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The Investigation of LPG Injector Control Circuit on a Motorcycle

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Abstract : Liquefied petroleum gas is a fuel that has high octane number and low carbon number. This paper uses MSC-51 controller to investigate the effect of liquefied petroleum gas (LPG) on exhaust emissions for different engine speeds in a single cylinder, four-stroke and spark ignition engine. The results indicate that CO, CO2 and NOX exhaust emissions are lower with the use of LPG compared to the use of unleaded gasoline by using the developed controller. The open-loop in the LPG injection system was controlled by MCS-51 single chip. The results show that if a SI engine is operated with LPG fuel rather than gasoline fuel under the same conditions, significant reduction in exhaust emissions can be achieved. In summary, LPG has positive effects on main exhaust emissions such as CO, CO2 and NOX.

Keywords : LPG, control circuit, emission, MCS-51
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