

COMPARATIVE ANALYSIS OF STANDARD ECU AND RE-MAP ECU WITH 13 GRAM ROLLER VARIATION ON 110 CC MATIC MOTORBIKE AGAINST TORQUE AND POWER VALUES

Alif Rizqi Fajril Muttaqin

*Study Program of Automotive Engineering
Engineering Departement*

ABSTRACT

Motorbike technology has come a long way, with many different types and variations available for consumer choice. Carburettor systems are still used in some motorbike models, but Electronic Fuel Injector (EFI) systems are becoming more popular as they are more efficient and environmentally friendly. EFI technology has advantages over the carburettor system, including a better fuel and air mixing process because it is controlled using an Electronic Control Unit (ECU). This study aims to determine the effect of changing the weight of the standard roller from 15 grams to 13 grams and re-mapping the standard ECU by changing the ignition degree and increasing the injection duration on torque and power with a chassis dynamometer test tool on a 110cc motorbike. For data collection starting from 4000-9000 RPM do 3 times the test and then averaged. For the highest torque results obtained when using a 13 gram roller with an ECU that has been re-mapped, namely 8.86 N.m at 6000 RPM and the lowest using an ECU that has not been re-mapped with a standard 15 gram roller, namely 8.36 N.m at 6000 RPM. As for the highest power obtained when using a 13 gram roller with an ECU that has been re-mapped, namely 7.9 Hp at 7000 RPM and the lowest using a 13 gram roller with an ECU that has not been re-mapped, namely 7.53 Hp at 7000 RPM.

Keywords: *ECU Re-map, Roller, Performance test.*