DESIGN FUEL FLOW SYSTEM ON KMHE ENGINE PROTOTYPE TO IMPROVE FUEL EFFICIENCY

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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

Vehicle Argopuro is an innovative product of engineering students at the Jember State Polytechnic in the form of an energy-efficient vehicle. The continuous use of fossil fuels results in a decrease in the amount of fossil fuels. The government facilitates students throughout Indonesia with the KMHE (Energy Saving Car Contest) competition. The Pablos team has conducted research on the Vehicle Argopuro vehicle on the vehicle body with fiberglass material which makes the vehicle lighter and has a high aerodynamic value, it doesn't stop there that modifications to the engine parts are carried out to achieve the most economical fuel consumption. The Pablos team used the Honda Revo engine as a research medium by making changes to the combustion system, propulsion system, electrical system and fuel system. The EFI system is a fuel injection system whose efficiency is controlled electronically so that the value of the air-fuel mixture always meets the needs of the internal combustion engine, resulting in optimal engine performance with low fuel consumption and is environmentally friendly. The prototype car's fuel system is made almost the same as the injection system in general, changes to the fuel pump system by replacing it using constant air pressure. The following is an overview of the modified fuel system. By calculating the level of fuel consumption using the specific fuel combustion (SFC) equation so that a more specific fuel consumption value is obtained.

Kata Kunci : *Fuel, EFI, SFC.*