

The Effect of Octane Booster - Methanol Adding to Peralite on Exhaust Emissions in 4 Stroke 124 Cc Motorcycles

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ABSTRACT

The reseach was is determine the effect of adding an octane booster - methanol to peralite fuel on exhaust emissions, lambda and AFR on a 124 cc 4 stroke motorcycle with a mixture of pure peralite (P 100%), P 90% + M 7.5 % + O 2.5%, P 90% + M 5% + O 5%, P 90% + M 2.5% + O 7.5% using 1500 rpm and 4500 rpm. This study used a true experimental method, exhaust gas emission test results produce O₂ emissions the lowest average value is 6.87% obtained from a pure peralite fuel mixture with 4500 rpm. For the highest average value of O₂ is 8.6% obtained from 90% P fuel + M 7.5% + O 2.5% at 4500 rpm. In the HC emission the highest average value is 4456 ppm which is obtained on pure peralite fuel at 1500 rpm. While the lowest average value of HC is 963 ppm which is obtained of fuel P 90% + M 2.5 + O 7.5% with 4500 rpm. Each fuel produces an average emission value i CO is 10% except for pure peralite which has an average CO emission of 9.7% and P 90% + M 7.5% + O 2.5 which has the lowest emission of 9.22% at 4500 rpm. Average value – The lowest average CO₂ in fuel is 3.82% obtained from pure peralite at 1500 rpm while the highest value is 6.46% obtained from P 90% + M 2.5% + O 7.5% fuel with rpm 4500. The lowest lambda value was 0.867 at P 100% and the highest value was 1.042 at P 90% + M 2.5% + O 7.5%. For the lowest AFR value is 12.8 at P 100% and the highest value is 15.2 at P 90% + M 2.5% + O 7.5%. The best fuel in this research is P 90% + M 7.5% + O 2.5% for rpm 1500 and P 90% + M 2.5% + O 7.5% for rpm 4500..

Keywords: *octane booster, methanol, emissions.*