International Journal of Advanced Technology in Engineering and Science
Vol. No.5, Issue No. 02, February 2017
www.ijates.com
ijates
ISSN 2348 - 7550

MOTORIZED SKATE BOARD USING DC MOTOR

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ABSTRACT

Skateboardsare the one that need to be pushed using human power i.e. using feet. Due to tiny stone's the wheels of the skate board can damage or obstructed due to which the skateboarder can get in interesting problem. The solution achieve on this problem is that skate board are modified in hover board or motorized skate board. We have provided handle for support which have switches mounted on it. Due to this it is easier for balancing .

REVIEW

- The Hendo hover board, invented by Greg Henderson and launched with the help of his wife, Jill, nearly broke the Internet when it appeared in a Kickstarter video last year featuring company engineer and resident stuntman Garrett Foshay.
- For the millions enthralled by the image of Michael J. Fox as Marty McFly hover boarding in that far-off time of, yes, 2015, the Hendo fulfills a long-held desire.
- Shane Chen, an American businessman who founded the company Inventist, has the earliest claim to inventing the self-balancing scooter deviceswegway. Chen started a Kickstarter for Hovertrax, in 2013.
- In an interview with the Los Angeles Times, Chen voiced his frustrations regarding patent rights in China. He claimed that Solowheel, his self-balancing unicycle, was copied by other manufacturers after it appeared in Happy Show, a Chinese television show.
- In August 2015, Mark Cuban announced plans to purchase the Hovertrax patents from Chen.

I INTRODUCTION

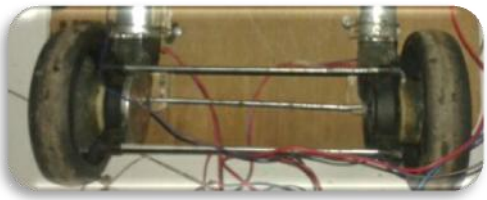
- Self-balancing two-wheeled board, commonly referred to as a "hover board or motorized skate board", is a type of portable, rechargeable battery-powered scooter.
- They typically consist of two wheels arranged side-by-side, with two small platforms between the wheels, on which the rider stands.

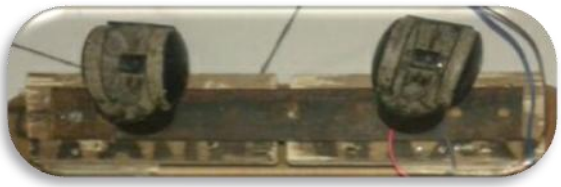
- The device is controlled by the rider's feet, standing on the built-in gyroscopic, sensored pads.
- In 2014, several such devices appeared in China, and by 2015, they became widely popular in the United States, following numerous celebrity appearances with the device.
- There is no universally accepted name for the device, as its various product names are attributable to the companies which distribute them and not their manufacturers.

II COMPONENTS

2.1 Wooden platform or base

- The wooden platform has two to three feet length approximately, and has two centimetre thickness.
- It can carry load up to 100kg.
- Wheel's
- The purpose of small tires is to stabilize the skateboard while the drive wheels.
- Solid tires are the best caster tires for those who want skateboard to roll and turn as easy as possible but they give the roughest ride over bumps and ridges in the ground surface.
- The biggest advantage is they are virtually maintenance free and they won't go flat and won't likely wear out in the life of the skateboard.





2.2 Motors

- Basic Specification

The power window motor has four mounting hole positions. There is a working voltage of 12 volts DC current. The unit is waterproof and ISO 9001 certified.

- No Load Specification

The no-load speed or speed when no torque is applied to the motor shaft is 300 rotations per minute (rpm) and the no load current is less than 1.5 amperes.

- Stall Specification

The stall torque or minimum torque needed to completely stop the motor shaft from rotating, or stall the motor, is less than 8 units or pound-feet (N.m) and the stall current is less than 20 amperes.

2.3Battery

- 12 Volt lead acid or conventional motorcycle batteries can usually be distinguished by a row of plastic stoppers in the top (3 stoppers in a 6 volt battery and 6 stoppers in a 12 volt battery).
- Lead acid batteries usually have higher and lower battery acid levels on the front and have a white/clear plastic lower casing.
- Conventional motorcycle batteries reference numbers usually start with the letters YB, CB or GB (e.g. YB14L-A2) or 12N (e.g. 12N24-3).
- Different manufacturers use different 1st letters (e.g. CB14L-A2, GB14L-A2 and YB14L-A2 are all the same battery)

2.4 Switches

- The switches used are normal door bell switches.
- When we press it will work and when we release the switches the motor stop working and hence the motorized skate board stops working.

III WORKING

Normally a skate board works when we push it with our feet, this requires a lot of human efforts.

The original motorized skate board works on batteries and is self balancing, so one need very much self control on his or her body to balance and ride it

But the motorized skate board made by us has handle on which switches mounted, due to this one did not need more balance on them self. Just we have to stand over it, press the both the switches to move forward and one switch to take a turn.

Our motorized skate board can take 360 degree turn.

IV ADVANTAGE'S

- Eco friendly
- Less maintenance cost
- Easy to use
- Reduce human efforts
- Faster than ordinary skateboard
- Convenient to use
- Cost efficient

V DISADVANTAGE'S

- Motors can be get damaged
- Batteries has to be charged periodically

VI CONCLUSION

- Our Motorized skate board is easier for balancing than any other hover board or a normal skate board.
- It is used for lifting load.

REFERENCES

2 ^ **a b** Shea, Ammon. "Hoverboard". Merriam-Webster. Retrieved 2016-02-16.

3 ^ **a b** snopes (4 November 2015). "Back to the Future Hoverboard : snopes.com". Snopes.

4 ^ Canadian Develops Futuristic Hoverboard. 13 October 2015 – via YouTube.

5 ^ https://www.youtube.com/watch?v=Bfa9HrieUyQ

6 ^ "Farthest flight by hoverboard".

7 ^ "Exhibits: Hiller Flying Platform". Archived from the original on 2010-06-11.

8 ^ "The Hover Board: How Close Are We?".

9 ^ "Arbortech Industries Limited Airboard page". Archived from the original on July 20, 2001.

10 ^ "Hoverboard Project Takes Flight--and Actually Hovers". TechHive. 27 May 2010.

11 ^ "Le Mag Surf- Université Paris Diderot - Paris 7". univ-paris-diderot.fr.

12 ^ Anthony, Sebastian. "HUVr: The Back to the Future hoverboard is finally here". Ziff Davis,LLC. Retrieved 4 March 2014.

13 ^ "Funny Or Die is Sorry for Lying about Hoverboards". Retrieved 5 Marchioness 2014.

14 ^ Sean Buckley (2010-10-21). "We rode a $10,000 hoverboard, and you can too". Engadget.

15 ^ Hendo Hover (2014-10-21). "HendoHoverboards - World's first REAL hoverboard". Kickstarter.

16 ^ Conor Dougherty (2014-10-21). "Hoverboard? Still in the Future". The New York Times.

17 ^ Hawkins, Andrew. "This hoverboardstartup wants to create floating cities to combat climate change". The Verge. Retrieved 27 October 2016.

18 ^ Kevin Lynch (22 May 2015). "Video: Watch incredible footage of farthest flight by a hoverboard record set by Canada's CătălinAlexandruDuru". Guinness World Records. Retrieved 22 May 2015.