CHAPTER 1

INTRODUCTION

1.1 Background

Front suspension system in a vehicle helps absorb hardness in the road. It is very important to all terrain vehicles because of the road condition it travels. Thus, the fabricating process of all terrain vehicle front suspension system must be very careful to ensure the suspension system works well. It is also to ensure the driver’s safety and comfort of riding the all terrain vehicles.

This project is to fabricate front suspension system of an air-hybrid all terrain vehicle’s front suspension system according to the design given.

1.2 Problem statement

In the progress of fabricating the front suspension system of the Air-hybrid ATV suspension system, it is important to understand Engineering drawing and transform the 3D drawing into a real life product. However, it is difficult to fabricate the product as ideal as the drawing.

Fabricating the Air-hybrid ATV front suspension system involve choosing suitable method to fabricate the product as similar as the design but it is difficult is to make sure the actual product is the same as design. Thus, it is necessary to refine the design according the fabrication process.
1.3 Objectives

The main objectives of this project are:

i. To reverse engineering of double wishbone front suspension unit for ATV motorcycle

ii. To fabricate the working prototype of front suspension unit for ATV motorcycle

1.4 Scopes

The scopes of this project are:

i. Literature review on the selected work scopes

ii. Measurement and reverse engineering of the existing model in 3D format

iii. Preparation of materials and tools

iv. fabrication of working prototype based on the refined design

v. System integration and operational verification

vi. Final report preparation

1.5 Flow chart

A flowchart is a type of diagram that represents an algorithm or process, showing the steps as boxes of various kinds, and their order by connecting them with arrows. This diagrammatic are presentation solution to a given problem. Process operations are represented in these boxes, and arrows; rather, they are implied by the sequencing of operations. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields. Below is the flow chart of this project- Fabricating ATV front suspension system.