

Monitoring Wheel-End Setting In Adjustable Wheel Bearing Systems

Maintain proper bearing setting to maximize bearing, seal and tire life. For adjustable wheel bearing systems, Timken recommends following the *Technology & Maintenance Council (TMC) Recommended Practice (RP) 618*.

When adjusted properly, wheel end settings should not change significantly during early operation. Over time, wear causes small changes, which worsen with poor cleanliness and improper maintenance practices. For proper wheel end cleaning and maintenance procedures, refer to *TMC RP 622*. Follow the axle manufacturer's guidelines for wheel bearing service intervals.

Timken Recommends Performing Step 8 of *TMC RP 618 (Verifying Wheel Endplay Setting) When Any Wheel End:*

- Maintenance is performed
- Component appears worn or stained
- Component is inspected or replaced

This Includes (But is Not Limited to):

- Brake jobs
- Tire changes

- Lubrication changes or checks
- Removal of the hub cap or end cap
- Maintenance or replacement of S-cams or bushings
- When abnormal tire wear occurs
- When wheel seal leakage occurs

If there is a questionable increase in mounted end play (internal axial clearance), conduct a thorough investigation of the wheel end system. Figures 1 and 2 show damage caused by excessive end play on bearing components.

After completing the adjustment procedure, use a dial indicator (Fig. 3) to verify wheel bearing setting. A dial indicator measures wheel bearing end play after the adjustment procedure is complete. The correct end play range is 0.001 in. to 0.005 in. per "TMC RP 618".

Note: The two other main types of wheel bearing systems are pre-adjusted and unitized. Unitized systems are non-serviceable. A

pre-adjusted wheel end assembly can be serviced. Always refer to the manufacturer's service recommendations for specific service instructions.



Fig. 1 - Outer race (cup) scalloping; uneven localized wear resulting from excessive end play.



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

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

Safety Check

For your safety and the safety of everyone on the road. Always follow recommended wheel-end inspection and maintenance guidelines.

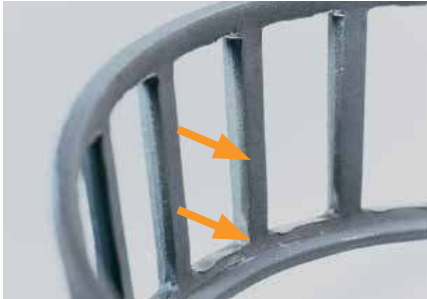


Fig. 2 – Cage pocket wear: heavy contact between the rollers and cage pocket surfaces caused by bearing operating too loosely.



Fig. 3 – A typical end play gauge.

⚠ 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.**