Timken Bearings

Timken Bearings——-Keeping the World in Motion
The Timken Company engineers and manufactures bearings and mechanical power transmission components including gear drives, couplings, belts and chain. We also offer a spectrum of industrial services including bearing repair and powertrain rebuild. As the leading authority on tapered roller bearings, we apply our deep knowledge of metallurgy, tribology and mechanical systems to improve the reliability and efficiency of equipment, machinery and

employees operating from 31 countries, our associates and our products keep industry in motion and make the world more productive. Our commitment to shareholders is reflected in our disciplined approach to capital allocation. Our priorities are to invest in our core business, grow our dividend with earnings, pursue acquisitions that add strategic value and generate solid returns, and return capital to shareholders through share buyback. The goal: To build the Timken bearing and power transmission global brand while generating high returns on invested capital for our investors. Timken stands behind its products and the customers it serves.Whether training a team of maintenance personnel on proper bearing installation in the Powder River Basin area of Wyoming or providing application engineering assistance from our technology center in Bangalore, India,Timken friction management knowledge and expertise spans the globe,supporting major industries. Providing bearing damage analysis not only demonstrates our commitment to friction management,it is also one of Timken’s core competencies.More than 100 years of expertise in material science and tribology—along with our long history of being a quality steel manufacturer — makes Timken uniquely qualified.Our sales and service vehicles worldwide. With more than 14,000
teams are trained to both assess bearing damage issues on site,as well as work with customers to offer preventive maintenance techniques to improve performance. The purpose of this guide is to help maintenance and operations personnel identify some of the more common types of bearing damage,possible causes and corrective actions.In many cases, the bearing damage may be due to a combination of causes.The guide also contains useful bearing references and lubrication guidelines. For more information on bearing damage analysis, contact your Timken sales or service representative,
For an accurate and complete analysis, the following steps should be taken when investigating bearing and system failures.
1. Obtain operating data from bearing monitoring devices;analyze service and maintenance records and charts; and secure application diagrams, graphics or blueprints.
2. Extract used lubricant samples from bearings,housing and seal areas to determine lubricant conditions. Package separately and label properly.
3. Secure new lubricant sample (1 lb.), label and package.Obtain specification and MSDS sheets and other documentation.
4. Check bearing environment for external influences,including equipment problems.
5. Take photos of bearings in the “as-found,”mounted condition.
6. Assess all bearings in mounted conditions.
7. Assess any gears,seals,pulleys/ sheaves,etc.
8. Mark the position of the bearings in their mounted states.
9. Remove bearings and surrounding components.Package separately and label properly.

10.Check and verify bearing seats for size,roundness,taper,etc.
11.Examine and assess damage of all bearings and bearing parts.Use 5X-20X magnification.
12.Record all bearing damage using proper nomenclature.
13.Analyze load zones,roller paths and operating clearance.
14.For assistance with a bearing damage analysis,contact Timken's Service Engineers.
TAPERED ROLLER BEARINGS
Overview: Timken offers the most extensive line of tapered roller bearings in the world. Tapered roller bearings consist of four interdependent components: the cone (inner ring), the cup (outer ring), the tapered rollers (rolling elements) and the cage (roller retainer). Tapered bearings are uniquely designed to manage both thrust and radial loads on rotating shafts. The steeper the cup angle, the greater the ability of the bearing to handle thrust loads.
• Sizes: 8 mm (0.31496 in.) bore to 2222.5 mm (87.5 in.) outside diameter (O.D.). • Markets: Automotive, industrial, rail, rolling mills, crane wheels, sheaves. • Features: Available in single-, double- and four-row configurations. Customized surface geometries and coatings are available. • Benefits: Enhanced performance in demanding applications.
GROW STRONGER WITH TIMKEN
Every day, people around the world count on the strength of Timken. Our expertise in metallurgy, friction management and mechanical power transmission helps them accelerate improvements in productivity and uptime.
We supply products and services that can help keep your operations moving forward, whether you need drive train kits for commercial vehicles, durable housings for bearings in dirty environments, couplings that avoid metal-to-metal contact between motors and gearboxes, repair services for bearings and gearboxes, roller chain for dry, abrasive and high-moisture applications, steel for an aircraft engine shaft, or other products or services for your

When you choose Timken, you receive more than high-quality products and services: you gain a worldwide team of highly trained and experienced Timken people committed to working collaboratively with you to improve your business.
Globally, our 20,000 people provide reliable answers for a wide range of operations in manufacturing, mining, medical equipment, aerospace, transportation, oil and gas – and other diverse industries.
PRODUCTS AND SERvICES We offer equipment builders and operators one of the most extensive friction-management product and service portfolios in the industry.
bearings We provide a broad range of bearing designs and configurations for use in steelmaking vessels, caster segments, work rolls, backup rolls, screwdown systems, mill drives, pinion stands, coilers, table rolls, and auxiliary equipment. Bearing types include: • Tapered roller bearings – Tapered roller bearings are uniquely designed to manage both thrust and radial loads and are available in single- and multi-row designs with a wide range of assembly options. Our extensive offering of tapered roller bearing combinations offers equipment builders and operators simple, reliable and less costly design solutions. • cylindrical roller bearings –This design generally offers the highest possible radial load capacity for a given size compared to other roller bearing types. One row and two row cylindrical roller bearings are ideal for many mill stand, gear drive and other auxiliary equipment applications, while four row cylindrical roller bearings are used in roll neck applications. Timken offers both single and multi-row cylindrical roller bearing. Custom designs are available upon request for specific applications. • spherical roller bearings – Spherical roller bearings offer high radial and moderate thrust capacity together

with maximum static and dynamic misalignment capability. Timken spherical roller bearings provide high-static load capacity and advanced geometry that reduces friction and heat generation. These bearings are available in a range of dimensionally stabilized configurations to suit elevated operating temperatures.
• Thrust roller bearings – Thrust roller bearings for rolling mill applications are available in cylindrical, spherical and tapered designs. Thrust bearings are ideal for applications experiencing heavy axial loads, such as mill stands, screwdown systems and piercing mills. • ball bearings – Ball bearings are used extensively in auxiliary applications that have light loads and/or high speed conditions. Timken offers a range of radial, thrust and angular-contact ball bearings in both metric and inch sizes. Please contact your Timken engineer for detailed information on these product ranges. • housed units – Timken® spherical roller bearing solidblock housed units possess a unique cast-steel design that handles demanding conditions in metal industry applications. These solid-block housed units come in several styles and five advanced locking configurations. Timken spherical roller bearing solid-block housed units are designed for challenging circumstances. A full line of primary seals, covers and housings is available to find the right roller housed unit to fit your application. In case of high thrust loads, in excess of the spherical roller bearing carrying capabilities, the Timken® Type E is your solution. Timken also provides a broad range of split-block housings in both metric and inch sizes

At Boya

We not only provide industry-leading products, but also the best support in the industry.

Our sales support organization is dedicated to providing our customers and distributors with the information they need.

Please use the form below to submit your request, questions or comments.

We look forward to hearing from you and an Boya representative will contact you

Within 30 minutes.
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