UNIVERSITI TEKNOLOGI MARA

DESIGN, ANALYSIS AND FABRICATION OF MINI BELT SANDER

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ABSTRACT

Mini belt sander is a tool that is expected to change the way people make finishing for their handcrafts or some daily tasks. There are some problems that lead to this project research. Firstly, most of sanding machines are relatively big especially when handling smaller projects. Secondly, plenty of sanding machines are quite expensive and not everyone could easily afford one. This project research is intended to make a more convenient and practical sanding machine because its compact form factor. Other than that, it is to make a sanding machine more affordable for users that are making a project for hobby or education purposes a better quality finishing. The methodologies used for this project includes problem understanding, reviewing literature, data collecting, data analyzing and solution drawing. This project is expected to be successful and convenience for most users.

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CHAPTER ONE
INTRODUCTION

1.1 BACKGROUND OF STUDY

Grinding process is a process that gives smooth finishing surface to a project or craft. This process is compulsory to get the perfect outcome for the project created. To do grinding process, we need a tool or machine to get the job done. There are few types of grinding machines are available in market now. But, not all grinding machines are suitable for some customer demands.

This project is studied to create a better option for users who do the grinding process of light or small project and suitable for everyone whether they do the grinding process quite frequently or less frequently. Typical machine grinders are relatively big and requires higher skill to operate. Also, most of machine grinders are relatively expensive for some people just to create a perfect finishing for just a small scale project. One of the objectives of this study is to fabricate a replacement of typical grinder machines that is more convenient and practical due its more compact form factor. Other than that, this study is intended to make something like a grinding machine more affordable. The methodologies used for this project includes problem understanding, reviewing literature, data collecting, data analyzing and solution drawing. This project is expected to be usable and will get good acceptance among customers.

1.2 PROBLEM STATEMENT

Everyone that involves themselves in crafting project may know what is sanding process – a process to make a project surface smoother and have perfect finishing. Thus, they need something a more affordable and convenient tool. Most typical sanding machines are relatively big especially when handling smaller projects such as the making of mini storage rack project. Thus, a machine that has more compact form factor is desired for most customers.

Secondly, most of sanding machines are quite expensive and not everyone could afford one. This is because most of sanding machines have complex components assembled inside them and mostly uses more expensive materials. Thus, it is our task to find a way to cut the price of a grinding machine down.