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ШЛИЦЕВЫЕ СОЕДИНЕНИЯ.
АВТОМАТИЗАЦИЯ СБОРОЧНЫХ ПРОЦЕССОВ

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Spline joints are widespread due to their excellent performance. The use of splines of different types allows us to simplify the design of machines in such industries as road-building, agricultural machinery, machine tools, etc.

There are many methods of processing spline surfaces, both internal and external, but the main ones are hobbing and broaching.

In order to improve the processing of splines have been offered the following developments. The first development is a spline-milling machine adaptive system and software for it. Its creation will increase productivity and improve the quality of parts. The second development is a device to control the spline hubs on such parts as gears, sprockets, pulleys, etc. The third development is a device to control the spline shafts on such parts as shafts, trunnions, axles, etc. The fourth development is mathematical models for defining static assemblability of the joint during manufacture. The mathematical relations enable us to determine the assemblability of spline joints on the sides of the slot and calculate specific values of clearance and tightness in conjugation.

Targets: improving the quality of splines; improving the process of machining; improving control process after machining and improved performance of the assembly process joints.

Results: increase the accuracy of more than 25–35 %; time reduction of the technological processes.