

Influence of TDSI/Lutah Fuel Booster on the Performance and Emissions of Diesel Engine

A.M. Norkhizan, R. Mamat, A. Hamidi, A. F. Yusop*

Faculty of Mechanical Engineering, Universiti Malaysia Pahang, 26600 Pekan, Pahang, Malaysia *Corresponding Author: muhamadnorkhizan@gmail.com

Abstract:

The main purpose of fuel booster is to enhance the performance and exhaust emissions reduction of an engine. The main concern of this experimental analysis is to investigate the effect of fuel booster addition in the form of tablet and liquid into diesel fuel on performance of diesel engine. The result of performance was evaluated in terms of brake power, fuel consumption and brake specific fuel consumption (BSFC). While the exhaust gas temperature (EGT), CO, CO₂, NO_x and HC were measured and recorded to study the exhaust emission characteristics of the engine. The engine test was conducted under three different load or throttle position of 25% 50% and 75% at constant engine speed of 1500 rpm. As a result, an addition of fuel booster slightly improved in term of brake power (BP), fuel consumption, BSFC, CO and HC. However, the exhaust emissions of CO₂ and NO_x showed slightly higher compared to baseline diesel. Overall, TDSI/LUTAH fuel booster relatively can improve fuel economy and performance.