CHAPTER 3

METHODOLOGY

This chapter describes the research methods that will be used to conduct this study. A methodology can be considered to include multiple methods, each as applied to various facets of the whole scope of the methodology. It can be defined also as the study or the description of method. The observation is the direct observation of events that happen at Moulded Inductor area for HM72A-10 Series model. The flow chart in Figure 3.1 shows the steps that have been taken in doing this research while the Gantt chart (Appendix A1) shows the time frame schedule to conduct this research.

3.1 EXPLANATION OF FLOWCHART

3.1.1 Field Research

Field research deals with creation and collection of actual and authentic information by field of operation in any organization. It is also can be defined as the collection of information outside of the laboratory and workplace setting. The process involves determining what precise data is necessary and from where this information needs to be obtained, methods: informal interviews, direct observation, participation in the life of the group, collective discussions, analyzes of personal documents produced within the group, self-analysis, and life-histories.
Figure 3.1: Flow Chart of the Project

Start

Research Background:

Company Profile & History

Company visit

Identify the product or processes that have the most defects

Collection of data to obtain current OEE value

Analyzing existence condition using cause and effect diagram

Suggest improvement on production system by using 5W1H

End
At this stage, the method used is focus on the direct observation in order to collect the information in general view of the problem at the selected company.

First of all, a company must be selected to make the observation and case study. An application letter was drafted and sent to BI Technologies at Tanjung Api Kuantan. The appointment of the company visit is done each time before visiting. During the visit, the Quality Department engineer briefly explained the background of the company; types of the products produce in BI Technologies, BI Technologies main customers and how the product is produced. After the briefing, a visit to the production line and Quality Control Department were organized by the engineer to get the whole picture of how the parts are produced. A few problems in producing are highlighted by the engineer and all the problems are jotted down for analysis purpose.

3.1.2 Problem Identification

Problem identification is actually seeing the problem before trying to solve it. In other word, it is a first strategy in solving a problem. First, it has to realize and accept there is a problem. Once the problem have identified, then do the observation and reflect what is going on, gather the information that is related and begin working on the solution. For this step, there are a few problems detected especially at the Moulded Inductor section area where component HM72A-10 Series is produced that might influence the quality level of products although they have implemented Lean Production System in this factory. BI Technologies is not fully-automated where they require humans to manually assemble the components from the beginning until the final product which is why the probability for the product to assemble incorrectly and the tendency for defects are high. The level of training given to the operator is also not enough which explains their lack of skills in handling the equipment. Therefore, leads to equipment failure and tooling damage.