

## Diesel Engine Lubrication Injectors, Pumps, & Upper Cylinders

North American Regulations regarding Ultra Low Sulphur Diesel (ULSD) came into effect June, 2006, reducing sulfur content from 300-500ppm to a new maximum of 15ppm. Diesel fuel will no longer have the required lubrication to sustain the pump and injector life that diesel engines require.

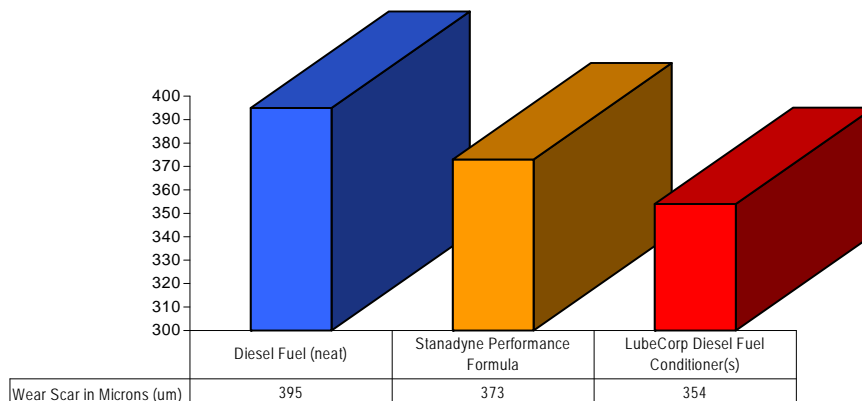
This is happening as a direct result of stripping the “FAT” (heavy molecule) out of the existing diesel fuel in order to meet the 15 ppm (parts per million) regulation to reduce sulphur emissions; the environment benefits but it’s bad for equipment running on diesel fuel.

There are a number of issues arising from new regulations regarding commercially available diesel fuel that are problematic. I refer to research done by Stanadyne (one of the world’s largest manufacturers of diesel pumps and injectors). Stanadyne commissioned an independent laboratory study back in 1996. Those tests, back then already, found that more than 70% of available diesel fuel did not meet the minimum lubrication standard set by SAE standard J2265.

LubeCorp Inc. performed a similar lubrication study in 2005, through SGS Laboratories, Deer Park, Texas. The tests were run under ASTM D-6079 with a High Frequency Reciprocating Rig (HFRR) which is the recommended test for fuel lubrication. The tests run compared diesel fuel (neat) with Stanadyne Premier Performance Formula diesel fuel conditioner and LubeCorp’s diesel fuel conditioners (which all contain the same lubricity at the recommended treat ratios).

**LubeCorp Diesel Fuel Conditioners have the smallest wear scar at 354 micron, proving the best possible lubricity.**

**Comparative Diesel Fuel Conditioner Lubrication test (HFRR)**



SGS Certificate of Analysis June 13, 2005