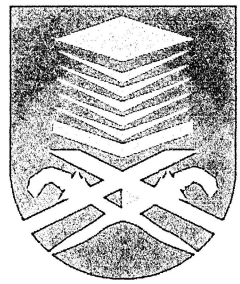

APPLICATION OF CAD AND CAE ON PLASTIC INJECTION MOLD DESIGN FOR AUTOMOTIVE PART

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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"

Signed: .....

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ABSTRACT

Computer-Aided Design (CAD) and Computer-Aided Engineering (CAE) are the usage of computer technology to help in design and simulation process of any part or products in engineering field. This combination technology of CAD-CAE is very helpful and beneficial in engineering field. Quality plastic injection mold can be achieved by the advantages of CAD and CAE software. This project is basically about designing plastic injection mold for automotive part named Timing Belt Cover. CATIA is used for developing the modeling, detailing and the mold design part, while Moldflow software is used to analyze the gating location for the part. The research is focused into two sections; discovery the best gate location and designing the mold. Filling analysis in Moldflow is used to find the best gating location on the part, based on several options proposed to be used as a gating location. The best gating location with the optimum result from the moldflow analysis will be used to proceed with mold design by using CATIA module named Core and Cavity Design and Mold Tooling Design. The process cycle of mold development was tremendously shortened by these applications of CAD and CAE. Cost for producing mold also can be minimized when comparing with the conventional trial and error method.

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