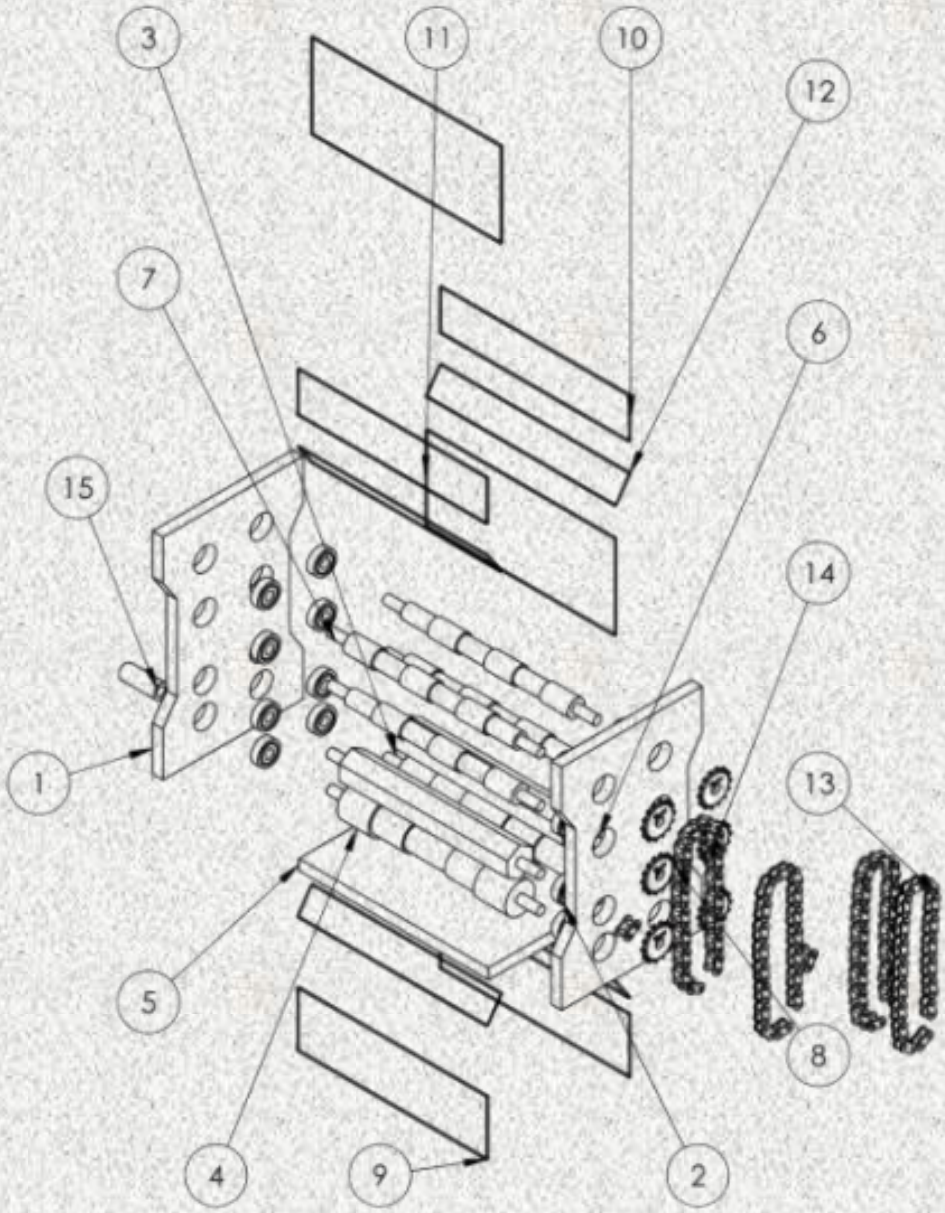
PROTOTYPE DESIGN COLLECTION

SERIES 4

Universiti Teknologi MARA
Pasir Gudang Campus

Prototype Design Collection

Series 4



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FOREWORD

This digital book on Prototype Design Collection Series 4 (PDC Series 4) 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 53

