THE PROWIDING OF THE GIVEN FCCURACY OF THE SECOND TIPE DIMENSIONS FOR FINISHED PULSE ELECTROCHEMICAL MACHINING OF LOW STIFFNESS DETALS

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Samara State Aerospace University

The providing of the given accuracy of the second type dimensions is an important problem for all kinds of machining for low stiffness details. It is very impotent problem for finished pulse electrochemical machining of compressors blades. The scheme modification principles for ECM execution are suggested. Manners and means which were designed according to suggested principles describe. Fields for application of the proposed principles and developed manners and means are discussed.

Electrochemical machining, stiffness, shape, blade, accuracy, inaccuracy

Smirnov Gennadiy Vladislavovich, Doctor of Engineering Science - professor of Samara State Aerospace University "Mechanical Material Working" department. E-mail: pdla@ssau.ru. Area of research: electrochemical processing of gas turbine engine components.

References

1. Smirnov G.V. and Shmanev V.A. "Permanent deformation research in electrochemical machining of large capacity blades" from Engine Design Strength. Kuybyshev: "Kuybyshev aircraft institute", 1983.

2. Smirnov G.V., Shmanev V.A. and Filimoshin V.G. "Permanent deformation influence on accuracy in electrochemical machining of large capacity gas turbine engine blades made of titanium alloys" from Surface Coating, Accuracy and Perfomance Attributes of Machine Components and Tools. Moscow: MHSTP, 1984.

3. Smirnov G.V., Borozdin B.P., Filimoshin V.G. et al. Electrochemical dimensional machining by removable electrode. USSR patent 655497, IIC B 23 P 1 / 04//. Discoveries and Inventions #13, 1979.

4. Smirnov G.V., Borozdin B.P., Filimoshin V.G. et al. Electrochemical dimensional machining of large capacity details by sectional electrochemical machining electrode. USSR patent 697292, IIC B 23 P 1 / 04 //. Discoveries and Inventions # 42, 1979.

5. Smirnov G.V., Petrov B.I., Filimoshin V.G. et al. Electrochemical machining device. USSR patent 703286, IIC B 23 P 1 / 04 //. Discoveries and Inventions # 46, 1979.

6. Smirnov G.V., Borozdin B.P., Filimoshin V.G. et al. Electrochemical machining electrode. USSR patent 823054, IIC B 23 P 1 / 12 //. Discoveries and Inventions # 15, 1981.

7. Smirnov G.V., Petrov B.I., Filimoshin V.G. et al. Electrochemical machining device. USSR patent 835695, IIC B 23 P 1 / 04 //. Discoveries and Inventions # 21, 1981.

8. Smirnov G.V., Shmanev V.A., Shulepov A.P. Electromechanical machining electrode. USSR patent 884927, IIC B 23 P 1 / 12 //. Discoveries and Inventions # 44, 1981

9. Lavrov A.S. and Smirnov G.S. Two-side electrochemical machining method. USSR patent 1211008, IIC B 23 H 7 / 26 // B 23 H 9 / 10. Discoveries and Inventions # 6, 1986.

10. Dmitriev V.P., Smirnov G.V., Antonov A.V. et al. Electrochemical dimensional machining method. USSR patent 1582473, IIC B 23 H 3/04, 7/26. Wasn't published.