

# **The Development of Wheel and Battery Addition in 3 Wheel Electric Bicycle Brushless DC for People with Physical Disability**

**Harley Davidson**

*Automotive Engineering Study Program  
Engineering Department*

## ***ABSTRACT***

This research aims to develop 3 wheels electric bicycle brushless DC from the previous research, and to find out the appropriateness based on respondents and its bicycle performance. This research had been done in 25 May 2021 - 26 July 2021 at the PT Manufactur Dynamic Indonesia workshop place, Karangrejo, Jember regency. This research uses questionnaire to state the vehicle appropriateness and also the performance. Based on the respondent tests is figured out that 9 of 10 respondents stated that this vehicle is proper to use from social aspect and technical aspect . Based on the performance tests of 3 wheels Electric Bicycle Brushless DC are recorded that this vehicle with 48V 12AH battery is able to go through 12,46km's by the maximum speed in 34km/h at the 26 minutes 12 seconds time duration. In the hypothesis (Ho) of two way anova test stated that there are no interactions between technical aspect statement and social respondent valuations.

**Key word:** *disability electric vehicle , vehicle appropriateness, vehicle performance*