

ABSTRACT

Nowadays, technology gives a big help to people's daily life, from children to adults. The development of technology has a strong relation with people's needs for electrical energy. The availability aspect of proper electrical energy becomes a major part of human's basic needs for electrical energy. According to those facts, the idea to make some tool which can produce alternative electrical energy comes up.

In this project, I still use the same concept from the previous one, which is how to convert kinetic energy from a dynamo into electrical energy. The electrical energy generated from this process takes a form in AC current which is then being rectified by diodes from a charging unit series. What makes it different is that in this project the output from the charging series is not sent directly to the battery but is being sent to a step-up circuit. The output from this process is then sent directly to the battery.

Meanwhile, the output of this project is a tool that can improve output from the previous one. It's a tool that can increase electrical energy from the conversion process of a motorcycle's kinetic force by strengthening its output voltage then stored in the battery. Measurements were performed on a motorcycle in a flat and straight road, a condition of maximum charging process. Tests were performed 4 times with a constant velocity of each 10km/h, 20km/h, 30km/h, and 40km/h. The output voltages from this process are 13.47 V, 15.56 V, 22.01 V and 29.63 V.

Keywords: *Bicycle dynamo, Charger Circuit, Step Up Circuit, Battery.*