

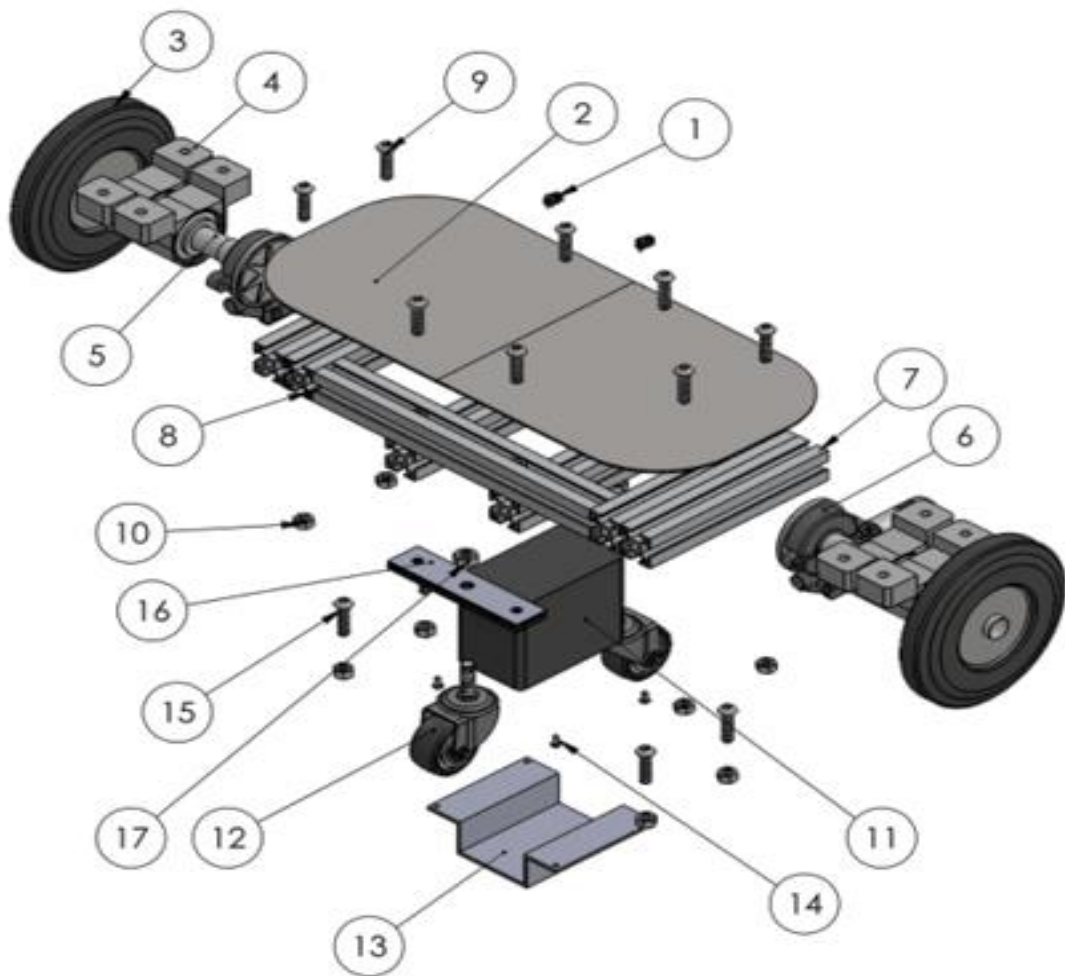
PROTOTYPE DESIGN COLLECTION

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 128

Design and Fabrication of Pressure Jack

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PROJECT DESCRIPTION

Car jack is a mechanical device that help mechanic or people easier to lifting car for changing tyre and other operation involves car underpart. The problem that related to jacks are common problem associated with hydraulic jack is the screw requires high lubricant & easily getting stuck. Moreover, the jacks that car workshop has is not easy to carry and it cost a lot to service it. Thus, this problem can be settled by using pressure principle. The concept is still the same to lifting load but by using pneumatic piston and air compressor. The main goal of this project is to solve the problem with using pressure concept to replace the hydraulic concept, so it does not require any oil or fluid to work the jack. This project work using a jack with simple pressure principle using pneumatic piston and air compressor to push the piston up and lifting load and the outcome of this project is expected to be the product that can archive success and can do the innovation in jack.

Keywords: *Car jack, Pressure, Pneumatic piston, Air compressor, Lifting load*

PROTOTYPE



DESIGN PARAMETER

