

## Why Use Royal Purple®

### Feel the Difference

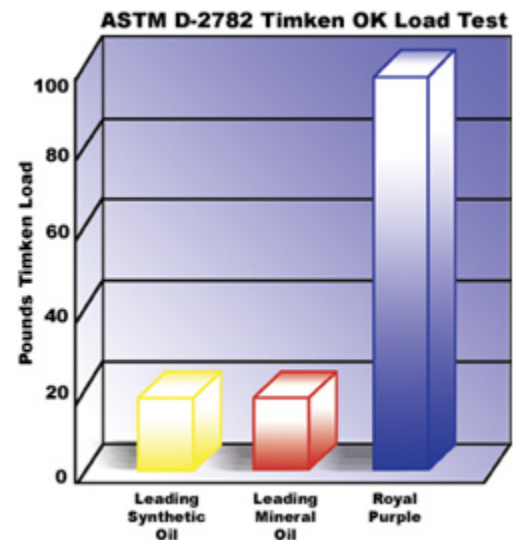
The most frequent comment from customers is how they can feel the difference in their vehicles after switching to Royal Purple. For instance, Royal Purple® Motor Oil typically improves horsepower and torque up to 3%. It also reduces fuel consumption by as much as 5% and typically reduces emissions 20% or more. Performance gains will vary depending on the type of vehicle, its condition, and the way it's driven. Visit our test summary page for independent test results that document these performance gains.

### Superior Technology Creates Superior Products

Synerlec® is Royal Purple's proprietary, lubricant technology that strengthens the oil to provide unmatched performance and protection. It also creates an ionic bond that adheres to metal parts for continuous protection, even after shutdown. Synerlec® is the cornerstone of Royal Purple's automotive products.

### High Film Strength Improves Performance

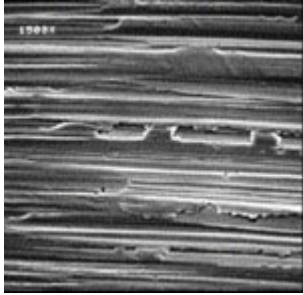
Film strength is a lubricant's ability to prevent contact between metal parts. Royal Purple's film strength is up to 400% stronger than other oils. This improves combustion for more power, better fuel economy and reduced emissions. High film strength also helps to dramatically reduce wear. According to the editors of Hot Rod magazine, "We've torn down some of our dyno engines that have been seriously abused, but with Royal Purple) in the pan, the bearings have looked new."



### Reducing Friction Improves Performance

The primary purpose of oil is to reduce friction. Reducing friction increases horsepower and torque, and reduces fuel consumption, emissions, engine wear and heat. Royal Purple uses premium base oils with a very low coefficient of friction. Royal Purple also smoothes metal surfaces to further reduce friction. Royal Purple remains on the metal surface long after ordinary lubricants would have been squeezed out by pressure and heat. The oil layer responds to increased pressure with increased viscosity until the metal peaks (asperities) undergo deformation and flow into the low spots. Over time, the metal surface becomes extremely smooth and can even develop a mirror-like surface.

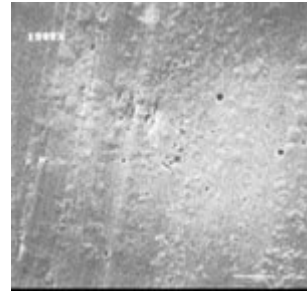
Take a look at the following photos:



A new bearing surface appears smooth until magnified 1500X.



The same bearing surface roughened after using a leading synthetic oil.



The same bearing surface after using Royal Purple.

Notice that after using Royal Purple® the bearing surface is now significantly smoother than it originally was. Smoother surfaces reduce friction for improved performance.

### Increased Oil Life Saves Time, Money, and the Environment

Lubricants often have a service life of only 3,000 miles due to oxidation, which reduces oil's ability to lubricate. Oil's ability to resist oxidation is measured by the ASTM's rigorous Thin Film Oxidation Uptake Test (TFOUT). The test is so severe that it lasts only 1300 minutes. Royal Purple not only surpasses leading mineral- and synthetic-based oils in the test, it also outlasts the duration of the test.

Royal Purple's superior oxidation stability enable oil changes to be extended up to 12,000 miles (or more depending on the equipment), saving money, saving time and reducing the amount of used oil that must be disposed of.

