ABSTRACT

Ramadhan, Muhammad Idris. 2018. The Assembly and Design of Steering and Brake System of “OSCAR” Energy Efficient Car. The Final Project, National Institute Of Technology Malang, Faculty Of Industrial Tecnology, Mechanical Engineering Diploma III.

Academic Advisor : Purkuncoro, Aladin Eko, ST., MT

Energy efficient car is a vehicle that designed to minimize fuel usage and produces low exhaust emission. As fossil fuel for energy source decreases a lot while the energy demand constantly rising makes energy becomes a real problem in most countries of the world including Indonesia.

The design of OSCAR Energy Efficient Car is applying the engine of 4 strokes SUPRA X 125 cc. For steering system assembly the writers are using Steering Column with Long Stabilizer to minimize driver movement when operating the wheels to create a good maneuver. OSCAR Energy Efficient Car has turning angle up to 15.88° which resulted in rotate radius of 5.74 meter and 4 applied disc brakes where 2 disc brakes place in front and 2 others are place in rear with disc thickness of 7 mm and 110 trellis. The result of brake testing of OSCAR is proven able to slow down the car movement by 10 m/s with the maximum speed of 60 km/hour.

The purpose from “OSCAR” Energy Efficient Car creation are as requirement for passing the final project and expected to compete in Kontes Mobil Hemat Energi (KMHE).

Keywords : The Design of Brake and Steering System of “OSCAR” Energy Efficient Car