

THE EFFECT OF ADDING SPIRITUS TO PERTAMAX FUEL ON CHANGES IN OCTANE VALUE, FUEL CONSUMPTION AND EXHAUST EMISSIONS OF 4-STROKE ENGINES

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ABSTRACT

This research aims to determine the effect of adding spirits to Pertamina fuel so that it can be a reference for replacing several percent of endangered fossil fuels. Spirit is a type of organic material that has great potential to be used as an effort to save fuel oil. This type of research uses experimental research. The objects of this study are octane value, fuel consumption and exhaust emissions using Pertamina fuel with added spirits. The results of the study are octane number testing, fuel consumption and exhaust emissions carried out three times and averaged. The octane value was not obtained because the equipment did not support it. The lowest average fuel consumption value was found in a mixture of 20% spirits with a fuel consumption value of 24.1 km / l. The lowest average HC exhaust emission value was found in a mixture of 20% spirits with a value of 1226.3 ppm, the lowest average CO exhaust emission value was found in a mixture of 20% spirits with a value of 4.43%.

Keywords : spirits, fuel consumption, exhaust emissions