

**Uji Performa Emisi Gas Buang Motor Bakar Empat Langkah Satu Silinder
Menggunakan Bahan Bakar Pertalite dengan Campuran Bioetanol**
*The Performance Test of Four-Stroke Single-Cylinder Motor Exhaust Emissions
Using Pertalite Fuel with Bioethanol Mixture*
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ABSTRACT

Motor vehicle exhaust emissions are a source of air pollution that is detrimental to the environment. Efforts that can be made so that the resulting emissions are safe for the environment, namely by using alternative fuels that have a high octane number so that the resulting combustion is more perfect. Bioethanol is an alternative fuel that has a high octane number and is renewable. The mixing of bioethanol with pertalite for motor vehicle fuel in this study can improve engine performance and reduce exhaust emissions. The results of the research using a mixture of pertalite with bioethanol with variations of 10%, 20%, 30%, and 40% obtained that the best fuel mixture is the 40% bioethanol variation because it produces the best performance and exhaust emissions with an average torque value of 9.22 Nm, average -the average power value is 11.52 HP, CO emission levels are 1.62% vol, HC emission levels are 227.33 ppm vol, and CO₂ levels are 3.97% vol.

Keyword : Bioethanol, Pertalite, Performance, Exhaust Emissions.