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СПІВРОБІТНИКІВ ТА АСПІРАНТІВ**

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## **FIXED STATION TECHNICAL MAINTENANCE OF COMBINE HARVESTERS**

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The proposed station includes a travel path with a base and fixedly installed on the platforms for the wheels, sensors, dispenser switch signals from the sensors to the computer. The distinctive features lies in the fact that the travel path is located indoors, the sensors are installed along the platform travel path, between them, on either side of them, between the surface of the roller and the bottom of the car and over him, and the dispenser switch fiber-optic cable is connected to the input of the computer. The station allows the control units of the vehicle while driving. At the same time diagnostics is provided in a very short time determined by the speed of computer, speed of the vehicle speed sensors.

The proposed station Express diagnostics of vehicles intended for the diagnosis of vehicles during their movements and ensure that they are correct, evidence-based operation.

The invention relates to transport machinery and can be used to determine the tire pressure of the wheels, tires, camber and toe-steered wheels, exhaust, detection of faults in the engines, machines and other objects that characterize the current condition of the vehicle.

Well-known enterprises for diagnosing vehicles, but they are prototypes of the proposed station can not be, because they are designed to work in stationary conditions. Their shortcomings are well known.

Known stands for diagnosis while driving vehicles (cars): the pneumatic tires of the car, toe and camber of the steered wheels and the other containing platform fixedly mounted on the base, a variety of sensors made in the form located on different

levels of lights and photocells, microphones, analyzers diagram of the processing of the sensor signals and the block check treatment results.

A disadvantage of the known stands is the impossibility of identifying with them other characteristics of vehicles other than those for which they were intended, which reduces their functionality.

The goal is a significant increase in the diagnosed vehicles, improving the accuracy and objectivity of control, enhancing the functionality of the known stands, that is, at the same time as all of the above characteristics.

To ensure that the goals created a travel path on which the car passes. It is a covered outdoor space on both sides of which there are gates of entry and exit of the vehicle. The path of travel of the vehicle along between the guide platforms for right and left wheels on all the platforms on either side of them, between the surface of the roller and a bottom set of different physical nature and purpose, sensors (photoelectric, sound, gasanalyzers, camcorders, etc.), signals from which at certain moments of time using special logic circuits are transferred to the computer, which the corresponding algorithms and programs to process the received information.

