

The paper deals with the specific nature of assembly processes in instrument-making and considers the current state of development of computer-aided design technology assembly and their suitability for conditions of instrument making production. In addition, we develop the mathematical model of the assembly product in instrument-making taking into account complexity and specificity of the assembly, adjustment and test work. We propose the method of forming the model describing the structure of the assembly product which represents it as a hierarchical system of interconnected structural elements. The proposed model is integrated in the CAD system. It is informative and suitable for the process of automated assembly design. Relying on the proposed method describing the product structure we develop the software AsCAM containing the procedures and database design and technology information. This software can effectively solve the problem of technology preparation of small-scale assembly plant in construction of the circuit assembly of the product and flow diagram of assembly.

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