Design And Functionality Analysis Of Rear Disc Brake Performance On Yamaha Motorcycle Jupiter Mx 135 Cc Hybrid

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ABSTRACT

Hybrid vehicles are vehicles that have two sources of driving power, usually hybrid vehicles combine internal combustion engines with electric engines, but there are several problems in this conversion process, one of which is a different braking system, namely the standard braking system using a drum braking system while the BLDC uses a disc braking system. The research method used in this research is qualitative because the results of this research are in the form of products or goods, but to obtain products or goods of maximum quality, testing is needed, therefore the tests carried out in this study are distance and time. The test was carried out dynamically with a driver load of 58 kg with one variable road condition, namely dry road. This test begins with acceleration to a predetermined speed. Then decelerate after the front of the vehicle passes on the line that has been made. then measure the distance from the deceleration point to stop. After testing, the results obtained where if the speed is higher, the time and distance of deceleration to a complete stop are also higher, it is influenced by high acceleration. The average calculation results show that at a speed of 15 Km/ hour it takes 1.87 s with a distance of 486 cm when decelerating until the vehicle comes to a complete stop.

Keywords: Conventional Engine, Hybrid, Braking System, Disc Brake