

**UNIVERSITI TEKNOLOGI MARA**

**DESIGN AND FABRICATION HAND  
OPERATED CAN CRUSHER**

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## **ABSTRACT**

The study of manufacturing was very important to carry this project to ensure that student understand on what are needs to do. This project is about designing and fabrication the Can Crusher to helps people easy to crush the Aluminum, tins, and soda cans. This project involves the process of designing the crusher using considering forces and ergonomic factor for people to use. After the design has complete, it was transformed to its real product where the design is used for guideline. This project also requires ensuring the safety for indeed of publishing. Methods and process involved in this project for instance using bending, welding, drilling, and cutting process. This project is mainly about generating a new concept of Can Crusher that would make easier to bring anywhere and easier to crush the tins. It also can be placed beside the trash at school or any public places so that people can use it. This will reduce the space on the trash and can put a lot of aluminum tins.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of Study

The main purpose of this project is to understand the fundamental knowledge of design and lever mechanism by using connecting rod and a simple mechanism property. This project contains the design and fabrication of a can crusher. There are slight differences between these can crushers and current designs on the market. The project is to develop and improve its performance as well so that there is no doubt about the design and concept. This design requires low force to crush aluminium cans (Al) at one time. In this project, it requires a lot of skills, information, and knowledge such as SolidWorks software, using machines called grinder, bench drilling machine and welding process. So, this design will go through a lot of processes before it goes into prototype terms to achieve the objectives and needs of the customer.

A mechanical can crusher is basically one of the most helpful machines. It helps reduce the environmental pollution of this world. So, it helps create a better place to live. Also, this crusher can be a recycling mode in the future. It can be placed anywhere, in a garden, home, even in a car, using a smaller can crusher. Therefore, this project interested and exposed me to the field of mechanism and design engineering. To design the mechanical parts of a can crusher and make the design mechanical parts of the system.

### 1.2 Problem Statement

When people step on the can after finishing their drink, it always does not look symmetrically flat, and it looks messy. This condition sometimes can produce the sharp edge that will harm or injure people. In addition, uncrushed cans will fill the bin very quickly. So, people need to change the plastic bin regularly. Therefore, the use of plastic will increase, and this will damage the earth. Furthermore, people always throw the can anywhere. These conditions make pollution to environment and become bad