



## Tool Path Optimization of turbo machinery Application

By Rakeshkumar G. Prajapati

LAP Lambert Academic Publishing Sep 2017, 2017. Taschenbuch. Condition: Neu. Neuware - Today many industries use CNC machines for the production of turbo machinery components like turbine blades, impellers, rotors, propellers etc. Turbine blades are complex shapes and difficult to machine on CNC. Contouring operations are generally used for this purpose. The optimization of toolpath for turbine blades in vertical machining centre (VMC) using MasterCAM® software results in a reduction of machining time. Different contouring toolpaths are simulated in MasterCAM® prior to machining of turbine blades. Cutting Parameters used for machining are spindle speed, feed, tool diameter, plunge-rate, and depth of cut. Most of the research work is focused on cutter path generation with the main aim of reducing total cycle time. Both productive time and nonproductive times (air time, tool change time) are considered for optimization. Different toolpath generation methods are studied to select the best one to find out optimized cycle time. The objective of simulation is to generate the shortest tool-path for contouring operation. Actual machining is done to validate the software simulation time. Experimentation reveals that zigzag toolpath is more favorable than any other toolpath. 284 pp. Englisch.



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