

UNIVERSITI TEKNOLOGI MARA

**FABRICATION OF FOLDABLE
MULTIFUNCTION HAND
TROLLEY**

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ABSTRACT

Mechanical Engineering students of semester 4 were given a task to manufacture a product to help or ease people in solving everyday problems. From the data obtained, people are having a problem on carrying or transporting loads of bigger shape or dimensions. The objective of this project is to design and fabricate a multifunctional trolley and can be used with 4-wheel mode and 2-wheel mode. Other than that, this project is also to analyse the multifunction hand trolley affected to the applied load using simulation software. This concept will be generated by referring to existing products in the market based on the characteristic and criteria. Some manufacturing steps will be included in this proposal like research and literature review. There will be several manufacturing processes to fabricate this project like measuring, cutting, welding, and finishing. By the completion of this fabrication, an in-depth understanding will be gained and improvement on ability to write an excellent proposal for engineering design fabrication which then can assist fellow students in their future professional environment in engineering world.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Heavy duty trolley is an equipment designed to move heavy loads from one place to another. It can effectively reduce the burden humans carry in their daily lives. This equipment is commonly used by industries and warehouse store to transport physical products. It is also widely used in daily lives. When it is used properly, automatically it can protect people from suffering back injuries and other severe injury prior from lifting and carrying heavy loads. [9]

There are a lot of model and type of trolleys out there. It was designed to withstand and function safely in challenging condition. In this case, the type of trolley that will be fabricated is a trolley that is usually used in workshops, warehouses, and as daily usage. The additional feature that is going to be in the fabrication of the trolley the ability of the trolley to transform from a 4-wheel mode trolley to a 2-wheel mode trolley. This will enable the trolley to carry loads of different shapes and dimensions. [7]

With this fabrication, it can help consumers to carry out their work more effectively and effortlessly. [6]

Problem consumers face when using a trolley is that they will have a hard time while trying to load stuffs of different shapes and dimensions. With this multipurpose hand trolley, consumers can transport loads of bigger size and dimensions. [9]

Other than that, consumers have problem of storing the trolley when not in use because most of the trolleys are likely bulky. Thus, with this fabrication, the problem can be solved with this multipurpose foldable hand trolley. [6]