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Manufacturing Technologies
Theory and Experiments of Machining

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Abstract:

The publication analyzes and develops theoretical knowledge about metal machining. Formulated postulates lead in practical conditions to a rational choice of machining conditions with the aim of minimizing the consumption of human labor, the consumption of types of energy and tool material. The intensification and optimization of the machining process requires a set of knowledge about the behavior of the material in the machining process, the phenomena of mutual interaction between the tool and the workpiece, and the changes in the material's properties during the machining process.

The development of theoretical knowledge about metalworking is largely based on the requirements of development and practice in the production process. Practice is required to solve machining problems in interaction with other technology problems.

The subsequent understanding of machining also works in the direction that the parts are produced in such a way that it is not necessary to adapt them additionally during assembly.

The publication explains some problems of machining theory that are taught in technical universities. Analyzes are supplemented by conducting experiments, where theoretical knowledge is verified.

Keywords:

Technology, Machining, Cutting Tool, Tool Life, Machining Theory, Experiments.