



The First in Synthetics®

Lubrication and Engineering Services
for Wind Turbines





AMSOIL Synthetic Power Transmission EP Gear Lube

(ISO 150, 220, 320, 390 and 460)

PROMOTING WIND TURBINE EFFICIENCY

Wind turbine gearboxes represent one of the most challenging lubricant applications in the industrial world. AMSOIL INC., a leader in synthetic lubricant technology, engineered and manufactured a premium gear lube that meets these challenges. AMSOIL Synthetic Power Transmission Gear Lube promotes wind turbine efficiency through superior wear control, anti-foaming properties, water resistance and filterability. But even more, AMSOIL INC. provides on-site, up-tower guidance. Experienced and certified wind energy personnel join with operators to help them fully harness the exceptional performance of AMSOIL Synthetic Power Transmission EP Gear Lube. With AMSOIL, operators get more than a lubricant provider, they get a partner.

ENGINEERED WEAR CONTROL + VISCOSITY RETENTION

AMSOIL Synthetic Power Transmission EP Gear Lube is designed with extreme-pressure (EP) additives and shear-stable synthetic base oils that exhibit excellent viscosity retention. As a result, micropitting and scuffing wear is minimized.

Features:

- Designed with shear-stable base oils that retain viscosity
- Passes industry-standard gear and bearing tests for micropitting and scuffing, including FZG micropitting test
- Retains film thickness

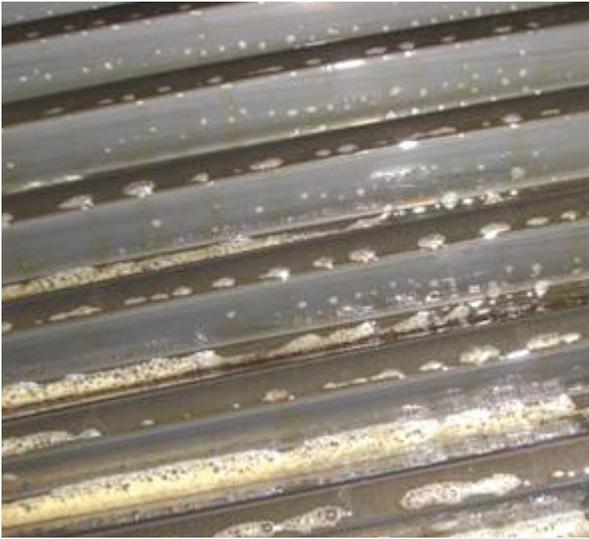
Benefits:

- Efficient, long-lasting gears and bearings
- Helps extend equipment life and reduce downtime and maintenance costs
- Helps prolong lubricant and equipment life

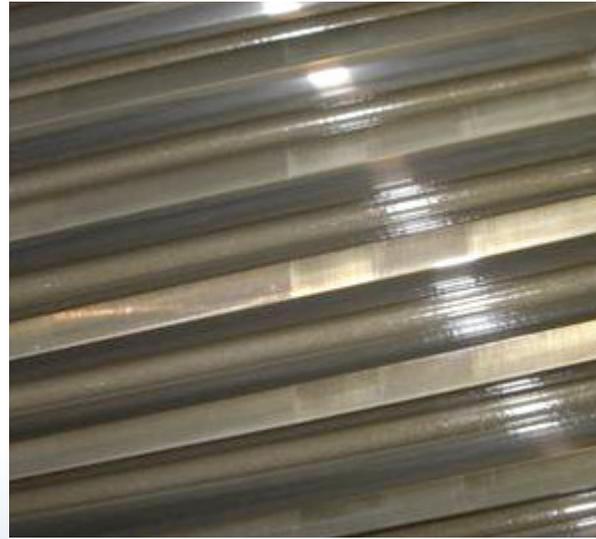


SUPERIOR FOAM CONTROL

AMSOIL Synthetic Power Transmission EP Gear Lube resists foaming to deliver the correct engineered fluid film thickness, which reduces premature gear and bearing failure and results in gears and bearings lasting as designed.



Competitor's oils are known to cause foaming. When foam travels through the heavily loaded areas between gear teeth, the air bubbles can collapse and allow metal-to-metal contact, resulting in accelerated wear.



A gearbox gear lubricated with AMSOIL Synthetic Power Transmission EP Gear Lube. Note the consistent, foam-free lubricating film.

Features:

- Passes ASTM D892 and Flender foam requirements
- Contains durable anti-foam additives
- Excellent entrained-air release time

