

PROTOTYPE DESIGN COLLECTION

SERIES 2



Prototype Design Collection

Series 2



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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 64

Design and Fabrication of Multifunction Laptop Cooler

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PROJECT DESCRIPTION

A laptop cooler or cooling pad is an accessory designed to reduce the operating temperature of laptop computers. This project aims to improve the design of laptop cooling pads to provide additional features beyond cooling. The primary objective is to determine the feasibility of adding multifunctional features to the cooling pad. The proposed design is focused on improving the user experience and enhancing the functionality of the device. The project will involve milling, cutting, and drilling to create the prototype device. The idea of multifunctionality is inspired by the innovation of multifunctional tables, which have become popular in recent years. The current design will focus on cooling the laptop, while also providing additional features that enhance the user's life. The project is motivated by the need to solve a common problem faced by laptop users, which is the inability of laptops to sufficiently cool themselves. By improving the design of laptop cooling pads, this project has the potential to offer a solution that improves the user's experience.

Keywords: *Laptop cooler, Multifunctional, Design improvement*

PROTOTYPE



DESIGN PARAMETER

| | | | | |
|--|---------|-----------------------|--------|-------|
| PUSAT PENGAJIAN KEJURUTERAAN MEKANIKAL UiTM CAWANGAN JOHOR, KAMPUS PASIR GUDANG | | | | |
| Course Name MEC300 - FINAL YEAR PROJECT 2 SESSION; OCTOBER 2022 - JANUARY 2023 | | | | |
| Group J4EM1105A | | | | |
| Approved | Checked | Drawn NADZIRUL | | |
| Drawing Title ASSEMBLY COMPONENTS | | | | |
| Part Name MULTIFUNCTION LAPTOP COOLER | | | | |
| Part No. | | | | |
| Rev. | Scale | Projection | Weight | Sheet |
| 0 | | | | |

| BILL OF MATERIALS (BOM) | | | |
|-------------------------|--------------------|-------------|------|
| Part No. | Part Name | Description | Qty. |
| 1 | Top Plate | Steel | 1 |
| 2 | Casing | Steel | 1 |
| 3 | Fan | plastic | 2 |
| 4 | Electrical storage | steel | 1 |
| 5 | stand | Steel | 1 |

| | | | | |
|--|---------|-----------------------|--------|-------|
| PUSAT PENGAJIAN KEJURUTERAAN MEKANIKAL UiTM CAWANGAN JOHOR, KAMPUS PASIR GUDANG | | | | |
| Course Name MEC300 - FINAL YEAR PROJECT 2 SESSION; OCTOBER 2022 - JANUARY 2023 | | | | |
| Group J4EM1105A | | | | |
| Approved | Checked | Drawn NADZIRUL | | |
| Drawing Title EXPLODED VIEW | | | | |
| Part Name MULTIFUNCTION LAPTOP COOLER | | | | |
| Part No. | | | | |
| Rev. | Scale | Projection | Weight | Sheet |
| 0 | | | | |