ANALYSIS OF THE RESULTS OF MODIFYING THE POWER TRAIN SYSTEM ON THE PROTOTYPE OF AN ENERGY-EFFICIENT CAR CONSIDERING THE RESULTING REDUCTION, SPEED AND FUEL CONSUMPTION

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ABSTRACT

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This study analyzes the effect of powertrain system modifications on energy-efficient vehicles to increase efficiency and reduce fuel consumption. The made changes showed an increase in the reduction value from 13.59 to 14.68, which resulted in a decrease in vehicle speed. The smallest speed difference occurs at 2000 rpm, resulting in 13.30 km/h before modification and 12.32 km/h after modification, which is 0.98 km/h. While the highest difference is at 6000 rpm, which results in 39.92 km/h before modification and 36.96 km/h after modification, which is 2.96 km/h. The modification increased fuel efficiency by 24% from 319 km/l to 397 km/l. As a result, power train modification effectively increases reduction, decreases speed, and reduces fuel consumption in vehicles.

Keywords: *power train, modification, energy efficient vehicle, efficiency, Gear, fuel consumption, reduction, speed*