ABSTRACT

Sinar Terang Logamjaya Company is a company engaged in manufacturing, especially to make motorcycle spare parts components with a make to order system with one of the products made is a guide comp level k59 which is a funnel lid for automatic motorcycle gasoline, as for the process carried out in the manufacture guide comp level k59 consists of the blanking process to the packaging process. Based on historical data that has been obtained for one year from February 2020 to February 2021, the average percentage of defective products in the manufacture of guide comp level k59 is 1.39%, where this percentage exceeds the defect tolerance limit set by the company, which is 0.2%, The largest number of defects occurred in the drawing 2 process by contributing as much as 56% of the total product defects within a period of one year with oblique, broken, and dented defects.

Based on the problems that have been known to the company, research is carried out to minimize problematic product defects, especially in the drawing 2 process using the DMAI method (define, measure, analyze, and improve). In the define stage, identification of product specifications is carried out, identification of stages of the production process, identification of process CTQ, and identification of problems in the production process. In the second stage, namely the measure, the data description of the number and types of defects in the production process is carried out. At the analyze stage, an analysis is carried out to find the root of the problem that occurs using fishbone identification, 5 why's analysis, and 3D process simulation. The problems that occur in the drawing 2 process are caused by the wind pressure in the pneumatic system which is unstable and does not reach the standard wind pressure that has been set, so that at the last stage, namely improve, the design of proposed improvements is made to minimize the discrepancy in the pneumatic wind pressure of the drawing 2 process causing a significant defect in the production process of guide comp level k59 with the proposed improvement in the form of adding a wind pressure detection sensor, namely the MPX5500DP sensor. This sensor serves as a marker indicator that the wind pressure on the machine is decreasing and unstable which

makes draw frame 2 temporarily stop the process and then visualized by connecting the MPX5500DP sensor with a flash buzzer that has been programmed or regulated by the PLC so that the operator can easily find out that the pneumatic air pressure is unstable. The results of the proposed improvement design are then verified, validated, and analyzed for implementation to determine whether the results of this design can be implemented by the company.

Keywords **— *Guide Comp Level K59, Defect, Drawing Process 2, DMAI***