

# Remanufactured by SKF

Extending the service life of industrial bearings to reduce costs, downtime and environmental impact





Increased profit



Increase machine up-time



Use less resources



Lower OPEX



Reduced maintenance cost



Reduced life-cycle emissions

# Why bearing remanufacturing service?

Wear, corrosion, indentations, microcracks... Certain application conditions, like contamination or sporadic metal-to-metal contact in the rolling contact zone, can cause all sorts of damage to your bearings. As a result, the service life of a bearing is often shorter than the calculated rating life.

The alternative is to apply a controlled remanufacturing process before any major damage or bearing failure occurs. This can substantially prolong the service life of the bearing in question, reducing costs and lead times. And since it requires less energy than manufacturing a new bearing, it is better for the environment as well.

The typical candidates for industrial bearing remanufacturing are:

- large size bearings
- CARB and spherical roller bearings used in continuous caster lines
- backing bearings
- slewing bearings

SKF offers industrial bearing remanufacturing of all major brands used in industries such as Metals, Mining, Mineral processing and Cement, Renewable and Traditional Energy, Pulp and Paper and Marine.



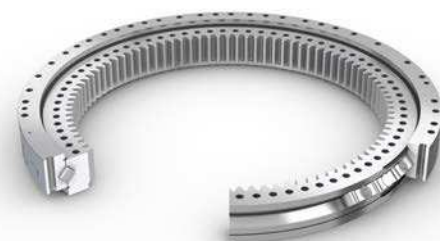
large size bearing



caster bearing



backing bearing



slewing bearing

## How we remanufacture bearings

SKF experienced bearing analysts evaluate your bearing and define which remanufacturing process will be the most efficient for restoring your bearing so that it is compatible with the application requirements. Through SKF's remanufacturing processes, relevant functional surfaces are remanufactured, including, if necessary, the replacement of bearing components. As a consequence, the potential service life of the bearing can be extended, as illustrated in **diagram 1**.

SKF is using its new bearings manufacturing standard, processes, equipment, quality assurance, knowledge and competences as the basis for its bearings remanufacturing service.

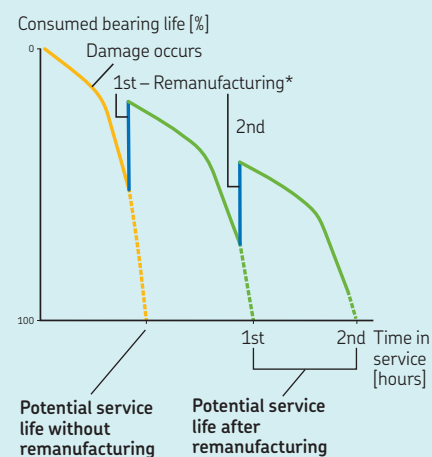
This includes acceptance criteria that deliver high quality results, even when extensive remanufacturing is needed.

To provide full traceability, SKF has developed and uses an advanced management system. By uniquely marking each asset during the remanufacturing process, you will be able to trace your bearing through its future life cycle.

In addition to standard remanufacturing, we can also remanufacture your bearings to a new or higher specification. This can include mounting sensors and the provision of other enhancements such as integrated lubrication, coating, sealing solutions and rework to other specifications.

Diagram 1

### Remanufacturing: positive impact on service life



\* If possible

# Benefits

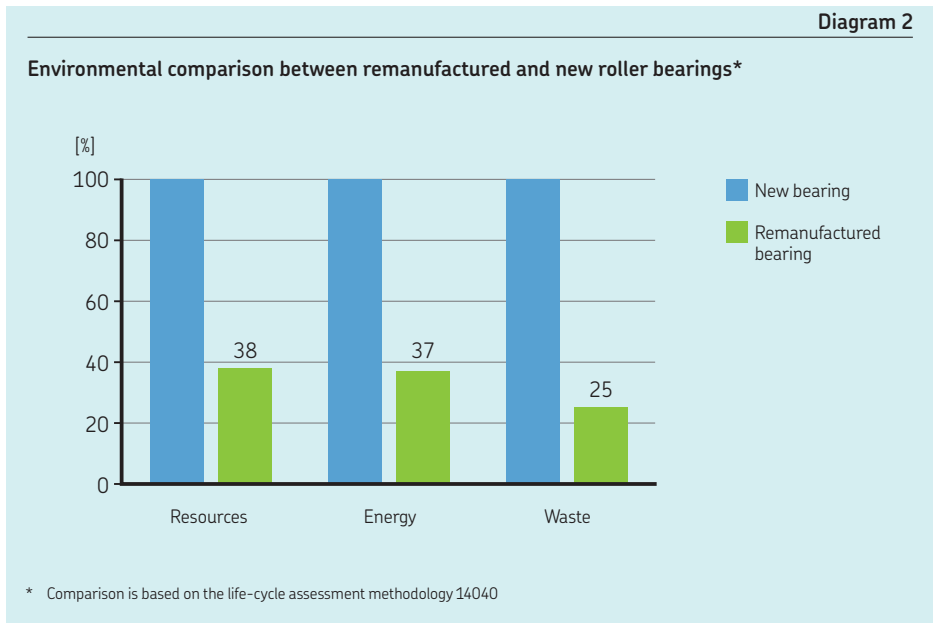
The SKF professional bearing remanufacturing services available worldwide can bring advantages and benefits like:

