

THE ANALYSIS OF A MIXTURE OF FUEL PERTAMAX WITH ESSENTIAL OILS OF CLOVE LEAF ON THE PERFORMANCE OF THE MACHINE 4 STEPS

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ABSTRACT

In this test using the engine speed of 4000-9000 rpm, and done with 3 times the test on each variation that will be taken the average value. Essential oil variation of clove leaves 6% has a high torque value at 7000 rpm which is 17.64 N.m. In the use of essential oil variations of clove leaves 8% has a high value in 17.64 N.m and at 10% clove leaf essential oil variation get high torque value at 7000 rpm which is 17.77 N.m while the results of high torque value in the use of pertamax 100% variation of clove leaf essential oil 0% get 16.90 N.m at 8000 rpm. Power variation of clove leaf essential oil 6% (60ml) and pertamax 94% (940ml) of 19, 53 Hp at 9000 rpm engine speed, at 8% clove leaf essential oil variation (80ml) and pertamax 92% (920ml) of 20.27 Hp at 9000 rpm engine speed, at 10% clove leaf essential oil variation (100ml) and pertamax 90% (900ml) of 20.37 Hp at 9000 rpm Pertamax 100% pure without essential oil variations clove leaves get a maximum value of 19.11 hp at 9000 rpm engine speed. variations of clove leaf essential oil 0% (0ml) and pertamax 100% (1000ml) obtained the value of specific fuel consumption is 0.73 (kg/hour.hp) at 5000 rpm engine speed, the variation of clove leaf essential oil 6% (60ml) and pertamax 94% (940ml) obtained the lowest specific fuel consumption value is 0.77 (kg/hour.hp) at 5000 rpm, variation of clove leaf essential oil 8% (80ml) and pertamax 92% (920ml) the lowest specific fuel consumption value is 0.85 (kg/hour.hp) at 5000 rpm engine speed and at 10% clove leaf essential oil variation (100ml) and pertamax 90% (900ml) obtained the lowest specific fuel consumption value is 0.89 (kg/hour.hp) at 5000 rpm engine speed.

Keywords : *Clove Leaf Essential Oil, Torque Power and Fuel Consumption*