Nut Torquing and Back-Off to Set Wheel Bearings

Follow this six-step procedure for adjusting wheel bearings to meet correct end play specifications.

1. While oscillating the wheel, torque the adjusting nut to 200 lbf-ft to fully seat the bearing components.
2. Back off the adjusting nut one full turn or until it is loose.
3. To establish end play, torque the adjusting nut to 50 lbf-ft while rotating the wheel hub assembly.
4. Back off the inner (adjusting) nut the amount indicated in the chart below.
5. On a single-nut system, install a cotter pin. On a double-nut system, install a jam nut and torque it to the proper specification indicated in the chart below.
6. Use a dial indicator to verify end play (free movement) of the tire and wheel assembly along the spindle axis.

<table>
<tr><th colspan="3">Adjusting Nut Back Off</th><th colspan="2">Jam Nut Torque</th></tr>
<tr><th>Axle Type</th><th>Threads Per Inch</th><th>Final Back off</th><th>Nut Size</th><th>Torque Specifications</th></tr>
<tr><td rowspan="4">Steer (Front)
Non-Drive</td><td>12</td><td>1/6 Turn</td><td colspan="2" rowspan="2">Install Cotter Pin to Lock
Axle Nut in Position</td></tr>
<tr><td>18</td><td>1/4 Turn</td></tr>
<tr><td>14</td><td rowspan="2">1/2 Turn</td><td rowspan="2">Less Than
2-5/8” (66.7 mm)</td><td rowspan="2">200-300 lbf-ft
(271-407 N-m)</td></tr>
<tr><td>18</td></tr>
<tr><td rowspan="2">Drive</td><td>12</td><td rowspan="2">1/4 Turn</td><td>Dowel Type Washer</td><td>300-400 lbf-ft
Drive (407-542 N-m)</td></tr>
<tr><td>16</td><td>Tang Type Washer</td><td>200-275 lbf-ft
(271-373 N-m)</td></tr>
<tr><td>Trailer</td><td>12</td><td>1/4 Turn</td><td>2-5/8” (66.7 mm
and over)</td><td>300-400 lbf-ft
(407-542 N-m)</td></tr>
</table>

Skill Level: Easy | Special Tools: Torque Wrench, End-Play Gauge

TIMKEN

Visit timken.com/techseries
to enroll in free technical training.

Get more TechTips online at
www.timken.com/techtips

⚠WARNING
Failure to observe the following warnings could create a risk of death or serious injury.

Never spin a bearing with compressed air. The components may be forcefully expelled.

Proper maintenance and handling practices are critical. Always follow installation instructions and maintain proper lubrication.

A bearing/component should not be put into service if its shelf life has been exceeded.

CAUTION
Failure to follow these cautions may result in property damage

Use of improper bearing fits may cause damage to equipment.

Do not use damaged bearings.

TechTips is not intended to substitute for the specific recommendations of your equipment suppliers.

Every reasonable effort has been made to ensure the accuracy of the information contained in this writing, but no liability is accepted for errors, omissions or for any other reason.

TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets high-performance mechanical components, including bearings, gears, belts, chain and related mechanical power transmission products and services.

www.timken.com/aftermarket

Stronger. **Commitment.** Stronger. **Value.** Stronger. **Worldwide.** Stronger. **Together.** | **Stronger.** By Design.

02-16: 29 Order No. 10835 | Timken® is a registered trademark of The Timken Company. | © 2016 The Timken Company | Printed in U.S.A.