* Control your speed. Take it slow. Adjust to the road conditions.
* Take hills cautiously. Reduce speed at the crest of hills so you’re prepared for what’s on the other side.
* Apply steering control smoothly, avoiding sudden moves leading to a skid.
* Signal your intentions well in advance. Plan lane changes early.
* Watch for reduced clearances at underpasses due to accumulated ice or packed snow.
* Don’t tailgate. Leave enough room ahead of you for an unexpected stop.
* Stop safely without ABS (antilock brake system) brakes: a rapid light pumping of the brakes is a recommended way to stop on ice. Note that this method will increase your overall stopping distance.
* Stop safely with ABS brakes: the system will pump the brakes for you if your wheels begin to lock up. This lets you maintain steering control.

**For drivers of vehicles with air brakes**

With air brakes, avoid reducing the air pressure to a low level. A feathering application is recommended for long down grades or gentle stops. Apply the brakes gradually until you feel the wheels begin to lock, and then release them slightly. If you start to lose steering control, release the brakes immediately, gear down, and repeat the gradual application. This technique requires more feel than pumping.

Use discretion in gearing down. Too much gearing down on ice may cause drive wheels to slide and start a dangerous side skid or jackknife. Release the clutch immediately and let the wheels roll to correct this condition.

When stopping on slippery surfaces, keep all wheels rolling to maintain steering ability, while at the same time using brakes to get the maximum stopping effort without wheel lock-up.

**How we can help**

For more information, visit [www.wsps.ca](http://www.wsps.ca) or contact WSPS at customercare@wsps.ca