

Karakteristik kinerja mesin diesel stasioner dengan bahan bakar campuran biodiesel dari biji kemiri sunan

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Abstrak

ABSTRACT

This study aims to investigate the characteristics of stationary diesel engines which use a mixture of diesel fuel - biodiesel from sunan candlenut seed. Experiments were done with diesel fuel, B5, B10, B15, and B20 with a variety of engine rotation and load variations. The results showed that the values of torque, power and thermal efficiency when the engine uses B5, B10, B15, and B20 tends to decrease if compared when engine use diesel fuel. And the specific fuel consumption when use B5, B10, B15, and B20 increased. From the results of experiments and calculations, the maximum power of 3.01 kW, minimum specific fuel consumption of 228.58 g/kWh and maximum thermal efficiency of 37.61% when using diesel fuel. However, exhaust emissions were measured include opacity, carbon monoxide and hydrocarbons when the engine using biodiesel B5, B10, B15, and B20 decreased. By using statistical study also obtained correlation and regression equations involving engine performance parameters.