

**UJI TORSI DAYA DAN EMISI GAS BUANG  
DENGAN MENGGUNAKAN BIOETHANOL SEBAGAI  
CAMPURAN BAHAN BAKAR PREMIUM PADA SEPEDA  
MOTOR HONDA VARIO 125 CC**

*(Power Torque And Exposure Gas Emissions Test Using Bioethanol As a Biofuel  
Premium Fuel Mixture On a Motorcycle Honda Vario 125 CC)*

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***ABSTRACT***

Bioethanol biofuel is used as a mixture of motor vehicle fuel, so it can be seen the effect of mixing premium fuel with bioethanol on power torque and exhaust gas emissions. The vehicle used is a 125cc vario motorbike at 2000 - 9000 rpm with a 500 rpm range in the power torque test while the exhaust emission test is carried out at 1600 rpm (idle). The fuel used is premium with a mixture of bioethanol which is made varied, the mixture used is 100% premium fuel: 0% bioethanol, 90% premium: 10% bioethanol, 80% premium: 20% bioethanol, 70% premium: 30% bioethanol, premium 60%: bioethanol 40%. The research used three stages, the first stage was fuel mixing, the second stage was power torque testing, and the third stage was exhaust gas emission testing. Where the results of the maximum torque test at 2500 rpm for B 20 fuel. The highest torque in B 20 fuel is 27.39 Nm and the smallest torque is obtained with a value of 24.74 Nm using pure premium fuel. The maximum power achieved at 4500 rpm using B20 fuel. The highest power is 11.1 Hp at B 20 fuel and the smallest power is 9.5 Hp at pure premium. From the results of exhaust gas emission testing, the highest CO content is pure premium B0, the CO obtained is 0.43% by volume, and the lowest CO content in B 40 is 0.12% by volume. In the test results, the highest HC content is B 40 fuel, the HC obtained is 725 ppm by volume, and the lowest HC content is in pure premium B0, namely 387 ppm by volume.

Keywords: Bioethanol, Power Torque, Exhaust Emissions