Section XIII - Tire Chain Installation Guidelines

Overview

Part of any snow fighting effort is knowing when and when not to install tire chains and how to install them properly to get the most benefit. In this procedure, we will take you through the steps taken to install both front and rear chains, and provide guidance on the proper driving speed to get maximum life out of your tire chains. We will also discuss using automatic chains.

First, let's talk a little about safety. Improperly installing tire chains can damage your vehicle and may lead to an injury or incident. So it's important to follow proper procedures in the chain installation instructions.

In preparation of installing tire chains, make sure you have all necessary parts, proper chain size for the tire, rubber tire bands or bungee cord, and these instructions available to ensure proper installation.

Although there are several chain manufacturers out there, most chains will be installed in the same manner with the exception of cable chains, which will be discussed later.

Tire chains and cables are intended for use on snow packed and ice covered roads. It is strongly recommended that each chain or cable be fitted to the tire, prior to actual use to insure proper fit.

Tire sizes may vary due to age, manufacturer, tread and/or type of tire. When installing chains, ensure you have at least 3 inches of chain draped over each side of the tire from the edge of the tread toward the rim and each link catches the tire's outer groove.

Make sure you have the correct size chain for the tire and that there is enough clearance between the chain and the bodywork, suspension, and brake parts to avoid chain damage from loose chains.

The chains should be tightened as snug as possible with the smooth portion of the hooks against the tire.

Now that you have the basics, let's install the chains.

Installation

Before you get started, make sure you have everything you need and inspect the chains to ensure they are in good condition with no broke or missing links. If you are on the road and need to put the chains on, that is not the time to discover you have the wrong size chains or that they are damaged.

Step one:

Park the vehicle on firm level ground and turn off the engine. Set the parking brake. Lay the chains out flat on the ground, making sure there are no twists or tangles. Make sure the cross chain hooks are facing upward. Drape the chain over the tire, so that one cross chain is positioned at the point where the tire meets the ground.

Step two:

Make sure the cross chain hooks are facing upward. Hooks that face down (towards the tire) will cause damage to the tire.

Step three:

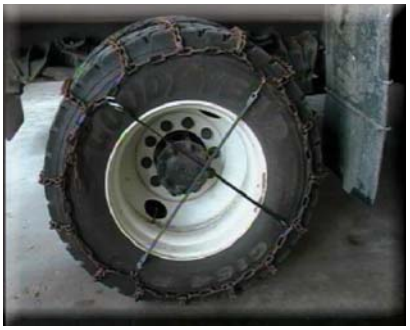
Drive forward a few feet, far enough so that one or two of the cross chains pass under the tire.

Step four:

Turn off the ignition and set the parking brake. Reach behind the tire and engage the inside connector making sure if is as tight as possible.

Step five:

Next, fasten the outside fastener; again, making sure if is as tight as possible. Drive a short distance about 3 to 5 feet then turn off the ignition and set the parking brake. Retighten all fasteners. For best results, make sure all connections are as tight as possible.



Step six:

If there is any excess chain at the connections, use wire or zip ties to secure excess to the chain. Install bungee cords from the 12 o'clock to 6 o'clock position and from the 9 o'clock to the 3 o'clock position to tighten the tire chain. The open side of the hooks must face away from the tire, as not to damage the truck frame or wheel wells. Repeat the above steps for the other rear tire.

Step seven:

Drive the vehicle about 50 feet and re-adjust tightness as necessary.

CAUTION: *If at anytime while you are driving you hear or feel the tire chains, stop the vehicle and inspect or adjust as necessary.*

Removal

To remove the chains, drive the vehicle off the highway or road to a safe, level area or parking lot. Turn off the engine and set the emergency brake. Unhook the chain tighteners and the outside fastener. Repeat the procedure on the inside fastener. Lay the chains on the ground and drive the vehicle off the chains. Inspect the chains for damaged or worn pads. After use, clean and spray the chains with an all-purpose lubricant such as WD-40.

CAUTION: *Chains will wear out with extended use. They can also break due to misfit, misapplication or misuse. If this should occur, stop immediately and remove the chain. If these cautions are ignored injury, vehicle damage, or both may occur.*

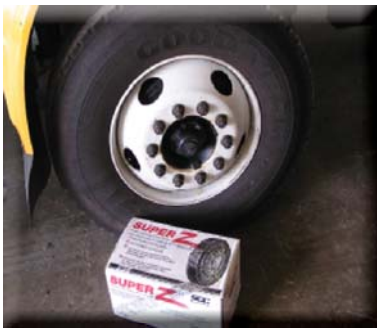
Heavy Duty Cable Chain

Front tire installation procedures

Important: Just like normal chains, cable chains should be fitted to the tire, prior to actual use to insure proper fit. Please ensure that the following steps are followed when installing cable chains.

The cable chain should drape at least 4 inches over each side of the tire, from the edge of the tread.

The round hook connector should be on the inside of the tire; the flat hook connector should be on the outside of the tire. The smooth portion of connectors and cross member hooks should be against the tire. (Marked “TIRE SIDE”.)



