SUMMARY

Experiment Study Of Alcohol Treatment Effects On Performance, Exhaust Gas Emissions And Fuel Consumption On Cbr 150r Motorcycle;

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Along with product growth in Indonesia, the need for transportation equipment for community mobilization is also increasing. To overcome the depletion of fossil fuels and the increasing need for fuel oil, plastic waste can be converted into fuel as an alternative renewable energy which can also reduce plastic waste in the surrounding environment. The method used in this study is an experimental method, which is a method used to measure the effects of alcohol treatment on engine performance, exhaust emissions, and fuel consumption.The results of the research on fuel samples for performance power testing obtained the highest results in the pertalite + ethanol gas + 15% polypropylene (PP) fuel sample with a value of 15.36 at 8,750 RPM rotation compared to 4 other samples. In the performance torque test, the highest results were obtained on the pertalite fuel sample + 15% ethanol gas + polypropyline (PP) with a value of 10.29 NM at 7,500 RPM rotation compared to 4 other samples. For exhaust emission test results, the highest CO value was obtained. The highest carbon monoxide was produced from the pertalite + ethanol + polypropyline (PP) 10% fuel sample at 1,000 RPM which had a value of 1.84%, then the lowest carbon monoxide value was 0.17% which was produced by pertalite + ethanol fuel at a speed of 7,000 RPM. In the fuel test for hydrocarbon (HC) exhaust emissions, the highest hydrocarbon value was obtained from the pertalite + ethanol fuel sample with 1,000 RPM which had a value of 544 PPM. In the fuel test for hydrocarbon (HC) exhaust emissions, the highest hydrocarbon value was obtained produced from the pertalite + ethanol fuel sample with 1,000 RPM which has a value of 544 PPM. In testing the fuel for carbon dioxide (CO_2) exhaust emissions, the highest carbon dioxide value was obtained from the pertalite + ethanol fuel sample with 7000 RPM which has a value of 12 .60%. the highest was produced from the pertalite fuel sample with 1,000 RPM which had a value of 13.53%, the highest consumption value was pertalite fuel with a speed of 7,000 RPM with a value of 67 ml and consuming as much as 33 ml of fuel

RINGKASAN

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Seiring dengan pertumbuhan produk di Indonesia, kebutuhan alat transportasi untuk mobilisasi masyarakat juga semakin meningkat. Untuk mengatasi menipisnya bahan bakar fosil serta meningkatnya kebutuhan bahan bakar minyak, dapat dilakukan mengkonversikan sampah platik menjadi BBM sebagai alternatif energi terbarukan ynag juga dapat mengurangi sampah platstik di lingkungan sekitar. Metode yang digunakan dalam penelitian ini adalah metode eksperimental, yaitu suatu metode yang digunakan untuk efek tretmen alkohol pada perfoma mesin, emisi gas buang, dan konumsi bahan bakar. Hasil dari penelitian sampel bahan bakar terhadap pengujian daya performa diperoleh hasil tertinggi pada sampel bahan bakar pertalite + etanol gas + *polypropyiline* (PP) 15% dengan nilai 15,36 pada putaran 8.750 RPM dibandingkan dengan 4 sampel lainnya. pada pengujian torsi performa diperoleh hasil tertinggi pada sampel bahan bakar pertalite + etanol gas + *polypropyiline* (PP) 15% dengan nilai 10,29 NM pada putaran 7.500 RPM dibandingkan dengan 4 sampel lainnya.Untuk hasil pengujian emisi gas buang menunjukkan nilai tertinggi CO didapat nilai karbomonoksida tertinggi dihasilkan dari sample bahan bakar pertalite + etanol+ polypropyline (PP) 10% dengan RPM 1.000 yang memiliki nilai sebesar 1,84%, kemudian nilai karbomonoksida terendah yaitu 0,17% yang dihasilkan oleh bahan bakar pertalite + etanol pada kecepatan 7.000 RPM. Pada Pengujian bahan bakar terhadap emisi gas buang hidrokarbon (HC) didapat nilai hidrokarbon tertinggi dihasilkan dari sample bahan bakar pertalite + etanol dengan RPM 1.000 yang memiliki nilai sebesar 544 PPM, Pada Pengujian bahan bakar terhadap emisi gas buang hidrokarbon (HC) didapat nilai hidrokarbon tertinggi dihasilkan dari sample bahan bakar pertalite + etanol dengan RPM 1.000 yang memiliki nilai sebesar 544 PPM, Pada Pengujian bahan bakar terhadap emisi gas buang karbondioksida (CO_2) didapat nilai karbondioksida tertinggi dihasilkan dari sample bahan bakar pertalite + etanol dengan RPM 7000 yang memiliki nilai sebesar 12,60%. tertinggi dihasilkan dari sample bahan bakar pertalite dengan RPM 1.000 yang memiliki nilai sebesar 13,53%, nilai konsumsi tertinggi pada bahan bakar pertalite dengan kecepatan 7.000 RPM denagn nilai 67 ml dan mengonsumsi bahan bakar sebanyak 33 ml