

Final Project Proposal

Dataset

I will be using data from Class 8 heavy duty vehicles, weighing at least 33,001 pounds.

Structure

The data is contained in two .xlsx tables. Table one is organized into identifiers, condition indicators (soot, viscosity, acidity, base), chemical degradation indicators (oxidation and nitration), and wear metals (iron, lead, copper, chromium, aluminum), and contaminants (silicon, sodium, potassium). Table two gives the fuel efficiency for each fleet.

Metadata

Observations in fleet data: 111 Observations in efficiency data: 24

Research Questions

- Does an increase in degradation indicators (oxidation/nitration) effect engine wear metals?
- Does soot increasing correspond to more engine wear metals
- Do wear metals increase linearly or non-linearly