Abstract

Internal combustion engine is one of piston engine with burning process in cylinder which used in transportation sector. The increasing of engine burning process could help the thrifty of use fuel. One of engine increasing effort is using ECU (engine control unit). It is an electronic system which used to control the internal combustion engine operational.

ECU iquteche research in Roadrace engine is done by appealing the performance of ECU iquteche in Roadrace engine and carburator. First testing is done by using the waterbreak dynamometer to get the maximum power engine in every speed levels. It is doing in full open throttle and controlling the wanted speed and separate the load. In every change of engine rotating (3000, 3500, 4000, 4500, 5000, 5500, 6000, 6500, and 7000 rpm) is done by note the data in every rotating of roller dynamometer in torque and rpm. The second testing is done by inersia dynamometer to get appropriate mapping when we use the vehicle on road.

The result of this research can make engine control working in good condition. ECU can increase the fuel used in Roadrace engine testing in Roadrace with ECU iquteche increase the efficiency to 27,46% ; 6,49 N.m of torque ; 6.82 hp of power, 713 kpa of bemp and decreasing of sfc in 0,34 kg/hp.jam if we appeal it when use standart ECU. The decision from this research is a correct mapping of ECU iquteche increased a better efficiency if we compare it with standard carburator.

keyword: ECU, IQutech-e, air fuel ratio, roadrace, advance ignition