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Gearboxes deliver a vital source of power transmission and, for many industrial businesses, represent the heart of production. Today, advancements in technology have enabled designers to decrease the footprint of gearboxes while maintaining the same—
or even higher—
power transmission capabilities.

Compared to previous models, these newer, high-performance units typically require lubricants that offer more comprehensive protection. If a gearbox is not properly maintained with the appropriate lubricant, there's the potential for the heart to break, or experience a condition known as micropitting.

A common sign of inadequate gear lubrication, micropitting is surface fatigue that is mainly observed in gears—
but which can also occur in rolling element bearings
. Micropitting causes destructive wear that can occur within the first few hours of operation. If left uncontrolled, it can cause a reduction in gear tooth profile accuracy, gear breakage and, over time, lead to system failure.

Micropitting on gears may not only lead to problems with gears, but with bearings and seals as well. The main concern with micropitting is that this wear—
which is often overlooked-
—can cause the shape of the gear teeth to change. To this end, it is critical that a company select a gear lubricant that can supply long-lasting protection for all the components.

The selection of the appropriate viscosity grade is the first and most important step in choosing a lubricant. Under extreme conditions, simply increasing the ISO viscosity grade of the oil is not necessarily preferred. Instead, choose a high-performance synthetic lubricant that features a balanced formulation and is designed to deliver exceptional, long-lasting wear and corrosion protection. In addition, look for a product that has been endorsed by major gearbox OEMs and meets the industry's most demanding specifications, such as DIN 51517 Part 3 and AGMA 9005 E02.

For example, Mobilgear SHC XMP Series lubricants are supreme-performance, heavy-duty synthetic gear oils primarily designed to provide outstanding equipment protection, oil life and problem-free operation. The combination of premium synthetic base fluids, a naturally high viscosity index and unique additive system help Mobilgear SHC lubricants deliver exceptional performance under severe high- and low-temperature operating conditions. Additionally, the synthetic base stocks have inherently low traction properties that result in low fluid friction in the load zone of non-conforming surfaces, reducing fluid friction which produces lower operating temperatures and promotes improved gear efficiency. What's more, they have outstanding EP, oxidation and thermal properties and resistance to shock loading, all of which can enhance gearbox performance and improve productivity—
and promote longer life for the heart of your facility
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A 17-year veteran of ExxonMobil, Michael J. Hawkins was recently named the Global Brand

Manager for the company's flagship Mobil SHC brand of high-performance synthetic lubricants.

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