- reduced total life cycle costs
- extended bearing service life
- reduced machine downtime
- reduced environmental impact
- maintained stock of replacement bearings
- improved overall asset reliability

Depending on the amount of remanufacturing required, up to 90% less energy is needed to remanufacture a bearing instead of manufacturing a new one. Furthermore, cost-benefit analysis shows that significant cost savings can be achieved by remanufacturing bearings – depending on bearing size, complexity, bearing condition and price.

In addition to reducing the energy use, SKF's remanufacturing services help protect the environment by responsible cleaning of bearings and handling of waste.

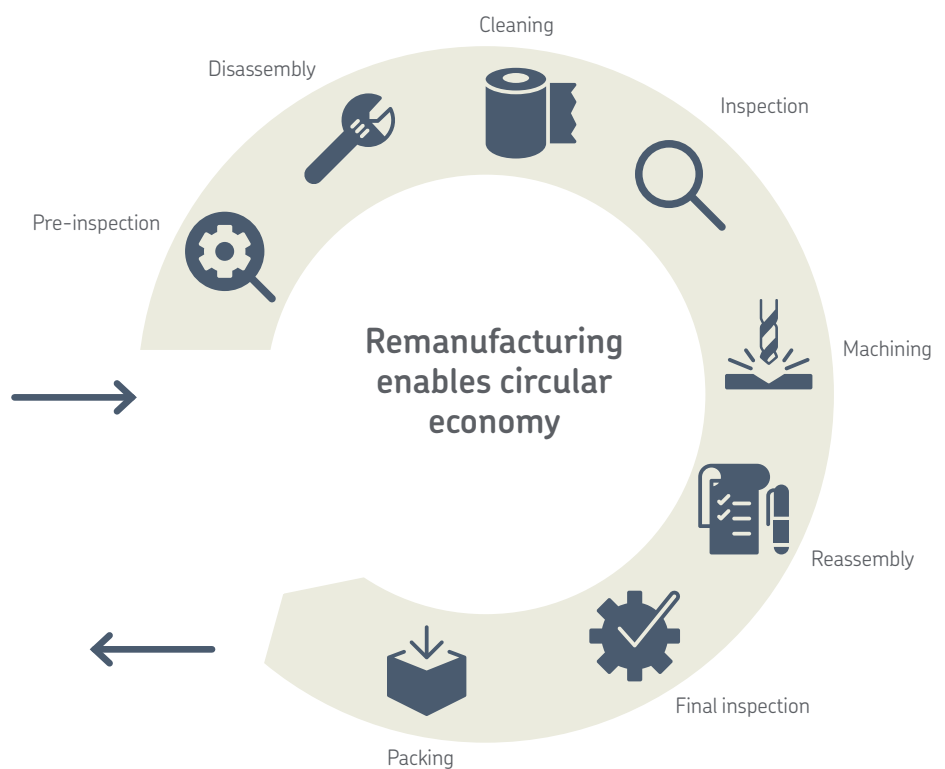
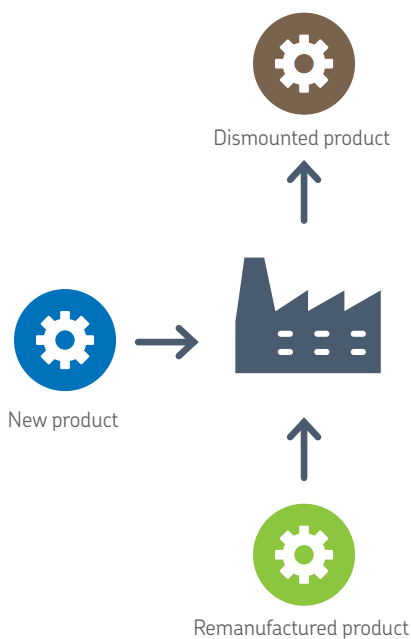
Finally, the environmental benefits of remanufacturing bearings can result in significant reductions in terms of resources, energy and waste, as illustrated in **diagram 2**.



