Abstract

ANALYSIS OF PHYSICAL FATIGUE AND UNSAFE CONDITIONS IN THE WORK SYSTEM SUB ASSY DISTRIBUTOR VALVE ASSEMBLY USING ERGONOMICS APPROACH IN PT. PINDAD PERSERO

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The whole weight of material Sub Assy Distributor Valve which have an average weight of over 5kg, even the weight of the finished product distributor valve reaches 35kg, this will be a physical burden that becomes a risk to the operator, when it should be lifted manually using a hand. This condition would be very dangerous if done continuously. Other dangerous condition is, displacement of material from the assembly table to table other assembly, must be moved manually. It would be dangerous for the operator, product quality and processing time.

Ergonomics can be defined as a discipline that examines the limitations, advantages and characteristics of the human, and utilize that information in designing products, machinery, facilities, environmental, and even the working system, with the main goal to achieve the best quality work without neglecting aspects of health, safety, as well as its human comfort. (Hardianto Iridiastadi, 2014). Studies used in this case study is about anthropometry, biomechanics and Environment.

Problems that occur in a state of exhaustion and unsafe conditions on operators, views of existing work systems in production. The components of working system is Humans, Machines, Materials and Environment. These four factors can be processed by questionnaire Nordic Body Map and RULA in humans, on the machine and material using a comparison between the machine dimensions of the human anthropometric, and the environment doing the observations of the lighting and the noise in the room production.

In humans, by using nordic body map, obtainable operators have complaints in most of his body caused by work, by RULA proved that posture while working in hazardous conditions and require urgent repair. On the machine only quality testing machine are in the situation causes fatigue. Most conditions of size or dimensions of the material will cause fatigue to the operator. Of environmental lighting and noise, the two are not in accordance with the normal standards, resulting in reduced operator concentration at work. So the material moving equipment needed to assist the work of the operator.

Keywords: Nordic, RULA, Anthropometry