



# [ Traction And Winter Driving



TIRE CHAINS  
AND WINTER TIRES ]



# Tire Chains

Driving on winter roads in British Columbia can be challenging even for experienced drivers. Rapid changes in elevation and weather can make the province's highway conditions unpredictable.

A driver who starts a trip in sunshine may face stretches of slush, ice, heavy snowfall or compact snow before reaching his or her destination. Tire chains are an important part of any driver's safety kit.

The Ministry of Transportation and Infrastructure posts signs advising where and when to use tire chains for traction and safety. However, there are many types of chains on the market, so it's important to know which type is right for you and how to use them.

**This guide explains  
the differences between chains  
and provides general guidelines  
on their use.**

If you need information about the types of chains to use on specific commercial vehicles or combinations of vehicles, please contact your tire manufacturer or dealer.

# Types of Chains

**Singles:** Single chains have two outer rails with crosslinks between them. They are generally used on steering and trailer axles and cover only one wheel. Do not use single chains for uphill traction on drive wheels with dual tires.

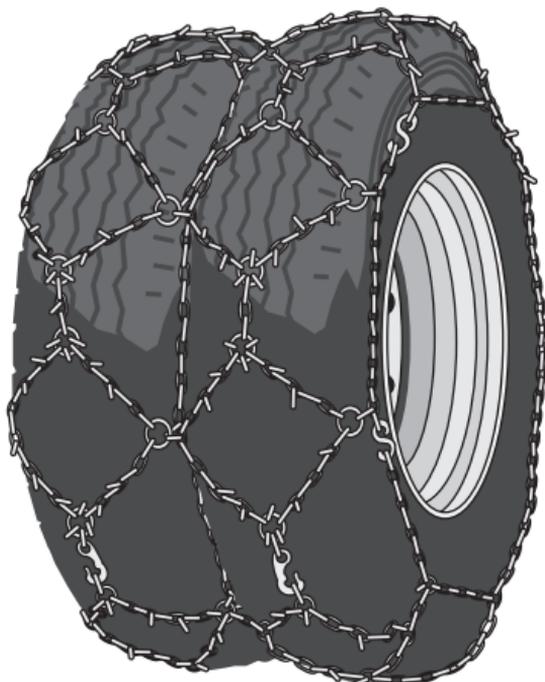
**Duals & Triples (3 side rails):** These chains are designed to fit over dual drive tires. A center rail between the dual tires gives extra strength and traction.

**Cable Chains:** These wrap around the tire, but are generally not used on commercial vehicles.

single



dual



# When Do You Need Tire Chains or Winter Tires?

If you plan to travel British Columbia roadways when wintry conditions are a possibility, you should carry chains and be prepared to install them if needed. When you come to a posted sign on the highway stating *“Use Winter Tires or Carry Chains Beyond this Point, October 1 - April 30”*, you must be ready to install chains or have proper winter tread tires before proceeding. Should you go beyond that point without the proper equipment, you may be subject to a fine.

If road conditions worsen, be sure to install your chains before you reach an uphill grade. Pay attention to whether approaching vehicles are using chains or having difficulty. If you have any doubts, chain up before proceeding.

When you encounter a sign or flashing amber lights with a message that indicates vehicles over a certain posted GVW must chain up, then carrying the chains is no longer sufficient. The tire chains **MUST** be installed at that point. Failure to do so may result in a fine or other enforcement action. Proceeding without the proper equipment installed could also cause you to lose control of your vehicle, endangering your own life and the lives of others.

## Which Chain Products have the Best Traction?

There are two rules that can serve as reliable guidelines when choosing tire chains:

- Chains with crosslinks that are equipped with V bars in the links generally provide more starting, stopping and cornering traction than those with straight crosslinks.
- Ladder-style link chains will generally perform better in deep snow (more than 8 in. or approximately 20 cm) than ladder-style cable chains.

