INFORMATION SUBSYSTEM IN MAINTENANCE SYSTEM PUMP OTHEPUL FOR MACHINING CENTRES

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Modern maintenance systems can operate efficiently only if control based on adequate information is provided. Depending upon time reception, way of obtaining as well as using information, information systems contribute to the development of the process of maintenance policy and strategy.

If a bigger reconstruction of maintenance organisation is involved, it is advisable to impose the principle of so-called "zero option". With this principle the organizer doesn't burden himself with the present situation, that is doesn't take the classical "situation shooting": organizational scheme, number of people and their qualification, methods of work. The procedure is based on defining basic tasks for maintenance (situation attendance, cleaning, oiling, locking for and eliminating weak points, failure repairs, inspections, reconstructions) for which direct executors are provided for. After that the executors for other operations are provided (technological and operative preparation, project, spare parts manufacture and warehousing, purchase, energetics, transport, automatic data processing).

Improvements within the area of maintenance cause more significant effects on company income than on lessening the expenses of maintenance, by increasing the units availability and by eliminating equipment problems then by extenting units life-time, by increasing equipment and staff security, by on-time orders, better planning and resources placement. The data and analyses being sent to the management are of decisive importance.

This system is connected to the on-line production superintendence, so that possibilities for intervention during the stoppage of engines or "bottleneck" appearance in the course of production could be investigated. In spite of relatively high cost of this system (hardware, software, sensors, implementation, training), possible savings surpass the investment. It is economic first to implement those modes for which all the hypotheses have been realized, the effects of which are bigger and which are obtained earlier (e.g. failures analysis).

Informational subsystem for processing centum failure attendance is based on Entity-Relationship Data model made according to the failure attendance list.
The basic concepts of that model used in this work are objects (engine, location, failure, failure manifestation, possible cause, worker, working place, element, manufacturer, town, account, tool, security measures) and relations between them (repair accommodation, repairs, work, installment, contained, purchased, products, affects, causes).

When global ER-model which comprises objects and relations among them has been executed limitation within the model have been added: cardinality of relation and indications of so-called "weak objects" which existentially or temporally depend on other objects. In such a way we obtain ER-conceptual model.

The advantages of this model are simple conversion into a relational scheme which can easily be realized in some of commercial relational DBMS (Data Base Management System), e.g. Oracle, Universe or Dbase III plus for PC.

The methodology of types of objects extension has been used as well as the one of relations which starts from the main pull and is based on requirements analysis.

The model is considered to be valid only if it faithfully describes the real system in comprehensive, natural rational and flexible way.

By the use of such information system an analyst gets powerful arms for the efficient and accurate establishment parameters necessary for defining maintenance policy and model, as well as for operational work in every situation. The obtained results represent the reiew of the situation. The obtained result for each engine or group of engine in the examined period.

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