

Design and mechanical manufacturing of a 3-axis CNC machine

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Abstract: In the context of increasing demand for high-precision products in industry, this topic focuses on the mechanical design and fabrication of a 3-axis CNC machine. The objective is to build a multi-axis machining system to meet the requirements of productivity and quality in the production process. The research method combines theory with experimentation to ensure the effectiveness of manufacturing processes. Through this topic, it is hoped to provide a useful solution for the machinery manufacturing industry, enhancing machining capabilities and reducing production costs.

Keywords: 3-axis CNC machine, Mechanical design, Machine manufacturing, Multi-axis machining, Production efficiency