

# 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 122

### Innovative Garbage Collector for Small Worker Application

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#### PROJECT DESCRIPTION

Cleaning is an essential necessity for all individuals, requiring regular attention in daily routines. Traditional road and floor cleaning machines are widely employed in various settings, including highways, railway stations, airports, hospitals, bus stops, multi-story buildings, and universities. These machines typically rely on human energy for operation, making them user-friendly and environmentally conscious. This project aims to utilize readily available and cost-effective materials, ensuring ease of manufacturing, use, and regulation. During summer power outages, traditional cleaning devices often suffer from reduced efficiency. To address this issue, a superior alternative in the form of an environmentally friendly, manually operated road and floor cleaner is proposed. Compared to existing machinery, this cleaner demonstrates high efficiency in terms of area coverage, time, and cost of the cleaning process. Additionally, it proves to be a cost-effective solution for implementation.

**Keywords:** *Road cleaning machine, Manually operated, Environmental friendly*

#### PROTOTYPE



### DESIGN PARAMETER

