

Improving Overall Equipment Effectiveness of CNC-VMC by Implementing Kobetsu Kaizen

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Abstract : TPM methodology is a proven approach to increase Overall Equipment Effectiveness (OEE) of machine. OEE is an established method to monitor and improve the effectiveness of manufacturing process. OEE is a product of equipment availability, performance efficiency and quality performance of manufacturing operations. The paper presents a project work for improving OEE of CNC-VMC in a manufacturing industry with the help of TPM tools Kaizen and Autonomous Maintenance. The aim of paper is to enhance OEE by minimizing the breakdown and re-work, increase availability, performance and quality. The calculated OEE of bottle necking machines for 4 months is lower of 53.3%. Root Cause Analysis RCA tools like fishbone diagram, Pareto chart are used for determining the reasons behind low OEE. While Tool like Why-Why analysis is use for determining the basis reasons for low OEE. Tools like Kaizen and Autonomous Maintenance are effectively implemented on CNC-VMC which eliminate the causes of breakdown and prevent from reoccurring. The result obtains from approach shows that OEE of CNC-VMC improved from 53.3% to 73.7% which saves an average sum of Rs.3, 19,000.

Keywords : OEE, TPM, Kaizen, CNC-VMC, why-why analysis, RCA

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