ANALYSIS OF TESTING THE CHARGE AND DISCHARGE SYSTEM OF ELECTRIC MOTOR BATTERIES WITH VARIATIONS IN SPEED AND DRIVING DISTANCE ON A MATIC MOTORCYCLE FI 110 CC HYBRID CONVERSION

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ABSTRACT

This study aims to determine the power consumption of electric motor batteries at the time of discharge with speed variations of 10 km / h, 20 km / h, 30 km / h and testing the battery charging time at the time of charge. The methods used in this research are quantitative and experimental methods. conduct road tests in the Jember State Polytechnic campus area with variations of different driving distances, namely 1 km and 2 km. Data obtained from the test results in the form of voltage, current and power. After that, an analysis of the data that has been obtained is carried out to answer the research objectives that have been made. at low speed with a short distance the electric motor shows low power consumption, but when with a longer distance the electric motor power consumption is more. Likewise, at high speeds the electric motor shows greater power consumption from a short distance and a longer distance the power consumption is also greater. The results of battery charging obtained the average charging time is at 42 minutes. The results of the battery life of the electric motor at low speeds the battery can last for 6.77 hours or 406.2 minutes, at high speeds the battery can last for 2.92 hours or 175.2 minutes.

Keywords*: hybrid vehicles, charge, discharge, 18650 lithium ion battery*