

COLLECTION OF INFORMATION FOR THE DETERMINATION OF MACHINE RELIABILITY INDICATORS

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The initial information about the reliability of the machines should provide determination of its level and evaluation with numerical indicators. Information about the reliability of machines and their elements can be obtained on the basis of tests using special methods, as a result of observing the operation of machines in operation and analyzing their technical condition during maintenance and repair. The most valuable and accessible for manufacturers are operational observations and analysis of the technical condition of machine elements during maintenance and repair.

The information collection system is a set of organizational and technical measures to obtain the necessary and reliable information about reliability. Information collection documents include primary forms of operational information accounting and accumulative forms [1]. The first ones are intended for recording unsystematised information: one-time documents on failure – failure card and repair card to eliminate the consequences of failure; record of work and failures.

Tractors with a run time of no more than 200 engine hours and agricultural machines with a run time of no more than 10% of the average seasonal norm are taken under observation if all refusals from the start of operation are known. Machines, one of the units of which had a failure of complexity group II from the beginning of operation, are not examined.

Observations are conducted during the period necessary to achieve the performance determined by the relevant test plan, with continuous or periodic data collection.

Upon receipt of the machines taken under supervision, a technical examination is carried out for repair. Data on the failure (its external manifestation, name of the failure, working time at the time of failure, reason, method of elimination) are entered in the failure card, and about the replaced parts when eliminating the consequences of the failure – in the repair card. During continuous monitoring, a record of operations and failures is kept, where data about failures are recorded in the order of their occurrence.

During periodic inspections, information is collected by interviewing service personnel (machine operators, foremen, mechanical engineers, etc.) and selecting data from relevant company documents.

Accumulating documents are intended for systematized information based on the necessary characteristics and are filled out on the basis of primary data.

Information on the technical condition of machine elements during maintenance and repair is collected by diagnostics and micro metering [2]. For this, they choose machines that have been observed, or there are other reliable sources about their performance. The measuring instrument must provide the required accuracy and be certified. The measurement data and determination of parameters are recorded in the micrometer map and the diagnostic map.

References.

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