THE EFFECT OF ROLLER WEIGHT VARIATIONS AND PROGRAMMABLE ECU MAPPING ON THE PERFORMANCE OF A128CC BORE-UP AUTOMATIC MOTORCYCLE

Aditya Wahyu Pratama, S.T., M.T. As Chief Conselor

Moh. Rizqi Hidayatullah
Study Program of Automotive Engineering, Departement of Engineering
State Politechnic of Jember

ABSTRACT

The development of automotive technology in Indonesia has increased quite rapidly, especially in two-wheeled vehicles such as automatic motorcycles. This study aims to determine the effect of roller weight and programmable ECU mapping on engine performance on a 2015 Honda Beat FI 128cc motorcycle. The method used is an experimental method, where engine performance tests (power and torque) $_2$) were carried out on several roller variations (standard, 11 grams, 15 grams, and a combination of 11 and 15 grams). The results showed that standard rollers can significantly increase engine power and torque. On the other hand, torque and power values decreased in the combination of 11 and 15 gram rollers. The 15 gram roller produces quite good performance at high speeds and supports maximum speed, while the 11 gram roller provides a more responsive acceleration character but produces lower power and torque. Thus, standard rollers with the support of appropriate programmable ECU settings are the best combination to produce optimal performance on a 128cc bore up automatic motorcycle.

Keywords*: Roller, Engine performance, motorcycle, ECU mapping programmable*