



DEVELOPMENT AN EXPERT SYSTEM FOR MACHINING FIXTURE DESIGN

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Summary: *This paper presents an expert system for machining fixture design. System provides new fixture construction design for specified input parameters on basis of adequate production guidelines. Paper provides applied methodology basic structure, specific systems segments review, and example of systems implementation in industrial production. In closing, there are conclusions, developed systems advantages and disadvantages, and directions for future research.*

Key words: *fixture, expert system, automation.*

1. INTRODUCTION

Fixture design process is complex, intuitive, and long-term and mostly depends on designer's knowledge and experience. This inflicts the need for new technologies implementation in fixture design process. New technologies have the main aim to reduce time and costs in new fixture construction design and find optimal solutions for specific manufacturing conditions. This can be successfully solved by adequate fixture design system development [1, 7]. There are numerous examples of system appliance in world in field of fixture design where knowledge is presented in shape of regulations. Regulations can be understood as knowledge elements or as elementary amount of knowledge from specific fixture design domain. Regulations presents logic relation and it can be presented as: If X Then Y. This means: „If assumption X exists then Y can be concluded“. For example:

If locating surface is a hole Then locating element is long round pin

In other words, rule is logical expression with type If-Then with meaning if there is some kind of premise (or group of premises), then there is a conclusion (or group of

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