



## Thermo-electric Power Generation Using Exhaust Heat Energy

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Generation of electrical energy with the help of TEG using exhaust heat energy from I.C. engine | The efficiency in an internal combustion engine ranges from 25% to 35%. About 40% of the overall fuel energy losses in a combustion engine are waste heat which is blown out with the exhaust gases and 30% is cooled away by the vehicle's radiator. Even if a small fraction of the waste heat could be turned into useful energy again it would be a step in the right direction of improving fuel economy. Being one of the promising new devices for an automotive waste heat recovery, This work focuses on generation of electrical energy with the help of thermoelectric power generator. Sizing up the heat exchanger is based on the size, orientation, and number of modules. After designing suitable heat exchanger, the thermoelectric modules are integrated on the heat exchanger for performance analysis. In this work, the effort is on the performance of thermoelectric generator under various engine operating conditions. Results show that voltage, current, power developed and efficiency of the system increase with the increase in engine speed & mass flow rate of exhaust gas. At the...



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