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## The effect of changing compression ratio on the performance of a single cylinder SI (spark ignition) engine fueled with unleaded gasoline and bio ethanol at various blend ratios

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Impact of changing compression ratio by varying the combustion chamber geometry on the engine performance was investigated, SI single cylinder air-cooled engine fueled with unleaded gasoline and pure ethanol was used. These tests were conducted on three different compression ratios of, 7:1 8.5:1, and 10:1 with a wide-open throttle, and three different ignition timing, before and after top dead centre. The results showed that the BMEP (brake mean effective pressure), BTE (brake thermal efficiency), and BSFC (brake specific fuel consumption) obtained with the use of gasoline blends at all CRs were generally increased when they were compared to those of pure gasoline. In general, ethanol provided a lower exhaust emission compared to gasoline's emissions at all CRs. Furthermore NOx emissions

was affected much more than other exhaust emissions when changing the compression ratios compared to unleaded gasoline.

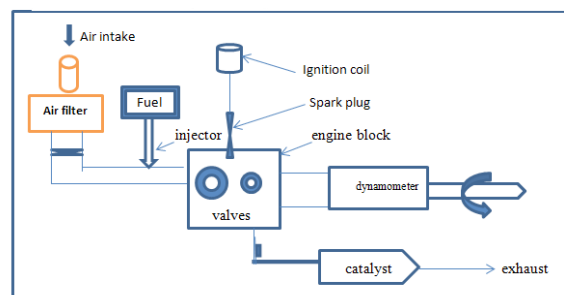


Figure 1: Experimental set up

### Biography

Ahmad O Hasan has completed his PhD at the age of 25 years from the University of Birmingham, UK. He is an Assistant Professor at Alhussein-Bi- tallal university Jordan. He has published more than 15 papers in reputed journals.

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