

VISVESVARAYA TECHNOLOGICAL UNIVERSITY



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“UPGRADING A 100CC CABURETOR CONTROLLED SPARK IGNITION ENGINE INTO DIGITALLY CONTROLLED PROGRAMMABLE FUEL INJECTION ENGINE TO ACHIEVE IMPROVED PERFORMANCE”

A project report submitted to Visvesvaraya Technological University in partial fulfillment of the requirement for the award of degree of Bachelor of Engineering in Mechanical Engineering.

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ABSTRACT

As India is largely populated with 100 cc petrol engine bikes, which is specially made for the middle class. Hence in search of finding the economic method of fuel consumption and less emission and more, F.I system was the thought .As this system is already implemented in 180 cc and above petrol engines, but made challenging to incorporate for the 100 cc engines. These motivation led to experiment our ideas as project.

Petrol vehicles uses device called carburetor for supplying the air fuel mixture in correct ratio to cylinders in all rpm ranges, due to construction of the carburetor is relatively simple, it has been used almost exclusively on diesel engines in the past. However in response to recent demands for cleaner exhaust emission, more economical fuel consumption, improved drivability, etc., the carburetor now must be equipped with various compensating devices, making it more complex system. So In place of the carburetor, therefore, the FI (fuel injection) system is used, assuring proper air fuel ratio to the engine by electrically injecting fuel in accordance with various driving conditions. FI system injects fuel into individual cylinders, based on commands from the μ controller on board engine management system popularly known as the Engine Control Unit/ECU. These techniques result not only in better power balance amongst the cylinders but also in higher output from them, along with faster throttle response .The electronic fuel injection system supplies the combustion chambers with air/fuel mixture of optimized ratio under widely varying driving conditions.