SPEED VARIATION ON THE BRAKING PERFORMANCE AT THE ARGOPURO ECO VEHICLE PROTOYPE

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ABSTRACT

The braking system is one of the important components in driving safety, especially in energy-efficient vehicles designed for maximum efficiency. This study aims to analyze the performance of the braking system based on speed variations. The research method used is the experimental method with testing at three speed variations, namely 15 km/h, 25 km/h, and 35 km/h. The parameters tested include braking distance, braking time, and vehicle directional stability. The research results show that speed variations affect braking distance and time. The lower the speed, the shorter the braking time and distance, and the better the vehicle's directional stability. At a speed of 15 km/h, the vehicle can stop in 2.87 seconds and a distance of 5.8 meters, compared to a speed that requires 3.08 seconds and a distance of 14.5 meters. Based on these results, it is recommended to use low speeds when driving energy-efficient vehicles to support driving safety aspects.

Keywords: *braking system, master cylinder, caliper, directional stability.*