

# The Study of Power and Torque of a 270 cc Single-Cylinder Engine with Electronic Gasoline Injection System

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## ABSTRACT

In this study, using a 8051 microprocessor to make an ECU with an electronic fuel injection, we use a HONDA GX-270 gasoline engine. The carburetor system was replaced with a fuel injection system. A special purpose ECU was made to control the injection duration based on the engine 's rotational speed, and throttle angle in order to improve and increase the horsepower and torsion of the engine. Given the fast development of the electronics industry the cost of single chips have reduced in recent years with increasing chip stability. The microprocessor used in this study has ISP function; it can revise systematic parameters directly through ISP. As a result, when used in application for Go-Kart racing, there is better instant efficiency. The fuel injection system has already equal performance to a carburetor system engine with a 85% throttle angle. With it 's throttle angle at 100%, the engine has a horsepower 7 kW, with a performance improvement at about 12% in comparison to a carburetor one.

Keywords : ECU, injection duration, ISP, key words, electronic fuel injection

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