

Glossary of Caster Terms

Glossary of Caster Terms

Listed and defined below are common terms used to describe and specify casters and wheels. This information is offered for your convenience.

Durometer – Scale for measuring the hardness of a wheel material.

Load Capacity – The load a caster wheel will hold.

Overall Height – The total vertical distance from the floor to the top of the mounting plate, or the base of the stem of the caster.

Raceway – A channel that consists of one or two rows of ball bearings or rollers, which allows a caster to swivel.

Retaining Washer – A washer pressed into the hub ends to retain the bearings. A sealed version of this washer

keeps grease in and debris out of the bearings.

Rig – A caster without a wheel and axle.

Rollability – The ease of starting and maintaining rolling motion. Rollability is determined by many factors like, durometer of the wheel, floor conditions and surfaces, load, and size of wheel bearings.

Swivel Lead – The distance between the centerline of the kingpin and the centerline of the axle of a swivel caster. The larger the offset, the easier swiveling, but the smaller offset offers greater strength.

Swivel Radius – The horizontal distance from the center of the Kingpin to the edge of the tread of the wheel.

Tread Width – Width of the wheel tread.

Wheel Diameter – The distance of the wheel measured vertically from one side of the tread to the other.

Tapered Bearing Adjustment/Installation

Tapered Bearing Adjustment

In order to ensure correct adjustment, the tapered bearings are required to have “zero end play” at all times. The procedure to accomplish this in a caster is as follows:

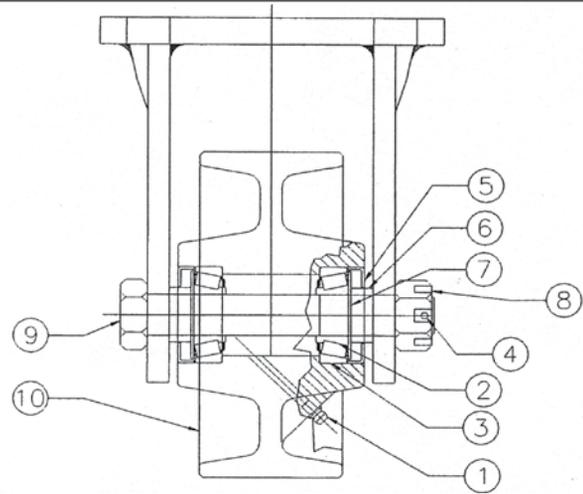
- Check that each spacer is positioned in the correct place, through the seal and up against the face of each bearing.
- Install the wheel into the rig.
- Install the axel through the legs, spacers and bearings.
- Assemble the slotted nut on the end of the axle and tighten with a wrench until the wheel has sufficient drag to stop the wheel from rotating at all when released from your hand while trying to spin the wheel. This will seat the tapered bearing cones into the cups.
- Back the nut off approximately a quarter of a turn to locate the cross drilled hole in the axle and one of the slots in the nut.*
- Spin the wheel. When released from your hand, the wheel should turn approximately one half of a rotation.
- Install the roll pin.*

The bearings should be checked for the correct adjustment and to assure they are properly lubricated every 500 hours of service or as frequently as possible afterwards.

*Some casters maybe assembled with a Flexloc nut, this product has a locking feature that allows infinite adjustment without using a roll pin to secure the nut.

Tapered Roller Bearing Installation

1. Install the cup(3) into the wheel bore. The cup (3) must be fully seated against the step in the bore. Make sure the taper of the cup (3) is in the proper orientation.
2. Install the cone (2) into the cup (3). This is a loose fit.
3. Install the flinger washer (7) on top of the cone (2).



4. Install the closure (5) over the flinger washer (7). Make sure to fully seat the closure (5) around flinger washer (7) and cup (3).
5. Repeat above procedure for the opposite side.
6. Install the wheel (10) into the caster.
7. Place a spacer (6) between the closure (5) and the caster leg on each side.
8. Slide the axle (9) through the caster legs and wheel assembly (10).
9. Install a castle nut (8) and tighten until the wheel (10) will not spin. this will seat the bearings into the bore.
10. Loosen the castle nut (8) until the wheel (10) is free spinning.
11. Tighten the castle nut (8) until the wheel (10) begins to drag.
12. Align the slots in the castle nut (8) with the cross holes in the axle (9) by tightening or loosening the castle nut (8). If tightening, the wheel (10) must be able to spin somewhat freely. If loosening, the wheel (10) cannot have any end play. The bearing should have some pre-load. Install cotter pin or roll pin (4) through the slotted nut (8) and axle (9).
13. Lubricate bearings through the grease zerk (1) using Shell Alvania Grease 2 or equivalent.