

**UTILIZATION OF EXHAUST GAS ENERGY AS A
ELECTROMAGNET GENERATOR FOR
FUEL SAVING EQUIPMENT**

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ABSTRACT

The growing number of motor vehicle ownership causes the demand for fuel oil (BBM) to increase while the supply of fuel oil in the natural world is running low. Seeing these conditions, the discovery and development of alternative energy is needed to be able to reduce the level of fuel consumption. One type of energy source is a thermoelectric generator. Utilization of heat from motor vehicle exhaust gas can produce electrical energy, which energy can be utilized again to save fuel consumption of motor vehicles through electromagnetic devices. This study aims to determine whether there is an influence of the use of thermoelectric generator electricity on electromagnetic devices to reduce fuel consumption. The thermoelectric generator uses 2 type SP1848-27145 peltiers arranged in series, then for a fuel-saving electromagnetic device using a 0.35mm copper wire coil with 350 turns. Data collection is carried out during the day at 13.00 WIB until 16.00 WIB by comparing the data using tools and without tools. The results obtained fuel consumption can be reduced by 12.2% at 3000 rpm engine speed.

Keywords : *thermoelectric generator, electromagnetic fuel saver*