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KNOWLEDGE-BASED PARAMETRIC MODELING FOR MECHANICAL COMPONENTS

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ABSTRACT

Machine components have to be designed as per the constraints. Generally the design of components is involved with numerous calculations for obtaining the required details. An interactive computer program helps in calculating the required details taking into consideration of all the available inputs from the designer. Parametric modeling is the key technology for mass customization in design for manufacture. Knowledge based system (KBS) enables user to generate the required model as per the given constraints

In this project work KBS is presented for the parametric modeling of mechanical components (fasteners, bearing) and it has been proved that the KBS works properly for the different loading conditions. This KBS can support modeling of assemblies as the most of the commercial CAD systems cannot handle the parametric modeling of assemblies. This system consists of a design knowledge base and a commercial CAD system with an API program. The API program interfaces the expert system with the Cad system through a GUI.