The Role of Lubricant Additives in Fuel Efficiency and Emission Reductions: Viscosity Effects

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Fuel Economy and Emission Reduction: A System Approach

Lubricants and their delivery are a subsystem whose design can affect overall system efficiency

Engine Oils

Experiment:

Effect of Viscosity Improver Chemistry on Fuel Economy

Results:

Choice of chemistry can affect fuel economy by up to **2%**

Transmission and Gear Oils

Experiment:

Effect of Lubricant Formulation on Fuel Economy

Results:

Synthetic oils improve transmission torque loss.

BE CAREFUL! Formulation options currently available can help or hurt transmission efficiency by up to **1%**

Hydraulic Fluids

Experiment:

Effect of Maximum Efficiency Hydraulic Fluid (MEHF) vs. Standard Fluid

Results:

Shear stable, multi-grade hydraulic fluids increase equipment efficiency more than **10%** over standard fluids

Questions addressed in this poster:
How Can Additive Chemistry Affect Efficiency?
What is the Optimal Viscosity?

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