

ELECTRICITY IS EXPENSIVE!

Objective: Reduce Overall Operating Costs!

Energy consumption is a concern for every industry, both for economic and environmental reasons. LE's heavy-duty lubricants are designed to reduce friction and wear. LE uses 100% paraffinic base oils with greater lubricity, oxidation resistance and high performance. Two exclusive and proprietary friction and wear-reducing additives – ALMASOL® and MONOLEC® - are used along with high quality additives in blending LE lubricants.

WHAT IS ALMASOL®?

ALMASOL® is LE's exclusive wear-reducing additive which has an affinity for metal, similar to polar attraction. It attaches itself to working surfaces in a single microscopic layer, yet it will not build on itself or affect clearances. This microscopic layer possesses tremendous load carrying capacity, is impervious to acid attack and minimizes metal-to-metal contact and the resulting friction and wear. When added to LE lubricants, it gives an extra dimension of protection available in no other lubricant.

WHAT IS MONOLEC®?

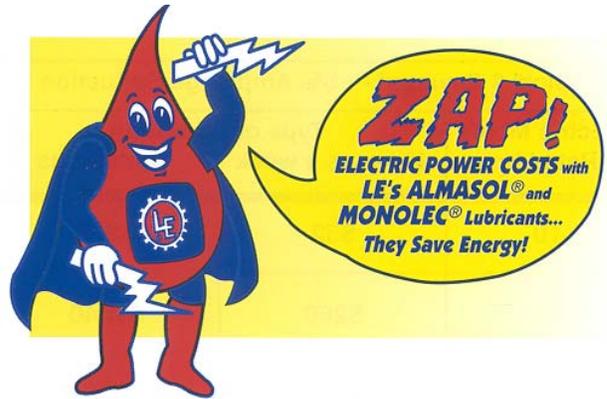
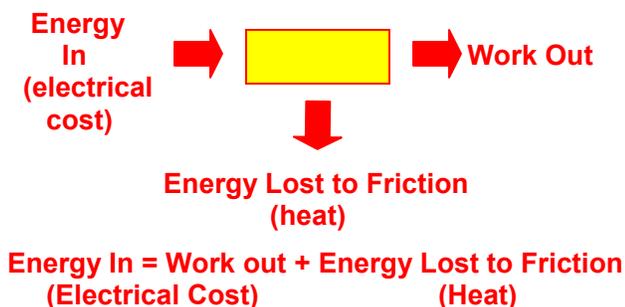
MONOLEC® is LE's exclusive wear-reducing additive which has proven its extraordinary performance in thousands of applications. It is an invaluable component in LE's engine oils, industrial oils and other lubricants bearing the MONOLEC® trademark.

MONOLEC® creates a singular molecular lubricating film on the metal surface, vastly increasing film strength without affecting tolerances. MONOLEC® allows opposing surfaces to slide by one another, greatly reducing friction, heat and wear.

LE LUBRICANTS SAVE ENERGY!

How do Lubricants Conserve Energy?

The law of conservation of energy states that "energy cannot either be created or destroyed, but merely converted from one form to another." This concept is shown in the energy balance diagram.



FRICION ROBS ELECTRICAL ENERGY

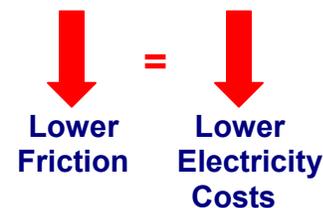
Friction is a result of the metal-to-metal contact which occurs between two opposing surfaces moving relative to on another. Even between highly machined surfaces, under microscopic view, asperity contact occurs.



Asperities on touching metal surfaces.

The greater the amount of contact, the greater the amount of friction. As a result, more energy is required to move the surfaces relative to one another. This friction results in higher electrical power costs.

LE lubricants reduce friction. Therefore, when friction is reduced, less electricity is required to drive a gearbox, compressor, pump, etc.



Electric utility bills generally dwarf maintenance and lubricant costs. All three are part of any operation. So, while controlling or reducing maintenance/lubricant costs is important, reducing electric utility usage is a critical component to the success of any company. By reducing electrical energy consumption, operating costs are reduced, which leads to more profits for your company.

Users of LE lubricants who have documented power consumption on various pieces of equipment have generally seen a 5% reduction in power requirements. Some have experienced savings as high as 20%. Typical annual savings for an estimated 5% amperage reduction more than pays for the LE lubricant required to do the job as shown below.

Typical \$ Savings* - 5% Amperage Reduction		
Electric Motor Rated hp	Type of Operation	
	40 hours a week	Continuous
10	\$52	\$208
50	\$260	\$1040
100	\$522	\$2088
200	\$1044	\$4176

*\$0.07 kWh Electricity Rate

Air compressors are excellent sources for energy savings. Listed below is the typical LE ZAP! conversion procedure for an air compressor:

Typical Lubricant Conversion Procedures for an Air Compressor

1. Bring compressor up to normal operating temperature.
2. Take temperature readings of compressor sump and ambient air, plus compressor output psi.
3. Take amp/voltage readings on each phase of the supply.
4. Take oil sample if you have not already done so.
5. Drain oil while hot. Caution-hot oil can scald.
6. If replacing a synthetic oil or extremely dirty oil, refill with flushing oil; run for 30 minutes; drain. If flushing oil appears to be highly contaminated with previous oil, repeat flushing procedures.
7. Replace air and oil filters. If the previous oil was a synthetic, it is important to replace the oil/air separator.
8. Refill compressor with the LE recommended oil.
9. Take temperature readings of compressor sump and ambient air, plus compressor output psi.
10. Take amp/voltage readings on each phase of the supply.

Note:

- ✓ Always replace drain and filler plugs.
- ✓ Always take amp/voltage readings from the same area of cable.
- ✓ All electrical measurements should be made by qualified personnel responsible for maintenance of the equipment.

The LE ZAP! Energy Savings Program can save electrical energy across the board on gearboxes, compressors, refrigeration systems, pumps, hydraulic systems, ball mills, etc. LE has documented energy savings not only on stationary inplant equipment, but also on rolling stock of all types. Friction reductions in engines correlate directly to improving fuel efficiency and extending drain intervals. Whether your fleet consists of over-the-road trucks, off-road equipment, stop-and-go vehicles or smaller personal vehicles, LE lubricants can improve efficiency. Users of LE lubricants have documented fuel efficiency improvement ranging from 2% to 15% in all types of engines.

DOCUMENTED SAVINGS

The following are averages of actual documented savings through the use of LE lubricants in the following equipment

GEARBOXES15%
ELECTRIC MOTORS.....4%
AIR COMPRESSORS.....12%

Let Lubrication Engineer,® Inc. help you ZAP! Your electrical energy costs!



While energy savings will vary according to each individual situation, your local LE Representative can work with you to identify where you can save energy and maintenance dollars through the use of LE lubricants and services.



LUBRICATION ENGINEERS, Inc.®

300 Bailey Ave • Fort Worth, Texas 76111

817-834-6321 • fax 817-834-2431 • <http://www.le-inc.com>

LE PRODCUTS MANUFACTURED UNDER AN ISO 9001 CERTIFIED QUALITY SYSTEM