Water Injection on the Gasoline Heat Engine

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This project strives to create a cost effective fuel injection conversion for small engines and a water injection system that can be scaled up to a full size car. The experiment first lead to designing and producing a new restrictor plate of which allows for the mounting of the necessary sensors. A complete wiring harness was then be taken from a fuel injected car, thinning out the harness to remove the extra weight and complexity from the unnecessary wires. Using this harness the sensors will be connected to the computer which almost allows for the control of the engine through the computer, the only thing remaining is the mechanical half of the crankshaft position sensor. This component is the 24X reluctor ring which must spin with the crankshaft, with the addition of this sensor it is now possible to run the engine. This project primarily utilized the volumetric efficiency table to control the fuel going into the engine. By manually reading the o2 sensor the V.E. table values can be roughed in to get the engine running. while running the computer can dynamically tune itself. Once a running fuel injection system is in place the water reclamation system was implemented. The water reclamation will be accomplished through a cloth barrier muffler system. This reclaimed water was the re-injected through a second injector wired in parallel to the fuel injector. This forced the water to be injected into the engine at a 1:1 ratio relative to the fuel.

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