

# Longer Service Life + Less Waste = Lower Cost

## The bottom line on bearing reconditioning

Brian Trolan, NSK reconditioning service specialist

**Bearings that show wear may not always need to be replaced. Depending on the degree and type of wear, they may be candidates for reconditioning, a process that restores bearings to like-new specifications and performance—at an average 50 to 60 percent of the cost of replacement.**

Despite the attractiveness of the potential cost savings, some facilities hesitate to recondition bearings due to concerns that a reconditioned bearing may not perform as well as a new one. In fact, reconditioned bearings are set to a like-new state, and typically carry a similar warranty. This is because while much of the reconditioning process—polishing, grinding, refinishing—is done by machine, bearings are cleaned, inspected and re-set by hand. This gives each bearing the individual

attention and precise adjustments required to ensure all specifications conform to new bearing standards, including their original load and speed ratings.

Seventy-five to 80 percent of bearing reconditioning involves full bearing rebuilds, including roller replacement, where 20-25 percent requires only cleaning, polishing and re-assembly. The process is increasingly popular, as more companies look for additional ways to reduce costs, maintain consistent production levels and reduce their environmental footprint.

**The case for reconditioning.** The paper industry is one that has fully embraced bearing reconditioning – and for good reason. The astronomic cost of downtime in paper mills has made reconditioning a standard practice to reduce replacement costs, and to maximize uptime.

Paper mills routinely check bearings for wear and remove them during standard maintenance intervals. New bearings are installed and the used bearings sent out for reconditioning to extend their service life. These facilities maximize productivity and improve profitability through:

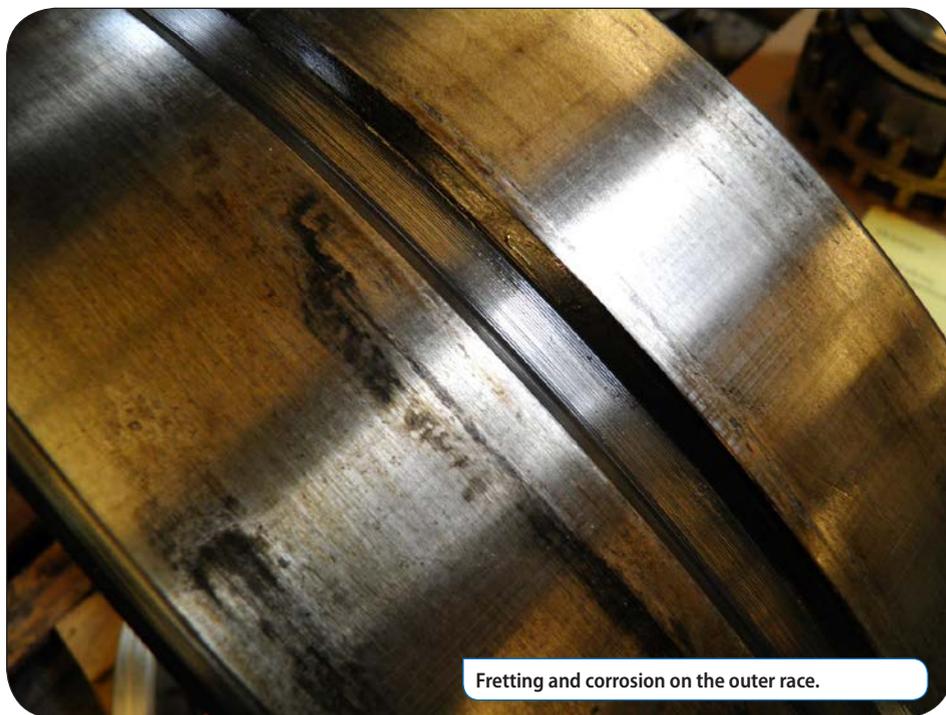
- Reduced unplanned downtime
- Reduced replacement costs due to longer bearing service life
- Reduced waste disposal costs
- Reduced lead times for large bearing replacements

NSK reconditions large bearings in ten weeks or less, and smaller bearings in three-four weeks. The steel industry, for example, is starting to utilize reconditioning more and more for just that reason.

NSK does not charge an inspection fee and guarantees reconditioning turnaround time. Costs are based on the specific work required on each bearing.

**When to recondition — or not.** Routine maintenance checks can indicate signs of bearing fatigue and the need for further inspection. In addition, the history, performance and operating environment will provide indications as to the condition of the bearing. Some may be too damaged to recondition and will need to be replaced, where others may be excellent candidates for the process and can be reconditioned as many as two or three times.

It's critical to have an expert inspect and evaluate the bearing to determine its potential — or lack of it — for reconditioning. They should provide the specific work requirements for the bearing, the associated costs, the turnaround time and warranty information. Added-value services may also be available. NSK, for example, offers troubleshooting services and provides



Fretting and corrosion on the outer race.



Heavy fretting and corrosion on the inner bore (photos courtesy NSK).

on-site technical support to ensure bearings are installed correctly to optimize service life. The company will recondition any brand of bearing, and backs the work with a one-year warranty.

Not surprisingly, more and more manufacturers are taking advantage of bearing reconditioning to maximize the value of their bearing investment and minimize unplanned downtime, with the added benefit of reducing replacement and disposal costs and decreasing waste. **PTE**

### A Brief Q&A with Brian Trolan

**PTE:** For inspected bearings that might be considered a “toss-up” as to whether they can be reconditioned or not, would a reasonable guideline be “When in doubt, throw it out?”

**BT:** The best advice is to determine how quickly the bearing is needed; if needed urgently reconditioning may be the best approach; if there is time, a new bearing can be ordered.

**PTE:** While a piece of equipment’s bearings are being reconditioned, what bearings are used in the interim?

**BT:** A lot of customers (especially paper mills) typically have multiple bearings on hand that run on the same application (in most cases there are requirements to have a specific number of bearings on hand). They use these additional sets while the bearings are being reconditioned; it is a rotating process.

**PTE:** Given that many manufacturers today are increasingly relying on bearing reconditioning, is the process becoming—or destined to become—a big part of bearing manufacturers’ business?

**BT:** Reconditioning is becoming increasingly popular, especially in a soft economy, and yes, this could become a significant part of a bearing manufacturers’ business.

**PTE:** When it is said that reconditioning bearings can “extend their service life,” how does that apply to original warranty coverage?

**BT:** It doesn’t affect the original warranty. Generally, if a bearing is in need of reconditioning it is already out of warranty. Once a bearing is reconditioned, a one-year warranty is granted from time of reconditioning.

**PTE:** Which size bearings are most likely to withstand multiple reconditioning—large or small?

**BT:** Larger bearings have greater potential for reconditioning because it makes more sense to invest in the reconditioning of a large bearing vs small bearing due to its higher cost.



Fully reconditioned bearing.

**Brian Trolan** is the large-bore and reconditioning service specialist with NSK Corporation, based in Ann Arbor, MI. He has nine years of industry experience, and in his tenure at NSK has worked hand-in-hand with the engineering, field service and industry specialist departments to assure the best service for the customer.

