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Tire Plus-sizing for Passenger and Light Truck Vehicles

Plus-sizing is an option that allows vehicle owners to customize their vehicle by installing lower aspect ratio tires on wider, and larger diameter rims. Plus-sizing enhances the look of the vehicle and may improve vehicle performance and handling.

The following are important tire related aspects that need to be considered in every plus-sizing action:

1. **Load Capacity –** must be equal to or greater than Original Equipment tire fitment.
2. **Inflation Pressure –** never use a tire inflation pressure lower than the Original Equipment specification. Maintain pressure relationship between the front and rear axle tires. See below for more detailed information if replacing Standard Load tires with Extra Load (Reinforced) tires.
3. **Speed Rating –** must be equal to or greater than Original Equipment tire fitment.
4. **Rolling Circumference –** The Original Equipment rolling circumference should be maintained as closely as possible.
5. **Tire and Rim combination –** only use industry approved tire size and rim width combinations.
6. **Body and Chassis Clearance -** ensure sufficient Body and Chassis clearance under all service conditions.

When replacing ZR speed rated tires or replacing with ZR speed rated tires, the following guidelines may not be valid. Please contact the local Continental Tire Customer Relations department for assistance.

Please note: The guidelines **are** valid for W and Y speed rated tires, even if ZR appears in the tire size designation.

1. Load Capacity:

Use a replacement tire with an equal or greater load carrying capacity compared to the original equipment tire.

Never select a tire with a lower load carrying capacity than the original equipment specification. Refer to the vehicle door placard or owner's manual for the load index specified for the original equipment tire. If those sources are not available, consult the vehicle manufacturer in order to obtain the information. Failure to follow this guideline may result in tire overload, and eventual tire failure.

The load index is a numerical code (e.g. 91) associated with the maximum tire load carrying capacity. It is located on the tire sidewall after the size designation (eg. P205/55R16 **91** W),

When selecting the plus size tire, refer to the appropriate product guide or technical data book for load carrying capabilities. Prior to mounting the tires to the vehicle, verify the technical data molded on the tire sidewall (e.g., load index and speed symbol).

2. Inflation Pressure:

Always ensure sufficient tire inflation pressure and never use tire inflation pressures below the original equipment manufacturer's recommendations.

Maintaining sufficient tire inflation pressure is critical for the correct performance and durability of the tire. Therefore it is essential that the correct tire inflation pressure is used. The recommended inflation pressure for the vehicle's original equipment tires is normally located on the door placard, inside the fuel filler flap, or in the owner's manual. Never use tire inflation pressures below the original equipment manufacturers recommendations even if the replacement tire has a higher load index.

Always maintain the relative tire inflation pressure difference between the front and rear axle tires as specified by the original equipment manufacturer for some vehicles. The tire pressure relationship between the axles must be maintained so that vehicle handling and stability is not adversely affected.

Incorrect tire inflation pressure may also cause rapid and/or irregular tire wear, reduced tire life, poor fuel economy, and eventual tire failure.

Never exceed the maximum tire inflation pressure as stated on the tire sidewall and/or in the applicable standards.

If replacing Standard Load (SL) tires with Extra Load (XL) tires, it is important to use tire inflation pressures that maintain the original equipment tire/vehicle characteristics. Use the following chart to determine the correct inflation pressure for Extra Load tires used to replace Standard Load tires.

Original Equipment Standard Load Tire	Plus sized Extra Load Replacement Tire	Change in inflation pressure compared to Original Equipment tire
SL Load Index	Same Load Index as OE SL tire	Increase 0.4 bar (6 psi)
SL Load Index	OE SL Load Index + 1	Increase 0.3 bar (4 psi)
SL Load Index	OE SL Load Index + 2	Increase 0.2 bar (3 psi)
SL Load Index	OE SL Load Index + 3	Increase 0.1 bar (2 psi)
SL Load Index	OE SL Load Index +4 or more	Same inflation pressure as Original Equipment

3. Speed Rating:

Use replacement tires with an equal or greater speed rating as the original equipment tires.

Speed ratings for tires are identified by means of a speed symbol. The speed symbol indicates the speed category at which the tire can carry a load corresponding to its load index. The speed symbol is located on the tire sidewall after the size designation (P205/55R16 91 **W**). It is a alphabetic code (e.g. W) associated with the maximum speed capability of a tire.

Prior to mounting the tires to the vehicle, verify the technical data molded on the tire sidewall (e.g., load index and speed symbol).

4. Rolling Circumference:

The Original Equipment rolling circumference should be maintained as closely as possible.

The rolling circumference of the original equipment tires is a critical aspect of the tire fitment. If the original equipment tires are replaced with tires that have a rolling circumference different from the OE fitment, it could affect items such as the speedometer calibration, anti-lock brake systems (ABS), stability control systems (ESP), etc. Under most circumstances a change within plus 1% to minus 1.5% does not require any adjustments to the above mentioned systems.

Alternative to the rolling circumference, the revolutions per mile or tire diameter information provided in a product guide or technical data book can be used to check the suitability of a tire size.

5. Tire and Rim Combinations:

Only use industry approved tire size and rim width combinations.

Consult the appropriate Passenger and Light Truck Product Guide/data book to determine the approved range of rim widths for a specific tire size. Using a rim that is not a proper fitment will affect vehicle handling, vehicle stabilty, tire wear, and tire durability. CTNA does not approve the use of any tire size – rim width combination outside of the applicable standards such as TRA, ETRTO or JATMA.

6. Body and Chassis Clearance:

Ensure sufficient body and chassis clearance under all service conditions.

If replacing with tires and/or wheels that differ from the original equipment specifications, all clearances between the tires/wheels and the vehicle's components need to be checked, including the full suspension travel for both front and rear applications and the full range of motion for the steer tires. Be sure to include clearance for tire growth and deflection under load and cornering conditions. If the replacement tires/wheels come in contact with any of the vehicle's components, both the components and replacement tires/wheels must be removed and examined for damage and possible replacement. This contact can cause damage to the tire or the vehicle which could lead to tire failure or vehicle damage.

Please Note:

The information provided within are general guidelines. Never assume you can simply substitute plus size tires or alter vehicle suspension without impact to the vehicle's dynamics. Vehicle modifications or alterations that deviate from the vehicle manufacturers original specification can adversely affect handling and stability.