

CHAPTER 1

INTRODUCTION

1.1 PROJECT SYNOPSIS

This project contains of designing and fabrication of can crusher machine. There have many differences between this can crusher with current design in market place. This project is to develop and improving it performance as well so that there has no doubt about the design and concept. This design required little forces to crush the aluminum cans, can crush a can at a time. In this project, it needs lot of skills and information and also knowledge such as Computer Aided Design software (AutoCad), Solidworks software, using shearing machine, Truma Bend V Series (bending machine), vertical bendsaw, bench work and welding process. This design obviously would help the user. So, this design would through much process before it get into prototype term in order to achieve the objectives and off course customer need.

1.2 PROJECT PROBLEM STATEMENT

Usually we use leg to stamp the cans. This method is very dangerous because can make injure for us, but nowadays many can crusher was produce. But most of the current product was attached at the wall. So the current product is not portable. Then the current products are troublesome and difficult because it make user feel not suitable as well. Beside that most of products also not have hopper to prepare the can before crush and not have storage for the crushed cans.

1.3 PROJECT OBJECTIVES

1.3.1 General Objective

Diploma final year project objectives is to practices the knowledge and skill of the student that have been gathered before solving problem using academic research, to born an engineer that have enough knowledge and skill. This project also to complete the subject on this semester. The student also can be explore the advanced machine before involves in industries. The project otherwise will be produce and train student capable of doing work with minimal supervisory and more independent in searching, detailing and expanding the knowledge and experiences. The project also will generate student that have capability to make a good research report in thesis form technical writing.

1.3.2 Specific Project Objective

This project will be following these objectives;

- i. To design and fabricate the can crusher that required low force to crush the cans.
- ii. To design and fabricate the can crusher that can crush a can at a time a.
- iii. To design and fabricate the can crusher that has storage to locate the can after crush.

1.4 PROJECT SCOPE

In order to finish this project require precise scope of work and proper plan need to be followed because this project must through various process before it would be produce. Beside that this project title is new idea which is come from instructor engineer in lab and as the knowledge isn't entirely covered in classes or lab. So it give us advantages to learn new process to produce this product and absolutely we could find lot of advantages neither we are realized or not. These are scope of work in this project:-

- i. Literature review about the design from any possible resource
- ii. Design the model of can crusher
- iii. Fabricate the design using material that been selected
- iv. Test the design in demonstration

1.5 PROJECT PLANNING

This project is beginning with meet supervisor to collect information and otherwise search from via internet, books and survey at market, this literature review must do for every week. The finding of information not will be stop on a week but continues along the way of this project because to get more information.

The Gantt chart (time management) and flow chart (process management) will be developing on second week. This is done using Microsoft Excel using Gantt chart system.

The week second and third, have to make three sketching. These sketching based on the advantages and disadvantage product in marketing.

The Fourth week the Pugh analysis and matrix analysis will be developing. The function of this analysis is to get a final design, from three designs any criteria will be research to get good concept. After get a final design solid work will be start.

Just final design will use this software. Each part will be developed and lastly the assembly part will be begun.

On weeks fifth and sixth the progress report will be start. Meeting with supervisor on weeks seventh and eight gather data to complete progress report. That week the mid presentations also start.

The getting material will be start after mid presentation. The process cutting raw materials start on week nine. At the same time the fabrication also starts. The planning process of fabrication around week's nine until twelve.