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Power generation from exhaust gases of bike

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ABSTRACT

Regarding the age of power from motorcycle this paper manages use of exhaust gas. In recent times in the automobile world numerous and astounding ideas are made and even the previous concepts are being improved to meet and conquer the new age difficulties. Now, electrical aspect has come into picture and supporting the automobile sector. With the help of waste gases emitted by the vehicle silencer which are normally released into environment using the straightforward system like DC generator and silencer; Electrical force is produced through this is the crucial change made.

Keywords— Exhaust gas, Silencer Turbine, Dynamo

1. INTRODUCTION

As we know the energy conservation is very important issue currently. So, to overcome this issue there is need for system for generating electrical energy with high efficiency and minimum environmental pollution. Conventional coal and nuclear plant generally achieve only about 35 percent efficiency. By efficiency, there is meant the amount of electrical energy produced as percent of potential energy present in fossil fuels burned in power plant. all around the world the scientist and researchers are finding way to reduce wastage of energy either by improving the efficiency of system, or by recycling waste energy.

The heat engine is a system that performs the conversion thermal or heat energy into mechanical work. There is large amount of energy getting wasted from vehicle in which the nearly forty percent is in the form exhaust gases. If this idea of converting exhaust gases heat energy into electrical energy is implemented effectively, the potential for energy conservation is massive.

2. LITERATURE REVIEW

Power Generation using Two-Wheeler Silencer by **J. Emeema, C. Lakshmi** this paper explains the power generation form exhaust gases of vehicle with help of turbine setup, which consists of turbine made of aluminium because it has high heat conductivity, a dynamo, battery to store generated energy, inverter, on-off switch, a led indicator. by conducting test and observation the author calculates the turbine speed, velocity and the turbine power. The project was successfully carried out on pulsar 150 with the turbine setup to generate electrical energy from exhaust gases of bike.

Kranthi Kumar Guduru, Yakoob Kol ipak and **Shanker. B. N. Suresh** This paper explains that the large amount of power is getting wasted from vehicle which is splites into categories such as effective power mobility and accessories , friction and parasitic losses ,coolant and exhaust gases of large amount of energy is wasted in form of exhaust gases .which can be recovered by using exhaust power generation which is simple in setup , it can be used for both two wheelers and four wheelers, with help of turbine , battery ,dynamo , nozzle setup power is generated. The principal used is converting kinetic energy into electrical energy. which will be used to charge the battery and for other electrical accessories.

Generation of Electricity by Using Exhaust from Bike by **S. Vijaya Kumar, Amit Kumar Singh, Athul Sabu, Mohamed Farhan**. In this paper author studied different ways to recover the exhaust heat energy wasting form vehicle silencer. methods to recover waste energy are turbine dynamo setup, thermoelectrical generator. the experiment is carried out by placing a turbine in path of exhaust silencer which is connected to dynamo. Depending upon the flow of exhaust gases the turbine will rotate and power will be producing with help of dynamo. The experiment is successfully tested and implanted.

Study and performance analysis of charging vehicle battery using bike exhaust gas by **K. Kumaravel, P. Balashanmugam, and G. Balasubramanian**, in this paper they had done different studies on different aspects of producing electrical energy from exhaust gases. They had taken the practical inputs using different ways of power generation and studied their outputs with the problem occurs on different engines

Engine battery super charging from exhaust gas by **S. Pratheebha**, in this paper author told us about different strategies for power age from fumes gas of vehicle utilizing dynamo, turbine, thermoelectric generator. setting a turbine in the way of exhaust in the silencer. A motor is likewise positioned in the body of the vehicle. The turbine is associated with a dynamo, which is utilized to produce power. Contingent on the wind current the turbine will begin pivoting, and afterward the dynamo will likewise begin to turn. A dynamo is a gadget which is utilized to change over the motor energy into electrical energy. The created power is put away to the battery. It very well may be put away in the battery after correction.

Utilization of Exhaust Gas of Vehicle for Electricity Generation by **Shaikh Mobin, Shaikh Saif, Shaikh Najim, Pathan Umar Farooq O., Pathan Farhan**. The proficiency of the turbine is less, however in ideal plan best outcomes can be accomplished. Battery charging framework from fumes gas is better plan to save the force. All in all, the battery is charged through flywheel in which we lost some measure of force. From the trial examination, we have seen that the efficiency can be set aside positively. The motor presentation is practically same in with and without battery charger.

