

The effect of the ignition dwell time at constant speed for CNGDI engine.

ABSTRACT

The different of combustion characteristics of natural gas, gasoline and diesel in direct injection internal combustion engine requires different combinations of engine parameters to optimize the engine performance. Natural gas combustion requires a longer ignition delay time than most hydrocarbons, and has higher minimum ignition energy than gasoline. This is due to the strength of the carbon-hydrogen covalent bond in methane than contributes 90% in the natural gas. Therefore, the natural gas requires a high-voltage ignition system to ignite the air-fuel in the combustion chamber. This paper describes one important characteristics of ignition system, which is a dwell time, that influence the performance of compressed natural gas direct injection (CNGDI) engine. The affect of dwell time is discussed and analyse at a constant speed.

Keyword: CNGDI; Direct injection; Dwell time; Smart ignition system.