

# Wheels

## Wheel Selection

Wheels are a very important and critical component of your running gear system. When specifying or replacing your trailer wheels it is important that the wheels, tires, and axle are properly matched. The following characteristics are extremely important and should be thoroughly checked when replacement wheels are considered.

1. **Bolt Circle.** Many bolt circle dimensions are available and some vary by so little that it might be possible to attach an improper wheel that does not match the axle hub. Be sure to match your wheel to the axle hub.
2. **Capacity.** Make sure that the wheels have enough load carrying capacity and pressure rating to match the maximum load of the tire and trailer.
3. **Offset.** This refers to the relationship of the center line of the tire to the hub face of the axle. Care should be taken to match any replacement wheel with the same offset wheel as originally equipped. Failure to match offset can result in reducing the load carrying capacity of your axle.
4. **Rim Contour.**



## CAUTION

**Replacement tires must meet the same specifications as the originals. Mismatched tires and rims may come apart with explosive force and cause personal injury to yourself or others. Mismatched tires and rims can also blow out and cause you to lose control and have an accident which can result in serious injury or death.**





## **CAUTION**

**Do not attempt to repair or modify a wheel. Even minor modifications can have a great effect. Do not install a tube to correct a leak through the rim. If the rim is cracked, the air pressure in the tube may cause the pieces of the rim to explode with great force and can cause serious injury or death.**

### ***Torque Requirements***

It is extremely important to apply and maintain proper wheel mounting torque on your trailer axle. Torque is a measure of the amount of tightening applied to a fastener (nut or bolt) and is expressed as length times force. For example, a force of 90 pounds applied at the end of a wrench one foot long will yield **90 Ft. Lbs.** of torque. Torque wrenches are the best method to assure the proper amount of torque is being applied to a fastener.

## **CAUTION**

**Wheel nuts or bolts must be tightened and maintained at the proper torque levels to prevent loose wheels, broken studs, and possible dangerous separation of wheels from your axle, which can lead to an accident, personal injuries or death.**

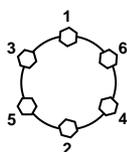
Be sure to use only the fasteners matched to the cone angle of your wheel (usually 60° or 90°.) The proper procedure for attaching your wheels is as follows:

1. Start all bolts or nuts by hand to prevent cross threading.
2. Tighten bolts or nuts in the following sequence.
3. The tightening of the fasteners should be done in stages. Following the recommended sequence, tighten fasteners per wheel torque requirements diagram.

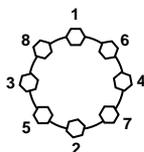
4. Wheel nuts/bolts should be torqued before first road use and after each wheel removal. Check and re-torque after the first 50 miles and again at 100 miles. Check periodically thereafter.

## Wheel Torque Sequence

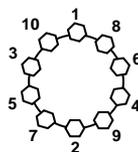
Description	Part No.	Application	Torque Min Ft-Lbs.	Torque Max Ft-Lbs.
5/8-18 90° Cone Nut	006-109-00	Clamp Ring 033-052-01	190	210 Greased Threads
3/4-10 Hex Nut	006-117-00	Demountable Rim Clamp	210	260
3/4-16 Spherical Nut	006-064-01, 02 006-069-01, 02	Single Wheel Inner Dual	450 450	500 500
1 1/8-16 Spherical Nut	006-070-01, 02	Outer Dual	450	500
5/8-18 Flange Nut	006-058-00	Wheels	275	325
M22-1.5	006-118-00	Swivelling Flangenut	450	500



**6 BOLT**



**8 BOLT**



**10 BOLT**





## Tires

Before mounting tires onto wheels, make certain that the rim size and contour is approved for the tire as shown in the Tire and Rim Association Yearbook or the tire manufacturers catalog. Also make sure the tire will carry the rated load. If the load is not equal on all tires due to trailer weight distribution, use the tire rated for the heaviest wheel position.

Use tire mounting procedures as outlined by the Rubber Manufacturers Association or the tire manufacturers.

Tire inflation pressure is the most important factor in tire life. Inflation pressure should be as recommended by the manufacturer for the load. Pressure should be checked cold before operation. Do not bleed air from tires when they are hot. Check inflation pressure weekly during use to insure the maximum tire life and tread wear. The following tire wear diagnostic chart will help you pinpoint the causes and solutions of tire wear problems.

### CAUTION

**Proper matching of the tire/wheel combination is essential to proper function of your trailer running gear. Some tires may call for a maximum inflation pressure above the rim or wheel capacity. DO NOT EXCEED MAXIMUM INFLATION PRESSURES FOR RIMS OR WHEELS. Catastrophic failure may result.**

## Tire Wear Diagnostic Chart

Wear Pattern		Cause	Action
	<b>Center Wear</b>	Over Inflation	Adjust pressure to particular load per tire catalog
	<b>Edge Wear</b>	Under Inflation	Adjust pressure to particular load per tire catalog
	<b>Side Wear</b>	Loss of camber or overloading	Make sure load doesn't exceed axle rating. Align at alignment shop.
	<b>Toe Wear</b>	Incorrect toe-in	Align at alignment shop.
	<b>Cupping</b>	Out-of-balance	Check bearing adjustment and balance tires.
	<b>Flat Spots</b>	Wheel lockup & tire skidding	Avoid sudden stops when possible and adjust brakes.

# CAUTION

Tire wear should be checked frequently. Once a wear pattern becomes firmly established in a tire it is difficult to stop, even if the underlying cause is corrected.

