

**ANALYSIS OF PERFORMANCE AND FUEL CONSUMPTION ON HONDA  
MATIC MOTORS WITH VARIATIONS OF CDI RACING**

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**ABSTRACT**

*CDI (Capacitor Discharge Ignition) is one component of the ignition system in motor vehicles. CDI is divided into 2 types based on the input source, namely AC CDI (Alternating Current) whose source comes from a generator and DC (Direct Current) CDI whose source comes from batteries (Accu). CDI serves to increase the input voltage to a working voltage of 24 kV so that a spark jumps on the spark plug with an electrode gap ranging from 0.7 to 1 mm. The weakness of the carburetor-system motor lies in the less efficient fuel consumption compared to using a more efficient injection system. Therefore, it is necessary to improve at least one of these three elements. One of them is by improving the ignition system, it is hoped that in addition to being able to increase torque power, it can also increase fuel consumption. This research was conducted at the Jember State Polytechnic and the RAT motor sport workshop in Surabaya using a chassis dynamometer sport device tool that measures torque and power at each rpm of the wheels. The results of this study obtained standard cdi results at 6000 rpm, power of 7,256 hp, torque of 8.6 Nm and sfc min of 0.015 kg/hp.h at 4,000 rpm, cdi racing Type A at 6000 rpm has 7,389 hp power, 8.76 Nm torque and 0.014 kg/hp.h min sfc at 2500 rpm, type B 6000 racing cdi with 7,443 hp power, 8.82 Nm torque and 0.013 kg/hp.h min sfc at rpm 3000. it can be concluded that by using a racing cdi the power and torque values are higher than the standard at 6000 rpm, and the minimum sfc value of the standard coil is lower in other words more efficient than the racing coil at 6000 rpm.*

*Key words: Standard cdi, racing cdi, torque, power and motorcycle consumption*