Development and applications of a rotating turning tool

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Technical literature presents numerous experiments with rotary turning tools application. Their advantages include extremely high durability, better quality of the machined surface as well as good chip shaping. Their wider industrial utilization was prevented due to the fact that a bearing is extremely dynamically stressed by a cutting force. Antifriction bearings have to big sizes and cause oscillation in the system, while sliding bearings manifested short durability and slackness inside. The authors of the paper tried to solve the mentioned problem by the application of an adjustable tapered roller bearing, ensuring a stable machining process. The paper contains the design as well as the results of the experimental verification obtained by the application of this improved tool.

Keywords: machined surface, durability, chip shaping, roller bearing

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