Testing Document

Abstract

The objective of this test was to check whether to use the treads or the regular wheels. Treads can be very useful at overcoming the bumps and not implementing a variable track. Fears include treads not being accurate during navigation. All these outcomes will be tested, and the best form of transportation will be implemented on the final robot.

1. Background
   1. Edit History

Conducted by Enan Ashaduzzaman

* 1. Test information

Test treads and regular wheels on both the bridge to check if they will overcome the bumps. Then check the navigation on both form of transportation to see if there is any discrepancy in accuracy.

1. Goal

To find out whether the treads or regular wheels will be implemented on the final robot.

1. Procedure

Build a robot using the treads.

Use lab two code to see how accurate the treads conduct the square navigation.

Check whether or not the robot can overcome the bumps on the bridge.

Build a robot using the regular wheels.

Use lab two code to see how accurate the robot performs the square navigation.

Check whether or not the robot can overcome the bumps on the bridge.

Compare the treads and regular wheels.

1. Expected Results

It is expected both the regular wheels and treads will overcome the bumps on the bridge as they are not impossible to travel through. It is expected that the treads will be less accurate than the regular wheels during navigation. These little discrepancies can accumulate at the end of the day.

1. Test Report
   1. Regular Wheel

The regular wheels had a lot of difficulties plowing through the bumps on the bridge due to the marble on the back end. Two marbles were later placed to help ease the robot but it didn’t make a significant difference. When the marble at the back end was replaced with a wheel, the robot was able to make it through the bumps of the bridge with not much issue. The regular wheels on the other hand are more reliable for accuracy during the square navigation.

* 1. Treads

Overcomes the bumps on the bridge with ease. There are accuracy issues when the robot is trying to complete the square navigation.

1. Conclusion

Through the tests, it is noticed that the best form of transportation to implement on the robot are the regular wheels. Two wheels will be paired on each motor to help with traction. The back end of the robot will be sitting on a lazy regular wheel. Considering the regular wheels can overcome the bumps with no problem whatsoever, it isn’t worth ruining the accuracy of the navigation by implementing the treads on the robot.

1. Next Steps
   1. Regular Wheels

Try and make modifications to the regular wheels in order to make the robot track steady and make the navigation as perfect as possible with the hardware.