



GEARBOX LUBRICANT RECOMMENDATIONS

FIELD ENGINEERING BULLETIN NO. 40.2.04

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AFFECTED MODELS: LMV/BMP/LMC/BMC/HMP/LF/LMG PAGE 1 OF 3

For years the preferred gearbox lubricant for Sundyne pumps and compressors has been automotive automatic transmission fluid (ATF). However, over time the additives in automatic transmission fluid have changed to coincide with the technical improvements in automobile transmissions. The additives in the new formulations of ATF, such as Dexron III, have been found to have negative effects on Sundyne gearboxes and could compromise mechanical integrity and reliability of the equipment.

ISO Viscosity Grade 32 or 46 general purpose or synthetic oils are the recommended lubricants for Sundyne gearboxes as shown in Table 1 below. ISO VG 46 lubricants are now recommended for high horsepower gearbox models 33X, 33XN, and 34X with spherical roller bearings and high ambient temperature installations. Gearbox lube oil should be changed twice yearly or more frequently in severe environments which may be detrimental to the lubricant. Oxidized oil is frequently characterized by a darkening and/or thickening of the oil. Operation of gearboxes with oxidized lubricant should be avoided.

Synthetic oils possess different characteristics than conventional mineral oils, which make them desirable for various extreme conditions such as high and low temperature operation. Synthetic oils offer very low pour points, high temperature oxidation stability and a higher viscosity index.

The operation of Sundyne equipment in high or low ambient conditions may require special consideration of gearbox lubricant and/or supplemental protective equipment such as heat exchangers or gearbox heaters.

The lubricant chosen must be compatible with gearbox elastomers, Viton and Buna N. Any oil that contains an inert additive such as PTFE, molybdenum disulfide or silicon should not be used in Sundyne gearboxes. Use of lubricants containing inert additives will void the product warranty.

SUNDYNE GEARBOX LUBRICANT RECOMMENDATIONS



RECOMMENDED LUBRICANTS

Use ISO Viscosity Grade 32 Lubricant **	Use ISO Viscosity Grade 46 Lubricant
Models:	Models:
LMV/BMP-31X* LMC/BMC-31XF* LMC-BMC-31X* LMV-32X* All Sunflo Gearboxes HMP-3000 HMP-5000 HMP-7000 LF-2000 Pinnacle Compressors LMG-310L	LMV/BMP-33X* / 33XN* LMC/BMC-33XF* / 33XNF* LMC/BMC-33XP* / 33XNP* LMC/BMC-33X* / 33XN* LMV/BMP-34X* LMC/BMC-34XF* LMC/BMC-34XP* LMC/BMC-34X* / 34X* Upgrade BMP-33X* / 33XN* BMP-34X* LMG-330L*** LMG-330NL*** LMG-4***

*** ISO VG 32 oil may be substituted for ISO VG 46 on noted units, provided the sump temperature does not exceed 60 °C (140 °F).

** When no heat exchanger is utilized use ISO VG 46 lubricant for high ambient temperatures above 40 °C (100 °F).

**X* this number defines the pump/compressor case

RECOMMENDED ISO VG 32 GEARBOX LUBE OIL SPECIFICATIONS

Gravity, API	28 - 37
Pour Point, °C (°F)	-7 (20) max.
Flash Point, °C (°F)	204 (400) min.
Viscosity, cSt at 40°C cSt at 100°C SUS at 100°F SUS at 210°F	28.8 to 35.2 5.2 min. 150 to 180 44 min.
Viscosity Index	95 min.
ISO Viscosity Grade	32
Color, ASTM D 1500	1.5
Neutralization Number, Maximum	0.20
Demulsibility, ASTM D 1401 Time to 0 ml emulsion at 54°C (130°F) after 30 min. at 82°C (180°F) after 60 min.	Pass Pass
Foam Limits, ASTM D 892 Sequence 1 Sequence 2 Sequence 3	25/0 max. 50/0 max. 25/0 max.

Note: No other additives are recommended.



RECOMMENDED ISO VG 46 GEARBOX LUBE OIL SPECIFICATIONS

Gravity, API	28 - 37
Pour Point, °C (°F)	-7 (20) max.
Flash Point, °C (°F)	204 (400) min.
Viscosity, cSt at 40°C cSt at 100°C SUS at 100°F SUS at 210°F	41.4 to 50.6 6.5 min. 217 to 260 48.8 min.
Viscosity Index	95 min.
ISO Viscosity Grade	46
Color, ASTM D 1500	2.0
Neutralization Number, Maximum	0.25
Rust Protection, ASTM D 665, A & B	Pass
Demulsibility, ASTM D 1401 Time to 0 ml emulsion at 54°C (130°F) after 30 min. at 82°C (180°F) after 60 min.	Pass Pass
Foam Limits, ASTM D 892 Sequence 1 Sequence 2 Sequence 3	25/0 max. 50/0 max. 25/0 max.

Note: No other additives are recommended.