

CHAPTER 2

LITERATURE RIVIEW

2.1 INTRODUCTION

The purpose of this chapter is to provide overall a review of product in market. It is also making a comparison of other product in market. Substantial literature has been study on advantages and disadvantages of that product. However, useful information can be found on integrated durability evaluation methods. The example of evaluation to be developed is Pugh analysis and matrix analysis. The above is some product in marketing.

2.1.1 First type



Figure 2.1

Product Description

- a) High quality light-weight all aluminum casting
- b) Easy carry center rail
- c) Pedals will not come off rail during transport
- d) Pedals have threaded spike insert “easy change out”
- e) Include 2-6 spikes for dirt.

Disadvantages

- a) Can't hold over force.
- b) Paddle and rail separate sell.
- c) Paddle angle can't adjustable.

2.1.2 Second type

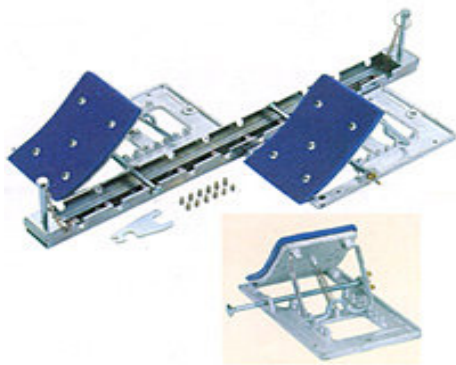


Figure 2.2

Product Description

- a. Adjustable aluminum block
- b. 56 cmL inch plated central bar
- c. Easy pedal angle adjustable
- d. Comfortable for high school

Disadvantages

- a. Limited to use for high school only.
- b. Rail is short.
- c. Can't hold over force.

2.1.3 Third type

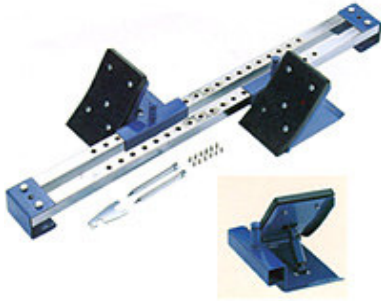


Figure 2.3

Product Description

- a) Enameled steel pedal.
- b) Easy twist pedal angle adjustable.
- c) Chromed steel rail 80 cmL .
- d) Quick easy adjustable with no moving part.
- e) Suitable for training university and college.

Disadvantages

- a) Rail is heavy.
- b) Can't hold over force.
- c) Limited to use.

2.2 Basic parts

The basic parts of starting block are dividing by two parts are:

RAIL

The rail forms a link between the left foot pedal assembly and the right foot pedal assembly and enables them to be adjusted relative to each other along the length of the rail. The rail generally has a length of about one to four feet, preferably about two feet, and rests upon the track surface. The rail has two outwardly-positioned rows of teeth, one row running along the left side and one row running along the right side. The rail has two upwardly-projecting guides and that run parallel to and between the rows of teeth

PADDLE

The preferred right foot pedal assembly also contains a reclining foot pedal. The foot pedal is preferably contoured to more accurately conform to the shape of the runner's foot. The foot pedal generally has a width of about five to twelve inches, preferably about seven to ten inches, and most preferably about eight inches. It is believed that a wider foot placement enables a runner to more quickly achieve balance.

DESIGN AND FABRICATE MEASURING STARTING BLOCK

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A report submitted in partial fulfilment of the requirements
for the award of the
Diploma of Mechanical Engineering

Faculty of Mechanical Engineering
UNIVERSITI MALAYSIA PAHANG

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SUPERVISOR'S DECLARATION

We hereby declare that we have checked this project and in our opinion this project is satisfactory in terms of scope and quality for the award Diploma of Mechanical Engineering

Signature :

Name of Supervisor: EN MOHAMMAD KHALID BIN WAHID

Position: SUPERVISOR

Date:

STUDENT'S DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged. The thesis has not been accepted for any diploma and is not concurrently submitted for award of other diploma.

Signature :

Name: MOHD ZAEED BIN MOHD ZIN

ID Number: MB06027

Date:

DEDICATION

To my beloved parents, Mr Mohd zin bin Ujang and Mrs Siti Jamilah binti Ismail, family and friend without whom and his/her lifetime efforts, my pursuit of higher education would not have possible and I would not have had the chance to study for mechanical course.

