

**COMPARATIVE ANALYSIS OF ECU STANDART AND ECU RACING
WITH CHANGES IN INJECTORS AND RACING COILS TO
PERFORMANCE ON 150 CC MOTORCYCLES**

by

Firman Ainul Yakin Alaziz

*Study Program of Automotive Engineering, Majoring of Engineering
The State Polytechnic of Jember*

ABSTRACT

This study aims to determine the effect of using the standard ECU and the Juken 5+ ECU with aftermarket injector and coil changes on torque and power on a Honda CB150R motorcycle. The method used is the experimental method. Using a 4 stroke motorcycle object with a 150 cc injection system, ECU, injectors, standard coil, and Pertamina 92 fuel. Changes were made using the Juken 5+ ECU with variations in ignition timing and AFR, BRT 10 Hole (Bintang Racing Team) injector, KTC coil (Kytaco). The results showed that in parameter 1 using Standard Ecu, standard injector (6 Hole), standard coil, and 7° ignition timing variation before TMA, the torque value was 17.08 Nm at 6.503 Rpm, power 17.9 Hp at 8,679 Rpm. In parameter 2 using Ecu Juken 5+, BRT injector (10 Hole), KTC coil, variation of ignition timing 12° before TMA and fuel supply, the torque is 16.44 Nm at 7,334 rpm, power is 18.4 hp at 8,346 rpm. In parameter 3 with an ignition angle of 17° before TMA and fuel supply using a BRT injector (10 holes) and a high-voltage KTC coil, the torque is 17.76 Nm at 6,564 rpm, power of 18.5 hp at 8,228 rpm. It can be concluded that the effect of using standard ECU and Juken 5+ ECU with aftermarket injector and coil changes on vehicle torque and power, where the best value is obtained by parameter 3 with the highest torque value of 17.76 Nm and the highest power value of 18.5 Hp, combustion in the combustion chamber becomes more perfect so that the moment generated from the combustion chamber is greater which results in a greater thrust on the piston which affects the performance of the vehicle.

Keywords: *ECU, Injector, Coil, Performance*