TECHNI/TIPS

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COMPRESSOR CHANGEOVER PROCEDURES FOR LE LUBRICANTS

When converting an air compressor to LE's MONOLEC Air Compressor Oil or LE's MULTILEC Industrial Oil, there are several potential problem areas that may be encountered. These include excessive deposits that have built up over time with the use of the previous lubricant. The older the compressor, the greater the possibility of existing deposit formations. These can be "cleaned out" after converting to LE products. Also, as is the case with any lubricant, there is the possibility of lubricant incompatibility. Therefore, following these changeover procedures exactly and close monitoring of your equipment are strongly recommended.

These recommendations assume that correct procedures are being followed for insuring that the new lubricant is clean and uncontaminated. Drums should not be left open or stored out-of-doors in a upright position. Funnels, spigots or other filling devices should be clean and free from contamination.

SECTION I: Replacing other petroleum based oils with LE's 6400 Series MONOLEC R&O Compressor/ Turbine Oils or LE's 6800 Series MULTILEC Industrial Oils (petroleum based).

1 Drain the used commercial grade lubricant completely, while unit is still hot.
2 Fill with the appropriate grade of LE's 6400 Series MONOLEC R&O Compressor/Turbine Oil or LE's 6800 Series MULTILEC Industrial Oil.
3 Regularly check the oil filter(s) and air/oil separator (if so equipped) since there is a good possibility that the LE lubricant will loosen many deposits left by the previous lubricants.
4 Drain the oil while hot at one-half the normal drain interval. An oil sample should be taken at his time.
5 Fill with LE's 6400 Series MONOLEC R&O Compressor/Turbine Oil or LE's 6800 Series MULTILEC Industrial Oil and run to the normal drain interval. Change oil filter(s) and air/oil separator as required. Take an oil sample.
6 Use the oil analysis results to establish the drain interval using LE's 6400 Series MONOLEC R&O Compressor/Turbine Oil or LE's 6800 Series MULTILEC Industrial Oil.

SECTION II: Replacing a non-LE synthetic oil with LE's 6400 Series MONOLEC R&O Compressor/ Turbine Oils or LE's 6800 Series MULTILEC Industrial Oils (petroleum based).

1 Completely drain the used synthetic oil while unit is still hot.
2 Fill with the appropriate grade of LE's 6400 Series MONOLEC R&O Compressor/Turbine Oil or LE's 6800 Series MULTILEC Industrial Oil.
3 Run compressor for two to eight hours, no longer. Petroleum based lubricants are often incompatible with synthetic oils. Therefore, every effort must be made to completely remove the synthetic oil; and, this flushing procedure should do that.

Section II Continued:

4 Drain the oil while hot and replace oil filter(s). An oil sample should be taken at this time. Regularly check the air/oil separator (if so equipped).

5 Fill with LE's 6400 Series MONOLEC R&O Compressor/Turbine Oil or 6800 Series MULTILEC Indus-trial Oil and run to the normal drain interval. Change oil filter(s) and air/oil separator as required. Take an oil sample.

6 Use the oil analysis results to establish the drain interval using LE's 6400 Series MONOLEC R&0 Compressor/Turbine Oil or LE's 6800 Series MULTILEC Industrial Oil.

Compressors with a significant number of hours frequently have a large amount of deposits and may require additional oil, oil filter(s) and air/oil separator changes to completely clean the compressors and restore them to their maximum operating efficiency.

SECTION III: Replacing petroleum based oils with LE's 9000 Series MONOLEC Synthetic Industrial Oil.

The excellent cleaning action of LE's 9000 Series MONOLEC Synthetic Industrial Oil tends to dissolve, loosen and remove existing deposits. Basically, all compressor and downstream parts which will be in contact with these superior oils should be as clean as practical before changing over.

1 Completely drain the used petroleum based oil while unit is still hot.

2 Regularly check the oil filter(s) and air/oil separator (if so equipped) since there is a good possibility that the LE lubricant will loosen many deposits left by the previous lubricants.

3 Fill with the appropriate grade of LE's 6400 Series MONOLEC R&O Compressor/Turbine Oil (petroleum based) and run for 50 hours.

4 Drain oil while hot and take an oil sample.

5 Change oil filter(s) and air/oil separator as required.

6 Fill with LE's 9000 Series MONOLEC Synthetic Industrial Oil. Run for 100 hours and take an oil sample. The analysis will determine whether a third change should occur. In some cases, it is necessary to change the air/oil separator after the first 1,000 hours.

