

# 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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**CHIEF EDITOR:**

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Tel: +60 7-381 8493

# 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 39

### Design and Fabrication of Height Adjustable Study Table

Haikal Hakimi <sup>1</sup> and Nurulsaidatulasyida Sulong <sup>2\*</sup>

<sup>1,2</sup>*Mechanical Engineering Studies, College of Engineering, Universiti Teknologi MARA  
Johor Branch, Pasir Gudang Campus, 81750 Masai, Bandar Seri Alam, Johor Darul Ta'zim.*

*\*Corresponding author (e-mail): saidatulasyida@uitm.edu.my*

#### PROJECT DESCRIPTION

Student nowadays sit at desks longer than they used to do something else. Either they do study in the morning at school or university or in the afternoons at home to do homework, to read, do handicrafts and to play games. No wonder that more and more students or children are complaining about their health problems, back pain, and muscle tension. Due to these problems, a height adjustable study table was fabricated. Hollow steels were cut and weld to produce table frame with two actuators inside the steels and chipboard was used as the tabletop. Minimum height for this table is 80cm and maximum height for this table can up to 1.2 meters. Therefore, a height adjustable table was successfully fabricated and can give numerous benefits to the users to prevent from backpain and others health problem.

**Keywords:** *Study table, Back pain, Actuators*

#### PROTOTYPE



**DESIGN PARAMETER**

