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**TRIBOLOGICAL AND ECONOMICAL ASPECTS OF
DEALING WITH FIXTURING TOOLS**

B. Tadić, B. Starčević, N. Marjanović
Faculty of Mechanical Engineering, Kragujevac, Serbia

The study contains results of theoretical considerations regarding tribological and economical aspects of dealing with fixturing tools. Tribological and economical aspects of dealing with fixturing tools were analyzed using special and modular-flexible fixturing tools. As a result of performed analysis, with respect to contemporary world trends, the conclusion was reached that in contemporary production conditions modular-flexible fixturing tools are in growing demand due to tribological and economical aspects. On contrary, domestic metal working industry is characterized by low application level of modular-flexible fixturing tools, as well as large number of objective and subjective reasons related to it. The objective of the study, in the first place, is presenting the facts clearly indicating, regardless the objective problems, that modular-flexible fixturing tools and the need from the economic point of view are profitable.

Key words: special tools, modular-flexible fixture, wearing, materials, costing price

1. INTRODUCTION

In every machining process, besides tool machine, tool and measuring equipage, as inseparable material factor there is fixture too. Fixtures in metal cutting, no matter a type of fixtures, have a function to do uniquely and reliable positioning and clamping workpiece. Reliable positioning and clamping workpiece in big proportion contribute the quality of fabricate parts and through the process of design fixtures presents one of the basic principles for good design. Fixtures in operations of metal cutting might be special, universally, grouped and modular-flexible tools.

Basic principles of applying, design and assembling fixtures, from aspect of possible faults production parts, stay the same, no matter the type of fixtures. Theoretical analysis possible faults of production parts (positioning faults, clamping faults and machining faults), with respect to way of

positioning, clamping and distribution of loading, present the necessary step in analysis and designing fixtures, without respect of type of fixtures. Operations of metal cutting can be doing with applying of special, universally, grouped and modular-flexible tools. However, applying mentioned groups of fixtures, have its advantages and disadvantages from aspects of some outgoing effects of machining process (costing price, productivity, efficiency). In many aspects, it is very important to make the analysis of advantages and disadvantages special and modular-flexible tools which present two the biggest and most widely groups of fixtures.

The special fixtures, utilize modeling and made for special manufacturing operations are most wide in domestic metal industry, until the using modular-flexible tools are widespread in all aspects of manufacturing in the modern world (single and serially manufacturing). Very low level of using modular fixtures in domestic metal industry, have a very much negative

