The Oily Truth: A Study Testing Molecular Resistance in Common Diesel Engine Lubricants

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Everyday more and more vehicles are put into production, and are meant to endure hard, corrosive work. Without the use of an engine oil or lubricant, engine failure is inevitable. Research shows consumers lack knowledge of which oil is the best for their engine and may be putting the wrong lubricant in their engine. The purpose of this project was to test the molecular resistance in engine oils and to determine the Extreme Pressure (EP) they could withstand before breaking. The Timken Test Machine, Schaeffer's, Exxon, Chevron, Royal Purple and Shell engine oils were used to prove which oil could stand the most pressure before breaking at the lowest temperature. Pouring oil into the oil pan, letting the friction wheel become lubricated, and applying pressure to the rod bearing were some of the steps used to test each oils molecular resistance and EP. The researchers found that Schaeffer's engine oil could withstand the most pressure at the lowest temperature on the Timken Test. These results showed Schaeffer's is the most effective for lubrication in diesel engines because it would allow a driver to travel further without having to change their engine oil as often, compared to the other oils tested in this experiment. Schaeffer's took the most pressure at the lowest temperature, which translates to preventing wear and tear in the engine. In conclusion, the researchers found from the data collected that Schaeffer's was the most effective oil for lubrication.

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