

An Automatic Feature Extraction Technique for 2D Punch Shapes

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Abstract : Sheet-metal parts have been widely applied in electronics, communication and mechanical industries in recent decades; but the advancement in sheet-metal part design and manufacturing is still behind in comparison with the increasing importance of sheet-metal parts in modern industry. This paper presents a methodology for automatic extraction of some common 2D internal sheet metal features. The features used in this study are taken from Unipunch ™ catalogue. The extraction process starts with the data extraction from STEP file using an object oriented approach and with the application of suitable algorithms and rules, all features contained in the catalogue are automatically extracted. Since the extracted features include geometry and engineering information, they will be effective for downstream application such as feature rebuilding and process planning.

Keywords : feature extraction, internal features, punch shapes, sheet metal

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