

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 62

Design and Fabrication of Smart Box Conceal for Letter and Parcel

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PROJECT DESCRIPTION

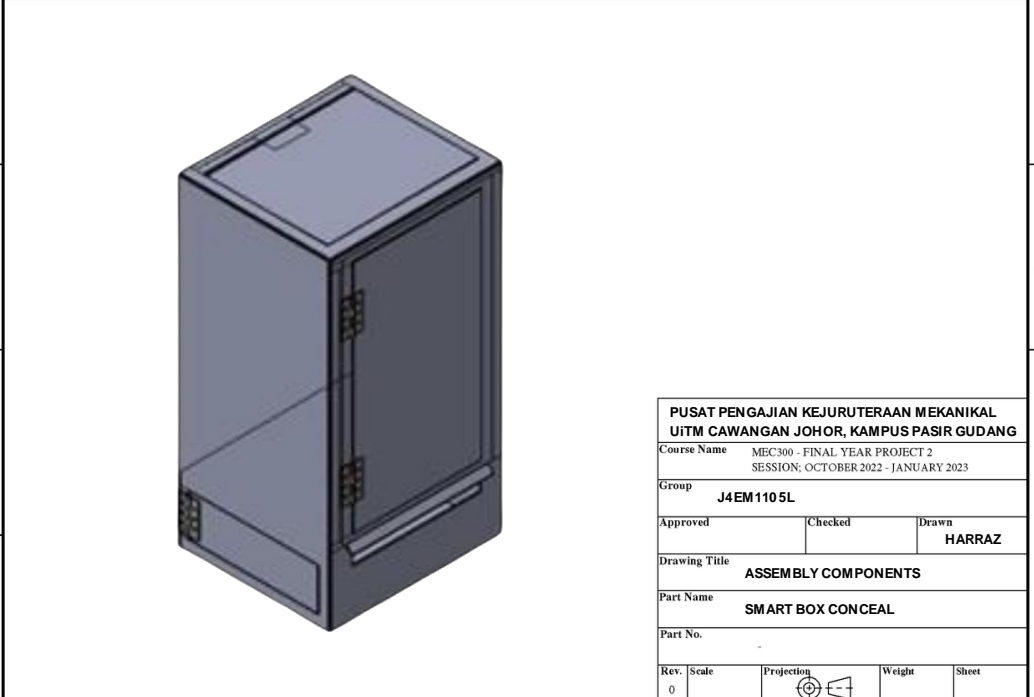
The proposed project aims to address the vulnerabilities of traditional mailboxes by introducing an innovative smart box that enhances protection and security for letters and parcels. This durable and weather-resistant box, constructed with high-quality materials like steel and aluminium, ensures longevity and reliability. It incorporates cutting-edge technology such as GPS tracking and real-time alerts to provide users with up-to-date information on delivery location and status. Advanced security features, including biometric access controls and reinforced locks, prevent unauthorized access and theft. Manufactured with precision and quality through bending, cutting, and welding processes, the smart box accommodates letters and parcels in a safe and secure manner. With dimensions of up to 40cm x 35cm x 65cm, this smart box offers an effective solution to the challenges of modern mail delivery, combining innovative design, advanced technology, and high-quality materials.

Keywords: *Mailing system, Smart box, Security, Innovation*

PROTOTYPE



DESIGN PARAMETER

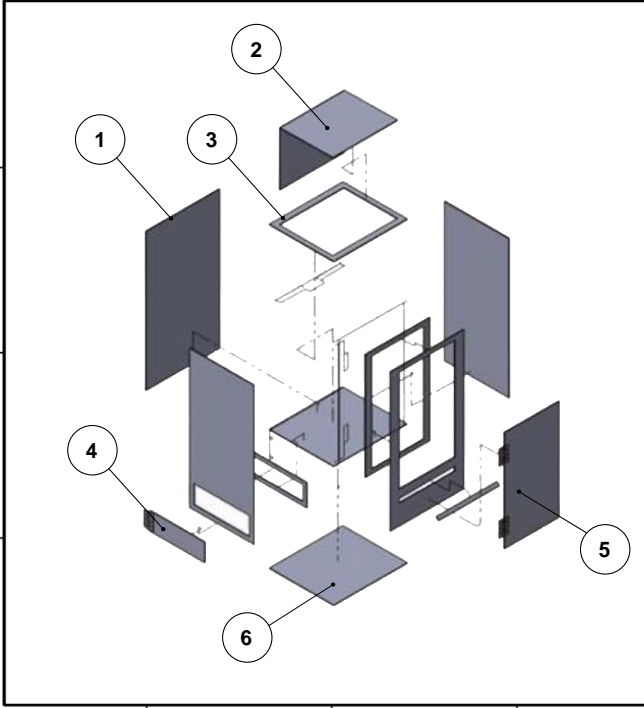


6 5 4 3 2 1

D C B A

PUSAT PENGAJIAN KEJURUTERAAN MEKANIKAL UITM CAWANGAN JOHOR, KAMPUS PASIR GUDANG				
Course Name MEC300 - FINAL YEAR PROJECT 2				
SESSION: OCTOBER 2022 - JANUARY 2023				
Group J4EM1105L				
Approved	Checked	Drawn HARRAZ		
Drawing Title ASSEMBLY COMPONENTS				
Part Name SMART BOX CONCEAL				
Part No.				
Rev. 0	Scale	Projection	Weight	Sheet

6 5 4 3 2 1



6 5 4 3 2 1

D C B A

BILL OF MATERIALS (BOM)			
Part No.	Part Name	Description	Qty.
1	Side body	Aluminium sheet	3
2	Top body	Aluminium sheet	1
3	Casing	Stainless steel	1
4	Door 1	Aluminium	1
5	Door 2	Aluminium	1
6	Bottom body	Aluminium sheet	1

PUSAT PENGAJIAN KEJURUTERAAN MEKANIKAL UITM CAWANGAN JOHOR, KAMPUS PASIR GUDANG				
Course Name MEC300 - FINAL YEAR PROJECT 2				
SESSION: OCTOBER 2022 - JANUARY 2023				
Group J4EM1105L				
Approved	Checked	Drawn HARRAZ		
Drawing Title EXPLODED VIEW				
Part Name SMART BOX CONCEAL				
Part No.				
Rev. 0	Scale	Projection	Weight	Sheet

6 5 4 3 2 1