

UNIVERSITI TEKNOLOGI MARA

**~~DEVELOPMENT OF~~ AUTOMATIC
PNEUMATIC PUNCHING AND
RIVET MACHINE**

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ABSTRACT

Riveting is one of the sheet metal working processes. The factory has been using human labor for decades and is less productive. So, according to my observations, when we use labor to run the machines, sometimes the error percentage is higher, and the work speed is lower because it takes more time than using automatic machines. Therefore, I found a solution to this problem by designing and manufacturing this automatic pneumatic riveting and punching machine so that the use of manpower and time consumed when doing the work can be minimize and lesser. Pneumatic system can be classified as one of the most accurate systems and has low cost. This convenience of operating with a pneumatic system made me want to design and manufacture this unit as my project in the hope that this project will be successful and will facilitate the factory operator, they do not have the necessary skills to work with mechanical machinery. So in conclusion, the purpose of fabricating this machine is to reduce time consuming and also reduce the need for manpower.

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Finally, this dissertation is dedicated to my father and mother for the vision and determination to educate me. This piece of victory is dedicated to both of you. Alhamdulillah.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Riveting is one of the sheet metal working processes. The factory has been using human labor for decades and is less productive. So, according to my observations, when we use manpower to run the machines, sometimes the error percentage is higher, and the work speed is lower because it takes more time than using automatic machines. Therefore, I found a solution to this problem by designing and manufacturing this automatic pneumatic riveting and punching machine. Pneumatic system can be classified as one of the most accurate systems and has low cost. This convenience of operating with a pneumatic system made me want to design and manufacture this unit as my project in the hope that this project will be successful and will facilitate the factory operator, they do not have the necessary skills to work with mechanical machinery.

1.2 Problem Statement

Technological advances in the mechanical industry have been greatly improved by mechanical engineers. However, not necessarily all scopes in the work have been developed. Based on the research I have done; I have found some problems that can be presented is I found was the difficulty when doing rivet manually, it is usually time consuming and sometimes the rivet got stuck because of false use of the tool. Other than that, by doing rivet and punching process separately will takes more time consumption. It will also result in using more human power.

1.3 Objectives

The main objectives of this project are:

- a) To reduce the use of human power during the riveting process
- b) To minimize the time consumption in riveting process.