

ARE YOUR GEAR OILS NEGLECTED?

Gear oils are formulated to tolerate very rigorous demands since they function in a diverse range of operating conditions and applications. They are often sealed in a component, but gear oils in unsealed applications are often ignored or neglected, which can lead to damage or even failures.

Gear oils are typically designed with an extreme pressure (EP) additive and/or an anti-wear additive to prevent the wear and distress of the gear components. The EP additive forms a chemical reaction with the metal surface to create a film that will carry a load and prevent metal-to-metal contact. The heavier the load or more severe the condition (higher temperatures, higher pressures, shock loading, etc.), the thicker the film becomes, imparting better wear protection. The surface reactive additives greatly reduce the amount of wear that is generated. However, due to their lengthy service life and subsequent amount of contaminants they will eventually tend to accumulate a large amount of wear metals.

In addition, the gear compartment will accumulate water, depending on the specific application. The gear oil is designed to separate from water and allow the water to be removed from the system. This will aid in the reduction of rust, corrosion, and oxidation catalysts.

The gear oil must be designed with the proper viscosity for the system's needs. Due to the system's aggressive nature, it is common for the oil to shear down, especially if the oil contains polymers for multi-weight characteristics. The oils are analyzed under stringent shear testing to keep the oil in viscosity grade and maintain the critical fluid film thickness for proper wear protection.

The additives utilized in gear oils have been meticulously tested for long periods of time to ensure that the finished fluids meet the required specifications. Regardless of the capabilities of your gear oil, have the oil tested periodically. The applications will likely be severe and the oil will eventually become degraded and contaminated. Gear oils are certainly robust oils, but they need to be maintained.

If you have questions, please contact Technical Services at 1-800-444-6457.

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