Case-hardened steel chains are very good. The best of these chains have a tungsten tip, which is harder yet. Most good winter traction products have steel hoops or other features such as side tighteners that make them easier to install on the vehicle tires. Some tighteners also ensure chains remain properly fitted, eliminating the need to stop and retighten them. Links chains may break prematurely if you drive on twisted links, drive at speeds greater than 50 km/h for prolonged periods of time, drive for extended periods on bare pavement, or spin your tires excessively. When using linked chains, always inspect each chain before installation to remove any tangles or twists.

If a crosslink breaks during use, slowly come to a stop as soon as possible. Do not stop suddenly. Remove or replace the damaged link. Driving with a broken link can severely damage both your vehicle and the road. After use, always rinse your traction products and spray them with an all-purpose lubricant before storing them. This will help retard rust and ensure a longer product life.

**Familiarize yourself with installing your chains before they are needed.**

**Don't let your first attempt be at the bottom of an icy hill.**

## Which Wheels to Chain Up?

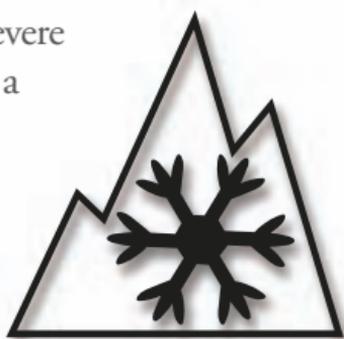
For uphill traction on a tandem drive power unit, chain up the front drive axles. On dual wheels, all tires on one drive axle should be chained. If possible, always use triple side rail chains. Vehicles with only double side rails may spin out in deep snow. Single chains are mostly effective for directional control (steer axles and trailer axles) in snow and ice conditions.

## ABS and ATC

Automatic Brake Systems (ABS anti-lock) and Automatic Traction Control (ATC) systems can improve traction. However, B.C.'s mountain grades and heavy snowfalls make tire chains a necessity, even with these systems.

## Winter Tires

Transport Canada recommends the use of a winter tire that has been rated for severe snow conditions. These tires have a pictograph of a mountain peak with snowflakes on the side. In section 208 (1) of B.C.'s Motor Vehicle Act there is a more specific definition of "winter tire."



## Studded Tires

Under the Motor Vehicle Act Regulations, tires with studs up to 3.5 mm high can be used between October 1 and April 30. The regulations limit tires to 130 studs each for vehicles weighing less than 4,600 kg, or 175 studs each for vehicles weighing more than that.

It's important to note you can only use studded tires on the front wheels if you're using them on rear wheels also (at least one studded tire per rear wheel). This restriction on using studded tires on the front doesn't apply to trucks that weigh more than 9,100 kg and can be equipped with snowplows.

## Driving with Traction Devices:

**Tire Spinning:** When your tires are spinning, you have no traction. When starting from a stop on slick roads, start slowly and accelerate gradually to maintain traction and avoid spinning.

**Locking Up Brakes:** To avoid locking up non-ABS brakes, begin braking early using a pumping action. Start much sooner than you would on dry pavement.

**Avoiding Quick Maneuvers:** Slow down and steer smoothly and gradually to prevent skidding.

## Tips for Surviving Winter Conditions:

- Always set your vehicle's parking brake before installing chains.
- Always pre-fit your chains to your vehicle before they are needed. While traction products are uniform in size, your tires are not—they vary in size by manufacturer, age, tread & type.
- Before beginning your trip, check the current road conditions and weather forecast for the areas you will be traveling.
- Be prepared for changing conditions. Keep a survival kit in your vehicle consisting of blankets, water, snacks, and warning devices.
- Be aware of potentially dangerous icy areas such as shady spots, bridges and overpasses. Approach these with caution — they are usually the first areas to become icy and often the ice is invisible, hence the term “black ice.”
- Snow and ice are most slippery when road surface temperatures are at the freezing point (0 degrees Celsius or 32 degrees Fahrenheit), or there has been a sharp fluctuation in temperatures, leading to ice formation.
- Keep a safe distance behind other vehicles.

For the areas you will be travelling, you may find the following on-line resources useful:

Provincial Highway Road Reports and Weather  
*Ministry of Transportation and Infrastructure*  
[www.DriveBC.ca](http://www.DriveBC.ca)

