

PROTOTYPE DESIGN COLLECTION

SERIES 2



Prototype Design Collection

Series 2



AHMAD NAJMIE RUSLI

**UNIVERSITI TEKNOLOGI MARA CAWANGAN JOHOR
KAMPUS PASIR GUDANG**

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FOREWORD

This digital book on Prototype Design Collection Series 2 (PDC Series 2) is published as a reference design for mechanical engineering students. The designs presented experience a few phases of analysis before fabrication of prototype. Each project summarises the project description, prototype, figures, and design parameter. The design products vary in tools or equipment for household, workshop, entrepreneur, etc. Suggested material and detail of prototype dimension are also mentioned in this book.

It is hoped that this book will assist the students to have more ideas on innovation design products in the future.

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CHAPTER 29

Hand Operated Can Crusher

Muhammad Ammar bin Che Suffian ¹ and Suhadiyana binti Hanapi ^{2*}

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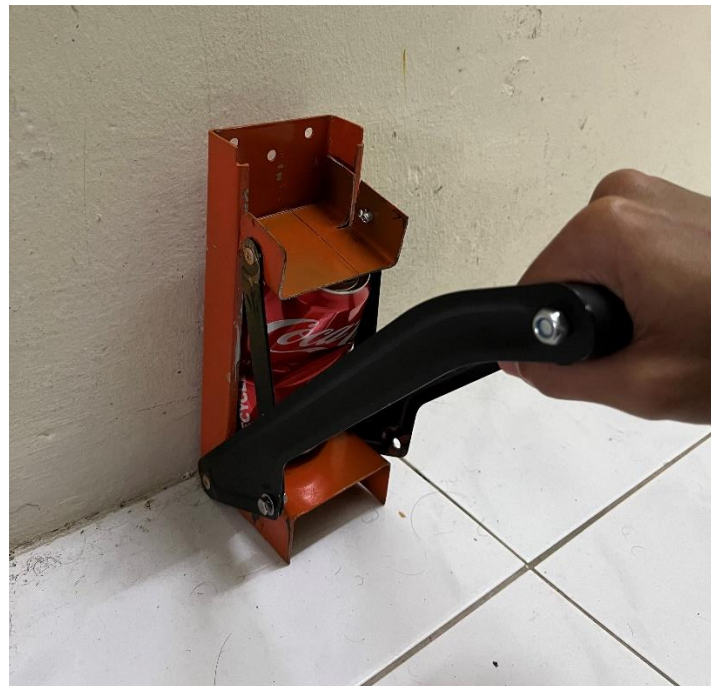
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PROJECT DESCRIPTION

The objective of this project was to design and fabricate a can crusher to facilitate crushing aluminium cans. The project involved the process of designing the crusher, considering forces and ergonomic factors for user convenience. Once the design was finalized, it was implemented to create the actual product, using the design as a guide. Safety considerations were also paramount in this project, ensuring the product's suitability for publication. Various methods and processes such as bending, welding, drilling, and cutting were employed. The primary aim of this project was to introduce a new concept of a can crusher that is portable and user-friendly for easy tin crushing. It can be conveniently placed next to trash bins in schools or public spaces, enabling people to utilize it. This will effectively reduce the space occupied by tins in the trash, accommodating a larger quantity of aluminium cans.

Keywords: *Portable, Can crusher, Ergonomic*

PROTOTYPE



DESIGN PARAMETER

