TIMKEN



# Engineered Bearings for Commercial Vehicles

## Maximize vehicle performance and uptime with Timken® roller bearings

For commercial vehicle fleets and manufacturers, the success of your operation depends on reliable equipment and the components that keep them moving.

We work with the world's leading OEMs to engineer power-dense, fuel efficient bearing solutions that help enhance reliability and performance – delivering fleets a lower lifetime cost of ownership.

Our line of solutions for commercial vehicle axle centers and wheel ends includes tapered roller bearings, custom engineered for the demands of fuel efficiency, power density and long term reliability. Whether you're sourcing inch or metric bearings, you can find it – with the modifications you need – from Timken.

## Timken Advantages

- **Technical support.** Gain bearing solutions that are engineered to your operating conditions. Our application engineers can help you in selecting the right bearing for your application. During system design, planning and bearing installation, Timken Engineers assist OEM customers to help ensure accurate setting.
- **Performance.** We have decades experience designing fuel-efficient, power-dense bearings – and a tradition of technical problem solving and engineering innovation for the world's most demanding applications.
- **Quality.** With Timken, you can expect products that are tested, proven and globally consistent. Our bearings are held to the same quality and engineering standards – no matter where in the world they are manufactured.

## Gain Solutions That:

**Extend bearing life.**

Timken tapered roller bearings have enhanced internal geometries to distribute load and minimize bearing stresses, increasing bearing load ratings in a power-dense package.

**Reduce misalignment.**

Timken bearings are manufactured with tight tolerances, helping install your bearings consistently while reducing wear.

**Improve fuel efficiency.**

Timken fuel-efficient bearings operate with lower torque, generating less heat resulting in longer lubrication life, helping your system perform consistently.*

**Simplify installation.**

With tighter tolerances, Timken tapered roller bearings are designed to help ease bearing assembly into the application. We offer automated setting procedures to reduce bearing installation time and effort.

**Compared to standard bearings that lack fuel-efficient geometries.*

# An Ideal Fit for Commercial Vehicle Applications

## Axle Centers

| Application Conditions | Damage Mode | Timken Solution | Use Advantages |
|---|---|---|---|
| Fuel efficiency | Increased operating costs | Timken® tapered roller bearings  | Reduces heat and torque, resulting in increased fuel efficiency |
| High loads | Peeling, spalling and fatigue | | Enhanced internal geometry increases load ratings to carry heavier loads |
| Lower viscosity lubricants | Peeling and spalling | | Improved surface finishes increase lubricant film and enhance bearing life |
| High misalignment | Spalling | | Enhanced internal geometries minimize bearing stresses and reduce torque and heat |
| Variable operational speeds | Spalling | Optimized cages with added thickness  | Strengthen cage and bearing performance |
| Gear alignment and wear | Reduced gear life | Timken® tapered roller bearings  | Tight tolerances help set your bearings consistently and reduce gear wear |
| Correct bearing setting | Reduced gear and bearing life | | • Tighter tolerances ease bearing assembly<br>• Automated setting procedures reduce installation time and effort |

## Wheel Ends

| Application Conditions | Damage Mode | Timken Solution | Use Advantages |
|---|---|---|---|
| Heavy loads | System deflection and spalling | Timken® tapered roller bearings  | Enhanced internal geometries and race profiles distribute load and minimize bearing stresses |
| High misalignment | System deflection and spalling | | Specially engineered raceway profiles and surface finishes accommodate increased wheel outsets |
| Non-standard load distribution between inner and outer rows | System deflection and spalling | Timken® 454-Series™ tapered roller bearings  | Specially engineered raceway profiles and surface finishes accommodate increased wheel outsets |
| Ease of setting | Reduced bearing and seal life | Timken® tapered roller bearings  | Tighter width tolerances ease bearing assembly of Set-Right® wheel ends |

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The Timken Company partners with customers to design and manufacture advanced motion technology systems and components for critical end markets including aerospace and defense, power and electrification, and automation and industrial solutions. With more than 125 years of specialized engineering expertise, we power performance across the application lifecycle.

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