Variations of Addition of Turpentine Oil as a Fuel Supplement to Torque and Power of a 160 CC Motorcycle with HCS Technology

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ABSTRACT

Alternative fuels are currently being developed, while the systems on vehicles are increasingly sophisticated to reduce the use of petroleum. This research is to add the HCS system (Hydrocarbon Crack System) and turpentine oil bioadditive as a mixture of pertalite to create a complete combustion in the combustion chamber. As well as knowing the results of the performance of a 4 stroke motorcycle in the form of torque, power, and specific fuel consumption. Pertalite fuel will be mixed with turpentine oil bioadditive using the HCS system and then used on motorcycles. With the percentage of pertalite fuel mixture and turpentine oil bioadditive 10%, 20%, and 30%. The engine speed used is 5000 - 9000 rpm. Data collection is based on the results of motorcycle testing in the form of changes that occur in performance (power and torque) by using a dynotest tool and measuring specific fuel consumption. Based on the results of the study showed that the HCS system and mixed fuel pertalite with turpentine oil can improve motorcycle performance. The largest torque produced in the mixture (HCS + PMT 30) was 3.65 % at 6000 rpm and the greatest power produced in the mixture (HCS + PMT 20) was 8.21 % at 8000 rpm. While the best specific fuel consumption is 4,225 %, at 5000 rpm with the use of the HCS system with mixed fuel (HCS + PMT 30).

Keywords: *HCS (Hydrocarbon Crack System), Turpentine Oil, Torque, Power, Specific Fuel Consumption.*