

SUMMARY

Saifullah, Department of Mechanical Engineering, Faculty of Engineering, University of Brawijaya, June 2016, Comparison of Fuel Consumption of Ethanol and LPG on Urban Concept Vehicles.

The public need for transportation continue to increase, while the availability of fuel oil continues to decrease, therefore it is necessary to study the development of alternative and renewable fuels on vehicles, such as; ethanol and LPG.

In this study the authors compared the fuel consumption of ethanol and LPG in the urban concept vehicle with Otto engine Honda GX 160 cc 4 stroke. The method used was experimental research with dynamic testing approach real condition when driving in the city, where the testing was also carried out during the day and night. The independent variable is the type of fuel that compared that was LPG and ethanol, the time of data observed is day and night, and the variations of load in every data acquisition at 10 kg, 20 kg and 30 kg, with the dependent variable observed is a comparison of specific fuel consumption (fuel economy) of ethanol fuel and LPG, While the controlled variable, namely; the distance of 1.52 km track as far as the four lap, the vehicle speed during testing at 18 km/h, the driver weight is 52 kg, vehicle weight is 143 kg and number of stops (stop and go) is once in two laps.

The results show the average mileage with one kilogram of fuel LPG gas is greater than the distance the car with one kilogram of ethanol. While the comparison of test results during the day and night shows that during the day is more efficient than testing the night, using either ethanol or gas fuel LPG.

Key word: Ethanol, LPG, Urban Concept, Fuel Consumption.