I would like to thanks to my supervisor, Mr Khalid bin Wahid and Mechanical staff, because of the guidance without whose wise suggestion, helpful guidance and direct assistance, it could have neither got off the ground nor even been complete.

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This project was conducted under the supervisor Mr Khalid bin Wahid in the University Malaysia Pahang. I am very grateful for patience and her constructive comments that enriched this research project. Her time and efforts have been grate contribution during the preparation of this thesis that cannot be forgotten for ever. I would like to thank lecturer and technician at faculty of mechanical for their valuable comments and sharing their time and knowledge on this research project during the project to submit was carried out. I also gratefully acknowledge the assistance of every body who helped in the execution of this project in University Malaysia Pahang (UMP). I also thank to mechanical student for their friendship and help when thinking through problem and sharing their knowledge. Finally, I would like to thanks my family for their continuous support and confidence in my efforts.

ABSTRACT

Design and fabrication for measuring starting block for sprinter use many steel such as plate bar, u bar and etc. process to fabricate this product start from literature review from market for easy to design this product. Concept important because smooth planning to fabricate this product. advantages and disadvantages from literature review use to make concept for this project. many process involved to make this product such as drilling, cutting and etc. measuring starting block important to sprinter and coach analysis their starting point.

ABSTRAK

Merekabentuk dan membuat alat pengukuran blok permulaan bagi pelari menggunakan pelbagai jenis besi seperti besi berongga, besi petak dan sebagainya. Proses membuat alat ini bermula dengan pemerhatian di pasaran bagi memudahkan reka bentuk untuk alat ini. Idea awalan penting bagi memastikan proses membuat alat ini berjalan lancar. Kelebihan dan kekurangan dari pemerhatian di pasaran digunakan untuk membuat idea awalan. Proses yang terlibat dalam membuat alat ini seperti pemotongan, membuat lubang dan sebagainya. Alat ini penting bagi memastikan pelari dan jurulatih mendapat maklumat tentang permulaan larian mereka.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The project involves with design and fabricate force measuring starting block. This project will be developing based on research from product in market. The analysis will be involves such as matrix analysis and Pugh analysis. As the Diploma final year project allocates the duration of one semester, this project only focused to measure force from the starting point when the athlete start to run .

1.2 Project Synopsis

The project title is “design and fabricate force measuring starting block”. The project involves research the example of starting block from via internet also research about starting block. The product can be measure force. When the athlete starts their run they use force at leg to push their run and we use this product measure the force can be produce.

1.3 Project Objective

1.3.1 Specific Project Objective

The project will be following these objectives:

To give information on how to improve starting point technique regarding the force result. Product must be portable, durable and user friendly.

1.4 Project Scope of work

The project scope of work in this project is to develop a force measuring starting block.

- i. The measuring starting block can measure for any type distance runner.
- ii. That material easy gets from laboratory.
- iii. Skill handling machine use in fabrication this starting block.

1.5 Project Planning

This project is beginning with meet supervisor to collect information by research from via internet, books and survey at market, this literature review take about two week, The finding of information not will be stop on a week but continues along the way of this project because to get more detail information.

The Gantt chart (time management) and flow chart (process management) will be developing on second week. This is done using Microsoft Excel using Gantt chart system.

The second and third week, have to make three sketching. These sketching based on the advantages and disadvantage product in marketing.

The Fourth week the Pugh analysis and matrix analysis will be developing. The function of this analysis is to get a final design, from three designs any criteria will be decide choose to get best concept. After get a final design solid work will be start. Only final design will use this software. Every part will be developed and then the assembly part will be begun.

On fifth and sixth week the progress report will be started. Meeting with supervisor on weeks seventh and eight gather data to complete progress report. At seventh week the mid presentations also start.

Process to get material will be start after mid presentation. The process cutting raw materials start will be on week nine. At same time the process fabrication also starts. The planning process of fabrication around week's nine until twelve.

After finish the process fabrication, the final report will be start. To complete the report I will use format thesis 2008. The last presentation will be started on week fourteen.

