A Method of Computer-aided Modular Fixture Design, Part 1: Creating the Feature-model Repository of Fixture Elements

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Modular fixture is conventionally designed less concerning the detailed specifications of machine tool. A little of literatures involve the effectively application to the existing CAD systems in CAFD (computer-aided fixture design). The determination of the validity of modular fixture during NC machining lacks for a practical method. This paper put forward that: Firstly, the feature-model repository of elements of modular fixture can be built in CAD packages; the design of modular fixture in NC machining should be accomplished under the concept of NC Manufacturing System (NMS); the Post-NC verification can be applied to check the performance of modular fixture applied in NC machining. Part 1 of the paper focuses on the feature-model repository of the modular-fixture elements. The other jobs will be introduced in the Part 2.

Keywords: Modular Fixture, Feature-model Repository, Typical Part (TP), Serial Part Driven with Table

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