COMPUTER SUPPORT FOR THE DESIGN OF THE HOB CUTTER

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Abstract:

The aim of the work is to ceate a computer program in the 3D CAD system T-Flex CAD allowing the creation of parametric models for the design and construction of a cylindrical hob cutter for the selected spur gearing. The thesis contains an analysis of the problem of hob cutter for the production of spur gearing with an involute profile, the analysis of the starting surface and the shape of the tool cutting edge (geometry of the base screw, geometry of the cutting edge), determination of the basic profile of the cutting edge of the hob cutter and calculation of the design parameters of the tool. Individual calculations will be programmed in the 3D CAD system T-Flex CAD, which will allow, based on the input requirements for the production of a given spur gearing (module, pressure angle, angle of inclination of the gear tooth), to generate s specific 3D model of the hob cutter with the possibility of displaying the required tool in a 2D view in its base, normal and lateral planes, which will be in the form of a standard technical drawing documentation.

Keywords:

cylindrical hob cutter; edge geometry; involute profile; T-Flex CAD; module; parametric model; pressure angle; spur gearing;