CHAPTER 1

INTRODUCTION

1.1 PROJECT BACKGROUND

The suspension system allows relative motion in the vehicle and provides comfort and smoothness for the rider. The suspension also helps to support the vehicle weight, keeping the vehicle tires in contact with the road and maintaining the correct vehicle ride height. Suspension system consists of springs, shock absorbers and linkages that connect a vehicle to its wheels and allows relative motion between the two.

For instant, front suspension in a motorcycle consists of spring, absorber and linkage helped in handling the vehicle, supporting the loads and provide user comfort. There are various types of front suspension available in the market, these include telescopic, trailing tube, leading link, springer, earles, girder, telelever, duolever, coaxial steering front suspension, non-fork and triple tree. The numerous types of front suspensions provide different characters to suit the motorcycle design. The front suspension is selected by refer to the objective of the build of motorcycle (Wilson and Hugo, 1995).
Figure 1.0: Chopper motorcycle


Figure 1.1: Springer front suspension

Source: Reza N. Jazar (2008)
On this project, telescopic front suspension is used. The triple tree of telescopic is selected. The reasons triple tree is selected are the triple tree provide enough clamps lateral offset that the forks clear the sides of the front tire. The triple tree also increase stabilize motorcycle and the Trail is a measurement, on the ground, from a point projected through steering axis to the center of the tire's contact patch directly below the axle, and determines the self-centering stability of the steering (Wilson and Hugo 1993).

1.2 OBJECTIVES

The project objectives are:

a. To reverse engineering of long and highly slanted front suspension unit.

b. To fabricate the working prototype of front suspension unit for two wheels motorcycle.