Oxygen-Enriched Combustion for Military Diesel Engine Generators

Poster Location P-18

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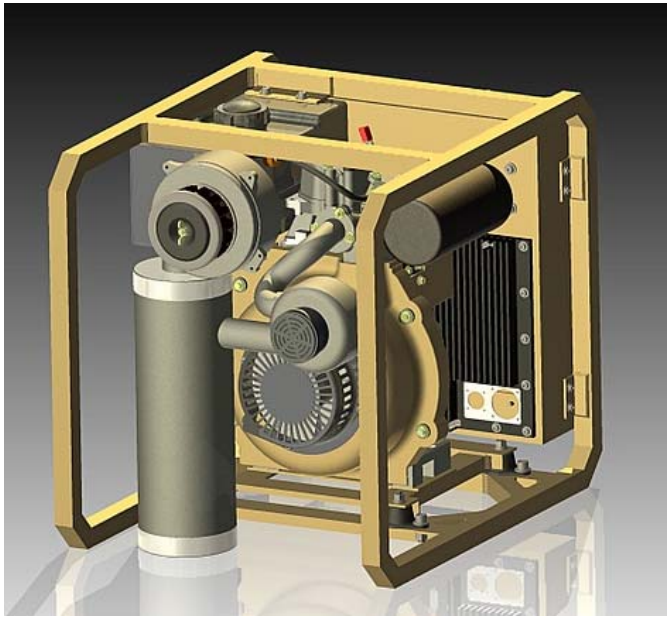

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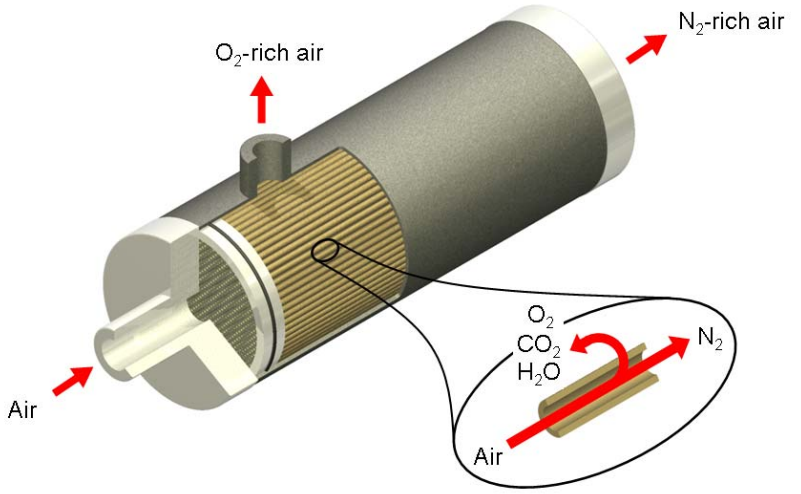
Oxygen-Enriched Diesel Combustion

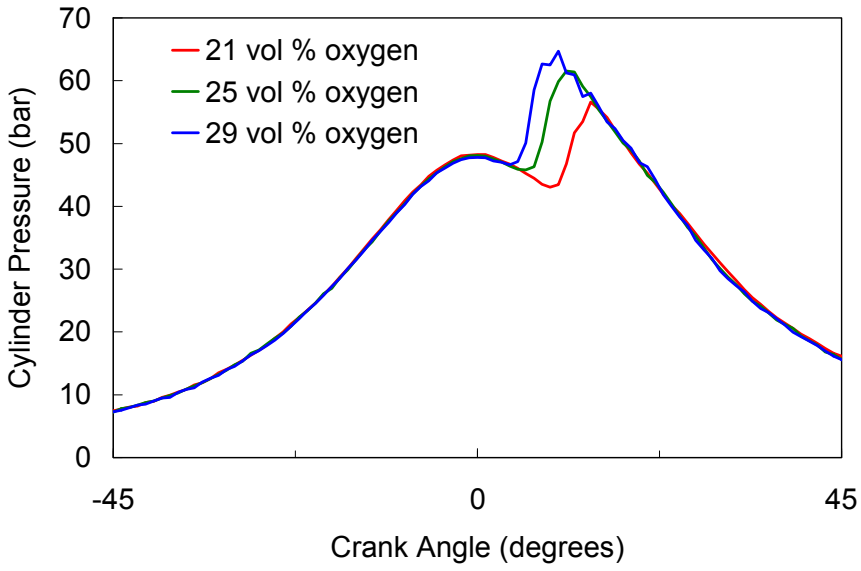
Motivation

- Diesel electric generators are the U.S. Army's single largest consumer of fuel
- Resupplying fuel in the battlefield is both dangerous and expensive
- Our objective is to increase fuel conversion efficiency and power density

Preliminary Results

- Substantial increases in brake power (50% gross, 15% net)
- Considerably lower peak pressures than turbocharging
- Diesel EFI can accommodate for changes in combustion phasing
- NO_X can be controlled by using nitrogen enrichment at part load





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