

ABSTRACT

In order to obtain maximum engine performance, a good ignition system is needed because the ignition system is a very important system for gasoline motorcycles, which functions to regulate the combustion process of the mixture of fuel and air in the cylinder according to a predetermined time, namely at the end of the compression step. One of them is by replacing the ignition components in the form of CDIs, spark plugs and coils on a 150 cc Premium fueled motorcycle.

This study examines the performance of standard CDI, standard coil, and standard spark plugs with CDI BRT, KTC Coil, Spark Plug Denso Iridium on a 4 stroke 150 cc motor with standard factory default conditions without making changes and using premium fuel. Tests carried out at 4000 - 12000 rpm engine speed for testing power and torque. While for testing fuel consumption is carried out at speeds in the range of 40-50 km / h with a distance of 4 km.

The results obtained show that the best sparks are produced by variations of CDI BRT, KTC Coil, and Iridium Spark Plugs. From this type of spark sparks focus on one point and color temperature in the range 7000 - 8000 K. The highest power and torque at the maximum point is in the variation of CDI BRT, KTC Coil, and Iridium Spark Plug, the highest power produced is 17.2 HP at 9121 engine speed RPM. the highest torque produced is 14.03 N.m at 7935 RPM engine speed. The most efficient fuel consumption is the variation of CDI BRT, KTC coil, and Iridium spark plug which is equal to 117ml as far as 4km or if converted 34.19 km / l.

Keywords: Effect of CDI, coil, and racing spark plug.