

ABSTRACT

PT XYZ is one of the Aerospace companies in Asia engaged in the aircraft industry, where the production process is still not going well because defects are still found. Efforts made by the company to prevent defects are by giving warnings or reprimands to production process operators to increase their caution at work, but these efforts still cannot prevent the occurrence of defective products. Based on the problems, the method used in the design proposal stage is the Six Sigma method with DMAI approaches and Reverse Engineering. Six Sigma is a method of identifying and eliminating variability, Reverse Engineering is a method of developing products from existing products. The stages of the two methods are integrated to improve the material handling process of Panel Exterior D-Nose Ifle components which have the highest frequency of defect occurrence due to the position of the component placement which is done by stacking and the use of safety guards on MHE is not appropriate. The proposed design made is a trolley. The purpose of designing the trolley is to overcome the occurrence of scratch & damager defects by changing the dimensions and capacity of the trolley to be suitable for loading Panel Exterior D-Nose Ifle components with a maximum of 4 components without stacking and using rubber guards to protect components, so that companies can carry out effective material handling processes without damaging product quality. With the proposed trolley, it is expected to minimize the number of defects by 46.88% of the previous number of defects and can also improve process capability from the existing sigma level of 3.896 sigma to a new sigma level value of 4.119 sigma which means an increase of 0.223 sigma.

Keyword: Defect, Material Handling, Six Sigma, DMAI, Reverse Engineering