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# Revive On Working Wodel Of Electric Skateboard

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## Abstract:

Due to environmental crisis the ozone layer is depleting day by day and the non-renewable resource take a great time to recover and they a becoming much costly now a day. Thus, electrical vehicle is more suitable option and are more useful they also provide more features and they can be much more reliable. They are environmentally friendly, as they can take energy from natural resources which are unlimited in nature and are easily available to each individual. It also avoids noise pollution and more vibration.

*Keywords* — **BLDC Motor, Controller, Foot Steering, Hall Sensor, Creo 3.0, Ansys 14.0**.

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## I. INTRODUCTION

Near about 90% and that is the why it is predicted that in 2040-2050 petroleum will be no longer available. so, for the preservation of the non-renewable resources it is necessary to use renewable energy as they can generate unlimited source of energy. An electrical vehicle is a much more valuable resource.

## II. TYPES OF DRIVING SYSTEM

There are two types of driving condition is applied. They are as follows

- Manual driving system (from upstream to downstream)
- Electrical driving system (from downstream to upstream)

### MANUAL DRIVING

The Newton's third law of motion "In Every Action there is equal and opposite reaction". The manual power is transmitted by applying the force by place one foot on the skateboard and push- off another foot on the ground thus will gives a motion on the forward direction of the skateboard. Keep making little push-offs, and pivoting your feet to ride on the board until you slow down.

### ELECTRICAL DRIVING

The electrical power transmission, the power is transmitted to the driving wheel by the help of BLDC motor and the controller which drives on the 48 volt

  

and 15 ampere battery. Thus, the battery gives the DC Current to the controller here the controlled gets feedback from the hall sensor inside the hub motor and gives the power to the motor depend upon by giving the signal from the accelerator. Thus, the mechanical brake is applied on the brake drum by the brake shoe. And E- Brake will be applied on the motor by the effect of Hall sensor thus the signal will be given in the acceleration cable.

**COMPONENTS OF ELECTRICAL DRIVE**

- Motor.
- Controller.
- Battery.
- Throttle sensor.

## III. LITERATURE SURVEY

Agus Purwadi Two fundamental components in the electric car are the electric motor and its energy storage system. Therefore, we have to protect the battery from anything that can make the battery's life shorter.

Zhidong Zhang Base on PIC16F72, a design of brushless DC motor controller strategy applied to the electric bicycle control system was presented in the paper.

Darshil G. Kothari The Hybrid Bicycle System is a systems project which is used to power an electric hub motor running a bicycle. In this electric hybrid bicycle, the front wheel has a compact & light weight hub motor. It will be having regenerative charge system and solar panels, which enables substantially longer distance power assist

Nicolò Daina This paper provides a systematic review of these diverse approaches using a twofold classification electrical transport by the timescale and has difference in designing techniques. it's based on daily analysis of demand; we can identify on how attractive it is. Amongst the most critical there is the lack of realism how charging behaviour is represented.

D.F. Flippo Wheel design can be enhanced through experimentation, testing, and iteration. Unfortunately, the time and money needed to test full vehicles is costly. There is a cheaper way if we test incorporate single wheel testing. In a single wheel skateboard, the balance is required and it can be stable on its own it also has motion tilt technology it also contains led and a new algorithm that. To validate this algorithm and explore skid steering enhancement several single wheel skid steering experiments were done and the results were compared to a full vehicle's turning performance.

**SKATEBOARD AND E-BOARD**

FIG.1. SKATEBOARD

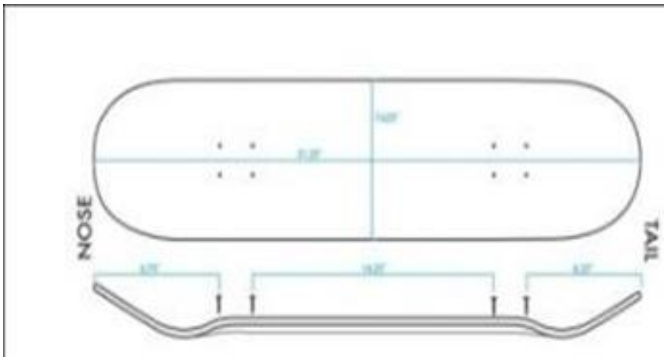


FIG.2. DECK

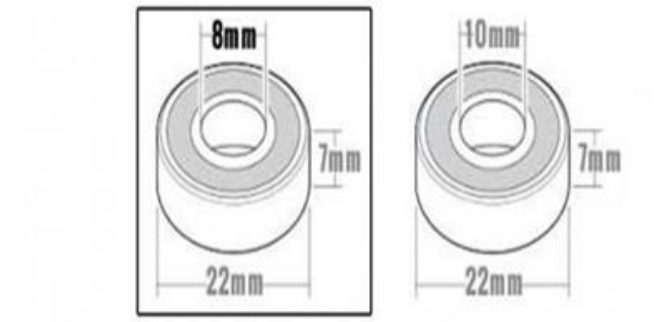


FIG.3. WHEEL TYPES OF SKATEBOARD

**WHEEL TYPES OF SKATEBOARD**

- The Lon Board
- The Cruiser
- Penny Board

  

A skateboard is a venial that uses physical power from humas to travel and it's much more useful and it is faster and does not use any resource.

**ELECTRICAL SKATEBOARD**

FIG.4. ELECTRIC SKATEBOARD

FIG.5. ACTUAL MODEL OF ELECTRIC SKATEBOARD

An electrical skateboard is much more efficient device which can be used to travel and is light in wait we can also drive it manually id its discharged.

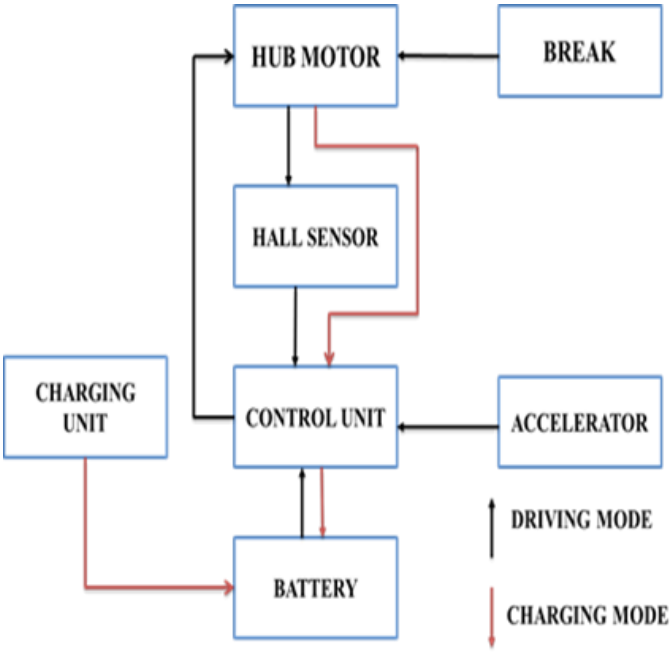


FIG.5. BLOCK DIAGRAM

**Advantages of E-Board**

- Go Uphill with Minimal Effort.
- More Control over Your Speed.
- You Don't Have to Push.

## IV. CONCLUSIONS

It is extremely convenient source of transport. It can work both ways electrically and manually its light weight and portable it can be lifted with a single hand without putting much efforts. its durable in many weather conditions can be used for uphill rides. It can be recharged form anywhere and can be used by anyone. It can go through small place no problem in which many other means of transport cannot go through.

## ACKNOWLEDGMENT

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