



How the big guys roll.



The OEMs' choice for reliability.

If you know heavy mining equipment, you already know NTN. We've been a top OEM supplier to the industry for five decades running. And along the way, our NTN- and Bower-branded products have become the global standard for custom-designed bearings in mining trucks and excavators. NTN's newest innovations build on this legacy by taking performance to new heights—delivering the quietest, coolest and highest-capacity bearings in the market.

NTN is the OEMs' bearing of choice for mining truck final drives.



NTN's spherical plain bearings survive in the most punishing hydraulic cylinder applications.





Engineered for the extremes.

Nothing punishes bearings quite like surface mining equipment. The extreme loads, grit, vibration and shocks require specialized bearing designs that can reduce the risk of unplanned failure, extend your service intervals and improve in-operation performance.

NTN is at the forefront of bearing innovation, applying our deep industry knowledge to design and engineer solutions that make a real difference to your operation's productivity—while reducing your overall equipment lifecycle costs.

TAKING ON THE BIGGEST BEARING KILLERS

- **CONTAMINATION**
- **SHOCK LOADS**
- **LUBRICATION FAILURE**

In surface mining, constant abrasion breaks down seals and leads to gross contamination. Heavy loading and contamination accelerate time to failure. Lubrication issues lead to premature wear and breakdown.

NTN bearings are engineered to help you take these challenges in stride.

Wherever you find the biggest machines in mining, you'll find bearings engineered by NTN.

Innovative **NTN ULTAGE®** Faster. Cooler. Stronger. Better.

NTN engineers never stop pushing the boundaries of performance. Case in point: Our new-generation ULTAGE® series—addressing end users' needs for maximum possible output and durability in the most severe applications. These large-bore taper, cylindrical and spherical bearings are built to withstand the environmental risks that heavy-duty surface mining equipment demands.

Delivering the ultimate in performance, NTN ULTAGE® combines special alloys capable of 200°C continuous ambient temperatures with an optimized roller complement and retainer design—enabling the highest load capacity and allowable speed for a given bearing type and size.

NTN has been a preferred bearing supplier to global dragline operators for over 25 years.



You'll find NTN-engineered bearings inside everything from giant haulers to draglines, electric rope shovels to drills, pulverizers, conveyors and beyond. That's because our OEM partners can count on us to engineer more long-lasting reliability and durability into their critical surface mining equipment—so that you can achieve greater throughput, less unplanned downtime and easier preventative maintenance.



ULTAGE® cylindrical roller bearings allow for longer service life, higher load capacity and higher rotational speed.



ULTAGE® large tapered roller bearings provide higher load capacity and speed, and longer service life through an optimized internal design and roller crowning.



ULTAGE® spherical roller bearings deliver up to 40% higher capacity, lower operating temperatures and corresponding higher operating speeds.



For all the toughest loads.

NTN offers both customized and standard solutions to provide you with the exact product for every application. So whether it's a specially designed tapered roller bearing for a mining truck wheel, or a standard deep-groove ball bearing for an electric motor, NTN has exactly what you need.



NTN is the OEMs' preferred source for haul truck wheel bearings.

NTN®

Key NTN products for surface mining.

SPHERICAL ROLLER BEARINGS (SRB)

NTN ULTAGE®

Highest possible performance for positions on draglines and electric shovels, shaker screen eccentrics and all vibrating equipment.

- New pressed steel cage increases maximum speed by up to 20%
- 40–65% higher standard load rating enhances bearing life
- Larger and higher complement of rollers reduces operating temperature by up to 20% while improving overall bearing dynamic capacity

NTN ULTAGE® SAFD Heavy-Duty Mounted Units

Surpassing previous limits for conveyor systems and material handling equipment.

- Ductile iron material more than doubles loading capacity, especially at higher temperatures
- Modular lubrication configuration allows a single block design to work in any grease or recirculating oil arrangement
- Mated upper and lower housing serial numbers and alignment pins for easier multi-block installation

Sealed WA Type

Engineered for longer life and less maintenance in applications including conveyor belt head (drive) pulleys, tension pulleys and tail pulleys.

