TIP #1

Most synthetic engine oils made with PAO now contain a small amount of ester to give the basestock the same solvency power as typical mineral oils. This helps assure that the synthetic lubricant will have the same seal swell characteristics as conventional oils.

TIP #2

Advantages of synthetic lubricants include: high temperature capability, improved oxidation resistance, low temperature flow properties, protection against wear and energy savings. (Submitted by Jeffrey Biamonte and Andy Donlon, ExxonMobil)

TIP #3

Severely hydroprocessed and hydrocracked base stocks may be a suitable alternative to synthetic lubricants for hot applications, at a much lower cost.

Some of these lubricants have very high viscosity indices and excellent resistance to oxidation and thermal failure.

TIP #4

Synthetics in high heat applications can reduce oil consumption because they have fewer volatile components than refined oil. Over time, less oil evaporates or vaporizes into the process.

TIP #5

Consider these steps when selecting a high-temperature grease: (1) Determine the real temperature range. The operating temperature may be lower than it seems. Use a contact or noncontact sensor to measure the operating temperature of the grease. Does it exceed 392 degrees F? (2) Is it intermittent or continuous? If it is continuous, then look for a top-tier product that meets the operational requirements. (3) Do heating and cooling cycles accompany machinery operating and nonoperating intervals? Consider whether moisture may be induced through either atmosphere or impingement. (4) What is the reasonable relubrication interval or opportunity? If relubrication is going to be difficult, then consider a top-tier product to achieve a lower use cost even though itâ€™s more expensive. (5) Consider any cosmetic issues. Can the product drip onto a component in process? Relubrication frequency and volume must be balanced against product contamination issues.