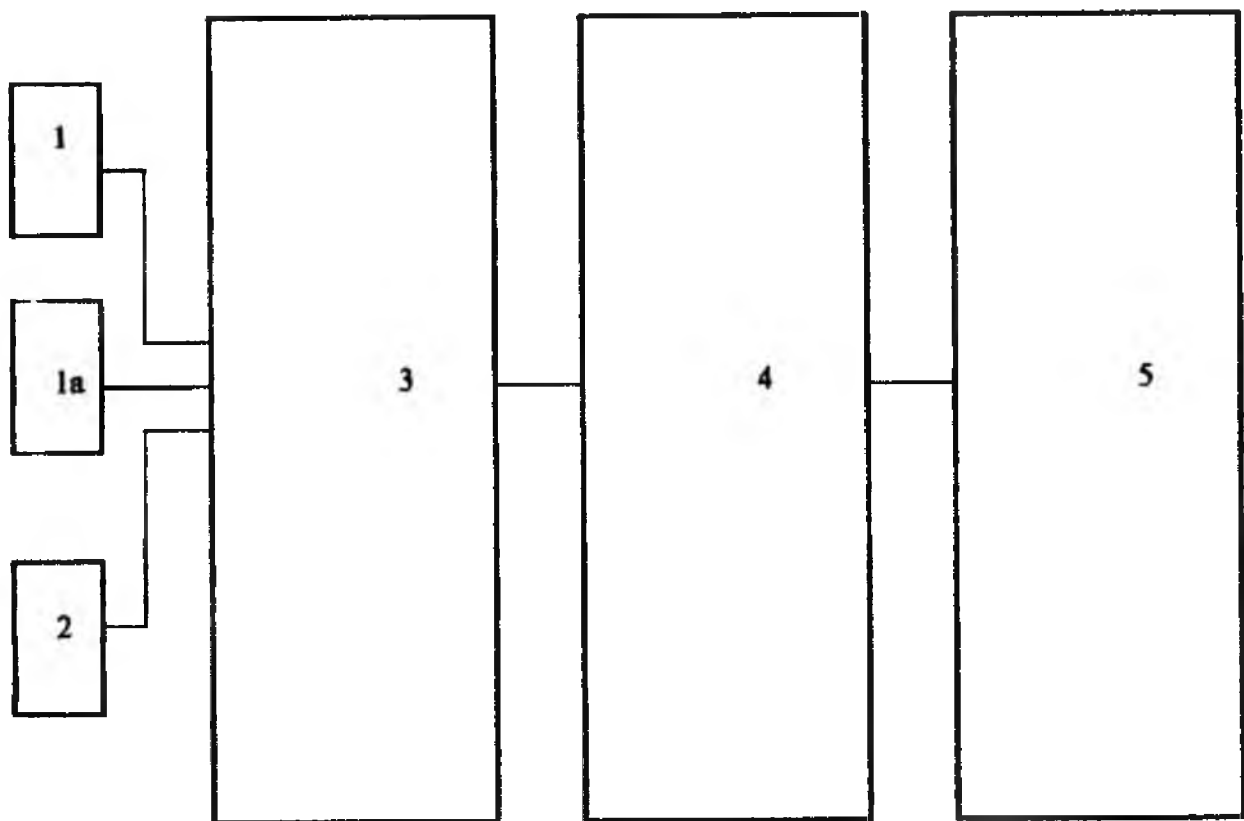


Fig. 1.

The drawing shows (Fig. 1) the General scheme of the stand, in which the sensor 1 uses the above sensors. Signals from sensors 1 and camera 2 are input to the switch - dispenser 3, from which they can come to the input of the computer 5 via the optical fiber cable 4 depending on the logic switch operation: different length, different sequence, posted and unposted time. Processing the received information,

the computer forms the corresponding dimensions of the model car. The results of the processing are stored in the database formed in the computer.

First drive diagnosed car usually should be the calibration, which provides the possibility of comparison on the principle of what was, what became, and the determination of the current vehicle status compared to benchmark this car, located in the computer database. According to the obtained results the car owner can be issued expert recommendations for the further operation of the vehicle. In addition, based on the current data State is assigned the car number of the car that can be used to find him if he be stolen.

As you might guess, we get the dimension (number of diagnostic procedures) of a car is determined by the amount of information necessary for processing, ways of coding and presentation and, as a consequence, the number, type, and spatial arrangement of the sensors, which are used to create the database in the computer. The results of diagnostics are determined designed for every occasion algorithms and information processing programs, stored in databases. It follows that to increase the number of diagnostic procedures offered by the station required the addition of new sensors of varying physical nature, etc., the algorithms of processing of the information taken from sensors, has been developed in the form of a program recorded in a computer database.

For example, in the near future will develop algorithms and programs of processing of information, allowing to diagnose while driving: the braking system of the vehicle exterior lights.

Use in the car installed radio transmission equipment (cellular) and specially installed sensors to the diagnosis (1A) will further expand the present service station. In this case, you will have the opportunity to serve the owners, not only during movement in the travel path, but at a distance, with a maximum range determined by cellular communication. In addition, almost solved the problem of security of vehicle from theft.

1. Station Express-diagnostics of vehicles containing a travel path with a base and fixedly installed on the platforms for the wheels, gauges with electrical output signals, the dispenser switch is included with the ability to receipt at its input of signals from sensors, a computer designed for processing by appropriate algorithms and programs stored in its database, the received information, characterized in that the travel path is located indoors, with the two sides of which there are gates of entry and exit of the vehicle, sensors are installed along the platforms of the travel path between them, on either side of them, between the surface of the roller and the bottom of the car and over him, and the dispenser switch fiber-optic cable is connected to the input of the computer.

2. Station, characterized in that it is provided with an antenna and receiver mounted with the possibility of receiving signals from a vehicle equipped with cellular communication.