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Thermoelectric Power Generation from Waste Heat

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Abstract: *The current worldwide trend of increasing transportation is responsible for increasing the use of internal combustion engines. I.C engines, the devices with a high energy usage and low efficiency because a high amount of the energy produced during combustion is lost in the exhaust and in the coolant of the engine in the form of heat. As a huge amount of energy is lost, there is an urgent need to design advice to trap this loss. This paper proposes and implements a waste heat recovery system using a thermoelectric generator (TEG) designed for four strokes I.C. engine. The system converts the waste heat from the exhaust manifold into electrical energy using a TEG. The output is then boosted by a Joule Thief converter to run the required load or to charge a battery. The experimental results demonstrate that the proposed system recovers a considerable amount of waste heat which can be used to power some auxiliary automobile devices.*

Keywords: IC Engine, Heat Energy Recovery, Silencer Bend Pipe, TEG, Electric Load, etc.

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