









Go-Baby-Go Universal Control

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Abstract

The purpose of GoBabyGo Universal Control project is to modify a ride-on children car to be used by children with physical difficulties in their hand and/or their legs, but in this project the team is focusing in creating a steering mechanism for children with difficulties on their hands. The method that shall be used is using shoulder harness attached by rope to the front wheels to steer the wheels. The impact of the project is to help those children to have a wonderful experience playing with full control and minimum parents help.

Project Goals

- 1- Design, manufacture and test a steering mechanism for children with limited mobility on their hands.
- 2- Create an assembly manual/ operation manual.

Manufacturing

- 1-Attach a curved U-shaped steel rod to a steel plate.
- 2-Drill holes on the front plastic tires.
- 3-Attach the steel plates to the tires.
- 4-Use a strap attached to a shoulder harness attached to the tires.

Engineering Design

Final Design



Figure 1: A steel rod attached to a plate attached to a plastic tire

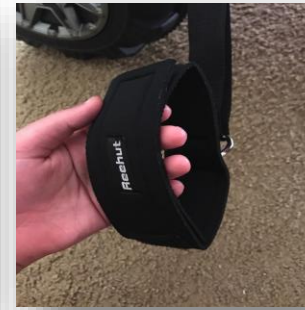


Figure 2: A strap attached to a shoulder harness



Figure 3: The final design

Testing

- 1- Force needed to steer the wheels and that was accomplished by using a push pull force meter (5lb_f).
- 2- The mechanism durability and that was accomplished by pulling the harness more than ten times (Strong mechanism).

Modifications

- 1-Using an eye bolt attached to the car frame to prevent the straps from touching the tires for safety.
- 2-Using a strap adjuster to adjust the strap for comfort.



Figure 4: Eye bolt



Figure 5: Strap adjuster

References

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Acknowledgments

Project Sponsor: Department Of Mechanical Engineering
Faculty Advisor: Dr. Sarah Oman
Sponsor Mentor: Dr.Sarah Oman
Instructor: David Trevas