Development of the Coordinate Measuring Analysis System For Automobile Press Die

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ABSTRACT

Mold and die industries are the mass technology and high value-added industries. The quality of the mold and die has getting more important on the industry competitiveness and the measuring technology has become the important issues. As compared with the traditional layout machine, the coordinate measuring machine (CMM) which can inspect the manufacturing errors of the dedicated product more precisely and rapidly using the computer numerical control method has widely used in the industry. However, most of the measured data remain the identification of the qualified geometric dimensions or designed points, and cannot afford the useful information for the die tryout. Currently, the majority of the volume of production in the domestic mold are the stamping dies and plastic molds. According to the requirements of the design and manufacturing characteristics, the purpose of this thesis is to develop the special purpose CMM software and analysis system for the automobile sheet metal stamping die. The developed system which uses the measured male and female die data can diagnose the die quality and control the process capability through the graphical interface and statistical process data. It can also improve the shop floor process and provide the die polishing guidance. The research of this thesis will shorten the time-to-market effectively and increase the competitiveness for the mold and die industry.

Keywords : Stamping Die ; Coordinate Measuring Machine ; Die Diagnosis ; Process Capability

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