ABSTRACT

The master's dissertation consists of 119 sheets. It includes 36 illustrations, 11 tables, 2 attachments, 59 references.

The topicality of the work is the need to use new tools and methods for drilling deep holes.

The aim of the work is to improve the method and develop a means for processing deep holes, which will improve the quality of the surface of the device parts and drilling performance, as well as reduce the cost.

The object of research: the process of processing deep openings.

Subject of research: improvement of the method and development of a means for processing deep holes in the process of drilling due to the study of the influence of parameters of axial oscillation, force and modes of cutting on the processing efficiency and stability of the tool during the vibration drilling of deep holes in instrument making.

Methods of research: theoretical research - mathematical modeling experimental research - laboratory modeling.

Scientific novelty:

1. The mathematical model of the influence of cutting modes on the stability of the tool while drilling deep holes.

2. Improved a method for processing deep holes.

Keywords*: deep drilling, swarfs, vibration drilling, vibration drive, cutting modes, period of tool stability, increase of productivity.*