

UNIVERSITI TEKNOLOGI MARA

MINI TABLE SAW

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ABSTRACT

These days DIY their thing or create some project for their assignment. This activity must be include cutting in their process. Commonly they will use tools like handsaw to cut material like metal, pvc, and wood. The problems are the process of it take a lot of time and use much energy. Machine at market now also expensive to buying it. Plus, it not suitable for lightweight duty. This project focuses on creating a small, portable, and affordable table saw to solve common issues with traditional models, such as high cost, large size, and frequent mechanical problems. By designing it in SolidWorks and using inexpensive materials, the mini table saw will offer an efficient and cost-effective solution for cutting thin materials like PVC and light wood. The result will be a compact, easy-to-use tool that enhances safety, reduces maintenance costs, and improves cutting precision and efficiency for both professionals and DIY users.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Certainly! A table saw serves as a versatile and essential tool in woodworking and construction due to its fundamental design and functionality [1]. Its stable flat surface provides a secure platform for various cutting tasks, ensuring precision and accuracy. With the circular saw blade mounted underneath and extending through the table, users can adjust the blade height to accommodate different cutting depths, enabling versatility in the types of cuts achievable. The presence of an electric motor beneath the table ensures consistent power delivery, facilitating smooth and efficient cutting operations [2]. Moreover, the clear tabletop surface allows for ease of maneuverability when feeding wood stock into the blade, promoting safety and control during operation. This setup not only enhances productivity but also minimizes errors, making table saws indispensable for both professional woodworkers and DIY enthusiasts alike.

As with just about any power tool, there are an awful lot of issues one might deal with. While some are extremely rare, some are fairly common. Two things that often heard related to table saw which is cut issues and mechanical problems [3]. For example, blade sharpness, blade speed, and damage wire. Injuries from direct finger and hand contact with the saw blade are another concern. Burns and kickback injuries can both result in major issues.[4]

There have varies of way to solves the problem due to these issues. Firstly, always check the machine before and after use it. For example, the part of the machine-like blade either it still can be use or not. Next always know how to use the machine by reading the manual book. The most important things are the safety. Wear the attire like glove, goggle and more to prevent any injuries. To avoid this problem, they love to use conventional method by using handsaw to cut wood or other material. But this will make them use a lot of energy while working on it and take time to finish it. Plus, table saw sold with the high price so they cannot afford it.