- High load capacity, easy adaptability
- Excellent sealing performance against dust and slurry
- Uniform sealing capability under misaligned operating conditions
- Easier and faster installation



TAPERED BEARINGS (TRB)

Large Size EA Type

Built to OEM spec to handle the vibration, marginal lubrication and high impact loads in mining truck wheels, and fixed-position drivelines in draglines and electric shovels.

- More resistant to peeling even when lubricant is contaminated
- 2x the life against crack fatigue
- 3x peeling strength
- 2x the wear strength

CYLINDRICAL ROLLER BEARINGS (CRB)

E Type

For mining application loads and speeds requiring very high power density, including mining truck wheel planetary positions and float position driveline applications in draglines and electric shovels.

- 50% longer life than standard
- Large diameter rollers increase bearing capacity.

Multi-row CRB

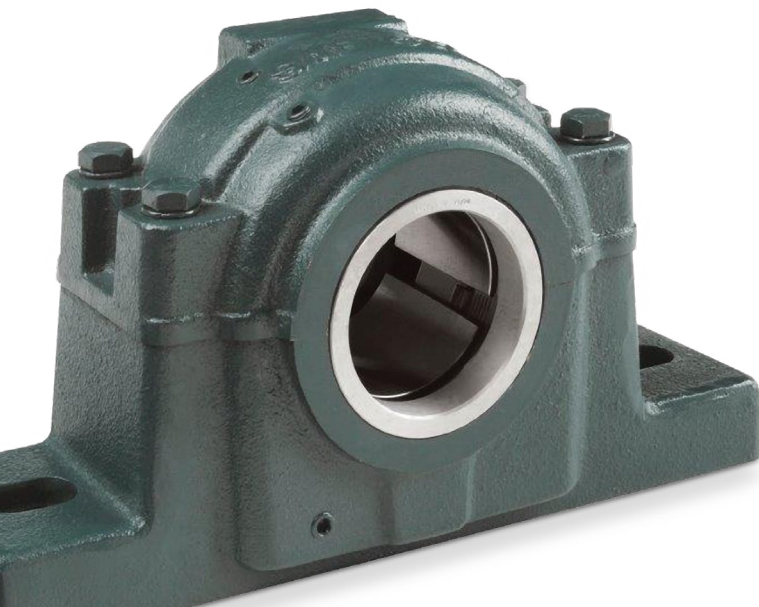
The surface mining bearing of choice for rope sheaves and final drive applications.

- Easy to handle, better seal design
- Snap rings on OD and seals/shields

SPHERICAL PLAIN BEARINGS (SPB)

The favorite for high-performing articulated joints in excavators and wheel loaders.

- Allows misalignment
- Lubrication grooves maintain a strong hydrodynamic film
- Delivers high load capacity in small-envelope applications



Beyond Bearings

Training. Installation Support.
Troubleshooting. And more.

When you choose NTN, your team is equipped with all the necessary tools and resources to get the job done right. From installation to problem solving, we'll be there with the hands-on support you need to take on your toughest challenges. This includes extra services such as:



Technical Training Unit

On-site, mobile training unit offering specialized, hands-on instruction from NTN engineers



Product Training School

Three days of in-depth instruction from NTN engineers at headquarters
(go.ntnamerica.com/trainingschool)



eKnowledge

WEB-BASED TRAINING PROGRAM

Six online product training modules covering different bearing types and nomenclature
(www.ntnamerica.com/eknowledge)



NTN Bearing Finder

Customizable search tool featuring exhaustive data sets, comprehensive part interchanges and interactive CAD drawings
(bearingfinder.ntnamerica.com)



Let's get rolling.

For all your on-site service and support needs with proper product selection, installation training and troubleshooting/problem solving, contact your local NTN Sales Representative or call **1-800-323-2358**.

For additional technical questions, email eng@ntnamerica.com.



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