

Comparison of Performance Characteristics of NG and Gasoline - Fuelled Single Cylinder SI Engine

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Abstract— The Compressed Natural Gas (CNG) is a vaporous type of regular gas, it has been proposed as one of the promising option fuel because of its considerable advantages contrasted with gas and diesel. Iraq is considered as the fundamental NG repositories on the planet. Albeit normal gas can meet strict motor discharge controls in numerous nations, it has not utilized as a fuel for transport motors.

In this study, regular gas motor qualities were explored tentatively to assess the impact of motor rate and torques on the execution of SI motor energized with NG. The outcomes were contrasted with the motor when it was energized with Iraqi routine gas. The outcomes demonstrate that HUCR for Iraqi ordinary fuel was 8:1, and it was 14.0:1 for NG. Fuel's brake power (bp) is the most elevated brake powers among the tried cases, when the motor worked at gas HUCR=8:1. Utilizing NG diminished brake specific fuel consumption (bsfc) when the motor was worked at its HUCR, while at CR=8:1 it got to be higher. Gas has the least bsfc. Volumetric effectiveness decreased by utilizing NG because of its vaporous nature; however, it was generally enhanced when the motor was kept running at HUCR. Fumes gas temperatures diminished by utilizing NG, because of its low blazing speed and its low warming worth. The outcomes illuminate that utilizing NG to fuel a car motor requests expanding motor pressure proportion to accomplish the utilized NG HUCR.

Index Terms— *Natural gas; performance; brake power; brake specific fuel consumption; brake thermal efficiency; volumetric efficiency*