

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 20

Waste Compactor Trash Can

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PROJECT DESCRIPTION

This project focuses on the design and development of a waste compactor trash can, aiming to revolutionize waste disposal by providing an efficient and space-saving solution for waste management. Traditional trash cans often result in overflowing bins, frequent emptying, and inefficient use of space. The waste compactor features an innovative mechanical design and compaction functions to optimize waste disposal. It features a manual compaction mechanism that reduces waste volume, allowing more waste to be stored in the same space. The trash can has a robust and user-friendly design that is easy to operate and maintain. Extensive testing and validation have been conducted to evaluate the performance and usability of the waste compactor trash can. Several types of waste materials and compaction settings were assessed to evaluate compaction efficiency and waste storage capacity. The successful implementation of this project will have a significant impact on waste disposal in various areas, such as homes, offices, and public facilities, by providing an efficient, cost-effective, and space-saving solution for waste disposal. By reducing the frequency of emptying, optimizing waste storage capacity, and promoting responsible waste management, this project is expected to contribute to a cleaner and more sustainable environment.

Keywords: *Waste, Trash, Compactor*

PROTOTYPE



DESIGN PARAMETER

