

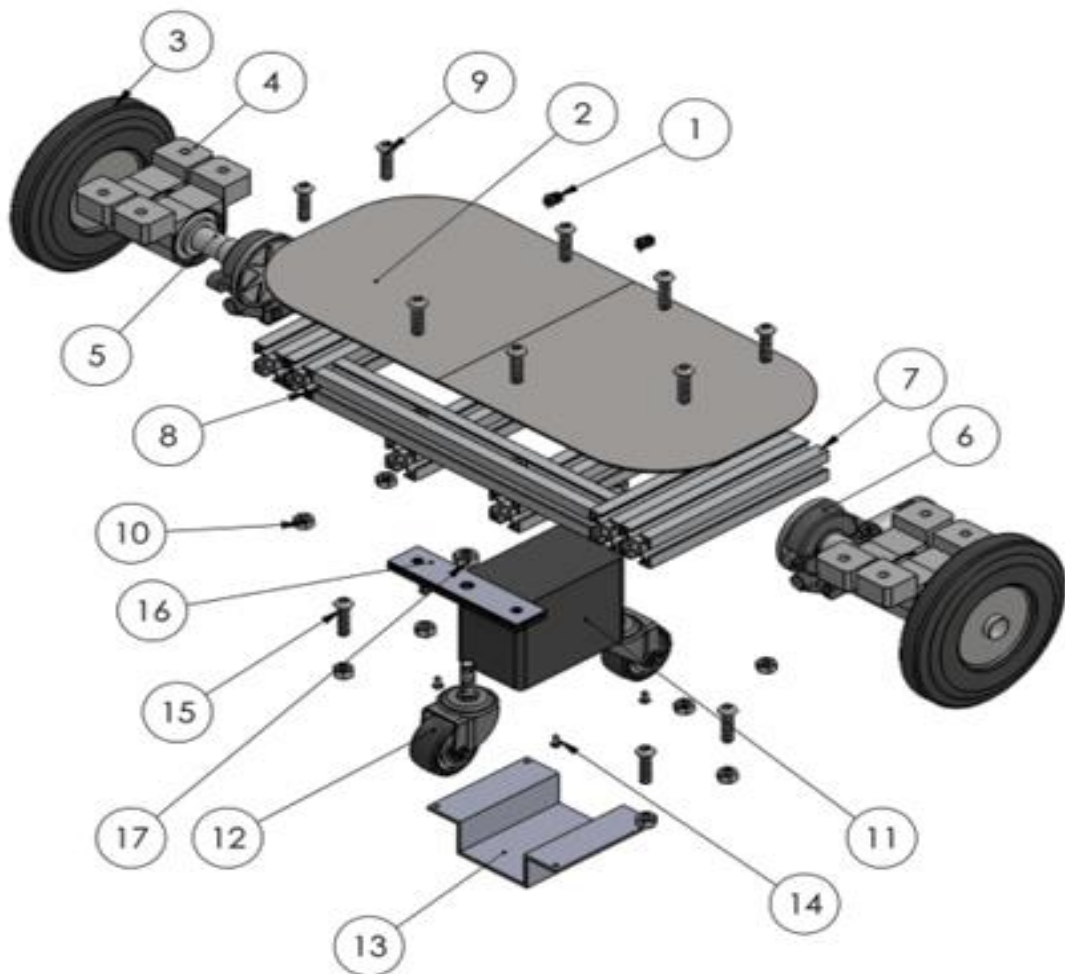
PROTOTYPE DESIGN COLLECTION

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 126

Mini Solar Water Heater

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PROJECT DESCRIPTION

Over the past years, considerable much of progress has been made in looking for alternative energy such as solar energy itself as the main non-renewable sources that people nowadays depending on, the oil is depleted from day to day. As the research for this renewable energy of solar is carried on, researcher is trying to find the efficiency (energy saving generated) from the Solar Water Heating System. The purpose of this study is to investigate the energy saving generated using the solar water heating system in heating water to decrease the dependence on conventional heater based on real times. The proposal regarding the application and study of solar water heating in collecting solar energy are presented in the second chapter. As in most of the researches, the studies are more focusing on the system of Solar Water Heating in region of Malaysia. Thus, in this project, two mains aspects in determining the relevancy of using the solar to heat the water in commercial uses is going to be simulated. The methodology is proposed in which the deep and details literature review on past research on the topic related to come out with the proper comparison based on the past research conducted by other researchers worldwide. As addition, the planning of project has been done in the Gantt chart. The expected result of this project is to successfully research, analyze and fabricate a finish product of solar water heater. In addition, be able to harvest heat energy to increase the temperature to approximately 38 degree Celsius.

Keywords: *Design, Mini Solar Water Heater*

PROTOTYPE



DESIGN PARAMETER

