

ABSTRACT

In today's era electric vehicles are not something strange to us anymore, there are many advantages offered by electric vehicles, such as, No. exhaust emissions, not using fossil fuels as fuel and many more. But there are shortcomings that are one of the factors hindering the development of electric vehicles in Indonesia. Such as limitations in the mileage of vehicles. The purpose of this study is to be able to implement the appropriate alternator and transmission on Escooters with mid-drive motor types. Then you can compare the difference in vehicle mileage produced by the alternator by using the transmission on the e-scooter with the mid-drive electric motor type. The initial results of this experience are that the use of mid-drive motors requires a transmission to connect to the drive wheels. This research focuses on selecting the final gear ratio in the gearbox used in the mid-drive transmission system of a 2000 watt gearmotor motor added with an alternator. After adding a gearbox and also an alternator in the transmission system, a mid-drive motor can increase performance and also maximum mileage on the e-scooter. Testing is carried out by conducting a dynotest to find out the performance produced, and testing directly to find out the maximum mileage that can be achieved. By adding a gearbox and selecting the appropriate ratio, it can provide an increase in performance, mileage, and efficiency in the drive.

Keywords: Alternators, E-Scooter, Electric Vehicle, Gearbox, Mid-Drive.