Reduction of Rejection Rate in CNC Machine Shop using Quality Control Approach

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Abstract:

Today the market is globalised. The competition also becomes high. To be competitive in this market, it is important to maintain the quality of the products and timely delivery. So manufacturing the products with zero rejection is the focus point. Here plays the importance of QC tools. QC tools and techniques can be used to identify, monitor and reduce the rejection. This will help to improve the process, reduce cost of quality and saves time and energy.

The main purpose of this project was to reduce the rejection rate in CNC machine shop using Quality Control approach. Gemba study and Data collection was done to understand the present status of rejection. After analyzing the data, rejection percentage was found 1.28%. Major reason for rejection was identified with the help of Pareto chart. Significant causes were identified with the help of cause and effect diagram. Root cause analysis was carried out by using why-why analysis. The suggested solutions were implemented and data had been collected to understand the result after implementation. 'Standard Operating Procedure' was modified to incorporate the changes.

The rejection percentage for the month of May 2014 was 0.97%. The improvement activities carried out at each stage resulted in reduction of rejection rate up to 24%. Future recommendation also provided to focus on continuous improvement in the process and standardization of it. Implementation of Quality Circle and Employee Award program can be the next step.
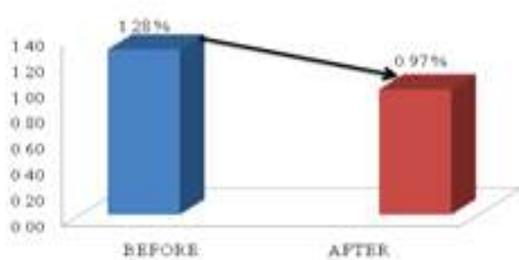
Rejection percentage before and after implementation
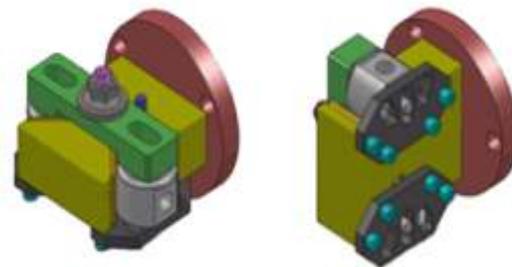
Tapping fixture design (front and side view)

Rejection percentage in each month