Bearing before remanufacturing



Bearing after remanufacturing

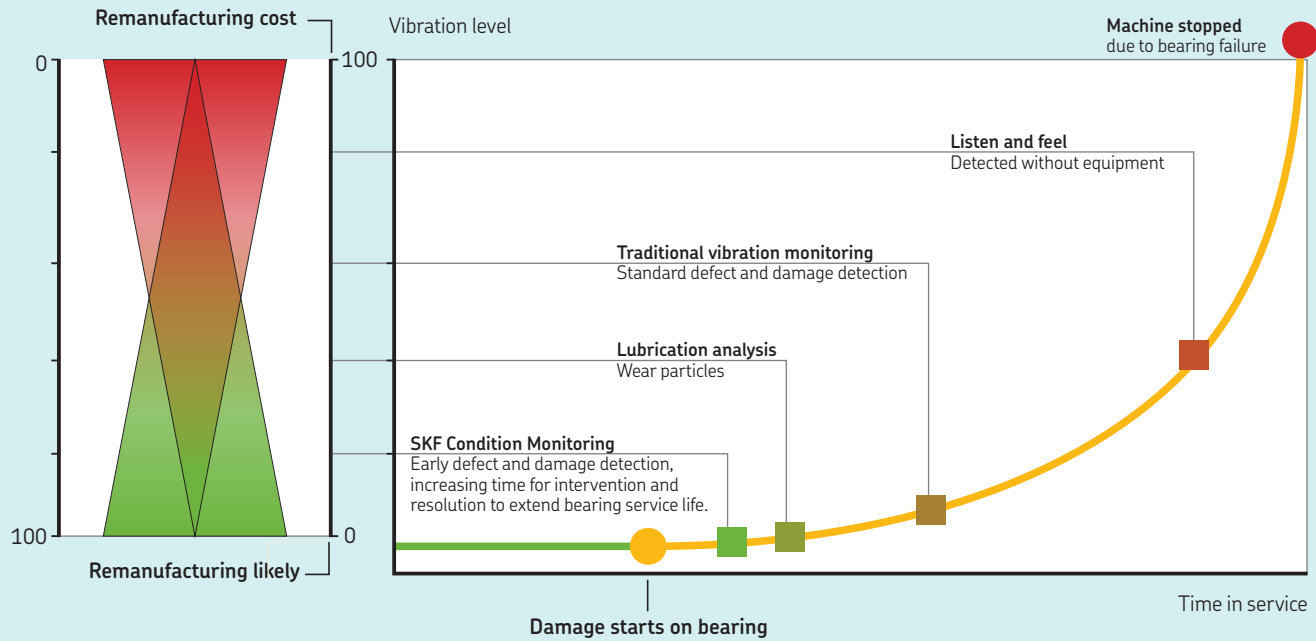


# Damage severity vs. remanufacturability

The correct timing for bearing removal and remanufacturing is essential to achieve the optimum balance of a long service life and low operating costs – as shown in **diagram 3** below.

Diagram 3

Damages on bearing detected at earlier stage increase remanufacturing possibility and reduce related cost



## Prevent recurring damage

The full benefits of adopting the remanufacturing program can be achieved when you also utilize SKF's predictive maintenance expertise to ensure that you know the status of your plant machinery at all times.

In addition, SKF's root cause failure analysis (RCFA) service can deliver a set of causes and effects, plus a comprehensive plan of corrective actions to prevent the recurrence of damages.



# SKF Rotation For Life

SKF Rotation For Life is a long-term, performance-based contract based on a monthly fee which combines bearing technology, failure detectability, reliability and remanufacturing services into one integrated package.



Key Performance Indicators (KPI) are defined according to the real situation of your critical assets and linked with agreed savings and rotating equipment performance indicators. The overall goal is to reduce the Total Cost of Ownership (TCO) of your rotating equipment, over an agreed period.

Part of the savings result from increased machine availability, and part from the reduction of capital outlay by optimizing your spare parts inventory and minimizing waste. The programme enables you to evolve from a capital expenditure model to an operational model (CAPEX to OPEX), and involves a monthly fee instead of purchasing bearings on unit price.

## How can SKF accomplish this?

To achieve the programme goals, we combine our knowledge of bearings, application engineering and rotating equipment reliability with enablers such as condition monitoring, root cause analysis, bearing remanufacturing and other core SKF capabilities.

This integrated, single-source solution means you do not need to seek out other bearing sources or engineering services providers.

Bottom line? You save money by moving from purchasing on unit/product price, to making your purchasing decisions based on Total Cost of Ownership for optimized machine reliability.

## Our global network

SKF's bearing remanufacturing network is present in most parts of the world and is continuously expanding with new service centres.

All centres for remanufacturing have highly trained teams with special competencies.

Operating as a global network, we share knowledge, specific spare parts procurement, and capability development.

As a result, we can offer the agility and flexibility of a small company, but with the capacity, core competencies, and peace of mind achieved through working with an industry leader.

[skf.com/remanufacturing](http://skf.com/remanufacturing)

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