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. 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 damaged wheel. Even minor modifications can cause a dangerous failure of the wheel and result in personal injury or death.

Torque Requirements

In June of 2004, Dexter ceased production of trailer wheels. If your vehicle is equipped with Dexter steel wheels manufactured before that date, the following wheel torque information will be applicable.

If your trailer is equipped with wheels produced by other manufacturers, you must consult with the vehicle manufacturer to determine the appropriate torque level for your wheels. However, you must not exceed the limits of the wheel mounting studs on the axles.

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 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:

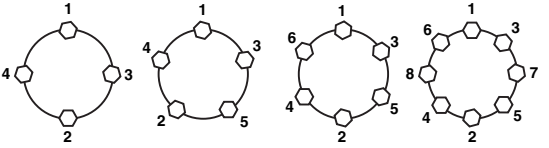
1. Start all bolts or nuts by hand to prevent cross threading.

2. Tighten bolts or nuts in the sequence shown for Wheel Torque Requirements.
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 10 miles, 25 miles, and again at 50 miles. Check periodically thereafter.

Wheel Torque Requirements

Wheel Installation Torque Sequence (Ft. Lbs.)

Wheel Size	Stud Size	1st Stage	2nd Stage	Final Torque	Cone Nut Degree
12" - 440 BC	½"-20	20-25	35-40	60-75	60° Cone Nut
12" - 545 BC	½"-20	20-25	35-40	60-75	60° Cone Nut
13" - 440 BC	½"-20	20-25	35-40	60-75	60° Cone Nut
13" - 545 BC	½"-20	20-25	35-40	60-75	60° Cone Nut
14" - 545 BC	½"-20	20-25	50-60	100-120	60° Cone Nut
15" - 545 BC	½"-20	20-25	50-60	100-120	60° Cone Nut
15" - 655 BC	½"-20	20-25	50-60	100-120	60° Cone Nut
16" - 655 BC	½"-20	20-25	50-60	100-120	60° Cone Nut
16" - 865 BC	9/16"-18	20-25	50-60	140-170	60° Cone Nut
16.5" - 655 BC	½"-20	20-25	50-60	100-120	60° Cone Nut
16.5" - 865 BC	9/16"-18	20-25	50-60	140-170	60° Cone Nut
16.5" x 9.75" 865 BC	⅝"-18	50-60	120-125	175-225	Special Stud Piloted With 90° Cone Nuts
17.5" Hub Pilot 865 BC	⅝"-18	50-60	100-120	190-210	Hub Piloted With Clamp Ring. 90° Cone Nuts & Greased Threads
17.5" Hub Pilot 865 BC	⅝"-18	50-60	90-200	275-325	Hub Piloted With Flange Nut
17.5" Hub Pilot 865 BC	⅝"-18	50-60	60-110	150-175	Hub Piloted With Swivel Flange Nut



4 BOLT 5 BOLT 6 BOLT 8 BOLT

Maximum Wheel Fastener Torque

The wheel mounting studs used on Dexter axles conform to the SAE standards for grade 8. The maximum torque level that can be safely applied to these studs is listed in the following chart:

Stud Size	Maximum Torque
½"-20 UNF, class 2A	120 Ft. Lbs.
9⁄16"-18 UNF, class 2A	170 Ft. Lbs.
5⁄8"-18 UNF, class 2A	325 Ft. Lbs.

⚠ CAUTION

Exceeding the above listed torque limits can damage studs and/or nuts and lead to eventual fractures and dangerous wheel separation.

CAUTION

Dexter's patented Torq-N-Go™ swiveling wheel nut generates significantly more clamp load than standard wheel nuts. Do not exceed the specified torque or the wheel and/or stud may be damaged. Special caution should be observed with steel wheels. Some steel center discs may not be able to withstand the Torq-N-Go™ wheel nuts' specified operating torque. It is the responsibility of the trailer manufacturer to assure that its' wheels are compatible with this wheel nut.

Tires

Before mounting tires onto the 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.

Note: The capacity rating molded into the sidewall of the tire is not always the proper rating for the tire if used in a trailer application. Use the following guidelines:

1. LT and ST tires. Use the capacity rating molded into the tire.
2. Passenger Car Tires. Use the capacity rating molded into the tire sidewall **divided by 1.10** for trailer use.

Use tire mounting procedures as outlined by the Rubber Manufacturer's 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 ensure 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
	**Center Wear**	Over Inflation	Adjust pressure to particular load per tire catalog
	**Edge Wear**	Under Inflation	Adjust pressure to particular load per tire catalog
	**Side Wear**	Loss of camber or overloading	Make sure load doesn't exceed axle rating. Align at alignment shop
	**Toe Wear**	Incorrect toe-in	Align at alignment shop
	**Cupping**	Out-of-balance	Check bearing adjustment and balance tires
	**Flat Spots**	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.