Abstract

Electronics plays a major role in Modern Automobiles. Several Electronic Control Units (ECU) are employed to improve the performance of the Vehicle resulting in Lower Emissions, Reduced Fuel consumption, Increased safety, Improved drivability and last but not least better driving comfort. In general an ECU is a micro-controller based embedded system with the hardware
and software suitably designed for the application. ECU interfaces with various sensors and actuators for real-time data acquisition and control. Electronic Control Unit (ECU) has ability to carry out self-diagnostics, according to a pre-defined logic and store the result in a non-volatile (EEPROM) fault memory. ECU software provides the possibility to perform diagnostics and read the result of self-diagnostics at the service station without dismantling the electrical and electronic systems. This is done by using a “Tester” connected to a serial line provided by the ECU. We have developed a Tester which reads the information from the ECU and stores it in the error memory of the ECU. In this paper, we explain a PC based simulator of a real life “Tester” which is refereed as Universal Tester Simulator (UTS) in this article. This is to ensure ECU development is not hampered due to non availability of an actual tester.

Reference


Index Terms

Computer Science
Automotive Electronics

Key words

ECU
CAN
K-Line
tester