



LE PRODUCTS
MANUFACTURED
UNDER AN ISO
9001:2000
CERTIFIED QUALITY
SYSTEM

Why Lubrication Engineers Uses 100% Paraffinic Base Oils

The finest, highest quality, specially refined 100% paraffinic base oils are used to produce the highest performance, superior quality lubricants from Lubrication Engineers. Although these base oils are expensive, no other type of petroleum base oil can match their performance.

Why Does LE Use 100% Paraffinic Base Oils?

While crude oil differs in chemical composition from oilfield to oilfield, petroleum industry experts tend to classify crude oil into three broad categories according to its primary components:

- (1) paraffinic
- (2) naphthenic
- (3) mixed base - a combination of the two.

It is widely recognized that the best lubricating oils are made from paraffinic crudes. They offer a number of advantages over naphthenic oils.

Many lubricant suppliers use naphthenic oils in their products because they are less costly. These oils are cheaper to buy, easier to refine and easier to incorporate into greases. However, they don't lubricate bearings, gears, engines and other components as well as paraffinic oils.

All Paraffinic Oils Are Not Equal

How well a paraffinic base oil performs in a lubricant depends on the crude oil source, the refining process and the quantity used. Each of these criteria affect cost. LE spares no expense to obtain the best possible base oil. Some lubricant suppliers claim to use paraffinic base oils. However, they usually take the less expensive route and end up with lower performance lubricants.

- **LE Exclusively Uses Mid-Continent Crude**—While there are a number of major crude oil sources around the world (Middle East, Mexico, Venezuela, Alaska, North Sea) U.S. Mid-Continent crude is acknowledged as the best for lubricating oil. The Mid-Continent includes Texas, Arkansas, Louisiana and Oklahoma.
- **LE Uses an Extra Refining Step**—By definition, paraffinic base oils contain a small amount of naphthenics and aromatics which are a major group of



unsaturated cyclic hydrocarbons. Aromatics can cause seal and hose hardness and loss of pliability. Both aromatics and naphthenics reduce a lubricant's oxidation resistance, film strength and increase the volatility (evaporation rate). LE utilizes an extra refining step to remove more of the "undesirables." Other lubricant suppliers do not. In addition, each incoming base oil shipment is tested to our stringent quality control specifications which dictate a maximum allowable amount of aromatics and naphthenics, along with other criteria.

- **LE Lubricants Contain Only 100% Paraffinic Base Oils**—Because LE's philosophy is to develop and produce the highest quality high performance lubricants possible, our products contain only 100% paraffinic base oils. Most other lubricant companies which claim to use paraffinic base oils cannot say the same.
- **Perform Like Synthetic Oils**—With the selection and use of only 100% Mid-Continent paraffinic base oils processed with an extra refining step, LE oils have a chemical composition and performance similar to synthetic oils like PAO's resulting in:
 - excellent oxidation resistance
 - low volatility
 - long life
 - few deposits and sludge

This is one of the reasons Lubrication Engineers,® Inc., is recognized as **LEADERS IN LUBRICANTS**.

**LUBRICATION
ENGINEERS,® Inc.**

Leaders in Lubricants





Why Lubrication Engineers Uses 100% Paraffinic Base Oils

Paraffinic Base Oil Advantages

Property

Greater oxidation resistance

Better lubricity and higher film strength

Higher natural viscosity index

More compatible with seals and hose materials

Greater water resistance

Lubricating Benefit

Operate at higher temperatures. Last longer - longer lubrication intervals. Less carbon, sludge, varnish and oil thickening from oxidation products.

Less wear, friction and energy used.

Offers more lubrication protection over a wide temperature range - thins less at higher temperatures and thickens less at lower temperatures.

Longer seal and hose life. Less oil leakage.

Better water separation and resistance to emulsification.

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