The Bolt Feature Design Expert System for Assemblability

ABSTRACT

The assemblability was determined by the structure of product and the relationship between composing parts and machining parts. In this paper, the bolt was divided into bolt-head, -shaft, -thread and -end. For the better assemblability in bolting process, the geometric and technological characteristics of bolts in terms of pre- and in-assembly process were analyzed. And this paper presents the development of a knowledge-based expert system which assists designer for more convenient assembly. The bolt feature design expert system for assemblability which is named as BDFA System consists of two system such as "Bolt Feature Design System" which provides a improved bolt feature design and "Evaluation System" which provides assemblability evaluation for bolt feature design alternatives to product designer.