

## ABSTRAK

### **Penggunaan Bahan Bakar Biodiesl B20 (*Palm-Based Oil*) Dalam Uji Performa Mesin Diesel 1 Silinder 493 cc**

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Penggunaan bahan bakar nabati dalam campuran biodiesel diperluas saat ini. Tidak hanya pelaku industri, namun semua transportasi baik PSO (*Public Service Obligation*) dan Non-PSO juga menjadi target dalam implementasi mandatory B20. Penelitian ini dilakukan untuk mengetahui performa mesin diesel 1 silinder 493 cc dengan menggunakan bahan bakar B20 (*Palm Based-Oil*) dan dibandingkan dengan solar murni. Hasil yang didapatkan performa bahan bakar B20 lebih baik dengan kenaikan daya, torsi, BMEP dan Effisiensi *Thermal* berturut – turut 0,1844 % ; 0,1858 % ; 0,1858 %; 2,3032 %. Selain itu B20 lebih hemat 1,649 % untuk konsumsi bahan bakar spesifiknya (SFOC).

Kata kunci : Mandatory, solar, B20, performa, daya, torsi, BMEP, efisiensi *Thermal* , SFOC.

**ABSTRACT*****The Using of Biodiesel B20 (Palm-Based Oil) Fuel on Performance Test in Single Cylinder Diesel Engine 493cc***

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*The use of biofuels in biodiesel blends was developed nowadays. It is not only industry, but also transportation. All PSO (Public Service Obligations) and Non-PSO are also the targets of B20 mandatory implementations. This research was conducted to determine the performance of 493 cc 1 cylinder diesel engine using B20 fuel (Palm Based-Oil) and compared to pure diesel. The results obtained improved B20 performance with increased power, torque, BMEP and Thermal Efficiency reached - contributed 0.1844%; 0,1858%; 0,1858%; 2.3032%. In addition, B20 saves 1,649 % more for its specific fuel consumption (SFOC).*

*Keyword: Mandatory, Diesel, B20, Performance, Power, Torque, BMEP, Efficiency Thermal, SFOC*