**Floor Testing Plan:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Surface Type** | **Image** | **Comments** | **Ranking** |
| Short Carpet |  |  |  |
| Small uneven surface |  |  |  |
| Long Carpet |  |  |  |
| Concrete/ tarmac |  |  |  |
| Bricks |  |  |  |
| Wood |  |  |  |
| Grass |  |  |  |
| Ramp |  |  |  |

**Objective:** To evaluate the platform's adaptability and efficiency across different floor types.

**Procedure:**

***Test One: Start/Stop***

Set a straight-line path, accelerate at maximum speed, average speed and slowly. Stop as quickly as possible for all of these. This is looking at brake speed and Wheel slippage at start stop, record comments and score in below table.

***Test Two: Manoeuvrability***

Set up a small figure eight course with 2 small objects in between. At an average speed drive the robot around the track, this is looking for traction, corner ability and responsiveness to turning controls. Record comments and score below during testing.

**Weight Load Test:**

**Objective:** To assess the platform's capability in handling different weight loads.

**Procedure:**

Starting with no load, weight the robot. This will give the unloaded weight.

Define a short course (5m) to drive across. The robot will drive to the end, turn around and drive back. Complete this multiple times going up in 2.5kg increments. Record any comments in the table below.

|  |  |  |
| --- | --- | --- |
| **Weight** | **Accomplished** | **Comments** |
| No Load added (0kg) | Yes | No Struggle |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Speed and Stability Test:**

**Objective:** To determine how fast the platform can go while maintaining stability.

**Procedure:**

Set up a short course on a smooth surface (short carpet used) (10m). Accelerate before the start of the course so max speed is reached. Record the time over the distance, this will give speed. Comment on stability at given speed. Record in table below.

|  |  |  |
| --- | --- | --- |
| **Time** | **Speed** | **Comments** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Battery Life Test:**

**Objective:** To measure the energy efficiency, battery life and charging time.

**Procedure:**

Connect circuit to MACHINE and run at maximum capacity. Record current draw. Based on battery ratings this will give the ideal minimum run time. Advertised run time would be 80% of this.

|  |  |
| --- | --- |
| **Current Draw** |  |
| **Rated Battery Life** |  |
| **Expected ideal run time** |  |
| **80% time** |  |
| **Rated Battery Charger** |  |
| **Expected Charge Time** |  |
|  |  |
|  |  |

**Other Specifications:**

|  |  |  |
| --- | --- | --- |
| **Size:** | 700w, 440l, 350h (mm) | Tape measure |
| **Noise:** |  | Phone volume tester |
|  |  |  |
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