

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 94

Automated Wrapping Machine

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PROJECT DESCRIPTION

The product wrapping process at Jalen Sdn Bhd factory were carried manually, where the workers will hold the wrapper and move around the cartons of products one by one. Limitations occurs when the product produced excessively, where the wrapping process it will consume much time and energy. The main objectives of this project are to develop a machine that reduce the use of manpower and minimize time for wrapping. The body of the machine is fabricated using an aluminium profile with a size of 40mm x 40 mm which involved the process of cutting and drilling. It is then assembled by using aluminium L bracket using bolt and screw. A motor is used to create the rotation for the wrapping process. A roller is attached to the body to smoothen the machine movement. The time taken to complete the wrapping process using the machine is 1 minutes while manual wrapping process is 4 minutes. The number of manpower required is 1 compared to manual wrapping which is 2. In conclusion, the objectives for this project were achieve successfully as it able to reduce the time taken and numbers of manpower for the wrapping process.

Keywords: *Wrapping, Manpower, Aluminium profile*

PROTOTYPE



DESIGN PARAMETER

