Analytically determined causes deterioration of the surface and provide recommendations for improving it without changing the cutting tool.

Cutting, deformation, ductile shear, shearing, biological material.

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FORMATION METHODOLOGY TO BASE ELEMENT OF AGRICULTURAL MACHINES

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A general methodological principles to elementary base units of agricultural machinery.

Element base machine.

Problem. Improving the efficiency of agricultural production associated with the creation and implementation of new advanced technologies that

need to provide high-performance, reliable mechanized and automated equipment.

Analysis of recent research. Practice has shown that the creation of new, more advanced machines, providing them with high-end, improving their quality and reliability possible by composing machines with standardized units (modules) of high quality [1] and reliability [2].

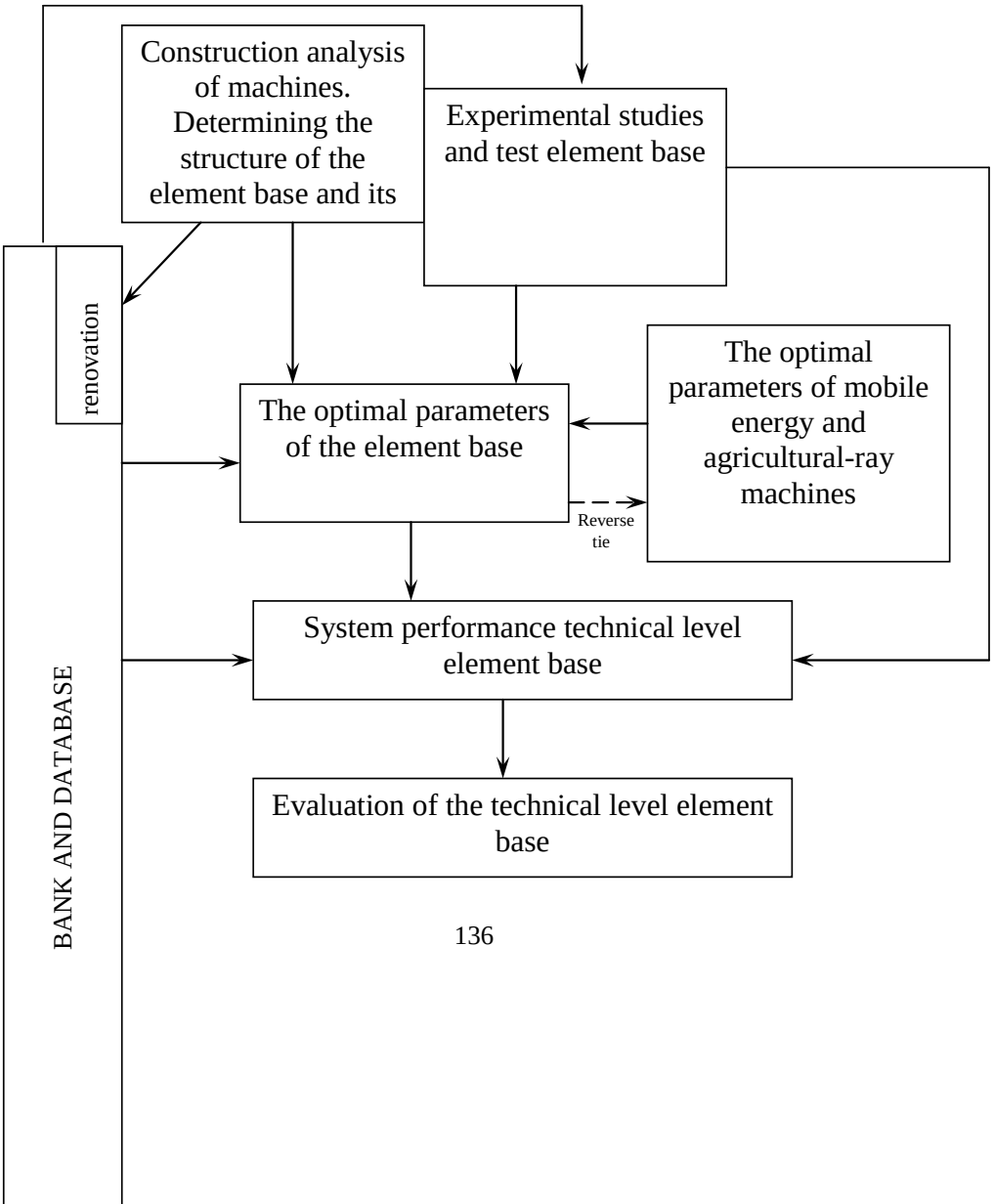
Topicality of work to build the base element explains the benefits that have standardized products compared with the original [3]. Using unified element base [4] reduces timing machine design, pre-production, to increase and stabilize the product quality through the use of waste and proven components and assemblies, reduce costs of operation and maintenance of machines.

In most cases, [5] No technological need, such as working in the details of various designs. These design features are usually due to various technical equipment, production technology elements [6].

It is known that more than 60% of the firms developed Western countries do not produce machines and components for them [7]. For example, the company "Walterscheid" (universal joint), the company "Bosch" (fuel equipment, hydraulic and electronic components).

The issue of modern element base is especially important during the treatment of domestic and tractor and agricultural machinery [6, 7].

There are proposals [2] on the application of a systematic approach to assessing the technical state of the art that connects pryrodnoekonomichni conditions of the region, the optimal strategy for technical equipment [8], Evaluation of technical machines [9]Their efficiency and enables decision on the creation and production of efficient technology [10]. This is possible only if the corresponding element base [11]. In general, creating and maintaining the proper level element base can be represented by Figure 1. The basic unit is the base of the bank and the old and new agricultural machinery of domestic and foreign vyrobnytstva.Bank data structure is a systematic element base and database includes specifications of structural components components. Based on the requirements of advanced mobile power structures and agricultural machines, the use of bank and database research results element base determined optimal settings and element base, a system of indicators technical level for different groups of components.



