ABSTRACT

DESIGNING WATER METHANOL INJECTION FOR HONDA K24Z2 ENGINE WITH ARDUINO

WMI (*Water Methanol Injection*) *system injected water and methanol mixture into combustion chamber of an engine. Water Injection is not works independent to replace the fuel injection system of an engine, it works simultaneously to increase the output efficiency. In fact methanol has high octane number, so by injecting it beside the fuel will produce higher power and more fuel efficiency.*

Using the injection method to feed the engine with water and methanol mixture. Require system that can control pressure, flow, and injection pulse to keep it efficient while working. With mechanical parts like DC *Pump, hose, and nozzle that works to inject the water and methanol. Then an algorithms microcontroller is use to control the system.*

By addiing WMI to the machine hope it can increase engine performance by 5% better, while using arduino microcontroller on the water injection system affect performance of the system when working more stable and precision while inject water and methanol into the engine based on the setup.

Keyword: **WMI*, injection, controller***