7 The lubricant should be further analyzed at one-half the normal change interval and then at the normal change interval. These analyses should give a good representation of whether the lubricant is suit-able for continued use.

SECTION IV: Replacing other "compatible" synthetic based oils with LE's 9000 Series MONOLEC Synthetic Industrial Oil.

The primary concern in converting from other synthetics to LE's 9000 Series MONOLEC Synthetic Industrial Oil is incompatibility of the oils. This depends on the type of previous synthetic compressor oil used.

Section IV Continued:

LE's 9032, 9046, 9068, 9100 and 9150 MONOLEC Synthetic Industrial Oils are "compatible" with most types of synthetic compressor oils. These are listed below:

Synthetic Base Oil Type	Compatible Products
Phthalate Ester	Anderol 495,496,497,500,750.
PAO	CPI Engineering CP 4600, Syn-Flo 80, AEON 9000, Sullair LLL-4 series (various ISO grades), Ultrachem Chemlube 228 and 530, Chevron Synfluid (5L-C and GSL-838 series), Summit SH
Diester	Syn-Flo 70 & 90, Mobil Rarus 824, 826, 827, DuBois Summa (Rotar, 20 wt. Reciprocating), Gardner-Denver GD-5000 and GD-8000, IR SSR 2000 Coolant Lubricant, Ultrachem Chemlube 215, 230, 501, 751, Summit DSL.

Changeover procedures with these types of synthetic compressor oils to LE's 9000 Series MONOLEC Synthetic Industrial Oils are minimal. Use the same procedure as outlined in Section I.

SECTION V: Replacing "partially or totally incompatible" synthetic based oils with LE's 9000 Series MONOLEC Synthetic Industrial Oil.

LE's 9032, 9046, 9068, 9100 and 9150 MONOLEC Synthetic Industrial Oils are partially or totally incompatible with the following types of compressor oils. Because of this, more stringent conversion procedures are required to obtain the full benefits of LE.

Synthetic Base Oil Type	Incompatible Products
Polyglycol/Pentaerythritoester	Sullair Sullube 32 and 60. Blend
Polyol Ester	CPI Engineering CP 4200.
Silicone	Sullair 24 KT.
Polalkylene Glycol	IR SSR Ultra Coolant, IR RCL 5000 (Reciprocating Coolant Lubricant.)

Changeover procedures with these types of synthetic compressor oils to LE's 9000 Series MONOLEC Synthetic Industrial Oils is essential in order to provide trouble free operation. Use the same procedure as outlined in Section II.

SECTION VI: Use LEAP Lubrication Engineers' Oil Analysis Program, to monitor oil conditions.

No extended oil drains should be considered without the use of a routine laboratory analysis program. LEAP is superior to most programs in both the nature of tests and the amount of review by individuals. We, therefore, recommend that LEAP be used for a continued maintenance program to insure that the equipment is operating properly and to monitor oil conditions.

In order to provide data which can be used to monitor oil condition and predict potential problems, we recommend the following sample schedule during the changeover procedures.

1 Sample the previous lubricant during the drain process. This provides data to identify its additive chemistry and other chemical and physical characteristics.

2 After filling with the recommended type of either LE's 6400 Series MONOLEC R&O Compressor/ Turbine Oils, LE's 6800 Series MULTILEC Industrial Oils or 9000 Series MONOLEC Synthetic Industrial Oils, sample after two to eight hours of operation. The data from this sample will provide a basis for estimating the degree of mixing with the previous product.

3 The next samples should be taken as indicated in the specific changeover procedures section. An increase in the previous lubricant's additive or wear metals in this sample is an indication of deposit removal.

This sampling schedule is particularly appropriate when replacing a petroleum based compressor oil in old compressors with LE's 9000 Series MONOLEC Synthetic Industrial Oils. We also recommend that the following tests be run:

Viscosity @ 40°C
Elemental Analysis
TAN
% Water

The oil should be closely monitored for foaming whenever LE's MONOLEC R&O Compressor/Turbine Oils or LE's MULTILEC Industrial Oils are replacing a commercial grade product. Foam may be caused by extraneous materials that are the direct result from previous lubricants. Such things as zinc may cause severe foaming. When solvents are used, this could also cause foaming. Therefore, our primary recommendation is that anytime foaming occurs, the compressor should be drained as completely as possible and new LE lubricant installed.

Only through correct conversion procedures can we insure that LE customers receive all the benefits they are expecting from the Leaders in Lubricants.

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