



Tire Safety. **Everything rides on it.**

Protection against avoidable breakdowns and crashes. Improved vehicle handling. Better fuel economy. Increased tire life. Just a few of the reasons to take five minutes every month to check your tires. Simply use the handy checklist below, and see the reverse side for more information on tire safety.

Safety Checklist

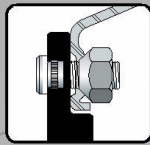
- ✓ Check tire pressure regularly (at least once a month), including the spare.
- ✓ Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma. Remove bits of glass and other foreign objects wedged in the tread.
- ✓ Make sure your tire valves have valve caps.
- ✓ Check tire pressure before going on a long trip.
- ✓ Do not overload your vehicle. Check the tire information placard or owner's manual for the maximum recommended load for the vehicle.
- ✓ If you are towing a trailer, remember that some of the weight of the loaded trailer is transferred to the towing vehicle.

Safety Tips

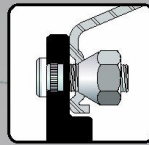
- Slow down if you have to go over a pothole or other object in the road.
- Do not run over curbs, and try not to strike the curb when parking.

**Remember to check your
tires once a month!**

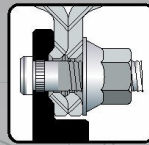




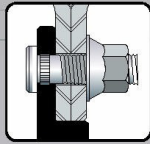
Stud Piloted Single w/ 60 Deg Cone Nut



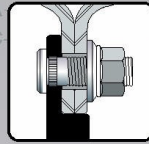
Stud Piloted Single w/ 90 Deg Cone Nut



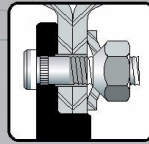
Stud Piloted Dual w/ 1 Piece Flange Nut



Hub Piloted Dual w/ 1 Piece Flange Nut



Hub Piloted Dual w/ 2 Piece Flange Nut



Hub Piloted Dual w/ Clamp Ring & 90 Deg Cone Nut



Stud Piloted Dual w/ 2 Piece Spherical Ball Seating Nut

Pilot Mount

A mounting method where the weight of the load is transferred from the axle to the wheel via the pilot. Common in steel wheels 16" in diameter and larger where there is a flat faced surface at the point where the nut mates to the wheel and the wheel mates to the hub. Typically uses either a clamping ring with a 90 degree nut, requiring less torque, or a flanged nut .625" or larger in thread diameter. The clamping ring method provides a coined surface to retain nut torque which is similar in method to a stud mount wheel. A flanged nut retains torque via the compression of the large outer flange. The measurement of the wheel pilot and the hub pilot is very closely matched so that the weight is transferred via the pilots and not the studs.

Torque Requirements

It is a necessary procedure to periodically check the torque levels of your wheel nuts. They must be maintained at the appropriate level to prevent loose or damaged wheels, potentially broken studs and to prevent wheel separation from the axle. **Caution: On new axle and wheel combinations it is critical that the proper torque procedures are followed. Initial torque can and will be reduced by factors such as wheel stud stretch or seating, lug nut to wheel surface seating and hub to wheel mating surface seating.**

Recommended Torque Values

BOLT PATTERN	WHEEL TYPE	THREAD SIZE	MOUNTING PILOT	NUT TYPE	TORQUE (FT. LBS)
5 on 4.5" to 5.5"	Single	.5"-20	Stud	60 Deg. Cone	80 - 90
6 on 5.5"	Single	.5"-20	Stud	60 Deg. Cone	80 - 90
8 on 6.5"	Single	.5"-20	Stud	60 Deg. Cone	80 - 90
8 on 6.5"	Single	.5625"-18	Stud	60 Deg. Cone	130 - 150
8 on 6.5"	Single	.5625"-18	Hub	90 Deg. Cone	175 - 200
8 on 6.5"	Single	.625"-18	Hub	90 Deg. Cone	175 - 200
8 on 6.5"	Dual	.5625"-18	Hub	Two Piece Flange	125 - 165
8 on 6.5"	Dual	.625"-18	Stud	One Piece Flange	275 - 325
8 on 6.5"	Dual	.625"-18	Hub	Two Piece Flange	130 - 170
8 on 6.5"	Dual	.625"-18	Hub	90 Deg. Cone w/ Clamp Ring	175 - 225
8 on 6.5"	Dual	M14x1.5	Hub	90 Deg. Cone w/ Clamp Ring	136 - 144
8 on 170mm	Dual	M14x2.0	Hub	Two Piece Flange	150 - 160
8 on 225mm	Dual	M14x2.0	Hub	Two Piece Flange	150 - 160
8 on 275mm	Dual	M20x1.5	Hub	Two Piece Flange	280 - 330
10 on 7.25"	Dual	.5625"-18	Hub	Two Piece Flange	125 - 165
10 on 7.25"	Dual	.625"-18	Hub	90 Deg. Cone w/ Clamp Ring	171 - 179
6 on 8.75" - 10 on 8.75" & 11.25"	Dual	.75"-16	Stud	.875" Spherical Radius Inner Ball Seat	450 - 500
6 on 8.75" - 10 on 8.75" & 11.25"	Dual	1.125"-16	Stud	.875" Spherical Radius Outer Ball Seat	450 - 500
8 on 275mm - 10 on 285.75mm & 335mm	Dual	M22x1.5	Hub	Two Piece Flange	450 - 500
Cast Spoke	Rim	.625"-11	N/A	Flat Nut	160 - 200
Cast Spoke	Rim	.75"-10	N/A	Flat Nut	200 - 260

Note: The above table is a generalization of basic values. Consult your wheel manufacture and axle manufacture for specific values.

