Experimental and Theoretical Investigation of Lubricant and Additive Effects on Engine Friction

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Using motored engine experimental setup in conjunction with computer simulations to examine lube oil performance

Motored engine setup based on small Hatz 1D50 single cylinder diesel engine

- Operated over range of engine temperatures and oil pressures
- Presenting data for base oil, base oil with typical additive, and base oil with “developmental” additive
- 20 hours motoring time for each, with variety of engine conditions examined

Computer simulation:

- Using AVL Excite PowerUnit simulation based on same engine in motored engine setup and Stribeck curves obtained with line contact friction rig
- Comparing simulation and experimental results