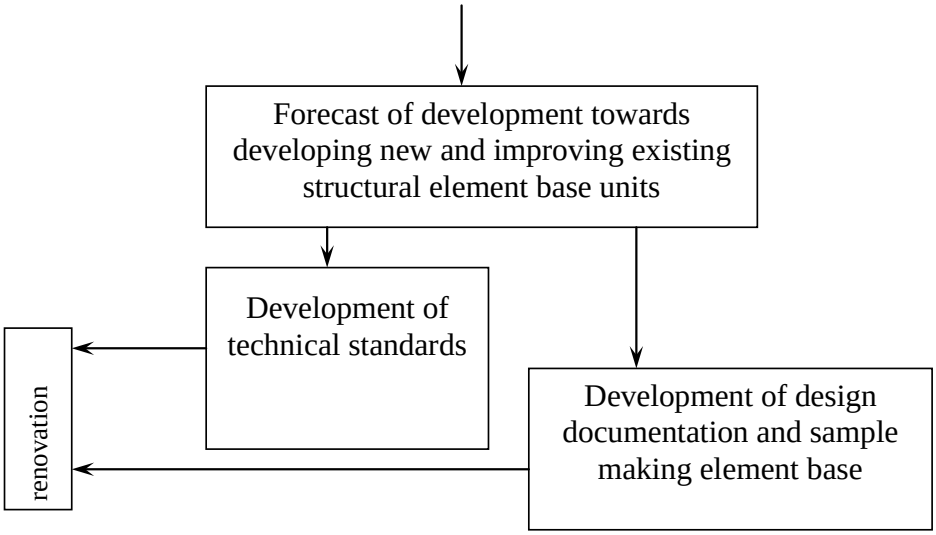


Fig. 1. Scheme of the development and operation of components.

Fig. 2. Functional and orhanostrukturna model diesel fuel equipment.

Evaluation of the technical components of the element base provides a basis to justify the technical requirements for the development of new and improvement of existing components.

The purpose of research. These blocks as bank and database optimum parameters of the element base and technical level scorecard element base is constantly updated according to new developments and test results as base element and cars in general.

Results. Determining the structure of the element base of agricultural machinery is based on the analysis of structures of machines according to engineering specifications of manufacturers, catalogs, directories of leading publications on Agricultural Mechanization Ukraine, newsletters, exhibition materials. When analysis is also used existing models of equipment.

In analyzing the structures of machines used a systematic approach [2, 3]. According to the theory, the structure of any technical system can be represented by two complementary structures: functional and orhanostrukturoyu.

During understand the functional structure ordered set of functions and relations between them; under orhanostrukturoyu - model a degree of abstraction, which indicate the executive authorities and their attitude that implement a given course of action.

Based on the functional structure defined design principles, how the system works and executive bodies that implement it. At a certain assumption functional structure can be considered as a scheme by which it is formed and orhanostruktura.

This approach allows analysis at the stage designs machines to detect the same type of features, such as those that have the same physical meaning.

This will be the basis for further definition and nomenclature of similar modules of their unification.

Fig. 2 shows a functional model and orhanostrukturna diesel fuel equipment. At the highest level are the main external functions whose implementation provides the requirements that relate to the fuel system.

On the lower level are the functions: to provide the necessary speed of the plunger; submit a refined fuel pump.

For a more detailed analysis of the structures can be identified and auxiliary functions:

- provide lubrication;
- ensure tightness;
- fittings feature (for connection details);
- function of position fixing parts;
- function protection during transportation (plugs).

For assignment constructive element to element base must meet the following requirements:

- enforce certain functions in the facility;
- indicators have purpose;
- significantly affect the quality and reliability of the machine;
- in terms of requirements for testing, acceptance, delivery and operation treated as a unit;
- can be directly used by the designer in the development of systems, components and machinery as a whole;
- applicability to multiple objects;
- be the subject of unification;
- feasibility of specialized production.

In any machine on functional features can be identified elements of a higher level. This system units to ensure that the basic functions in the car and in turn are divided into structural elements of the lower levels. Units consist of individual parts that make up the lowest level - intra-nodal element base.

According to the presented model (Fig. 2) to the element base, primarily include units that are at the highest level and directly enforce basic functions. This fuel pump and injectors. Intra-node base fuel pump primarily include precision couples: pumping section (plunger pair) and injection valves, and an atomizer - sprayer. The quality of these elements significantly affect the life of the fuel equipment and fuel parameter stability during operation. In addition, the pump should be allocated rotary coupling advance fuel, palyvopidkachuvalnyy pump, and the whole fuel equipment - cleaning filters, fuel.

Conclusions

Element base formed by machine, group of machines. The degree of detail of the structural units of limited release items for which the appropriate organization of its own production to manufacturers of agricultural machinery, which may be the subject of unification factory.

Construction analysis of machines should be started from the analysis of the constituent elements of a higher level. For tractors, such as this: the engine; transmission; chassis (suspension system); tractor management system; aggregation system; auxiliary systems and equipment. In the engine, for example, are: fuel equipment; turbocharger; air cleaner; oil pump; electric; generator; oil filter.

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Predlozhenы Sharing Methodological Bases in units эlementnoy bazы agricultural machines.

Element, The base of the machine.

General methodological principles to elementary base units of agricultural machinery.

Element, base, machine.