

EFFECT OF USING GASOLINE FUEL ON TORQUE AND POWER VALUE IN KMHE CARS (ENERGY-SAVING CAR CONTEST) ARGOPURO VEHICLES

by

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ABSTRACT

The car is a means of transportation that is widely used in the modern era as it is today. In Indonesia itself, the majority of energy sources used for vehicles, especially cars, still use fossil energy. The problem that will be faced in the following years is the significant reduction in oil reserves if the management of the oil and gas sector is not controlled and regulated properly and wisely. In Indonesia currently use several choices of types of Pertamina fuel for gasoline motorbikes, including Premium and Pertamax. Gasoline Motors are Power Generation Machines That Convert Gasoline Fuel Into Thermal Power And Finally Into Mechanical Power. Broadly speaking, a gasoline engine is composed of several main components including the cylinder block, cylinder head, crankshaft, piston, connecting rod, flywheel, camshaft. cam shaft), and valve mechanics. The cylinder block is the largest motor component, as a place to install mechanical components and other systems. The cylinder section is surrounded by cooling water inlets and oil inlets. The cylinder head is mounted at the top of the cylinder block, and in the cylinder head there is a combustion chamber, which has inlet and exhaust channels, as a place to install the valve mechanism. Torque is a measure of the engine's ability to do work. Torque is a derived quantity that is commonly used to calculate the energy produced by an object rotating on its axis. Units of torque are usually expressed in N.m (Newton meters). The equation is as follows (Heywood, 1988): $T = F \times R$ Where: T torque (N.m) F force (N) R distance of the object to the center of rotation (m) Torque is the rotating force generated by the crankshaft or the ability of the motor to do work , but here torque is the amount of

rotary force given to an engine or combustion engine against the length of its arm. The unit for torque is Pounds-feet or pounds-inch, in British units it is ft.lb. The results obtained from testing the torque and power values on the Honda Revo Fitt 110 engine are as follows. the results of the value RESULTS 2000 6.08 HP, 3000 6.89 HP, 4000 7.09 HP, 5000 8.99 HP, 6000 10.23 HP, Gasoline engine performance can be improved by: extending the piston stroke, increasing the diameter of the piston, changing the inlet ports and outlet ports increase the compression in the combustion chamber, or change the opening time of the cylinder port with increased air and fuel volume, the easier combustion occurs. In addition to porting, overstroke is also carried out, namely increasing the stroke volume by increasing the length of the piston stroke. The ratio of the total volume of the cylinder to the volume of the combustion chamber is the compression ratio. The total volume of the cylinder is the sum of the volume of the combustion chamber with and the stroke volume. The stroke volume is the product of the piston surface area and the stroke length. So by increasing the stride length will increase the step volume thereby increasing the compression ratio.

Keywords :Power, Torque, Performance.