Power Generation by using Kinetic Energy of Exhaust Gases from an Internal Combustion Engine by **Kiran Kumar K, Nagabhushan Venkatesh Gudi, Madhu C**. Vehicle motors produce a generous measure of force. This force assists with driving the vehicle effortlessly and at extraordinary rates. Nonetheless, in this day and age of streamlining fuel utilization and attempting to recover each watt of force going unused in the vehicle, methods to recover power are significant. This work focuses light on a strategy which has gigantic guarantee in recovering waste energy from the exhaust of a vehicle. Through this work, a most extreme force yield of around 15W was gotten from the turbine arrangement. With appropriate examination in the field, we might have the option to deliver such a lot of force from different wellsprings of the vehicle that this force might be utilized as a helper driving hotspot for itself.

Generating Electricity by Using Exhaust Gas by **Venkatesh. J, Karthik Kumar. R, Karthikeyan. G, Kavin. R, Keerthi raja S.V.G**. This paper explains how we can produce power utilizing fumes gas. The turbine utilizes squander fumes gas and produce power. We use silencer for both force age and provincial jolt. The turbine produces power and it is put away utilizing battery. Both turbine and battery are painstakingly positioned in their individual spots. The put away power can be utilized for our particular purposes.

Additional Power Generation from the Exhaust Gas of Diesel Engine by Bottoming Rankine Cycle by **Shekh Nisar Hossain and Saiful Bari**. The fumes of a diesel motor contain 40% of the information energy and normally this energy is squandered by removing to the climate. The general effectiveness of the diesel motor can be improved by recuperating this waste warmth to create extra force by turbine utilizing Rankine

Cycle. In this task, explore was directed to appraise accessible energy in the fume's gas of a diesel motor. From the momentum research the accompanying ends are drawn: Heat recuperation for a motor is more compelling at higher force of the motor, Counter stream shell and cylinder heat exchanger can recuperate heat all the more productively

Power Generation from Exhaust Gas of an IC Engine by **Impha Y D, Mahammad Yunus C, Ajaygan K, Mustaqeem Raza, Mohammed Imran, Harsha Raj K** From this undertaking, it has been distinguished that there are enormous possibilities of energy investment funds using waste warmth recuperation advances. Squander heat recuperation involves catching and reusing the waste warmth from inside burning motor and utilizing it for warming or creating mechanical or electrical work. It would likewise assist with perceiving the improvement in execution and emanations of the motor if these innovations were embraced by the car producers. The investigation additionally recognized the possibilities of the advances when joined with different gadgets to expand potential energy effectiveness of the vehicles.

Power generation from waste of IC engines by **Ataur Rahman, Fadhilah Razzak, Rafia Afroz, Mohiuddin AKM, MNA Hawlader**. Reusing the waste heat from internal combustion engine and using it for electrical work. Generation of electricity from the high temperature difference can be done by using thermoelectric system and it can available at affordable cost. If this concept of thermoelectric system is taken to the nano level or micro level then there will be ample amount of electricity can be generated which are just wasted into the atmosphere. The energy produced from this system could be used to power any auxiliary devices in an automobile directly or it could be stored in a battery and then used later.

Generation of Electricity Using Exhaust Gases by **Ch. Indira Priyadarsin, Naveen Vuddagiri, Pratheek Jakkam, Kothinti Surya Teja Reddy** from this paper it was observed that there is a need to convert exhaust gas into electrical energy. The temperature difference from hot surface to coolant surface resulted in greater voltage and current was increased. Finally, it is concluded that the production of electrical energy from exhaust gases depends on temperature difference and number of TEG modules.

3. CONCLUSION

From the examination it has been recognized that huge measure of energy is getting waste in type of exhaust gases we can save this energy by Placing a turbine in the way of exhaust close to the silencer of vehicle The turbine is associated with a dynamo, which is utilized to create power. This will likewise assist with improving execution and outflow of motor. This strategy for energy change was discovered to be simple and savvy.

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