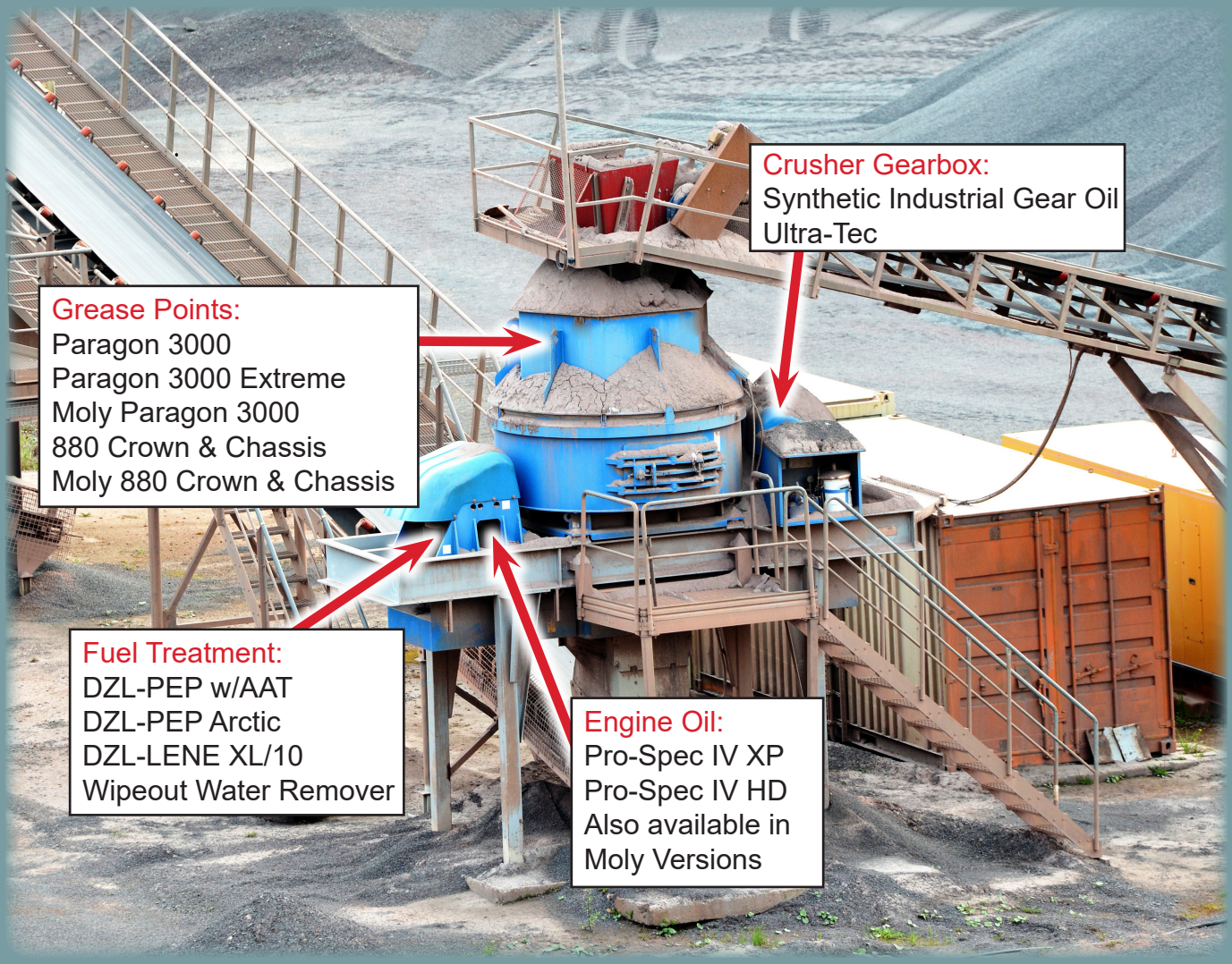
PREFERRED PRODUCTS FOR CONE CRUSHERS

By Colin Burns.

Cone crushers are one of several types of rock crushers on the market and are used primarily in mining, quarries, construction, and the aggregate industry. Types of cone crushers include the spring cone crusher, the compound cone crusher, the hydraulic cone crusher, and the gyratory crusher. All cone crushers work similarly by disintegrating rocks and stones as they are dropped into the crushing chamber, also known as the “feed.” The feed drops into the crushing chamber, the large circular opening at the top of a cone crusher. Inside the crusher, a moving part known as the mantle, or the “cone” gyrates inside the machine that does not travel in a perfect circle. Instead, the mantle is designed to swing slightly while it rotates, consistently altering the gap between the mantle and the concave walls. As the mantle swings, it crushes the rocks against the concave walls and each other breaking them down even further. A concept is known as interparticle crushing.

A cone crusher has two sides: an open side and a closed side. As rocks are crushed, the particles that are small enough to fit through the open side fall through the space between the mantle and the concave walls. As the mantle gyrates, it creates a narrow point and a wide



point. The distance on the wide side is known as the OSS, the “open side setting” while the narrowest point is called the CSS, “closed side setting.” How the OSS is setup will determine the size of the broken-down rock particles created as they exit the crusher. Meanwhile, since the CSS represents the shortest distance between the concave and the mantle, this is the final crushing zone. How the user configures the CSS is critical for determining capacity, energy consumption, and final product size.

Cone Crushers often operate outside in the elements, making them prone to contamination from dirt, dust, sediment, and water, especially if there are leaks present. Cone crushers are large machines, vibrating, and crushing at times tens of thousands of pounds of aggregate per day. In addition, cone crushers use their oil supply for cooling the machine in addition to lubrication so scheduled maintenance including oil and filter changes is vitally important. A cone crusher operating with worn or contaminated oil can lead to a reduction in its bearing, gear, and liner life. TRC Synthetic Industrial Gear Oil is a great lubricant to counter these variables with enhanced bearing protection based on the FE-8 Bearing Test, High Extreme Pressure chemistry, significant water separation, and the reduced operating temperatures it helps produce. The chemistry makeup of Synthetic IGO will not only counter the rust, oxidation, and extreme wear cone crusher tend to experience, they can also lead to a reduction in operating costs and maintenance throughout the life of the machine. TRC customers who use Synthetic IGO and other TRC lubricants in their cone crushers can take advantage of the TRAAP program to diagnose and establish a baseline that can help identify when abnormal wear or contamination is occurring, at no extra cost to the customer.