TORQUE (Continued On Next Page)

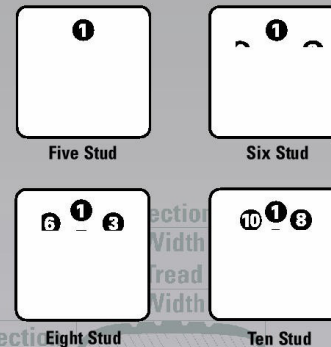
- SUSPENSIONS & COMPONENTS
- BRAKES & COMPONENTS
- TIRES & WHEELS**
- FENDERS & BODY
- JACKS & CRAWLERS
- BRAKE CONTROL SYSTEMS
- TOWING & ACCESSORIES
- HARDWARE & ACCESSORIES
- MARINE COMPONENTS
- PAINT & LUBRICANTS
- LIGHTS & ELECTRICAL

TORQUE (Continued)

Torque Procedure

1. After mounting a wheel over the studs, thread and snug the lug nuts on the studs by hand. This will reduce the possibility of cross threading.
2. Following the order of the "Torque Sequence" illustration for your particular bolt pattern, torque the lug nuts to 25 ft lbs.
3. Again, in sequential order, torque the lug nuts to 50% of their final torque value.
4. Finally, in sequential order, torque the lug nuts to 100% of their final torque value.
5. Re-torque after the first 25 miles, 50 miles, and again at 100 miles of use. Check periodically thereafter.

Note: "Torque Warning" decals are available. (See page E-20 & 21 warning decals.)



TIRE TERMINOLOGY

Size Identification

ST225/75R15

The **first letters** before the size designate the tires intended use.
ST = Special Trailer,
LT = Light Truck,
P = Passenger.

The **first number** is the section width of the tire in millimeters, measured from sidewall to sidewall. To convert to inches, divide by 25.4. In the example above, the width is 225mm or 8.86".

The **second number** is the aspect ratio. This is a ratio of sidewall height to width. In the example above, the tire is 8.86" wide, multiply that by the aspect ratio to find the height of one sidewall. In this case, 225 x 0.75 = 168.75mm or 8.86" x 0.75 = 6.65".

The **second letter** is the construction of the tire.
R = Radial, D = Bias Ply.

The **last number** is the diameter of the wheel in inches.

Width x Aspect Ratio = Section Height x 2 = Combined Section Height + Wheel Diameter = Tire Diameter

Load Range Identification

One of the most critical factors in choosing a trailer tire is the load range. While there is no industry-wide definition of load range, tires are frequently marked with ply rating and equivalent load range. These markings are used to identify the load and inflation limits of that particular tire, when used in a specific type of service. You can find the load range molded into the sidewall of every tire. For towing, look for C, D and E load ranges. Load ranges are based on specific inflation pressures. With a design for higher inflation pressures, the tire can carry more weight. Therefore, a load range C tire is at its peak load capacity when inflated to its maximum pressure of usually 50 psi. For a range D, normally you need to be inflated to 65 psi to handle the increased load capacity. Load range E tires commonly must be set at 80 psi. Caution: Never exceed the maximum rated pressure of any tire in attempt to increase its load carrying capacity.

Why "ST" Tires?

The physical requirements of (ST) trailer tires greatly differ from those of (P) passenger tires. Passenger tires are designed to maintain traction surface contact during all driving conditions: pulling, stopping, turning, or swerving. Because of this they are designed with more flexible sidewalls to maintain tread to road contact. Trailers have no driving torque applied to their axles, therefore the only time trailer tires must have traction is during the application of trailer brakes. Trailers also see heavier loads that typically have a higher center of gravity than an automobile. These conditions, along with inadequate tongue loads, and stiffer suspensions can cause swaying of the trailer. Trailer tires are designed with these conditions in mind and have stiffer sidewalls to help control and reduce sway. For this reason it is not recommended that (P) Passenger tires be used on trailers. Optimal trailer control will be achieved with (ST) Special Trailer tires.

Alpha Series Tire Conversion

ALPHA	METRIC
A78-13	ST155/80D13
B78-13	ST175/80D13
C78-13	ST185/80D13
E78-14	ST205/75D14
F78-14	ST215/75D14
G78-14	ST215/75D14
F78-15	ST205/75D15
H78-15	ST225/75D15

