Development of a Waste Heat Recovery System for Light Duty Diesel Engines

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Poster Location P-4
Objective: To increase the efficiency of a light duty diesel engine through the development of a Rankine cycle waste heat recovery system

Substantial increases in engine efficiency require utilization of the waste energy found in the coolant, EGR, and exhaust streams.

Predicted performance at peak brake efficiency point is 12.8% cycle efficiency, and 5.8 net hp. The combined engine + WHR system efficiency is predicted to be 44+%

Thermodynamic modeling indicates a significant improvement in fuel efficiency can be achieved over much of the engine map.

Radial inflow turbine with integrated generator developed by Barber-Nichols