Improvement of the Production Efficiency in Press Shop Using Lean Methodology

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Abstract:

In this competitive market, every organisation strives to become the market leader. This can be achieved by supplying the customer good products at right time, right quality and right quantity. But most companies fail to meet their delivery targets due to improper manufacturing process. The main reason is due to line stoppages and high setting time.

The primary purpose of this project was to improve the production rate of PT345 component in Press Shop through Lean Methodology. The PT345 component was taking high setting time. Time study on setup time was done and the bottle necks were identified by plotting Pareto graph. Major causes for the high setup time were analysed by doing brain storming, Why – Why analysis, fish bone diagram etc. It was found that there were no proper techniques for setting the tool, frequent maintenance, high maintenance time, as well serching time (no proper SS). Three modular fixtures were designed for reducing the setting time of tool. Material selection study was done with the help of CES software for identifying the material.

By successfully implementing all the above techniques the setting time was reduced by 62.25 minutes from 141.13 minutes. Similarly the tool clamping fixture setup time is reduced by 8 minutes from 31.05 minutes, and overall production increased by 53,200 components/day from 28,000 components/day.

Cause and effect analysis for high setup time

Set-up time reduction using lean methods