

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

This chapter cover process in methodology throughout this project designation and fabrication progress. A detail related literature review was done and important information were required and explained in previous chapter. Therefore, in this chapter, rough idea of required parts and components are listed measurement each component are also determined accordingly.

The content for this chapter are project flowchart, concept selection among 4 concept designated, from the best ranking of design concept the design was continue at Solidwork software. The fabrication including cutting, shearing, roll bending, welding and drilling.

3.2 DRAWING

The drawing are dividing into two categories sketching and use SolidWords software. Sketching are all idea will be sketch on paper. This step will proceduce 4 sketching and choose it by scoring and screening process. Solidwork is use after choosing one concept, it will transfer into SolidWorks for 3D and it also for getting the correct dimension for this pump trolley.

The design of pump trolley must be compliance to several aspect. The aspect that must be considered in the pump trolley is stability of pump trolley, ease of design, durability of design and cost. Finally, the design of the pump trolley table should be to easy to fabricate and assemble.

3.3 SKETCHING AND DRAWING SELECTION

From the existing idea, 4 concepts had been come out to select as a final design. The drawing selection will evaluate according the advantage and disadvantage of concept.

3.3.1 Concept 1

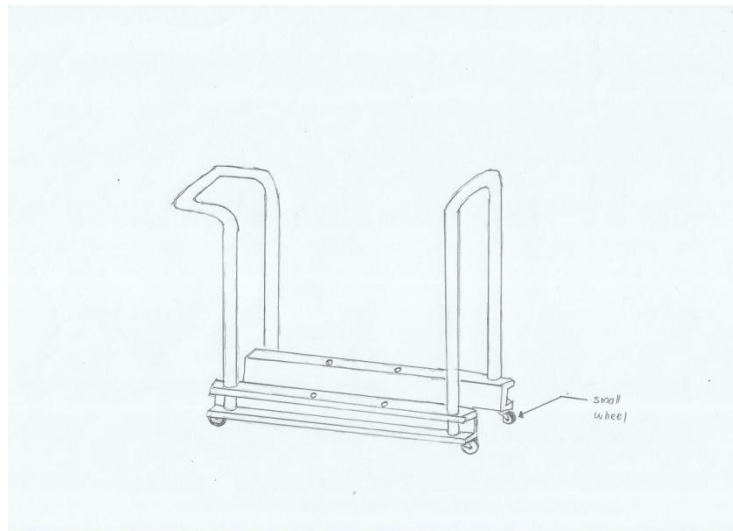


Figure 3.1 : Sketching concept 1

Figure 3.1 show the sketching of the concept 1. This design is based on the problem statement because it solved the problem arose. The material that has be used are 4 small wheel, hollow bar and hollow square. This concept use 4 small when for the stability when the pump working. It also easy to move because has 4 wheel.

3.3.2 Concept 2

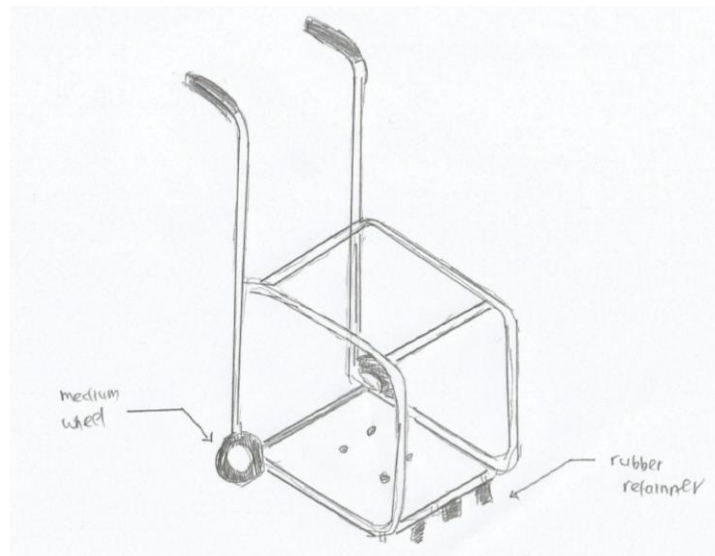


Figure 3.2 : Sketch concept 2

Figure 3.2 show the sketching of the concept 2. This design is based on the problem statement because it solved the problem arose. This concept use the medium size of the wheel at back of pump trolley. The main material for the body it use hollow bar and hollow square. The sheet metal has use as the base of pump. This design also has the rubber retainer at the front of the pump trolley to make the pump trolley has stability when the pump is working.