

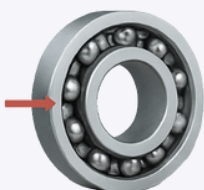
CNZ CONNECT

WHERE PRECISION MEETS GROWTH

Edition 02 | October 2025

Bearing the Load: Understanding Bearing Load Capacities

Every bearing has a limit — knowing it can make or break your machine's performance.



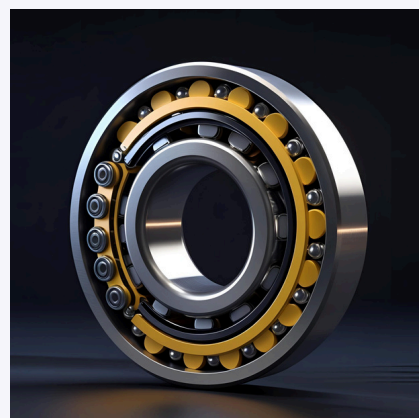
Bearings support the weight and motion of rotating parts, but they're not all built the same. Using the wrong bearing for the wrong load is like asking a scooter to carry a truckload — it won't end well.

Understanding radial and axial loads is key to choosing the right bearing and avoiding failure.

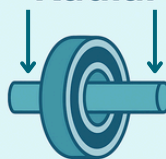
Real-World Stress: Bearing Under Heavy Machinery

In construction equipment like excavators in Bengaluru metro projects, bearings routinely face combined loads (both radial and axial).

Using improperly rated bearings has led to costly hydraulic arm failures — and hours of unplanned repairs.

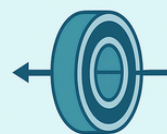


Radial vs. Axial Loads



Radial Load

Electric motor shafts
Conveyor rollers



Axial Load

Vertical pumps
Screw conveyors

Some machinery faces combined loads — always check load ratings!

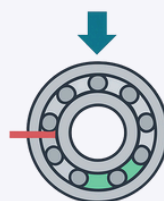
Takeaway

Never guess a bearing's capacity. Always check load ratings, understand your application's stress directions, and consult technical charts or experts.

**Right load.
Right bearing.
Right results.**

Let's engineer your success together — contact CNZ Bearings today.

How Stress Affects Bearings



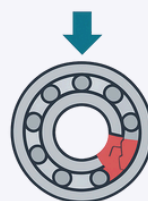
Light Load

Rolling elements are evenly spaced



Misaligned Load

Contact zones enlarge



Overload

Cracks and deformation appear






Modern CAD simulations help predict and prevent failure

FIT FOR SUCCESS:

Bearing Installation Mistakes to Avoid

The way you install a bearing decides how long it will last. Don't let a small slip lead to big failures.

Common Mistakes (And How to Avoid Them)

Mistake	Why It's Harmful	How to Do It Right
Hammering the bearing	Damages raceways, causes misalignment	Use a press-fit or induction heater 
Dirty installation area	Introduces debris, causes wear and noise	Clean all surfaces before installation 
Wrong tools	Creates uneven force and damages seals	Use bearing-specific tools (e.g., sleeve sets) 
Over-tightening bolts	Deforms housing or bearing, increases friction	Follow torque specifications 
Skipping alignment check	Causes uneven load and premature failure	Always verify shaft and housing 

Proper Method: Installing with a Press - Fit Tool

- 1** Clean and inspect shaft and housing
- 2** Use proper lubrication if required
- 3** Align the bearing correctly
- 4** Use a press-fit or heater to apply uniform force
- 5** Check for smooth rotation and fit after



Most bearing damage begins at installation.

**Install it right.
Run It longer**



What a week! India lifted their 9th Asia Cup trophy after a thriller against Pakistan — and the post-match drama was just as spicy as the game.