- IMPROVE PERFORMANCE
- INCREASE LIFE
- REDUCE REPLACEMENT COSTS
- REDUCE POWER LOSSES
- ELIMINATE RE-DESIGN COSTS

THE TIMKEN COMPANY

TIMKEN®

Engineered Surfaces

The Solution to Your Bearing Damage Problems

Inadequate lubrication, poor maintenance, extreme operating environments, and vibration can be detrimental to bearing performance. Under these adverse conditions, when performance and uptime are paramount, The Timken Company provides the solution: Timken Engineered Surfaces. Timken can help resolve many types of bearing problems by applying a variety of coatings and surface finishes to select components.

The following photos offer a quick reference to common bearing problems which can be addressed by utilizing the various engineered surface technologies available from the Timken Engineered Surfaces group.

INADEQUATE LUBRICATION*

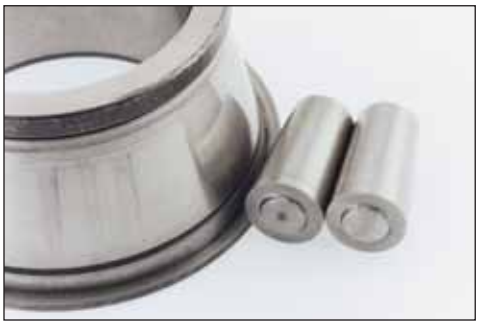
Roller end scoring – Metal-to-metal contact from breakdown of lubricant film.

Cone large rib face scoring – "Welding" and heat damage from metal-to-metal contact.

* Excessive preload can cause damage similar to inadequate lubrication damage.

FOREIGN MATERIAL

Bruising – Debris from other fatigued parts, inadequate sealing, or poor maintenance.



Abrasive wear – Fine abrasive particle contamination.

PEELING

Micro-spalling due to thin lubricant film from high loads/low RPM or elevated temperatures.

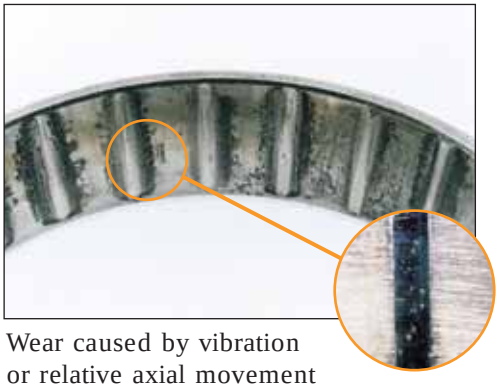
COURSE GRAIN FATIGUE SLIDING

Adhesive wear and smearing damage leading to course grain fatigue spalling. Typically caused by roller skidding under slow speed and thin film lubrication.

FATIGUE SPALLING

Point surface origin – Spalling from debris or raised metal exceeding the lubricant film thickness.

FALSE BRINELLING



Wear caused by vibration or relative axial movement between rollers and races.

For more information, please contact your local Timken sales representative or visit www.timken.com/engineered.

1M 04-05-07 Order No. 5672

TIMKEN
Where You Turn