

ABSTRACT

Technological developments are getting faster along with the increasing number of motorbikes. Vehicles that increase every year cause an increase in fuel consumption needed to be used. In an effort to prevent air pollution, it is carried out by reducing exhaust emissions on vehicles to become environmentally friendly exhaust gases. Vehicle exhaust emissions produced at this time are harmful to the environment and human health. The elements present in exhaust emissions are as follows: HC (Hydrocarbon), CO (Carbon monoxide), CO₂ (Carbon dioxide), O₂ (Oxygen), and NO_x (Nitrogen Oxide) compounds. The most dangerous compounds for the environment are 3 elements, namely HC (Hydrocarbon), CO (carbon monoxide), and NO_x (Nitrogen Oxide) compounds. In this study, researchers wanted to know the effect of Tuak Tuban mixture on pertalite and engine speed on exhaust emissions on motorcycles. Tests were carried out with variations in engine speed, acceleration testing with engine speed from 3000 rpm to 6000 rpm and exhaust emission testing at engine speed from 3000 rpm, 3500 rpm, 4000 rpm, 4500 rpm and 5000 rpm using the factorial experimental design method with test analysis ANOVA. The results of testing exhaust emissions for the content of hydro-carbon (HC) and carbon monoxide (CO) motorcycles with a mixture of tuban wine on pertalite and engine speed. The results for exhaust emissions containing Hydrocarbons (HC) on motorcycles are (1) Variation of engine speed using the F distribution for probability (α) 0.05 affects the amount of Hydrocarbon (HC) content in motorcycle exhaust emissions, (2) Variation of tuban wine mixture using the F distribution for probability (α) 0.05 affects the amount of Hydrocarbon content (HC) in motorcycle exhaust emissions, (3) For the interaction of engine speed and tuban wine mixture using the F distribution for probability (α) 0.05 affects the amount of Hydrocarbon (HC) content in motorcycle exhaust emissions. For testing exhaust emissions, the content of Carbon Monoxide (CO) on motorbikes resulted in (1) Variation of engine speed using the F distribution for probability (α) 0.05 Does not affect the amount of Carbon Monoxide (CO) content in motorcycle exhaust emissions, (2) Variation of tuban wine mixture using the F distribution for probability (α) 0.05 Does not affect the amount of Carbon Monoxide (CO) content in motorcycle exhaust emissions, (3) For the interaction of engine speed and tuban wine mixture using the distribution F for probability (α) 0.05 Does not affect the amount of Carbon Monoxide (CO) content in motorcycle exhaust emissions.

Keywords: Exhaust Emissions, Tuak Tuban, Hydrocarbons (HC), Carbon Monoxide (CO), Pertalite, Vierza 150 PGM-FI Motorcycles.