# WEIGHT OPTIMIZATION OF BED FOR HEAVY DUTY CNC LATHE MACHINE MGX200 USING FEM

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# ABSTRACT

Here MGX200 CNC Lathe bed selected for the complete static and vibration analysis. The research work carried out to reduce the weight of bed without break its structural rigidity and the accuracy of the machine tool by removing material. In this work, 3D CAD model done by using Autodesk Inventor Professional 2018 Software and analysis carried out in ANSYS 16.2 Software. The results shown with the help of values analyze the effect of weight reduction on the structural integrity of the machine bed before and after the weight reduction then conclusions about the optimized design.