

SE Encore Series Lubrication

Mobil Glygoyle 460 Lubricant

Winsmith lubricates the entire SE Encore worm gear speed reducer series exclusively with Mobil Glygoyle® 460. In worm gear speed reducers, this advanced technology polyalkylene glycol (PAG) based synthetic oil provides exceptional performance properties and features including:

- improved efficiency
- lower operating temperatures
- high thermal and oxidative stability
- low deposit formation and sludge resistance
- excellent lubricity
- hydrolytic stability
- NSF H1 (formerly USDA) certified for incidental food contact

Lower Operating Temperatures

The improved SE Encore speed reducer efficiencies that result from Mobil Glygoyle 460 lubricant translate into lower operating temperatures. Testing has indicated that efficiency losses are decreased up to 20% when compared to polyalphaolefins (PAO) based synthetic lubricants and up to 35% when compared to standard 600W (mineral oil) worm gear lubrication (depending on the gear ratio). Additionally, this testing showed a 20°F lower operating temperature in a worm gear speed reducer using Mobil Glygoyle 460 when compared to that using a comparable PAO (Mobil SHC 634) lubricant at the same loaded condition. Further, the speed reducer with Mobil Glygoyle 460 operated several degrees cooler than that using another widely promoted competitive PAG based lubricant. A “rule of thumb” (valid within certain temperature ranges) is that oil and seal life double approximately every 18°F reduction in operating temperature. Therefore, the use of Mobil Glygoyle 460 lubricant in all SE Encore series worm gear speed reducers may double the lubricant and seal life in some applications.

Mixing of Lubricants

The PAG based stocks used in Mobil Glygoyle 460 do not chemically react with mineral or PAO lubricants and are not miscible. If they are mixed, an emulsion will form that will not provide proper lubrication. Therefore, care should be taken not to mix these incompatible lubricants. When switching from one lubricant type to another in a speed reducer, follow the instructions related to flushing procedures. This publication is available at www.WINSMITH.com.

Dependent on operating environment, a vented speed reducer may be subjected to lubricant contamination from external water or moisture. Hydrolytic stability is a

measure of the lubricant's tendency to chemically react and breakdown in the presence of water. Unlike PAO based synthetic lubricants, PAG based lubricants do not break down and lose their lubricity in the presence of water. However, water concentrations above about 1% should be avoided due the potential of internal corrosion.

Lubricant Level and Mounting Position

Winsmith fills all SE Encore Multimount series worm gear speed reducers to an oil level that allows mounting in any position. This also applies to all MDNS (quill input adaptor, solid output shaft) and MDSS (quill input adaptor, hollow output shaft) models. All other SE Encore (Integral and Modified) series reducers are filled to the optimum oil level indicated by the intended operational mounting position specified on the order. Consult the ILE-08 bulletin for lubricant level adjustments if a change in the mounting position is required. Following these recommendations ensures that all of the internal speed reducer components receive proper lubrication.

Oil Change Frequency

Advanced PAG based lubricants are relatively new in the marketplace. Therefore, few “hard and fast,” or “based-on-experience,” rules can apply to the frequency of oil changes. Any claims that a worm gear speed reducer lubricant “never needs to be changed” are fictitious. In reality, the current limited industry experience with PAG based lubricants combined with the wide range of application demands, operating environments, and differing user life expectations govern the need and frequency of lubricant changes.

The best approach to determining oil change frequency is for each “user” or “equipment builder” to base oil change frequency on lubricant sampling performed in conjunction with an experienced testing laboratory. Depending on the application, operating conditions, and service life demands, the sample testing might be suggested every year or ever five years. The results should be a guide for defining oil change frequencies.

Winsmith has not defined a required oil change frequency for the SE Encore series of worm gear speed reducers. In many indoor environments that are relatively contaminate free and under normally loaded application conditions, changing the lubricant may never be necessary within the desired life of the speed reducer. However, when operating in heavily loaded applications, high temperature, or contaminated environments, all lubricants will experience performance degradation over time. In these conditions, it is recommended to periodically change the lubricant to maximize the service life of the speed reducer components. Contact Winsmith for addition information on special lubrication requirements.

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