



**UNIVERSITI TEKNOLOGI MARA CAWANGAN
BUKIT BESI**

MEC299

**DESIGN AND FABRICATION
OF TABLE SAW**

MUHAMMAD IRFAN HANIF BIN ZAWAYI

2020843252

SUPERVISOR:

HANIPAH BINTI GHAZALI

SEM MARCH AUGUST 2022

ABSTRACT

This study is about design and fabrication of any daily life problem using Mechanical Engineering Design Process. People nowadays had so much problem especially when cutting materials like woods and many more. The cutting process will take a long time to be done and it can be pricey if you wanted to buy the saw machine. Besides, it use a lot of human labor in cutting process and the cutting machine is a bit heavy. The objective for this project is to reduce the time taken to finish the work involving cutting process and this project is based on a low-cost design that can be easily managed by many people. It also can prevent a lot of human labor and the machine can be taken anywhere. To design the table saw project, I will fabricate the table saw project. The scope for this project is to cutting the material like woods and to running this project, we use the raw material that have in the laboratory and used items. The contribution for this project is can help the workers cutting easier and increase the production of woods.

Table of Contents

1.0 INTRODUCTION.....	6
1.1 Background of Study.....	6
1.2 Problem statement.....	6
1.3 Objective.....	7
1.4 Scope of work.....	7
1.5 Significant of Study.....	7
2.0 LITERATURE REVIEW.....	8
2.1. Table Saw and Description.....	8
2.2. Things That You Can Do with A Table Saw.....	8
2.3. Type of Cutting with Table Saw.....	9
2.3.1 Rip Cut.....	9
2.3.2 Crosscut.....	10
2.3.3 <i>Dado Cut</i>	10
2.4. Material.....	11
2.4.1 Woods.....	11
2.4.2 Steel.....	12
2.5. Safety.....	14
3.2 Preliminary result.....	18
3.2.1 Problem Definition and Need Identification.....	18
3.2.2 Concept Generation.....	19
3.2.3 Concept Selection.....	22
3.3 GANTT CHART.....	23
5.0 REFERENCES.....	Error! Bookmark not defined.

CHAPTER 1

1.0 INTRODUCTION

1.1 Background of Study

People nowadays had so much problem especially when cutting materials like woods and many more and many of them use the table saw to solve this problems. The table saw is sometimes referred to as the wood shop's workhorse since it is the most flexible and prolific of all woodworking machines. The depth of the cut is altered in a cutting-edge table saw by moving the sharp edge around: the higher the edge juts over the table, the deeper the cut. The sharp edge can be changed to customise the cut point. A table saw is a woodworking instrument that consists of an electric motor driving a circular saw blade set on an arbour. With the help of a timing pulley and a belt, the motor and arbour are connected. Cross-cut, mitre-cut, square, dado, rabbet, and even apply forms to edges may all be done with this table saw tool.

1.2 Problem statement

People face numerous challenges, particularly when cutting materials such as wood and other similar materials. The cutting process will take a long time to complete. Furthermore, the cutting process requires a lot of human labour, and the cutting machine is quite heavy.

1.3 Objective

There are two objectives for this project:

- i. To design the table saw.
- ii. To fabricate the table saw.

1.4 Scope of work

The scope for this project is the software like solidwork to design the project

1.5 Significant of Study

The significant of study for this project is we can contribute increase the material like wood with use this table saw. We can cut the material fast and we do not use too much electricity.