At the outer end fastener, the end hook should be connected to the second lug from the end of the side cable (if fitment allows), the first or end lug, is primarily intended to help during cable installation.

At least two rubber tensioners should be installed on each chain and hooked onto each of the seven side cable tightener hooks.

All rubber tighteners should be “seated” down into the side cable tightener hooks located on the side cable.

Installation

Step one:

Park vehicle on firm level ground, away from traffic and turn the engine off. Set the emergency brake. Unpack and separate each chain.

Step two:

Roll chain out on the ground with the tensioner hooks facing down; disconnect the outer side member middle split together at the keyhole hook and lug. The tightener hooks on the side cable must be on the outside of the tire (towards you).

Step three:

Positioned the chain with the middle split together meeting in the middle at the bottom where the tire meets the ground.

Step four:

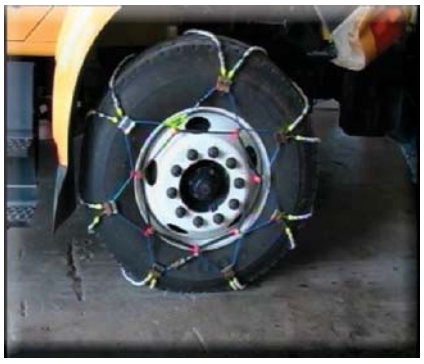
Connect the outer side member middle split together at the keyhole hook and lug, then drape the chain over the tire equally with the end fasteners towards the ground; again, ensuring the tensioner hooks are at the outside of the tire and that the smooth "tire side" of the eyelets will be in contact with the tire sidewall.

Step five:

At the inner sidewall connect the inside fastener.

Step six:

Install two rubber tighteners, always stretching the tightener from one hook to the next farthest from it. This will ensure that you don't run out of "slack" before securing all of the tightener hooks. Repeat these steps for the other tire.



Step seven:

Drive the vehicle about 50 feet and re-adjust cable tightness as necessary.

CAUTION: *If at anytime, while you are driving you hear or feel the tire chains, stop the vehicle and inspect or adjust as necessary.*

Removal

Drive the vehicle off the highway to safe level spot. Turn off the engine and set the parking brake. Remove the rubber tensioners from the side cable. Unhook the outside, inside, and middle fasteners. Pull the cable chain away from the vehicle.

Examine the chains for damage or worn parts. Dry off and spray with an all-purpose lubricant such as WD-40. Roll the chain up and place the chain and rubber tensioners back in the package.

Automatic Tire Chains

The Automatic Tire Chain System offers the traction of a single set of conventional snow chains at the touch of a button, without having to stop the vehicle.

An electric switch mounted in the cab provides 12 volts to an air solenoid mounted on the vehicle's frame rail. Compressed air to the solenoid is supplied from either the vehicle's onboard air system or a 12-volt compressor kit.

When the dashboard switch is activated (at or below 25 mph) the solenoid opens, allowing compressed air to enter the air cylinder and lower the chainwheel so it contacts the inside of the tire. The friction between the tire and the rubber-covered chainwheel causes the chainwheel to rotate, creating enough centrifugal force to flail the chains out in front of the tire.

Six lengths of chain spaced at 60-degree intervals on the chainwheel ensure that there are always two chains between the tire and road surface whether you are accelerating, braking, or are in a wheel lockup condition. The traction from the chainwheel is obtained in forward OR reverse.

When the dashboard switch is turned off, (at or below 35 mph) the solenoid exhausts the air provided to the chain units and return the springs in the air cylinders, bringing the chain wheels back to their resting position.

You should engage chains before reaching slippery conditions; the automatic tire chain system will assist with traction in forward, reverse, and in braking conditions. Avoid locking the wheels, as this may damage the system.

If you haven't engaged the automatic tire chain system before stopping on a slippery road, spin the tires up to 5 mph and engage the system. When you feel chains bite, stop spinning the wheels and drive slowly.

Remember:

- ✳ It is strongly recommend that the chains be fitted to the tire prior to actual use to insure proper fit. Tire sizes may vary because of age, manufacturer, tread or type

- ✳ During installation of the chain, ensure that the chain drapes at least 3 inches over each side of the tire from the edge of the tread.
- ✳ With chains installed, the vehicle will handle differently (for example, a longer braking distance on pavement without snow or ice). Adjust your driving to the changing conditions.

For maximum chain life:

- ✳ Avoid speeds over 30 mph and use on bare pavement. Chain links on cross members will fragment and cause cross members to break. Damage could occur to chains, tires and vehicles.
- ✳ Avoid spinning tires; start slowly, even in uphill conditions.
- ✳ Insure tensioners such as bungee cords are used at all times.
- ✳ Avoid locking the brakes; the best braking technique is a pumping action.
- ✳ If a cross member should break, stop and remove or replace it immediately.

After use, clean and spray the chains with an all-purpose lubricant such as WD-40.