

## STUDY AND ANALYSIS THE PERFORMANCE OF SPARK IGNITION ENGINE AND COMBUSTION IGNITION ENGINE USING ELECTRONIC CONTROL UNIT

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**Abstract :** An experimental study concerning finding the fault inside the engine with the help of ECU (Electronic Control Unit). A sensors base four cylinder spark ignition engine and combustion ignition engine improve the diagnosis system and improve the technical skill of the technical supervise . The Sensors have the capability to give the real engine performance to the ECU .A high quality microprocessor inside the engine those have the capability to take the information from the sensor as a signal. Sensors give the permission to the microprocessor to give the feedback to the ECU. Engine test is performing with the help of Intelligent Tester (IT) at on board diagnosis. This system allow to the ECU to give the sensing permission to the spark ignition engine and combustion ignition engine. The test is perform on the two segment of engine one in four cylinder spark ignition engine and second is combustion ignition engine .To measure the battery voltage at the time of crank the engine and after crank by intelligent tester.



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**Keywords:** Electronic Control Unit; Intelligent Tester; sensors; on-board diagnostic,

**Introduction:** Automotive vehicles are nowadays equipped with a significant number of networked electronic systems by which advanced vehicle control, elimination of bulky wiring, and sophisticated features can be achieved. Most of the features are enabled by the use of distributed electronic systems including sensors, switches, actuators and electronic control units (ECUs). **Ortega et al. (2006)**. Against this background, vehicle manufacturers are striving to reduce costs and at the same time to improve levels of customer satisfaction. Work to improve test and validation of large distributed electronic systems has been on-going for years. This has provided manufacturers with approaches to test and validation, with some degree of coverage (**Frank et al.1990**). On the screen of the PC we can see the electronic

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