GEARBOX MAINTENANCE TIPS
Keep Your Gearbox Humming Along
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INTRODUCTION

Gearboxes are essential devices found everywhere in industrial manufacturing facilities, providing even distribution of power and torque wherever needed to fuel manufacturing productivity and profits. Despite how ubiquitous gearboxes may be, it’s easy to overlook their repair needs. Forgoing routine maintenance on any gearbox could spell disaster for the entire production system. In order to keep everything running smoothly, be sure to take the time to perform basic upkeep and repairs on gearboxes to get the most out of their lifespan.
PREVENTATIVE MAINTENANCE TIPS

In order to prevent the need for any costly repairs or downtime, the first and most important part of any maintenance plan is fixing problems before they happen. Gearbox oil can be a key indicator of gearbox health and can prolong gearbox life span, so try these quick tips below:

The gearbox’s oil should be regularly changed according to the needs of the specific system. Just like in a car’s engine, oil lubricates the gears and prevents them from grinding against each other.

In the process of changing oil, a sample of the old oil can be collected and sent to a lab, where an analysis of particles inside it can reveal potential underlying issues in the gearbox.

Even without this analysis, taking note of any excessive surface heat, odd vibrations or unusual noises coming from a gearbox can help identify most issues that may need a closer look.

Keeping up with these simple, routine tasks can extend the life of a gearbox by several years and reduce unplanned operations and maintenance expenses, which means increased production and profits for your organization.
When you approach Brad Foote Gearing with a malfunctioning gearbox, the first step is identifying the problem. Using the auditory or tactile cues discussed previously, an engineer may be able to solve the problem with just a phone call. Otherwise, a number of diagnostic tools will be utilized to understand what repairs may be needed.

A visual inspection of the gear teeth inside the gearbox is typically the first course of action. Large gearboxes have an inspection port that allows for easy access to the gears inside.

For a deeper look within, an engineer can feed a boroscope between the small spaces in the gearbox. The engineer will look for fatigue on the ball bearings such as cracking or flaking, as well as cracks on the teeth.

There is also a vibration tool that, employing a specialty sensor, can assess what and where the damage has occurred simply by analyzing the frequency of the vibration being produced by the gearbox. Each gear mesh and bearing, depending on its size and shape, creates a certain frequency. Spikes in these frequencies can give an engineer insight into what is happening inside the gearbox – data that can be used to diagnose the problem.
RAPID REPAIR SOLUTIONS

Once the problem is identified, the cost of repair and downtime must be weighed when deciding whether to fix the problem on-site or have the gearbox completely replaced.

In the case of **total replacement**, the gearbox is shipped to one of Brad Foote Gearing’s specialty gearbox repair facilities in the U.S., with locations in Cicero, Illinois, and Pittsburgh, Pennsylvania. Utilizing the latest 3D modeling technology, along with more than 40 years of experience in the industrial sector, the gears are rebuilt to ensure optimum performance. The gearing specialists at Brad Foote can design and build a new, custom-made gearbox in less than four months.

Instead of full replacement, a gearbox can be **upgraded** to better perform and integrate with the operating conditions or specifications of your manufacturing environment. Operating conditions at industrial manufacturing facilities can change quite dramatically over a few years, depending on demand. **Upgrading vital components of a gearbox allows for cost savings of up to 50 percent.**

We service gearboxes from **any manufacturer** and are used to working with obsolete and “oddball” gearboxes.
Brad Foote Gearing offers comprehensive solutions to keep your rebuilt gearbox humming along. It’s possible to schedule proactive repairs ahead of time, as well as keep an inventory of spare parts stocked and ready for quick fixes with the GearMAX Solutions program.