

Effect of Octane Booster Variation - Citronella Oil on Ron 92 Fuel on Exhaust Emissions on Motorcycles 1 Cylinder 4 Steps

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Abstract

The progress of science and technology, as well as the increased use of fossil fuels, can contribute to the pollution generated by vehicle exhaust gases. Therefore, the utilization of alternative fuels can be a solution. This study aims to determine the effect of mixing gasoline 92 fuel with citronella oil 2.5%, 5%, 7.5% - octane booster 2.5%, 5%, 7.5% on exhaust emissions and to determine the what mixture of gasoline 92 fuel with citronella oil - octane booster produces low exhaust emissions. The results of the tests that have been carried out prove that the selection of fuel with sample G3 (G 90% + M 5% + O 5%) is the best fuel because it can reduce HC gas with an average HC emission of 240.6 ppm, and fuel with G3 samples can also cause CO gas to decrease by an average of 1.496%. With the test results it can be seen that citronella oil if there is more percentage of the mixture, it will cause incomplete combustion because citronella oil contains oxygen compounds. Combustion is said to be perfect if the air-fuel ratio (AFR) has a value of 14.7:1.

Keywords : CB150R motorcycles, gasoline 92 fuel, citronella oil, octane booster, exhaust emissions.