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Tyrlovoy S.I. Amplitude-phase characteristics of regulators of high -speed automobile diesels / S.I. Tyrlovoy // Internal

combustion engines. – 2009. –№1. – P. 57-61.

The regulator frequency response has been analyzed to

work out a strategy for repairing and renewal of fuel equipment

used by foreign high-speed automobile diesels. For taking into

consideration the heavy gradients of kinetic energy of the regulator

elements the Lagrange equation of the second kind that

includes the partial derivative of kinetic energy along the axis of motion of a gauge clutch was used. Such a record, which

was not kept for the known models, allowed for considerable

clarification of computational results for self-excited oscillations

(difference up to 20%). The analysis of the obtained frequency

responses showed that the bandwidth of an operative

regulator is 32 Hz and the dangerous amplitudes are observed

in the range of 1 to 5 Hz; it corresponds to the start from rest

and idle running modes. Il. 8. Bibliogr. 7 names.