Automated system of assessment of technical status of mechanisms

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Today, the process of documenting the technical state of the functioning of the mechanisms takes up much of the engineer's working time, but it is a necessary attribute of any institution. The systems for computer diagnostics of the technical state of mechanisms currently exist, but not everywhere. Due to the increasing volume of information for the technical diagnostics of mechanisms, there is a need for automation of the main processes of document flow.

Existing computer systems for the complex assessment of the technical state of the functioning of mechanisms do not always suit a number of enterprises in terms of the accuracy of data presentation, speed of information processing, memory requirements of computer facilities, structure of algorithms, etc. The situation is compounded by the fact that often each of the computer system's diagnostics mechanisms are implemented on the basis of different hardware, software and information standards. The lack of regulatory services and uniform standardization of controls leads to unjustifiably high costs for equipment maintenance and modernization. Hence arise the urgency of the task of creating modern computer systems of complex assessment of the technical condition of the functioning of mechanisms by taking into account a single information space.

The main purpose of the developed information system is to be a comprehensive solution to the problem of collecting and analyzing information about the technical state of the functioning of the mechanisms, as well as the tasks of managing the activity of the enterprise as a whole. Respectively, specific tasks are solved for each enterprise unit. However, the difficulties in determining the direction of focus for the enterprise significantly complicates the development and implementation of such information systems. The proposed computer system primarily optimizes the collection of information, assists the engineer in the monitoring and diagnosis of the technical condition of the functioning of the mechanisms, and helps to reduce errors by eliminating their negative effects. In general, our experience in developing such systems allows us to note that as a result of designing this class of systems, both the diagnostic component (including decision support functions) and the statistical component (analysis of heterogeneous data, preparation of reports for analysis and forecasting of mechanisms functioning), as well as economic (optimizing the financial activities of the organization).

The proposed computer system is aimed at solving the problem of automation of complex evaluation of the technical functioning of mechanisms. The system has minimum requirements for computer hardware. It does not require any additional paid software. Unlike the existing ones, the proposed system has a reasonable cost. For most industrial enterprises, this is crucial when choosing the right computer system. Moreover, the developed system is easy and comfortable to operate. The system has an intuitive and user-friendly interface that allows to its operator to quickly and effectively implement it into the industrial systems on an expert level; the system monitors the correctness of the electronic history. It is reminiscent to a user if some basic fields are not specified (repair data, repair requests, price details, and so on). The system has the ability to add custom templates for a particular unit. Compared to existing systems, the proposed systems are also multifunctional. The computer system is constantly updated to meet the requirements of its users.