



اَوْبُو سَيِّدِي تَيْكُونُو لُو عِي مَارَا
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MEC332

MECHANICAL ENGINEERING DESIGN

PROJECT:

CLIMBER HAND TRUCK

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ABSTRACT

This report shows the progress of our project. Each week we will hold a meeting to find out the progress of each of our members in doing the task. In the meeting we will also discuss how to solve every problem we face to complete this project. We also ask for ideas from our supervisors to improve our products. Our products are inspired by overseas products and we innovate the products to be safer and according to the preference of Malaysians.

Design for this product we use the existing design only we add some appropriate factors. Among them, we added a belt on the shelf so that when the item is lifted there will be no accidents. In addition, we also use minimum size treads so as not to disturb customers when using this product.

In this product there is also a poka-yoke to prevent accidents when using this product. The poka-yoke on this product is on the button to start the movement of the treads. The button has a cover so it is not stressed while the treads are moving.

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1.0 INTRODUCTION

The first ever hand truck were called sack trucks and it was initially used in the 18th century. It was created in order to help young boys carry large sacks of supplies as efficient as how young men would carry items around by hand. The base design of the hand truck consists of an L-shaped cart with handles on each end, two wheels on the base and a ledge to place objects.

A few innovations were created for the hand trucks to increase its functionality such as increasing the area of the ledge to increase the maximum capacity of load that is carried, using hard materials for the hand truck so that it can carry more weight or the design of the tires resembles a fidget spinner to help it climb steps. However, many industries would prefer the original design due to the cost and it will still be able to achieve the same purpose with other advance hand trucks.

1.1 Design Objective

The major objective of this project is to ensure the user's package or load reaches its destination safely. However, a few minor objectives must be accomplish in order to achieve this goal. These minor objectives are the criteria that is needed for the final product. The objectives areas follows:

- The product will be able to function properly on inclining steps either ascending or descending.
- The product will be able to hold the package or load without damaging it.
- The product needs to maintain its stability on multiple terrain.

1.2 Significance of the Project

This project is related to carrying everyday object on stairs. Thus, the importance of this project that can contribute to the buyers are as follows:

- The object that is carried is guaranteed to reach its destination with ease.
- The object carried will not fall off or slip from the product.

- Users will be able to carry more object with less effort.
- The product will be easy to use and stored.

The product will use eco-friendly and non-hazardous components