

TIRE INFORMATION SERVICE BULLETIN

APPLICATION OF WINTER/SNOW TIRES AND STUDED WINTER/SNOW TIRES

Introduction

The beginning movement and acceleration of any vehicle in snow, ice, slush and similar cold weather conditions are highly dependent on the traction from the tires on the driving axle. The handling, cornering, and braking of a vehicle after it is in motion, especially in adverse weather conditions, are dependent on the traction from both the front and the rear tires. The rear tires of any vehicle must have comparable or higher traction capabilities than the front tires to maintain vehicle mobility and control. Winter driving is also dependent upon proper driving techniques. It is important to drive with care, not only on snow and ice, but also on dry and wet roads.

Note that while this bulletin is intended to outline general guidelines and considerations for winter/snow tire¹ replacement, it is not all-inclusive.

Winter/Snow Tire

It is always preferable to apply winter/snow tires to all wheel positions, including duals,² to maintain vehicle mobility and control. Never put non-radial winter/snow tires on the rear if radial tires are on the front.

If you sell and/or install winter/snow tires, follow the procedures listed below:

- If winter/snow tires are applied to the front axle of any vehicle, winter/snow tires must also be installed on the rear axle. DO NOT apply winter/snow tires only to the front axle as illustrated in Figure 1 (right). This applies to all passenger and light truck vehicles including front-wheel-drive, 4x4, and all-wheel-drive vehicles.
- If winter/snow tires are installed on the rear axle of any vehicle, it is recommended (but not required) that they also be installed on the front axle.



FIGURE 1

WARNING

Installing winter/snow tires only on the front axle may cause the vehicle to experience adverse handling characteristics. This may result in an accident, which could cause serious injury or death.

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- If a vehicle placard specifies speed-rated tires, winter/snow tires of equivalent or greater speed rating must be fitted if the speed capability of the vehicle is to be maintained. For cases where the winter/snow tires' speed rating cannot match the original equipment (OE) tire, it is generally acceptable to apply a winter/snow tire with a lower speed rating than the OE tire; however, the vehicle speed is to be restricted to that of the replacement tire. Refer to the vehicle owner's manual for specific recommendations and/or restrictions regarding winter/snow tires.
- Check local and state regulations about applications or usage of winter/snow tires.

Studded Winter/Snow Tires

Studded winter/snow tires have higher traction qualities under most winter weather conditions. If you sell and/or install studded winter/snow tires, follow the procedures listed below:

- If studded winter/snow tires are installed on the front axle of any vehicle, studded winter/snow tires must also be installed on the rear axle. DO NOT apply studded winter/snow tires only to the front axle as illustrated in Figure 2.
- If studded winter/snow tires are installed on the rear of any vehicle, it is strongly recommended that they should also be installed on the front. Only if studded winter/snow tires are installed on all wheel positions of a vehicle will optimum handling characteristics be achieved.
- Only new tires should be fitted with studs. Never insert studs in a used tire (even if only slightly used).
- Consult tire manufacturer for correct stud size.
- Check local and state regulations about restrictions on studded winter/snow tire application or use.



FIGURE 2

WARNING

Installing winter/snow tires only on the front axle may cause the vehicle to experience adverse handling characteristics. This may result in an accident, which could cause serious injury or death.

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¹ Refer to USTMA TISB Vol. 37 for the USTMA definition for passenger and light truck tires for use in severe snow conditions.

² For more information on dual applications, see the USTMA "Care and Service of Passenger and Light Truck Tires" manual.