Manual Wheel Bearing Adjustment Procedures

The goal of this recommended procedure is to achieve a verifiable wheel bearing end play of 0.001" to 0.005" (0.025 mm to 0.127 mm). This procedure applies to steer, drive and trailer axle assemblies using conventional double nut or single nut systems on Class 6, 7 and 8 trucks. This refers only to torque specifications and bearing adjustment. Please refer to the original equipment manufacturer’s recommended procedures for complete installation details.

NOTE: For single nut self-locking systems, consult manufacturers’ instructions. If you have a system that differs from what is indicated in this procedure, consult the vehicle manufacturer’s recommended procedure.

### Tapered Roller Bearing Adjustment Procedure RP 618A

#### Initial Adjusting

- **Step 1:** Lubricate the tapered roller bearing with clean axle lubricant of the same type used in the axle sump or hub assembly.
- **Step 2:** While rotating the wheel, install the inner spindle nut and torque to a minimum of 300 ft-lbs.
- **Step 3:** Install Cotter Pin to Lock Axle Nut in Position
- **Step 4:** Install Cotter Pin to Lock Axle Nut in Position

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<thead>
<tr>
<th>Step 1</th>
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<td>Nut Torque</td>
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**WARNING**:

- If dowel pin and washer (or washer tang and nut flat) are not aligned, remove the washer, turn it over and reinstall. If required, loosen the inner (adjusting) nut just enough for alignment.
- Bendable type washer lock only: Secure nuts by bending one wheel nut washer tang over the inner and outer nut. Bend the tangs over the closest flat perpendicular to the tang.

Pre-Adjusted Wheel Bearing Adjustment Procedures

NOTE: This refers only to torque specifications and bearing adjustment. Please refer to the original equipment manufacturer’s recommended procedures for complete installation details.

1) Mount the hub assembly onto the axle spindle, while holding the outer cone in place. Make sure the bearing cones, spacer and spindle are aligned to avoid seal damage.
2) Install the inner spindle nut and torque to 300 ft-lbs. Do not back off the spindle nut.
3) Engage the locking device that is part of the spindle nut system. If the locking system cannot be engaged when the nut is at 300 ft-lbs, advance the nut until the locking system can be engaged (reference note above). For a double nut or jam nut system, bend the lock tab or install the set screw after the outer nut is torqued to 200 ft-lbs. For one-piece spindle nut systems, torque the nut to a minimum of 300 ft-lbs. Do not back off the spindle nut. Engage any locking device that is part of the spindle nut system. If the locking device cannot be engaged when the nut is at 300 ft-lbs, advance the nut until engagement takes place and the nut is locked.

### Pre-Adjusted Wheel Bearing Adjustment Procedures

#### Acceptable End Play

- **0.001" - 0.005" (0.025 - 0.127 mm) As Measured Per Procedure With Dial Indicator**

#### Initial Adjusting Wheel Bearing Adjustment Procedures

- Make sure the brake drum-to-hub fasteners are tightened to the manufacturer’s specifications.
- Verify end play with a dial indicator. Wheel end play is the free movement of the tire and wheel assembly along the spindle axis.
- **a)** Grasp the wheel assembly at the 3 o’clock and 9 o’clock positions. Push the wheel assembly in and out while oscillating it to seat the bearings. Read the bearing end play as the total indicator movement.
- **b)** Attach the dial indicator with its magnetic base to the hub or brake drum.
- **c)** Adjust the dial indicator so that its plunger or pointer is against the end of the spindle with its line of action approximately parallel to the axis of the spindle.
- **d)** Grasp the wheel assembly at the 3 o’clock and 9 o’clock positions. Push the wheel assembly in and out while oscillating it to seat the bearings. Read the bearing end play as the total indicator movement.

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