Design and Fabrication of Suspension System for Formula Racing Car

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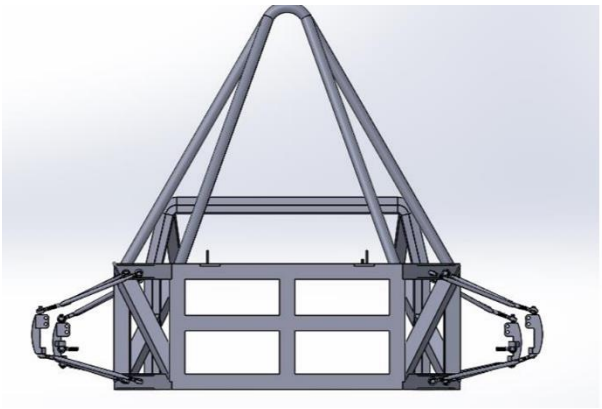
PROJECT DESCRIPTION

Suspension is generally used for the vehicle to support the vehicle body and increase ride comfort. The suspension system also prevents road disturbances that affect passenger comfort while increasing riding capabilities and performing a smooth driving experience. Most suspension has a problem with power transfer that affects the driving experience for the driver for certain road surface quality when cornering or when handling the vehicle. Due to the quality of suspension, many vehicles have gone into an accident, for example, lost control when performing the driving experience. This project is conducted to give more driving comfort to the driver when performing a drive on any type of road obstacle like sharp corners, up and downhill roads, slippery roads, and so on. The project is also to retain stability and give smooth driving experience using the ride material or best quality for vehicles and can handle certain loads like body frame, body kit, engine system, driver's load, and other loads that are related. For the method, the suspension system will be set up using the correct ways like the angle of the suspension, and the right place to put the suspension so it will not give any major problems when handling the vehicle.

Keywords: *Formula race car, Suspension System*

PROTOTYPE



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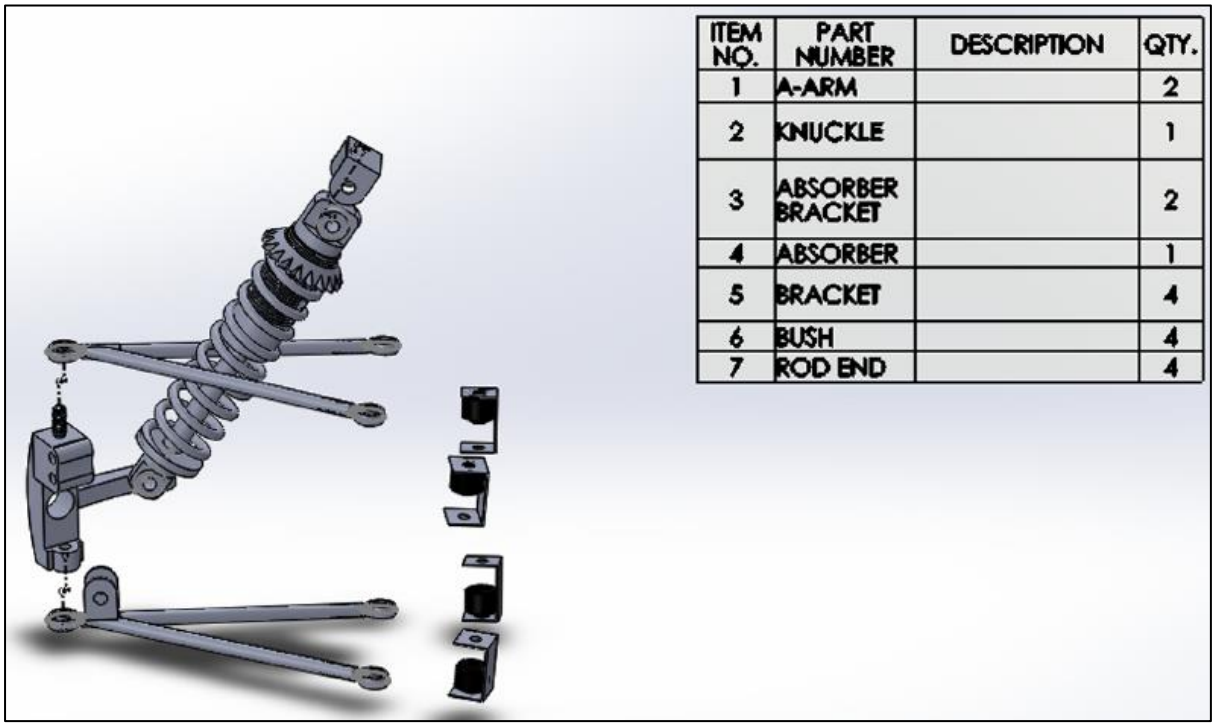
DESIGN PARAMETER



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