

DD13 Fuel Economy Test

SwRI has developed a fuel economy test using the DD13 engine platform for the specific purpose of evaluating benefits derived from lubricants. The EPA Supplemental Emissions Test (SET) method was used as a basis for this testing with a number of lubricant-test best practices applied.

Objective

- Quantify the efficiency benefit of an engine oil over a prescribed test cycle.
- Improve detection levels over historic fuel economy testing and vehicle-based approaches

Test Cycle Summary

- The cycle consists of 13 modes run for seven minutes to stabilize temperatures and pressures to a high level of consistency. The cycle is repeated a total of eight times with the last seven used for statistical evaluations of operation. A flush process between lubricants ensures no carryover occurs.

Test Fixture

- Modified Detroit Diesel DD13 engine.

Test Parameters

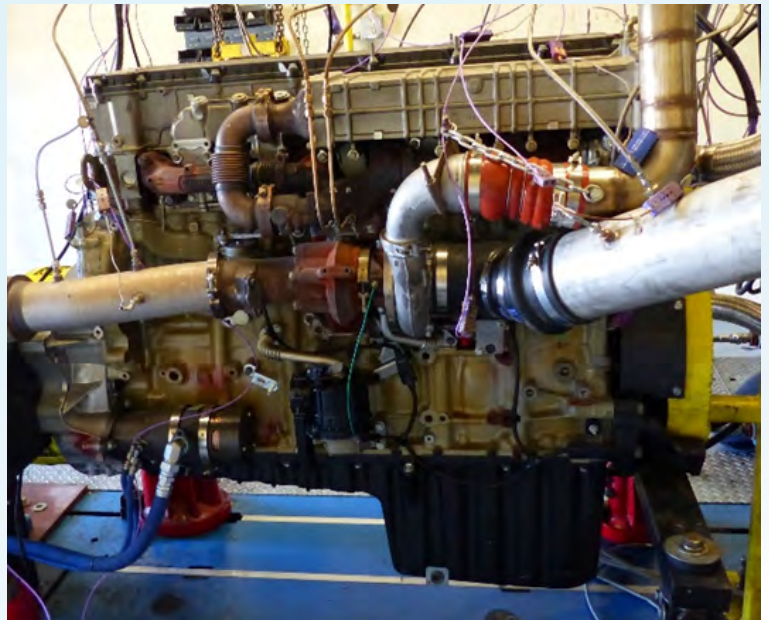
- Results are given as a percentage improvement in fuel consumption between a baseline and candidate lubricants.

Test Parts Evaluation

- None. The engine is only rebuilt as required and not between tests.

Used lubricant Analysis

- Viscosity @ 100°C (ASTM D445)
- Wear metals (ASTM D5185)
- Fuel dilution
- Soot by TGA
- Other testing as requested





◆ We welcome your inquiries.

**For additional information,
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