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Mishchenko N.I. Modelling and research of the petrol engine working cycle. Part 1. Mathematical model / N.I. Mishchenko, V.G. Zarenbin, T.N. Kolesnikova, J.V.

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On the basis of the differential equations of power and mass balance the design procedure of parameters of a working body in the cylinder of the four-cycle petrol engine is offered. Modelling of valid cycle ICE differs from wellknown in the next way. There is the account of kinematics of the power mechanism, a variable degree of compression on partial modes and regulation of loading in the ways of Miller and Atkinsona. Thus the effect of influence of efficiency factors and parameters of a running cycle is considered. The method of calculation of a combustion procedure in the gasoline engine, based on the I.I. Vibe approach is described. However in the work the dismissed work of temperature is replaced by calculation of the exact differential equation with appliance of method Runge-Kutt of 4-th order. The model has the raised accuracy of calculation and speed. II.2. Bibliogr. 17 names.