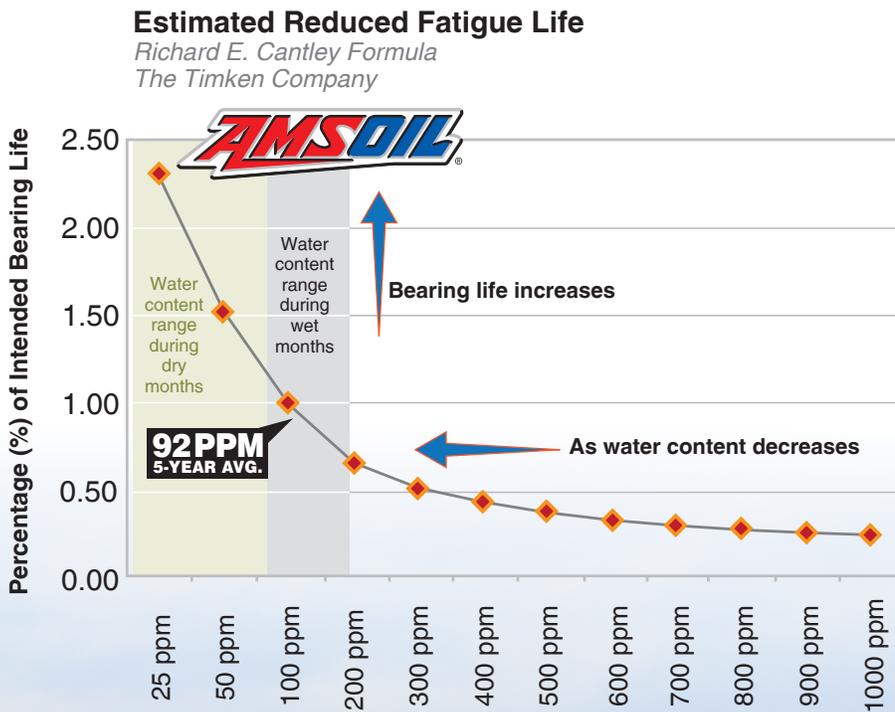
Benefits:

- Optimizes gear oil film thickness
- Helps reduce wear
- Helps eliminate foam-initiated low-oil filter trips



PROVEN WATER RESISTANCE

Water is one of the biggest contributors to gearbox failure. It can cause sludge formation, additive drop-out, viscosity loss and filter plugging. Throughout a five-year field study, AMSOIL Synthetic Power Transmission EP Gear Lube demonstrated a low five-year average of 92 ppm water for maximum lubricant effectiveness and component life.



Features:

- Vacuum dehydrated below 100 ppm during manufacturing
- Resists water adsorption
- Filterability down to three microns

Benefits:

- Resists additive loss and filter plugging
- Helps improve gear and bearing life
- Inhibits rust, corrosion and sludge formation

EXCELLENT FILTERABILITY

AMSOIL Synthetic Power Transmission EP Gear Lube is easily filtered using either 5- or 10-micron full-flow oil filters and is also recommended for use with 3-micron by-pass filters.



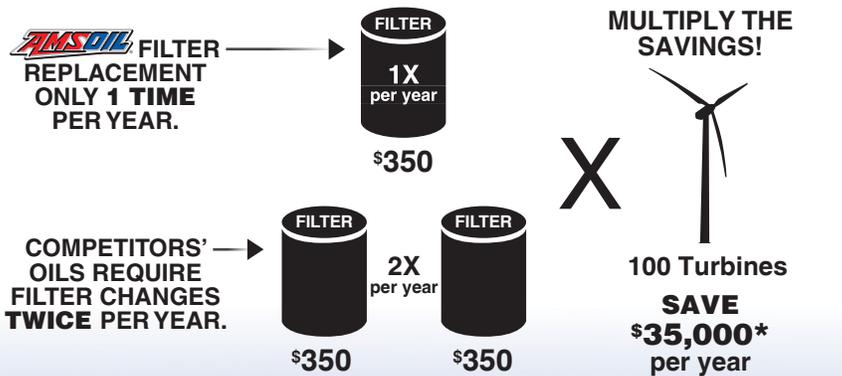
Oil filter housing after operating with a competing synthetic ISO 320 gear lubricant.



Same filter housing after cleaning. The AMSOIL flushing procedure removes contaminants from the gearbox before installing fresh oil. Peripheral components are cleaned manually.

FILTER REPLACEMENT SAVINGS WITH AMSOIL

Based on average filter replacement cost of \$350.



Up to \$350 in savings per year, per turbine.

* Figure based on extending filter change intervals from six months to one year.

Features:

- Designed with 100 percent dissolved-additive chemistry
- Does not contain solid additives
- Easily filtered through improved low-micron filter media

Benefits:

- Eliminates filter plugging and filter trips
- Extends filter life, while reducing operation and maintenance costs
- Reduced gear oil particle concentration

An aerial photograph of an industrial facility, likely an AMSOIL distribution center or manufacturing plant, featuring several large white buildings with red and blue stripes. In the background, a large, modern bridge with multiple arches spans across a wide body of water. The sky is clear and blue, with some light clouds. The overall scene is bright and clear.

On-Site, Up-Tower Service

AMSOIL safety- and rescue-trained wind energy personnel work on-site and up-tower to direct the lubrication process, from oil changeover to understanding oil analysis. AMSOIL consultation services help operators maximize their operations and maintenance programs.

Proven Flushing Procedure

Oil change procedures that fit the needs of every customer.

Consultation

Based on first-hand knowledge of wind turbine gearbox lubrication, AMSOIL wind energy personnel consult with operators on how best to use their oil analysis programs. AMSOIL can recommend which specific test methodologies most accurately reveal the condition of their gearboxes and how best to interpret the oil analysis reports sent from the lab of the operators' choice. Using AMSOIL consultation services helps operators identify the maintenance practices most likely to increase efficiency and profitability.

Approvals

**OEM & Gearbox
Manufacturer Approvals**

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