



**DESIGNING THE MANUFACTURING PROCESS OF WINDOW CLAMP
USING CNC MACHINE**

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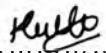
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" I declared that this thesis is the result of my own work except the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree."

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ABSTRACT

This thesis focuses to the development of machining process using Computer Numerical Control (CNC) machines. CNC is needed to machine parts with complex shape and high accuracies. CNC is a method of automation in which various function of machine tools are controlled by letters, numbers and symbols. It consists of precise instructions about manufacturing methodology. This thesis is aimed to study the design process in precision industry. It also covers the study of CNC milling processes. An application of Computer Aided Design and Computer Aided Manufacturing (CAD/CAM) software (I-DEAS) helps to develop the design process and managing the manufacturing process. Furthermore, the G-codes programming could be generated by I-DEAS software. A computational model is presented for this study. A simulation of design process is developed using I-DEAS. The machining process is also developed by analytical process. Procedure of design process is a main guide to create the design process. Then, it will be transformed into the machining process using analytical and CAD/CAM software. By completing the machining process, we have made the comparison between analytical process and CAD/CAM process. In analytical process, the design is applied by manual operation. This is different from CAD/CAM, where the computer software via it Generative Machining application will automatically make the machining process and machine tools. Minor modification and improvement made on the process have saved the process cutting period and enable to control the cutter movement more precisely. Thus, it ensures the accuracy and precision of the product or part. Therefore, it decreases the number rejected of the products.

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