

## **AN APPROACH TO FORMULATE MATHEMATICAL MODEL FOR CRANKSHAFT OVERHAULING OF LOCO ENGINE IN LOCOSHED**

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### **Abstract**

The paper details the approach to improve the productivity by maintenance activity carried out for overhauling crankshaft of loco engine in loco shed. The crankshaft maintenance activity play a very dominant role which influences the complete overhauling of engine block in loco shed. Improvement in present maintenance approach can increase human energy required for maintenance and reducing required time by formulating the mathematical model. Mathematical model certainly predict the performance of crankshaft overhauling activity. Some of these variables used to formulate this model are given as follows (1) Environment of working area, which includes the ergonomic aspect i.e. various posture of the worker, illumination, temperature and air circulation facility of the work station (2) overhauling process which includes the number of crankshaft overhauled, anthropometric data of the worker, maintenance techniques used by the worker, number of job performed by worker, etc (3) Tools used by worker which includes geometric dimension of tool, material of tool, grip of tool, psychological aspect, physical aspects of the worker, family background etc. based on the data collected of these variables mathematical model is formulated.

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**Keyword:** Mathematical Modeling, Crank shaft, Loco engine, Overhauling.