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Proposals process model yzmelchenyya in valtsedekovыh zernodrobylkah for utochnenyya fyzycheskoho mechanism razrushenyya feed grains.

Grinders grain crusher valtsedekovaya model yzmelchenyya process.

The model of grinding process in roll-and-deck crusher has been proposed to clarify the physical mechanism of feed grain's destruction.

Grain grinders, roll-and-deck crusher, grinding process.

UDC 621,873

EXPERIMENTAL STUDY
Transitional regime PUSKU rope winches

YY Serdjuchenko, applicant *

In the article the experimental study of change efforts odnobarabannoyi rope winch. Shows

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Full-scale models of the scheme established by the registration measuring-equipment methodology of the experiment.

The transitional regime, effort, experiment, measuring and recording equipment.

Formulation of the problem. During the drive cable devices and cables emerging pulsating loads that movement in transient conditions far exceed the defaults. This leads to a reduction of resource elements drive, deteriorating terms of service and may cause injury to employees.

Analysis of recent research. Research of dynamic loads in lebidkovyh mechanisms devoted a significant amount of work, due to the wide use of these units in the industry.

In logging (through the diversity of production conditions) bulk cargo often exceed lebidkovoho weight of the unit. In such cases, the peak force in the rope, the results of theoretical research, exceed the established load of 3-5 [1]. To confirm these results need to conduct experimental research of the cable winch.

The purpose of research. A method, choose the measurement and recording equipment and conduct an experiment to study the dynamics of efforts rope winches under the transitional regime of movement of forest machines odnobarabannoyu winch.

Results. Experimental research aims at a qualitative assessment of the results of theoretical research in [1]. The program provides the following experiment:

- Full-scale development model of "hoist rope-load";
- selection of measuring and recording equipment to determine the main parameters of the system;
- planning experiments to determine the parameters of the system, (Angular speed of the drum, effort and towing rope and stretching).$\dot{\varphi} S_K S_P$

For the experimental research field model was used forest machines. As a power tool used self-propelled chassis with a T-16 fixed to the frame of odnobarabannoyu rope winch LT-5 (Fig. 1). Schematic diagram of the hydraulic drive shown in Fig. 2.

and b

Fig. 1. Full-scale model of forest machine odnobarabannoyu winch: and - a general view; b - winch drive layout.

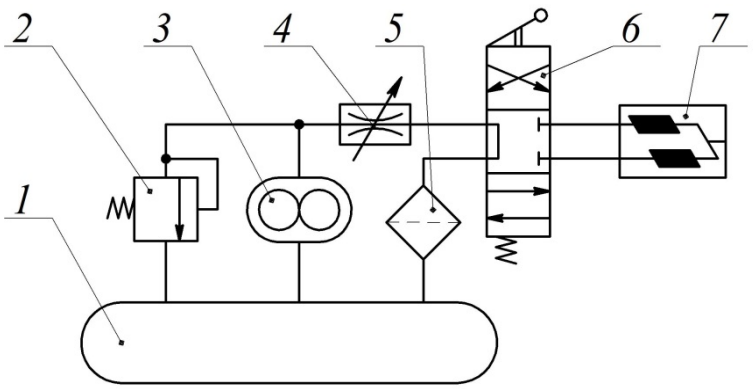


Fig. 2. Schematic diagram of hydraulic winches 1 - hidrobak; 2 - safety valve; 3 - gear pumps; 4 - adjustable throttle; 5 - filter; 6 - distributor with manual control; 7 - axial piston hydraulic motor.

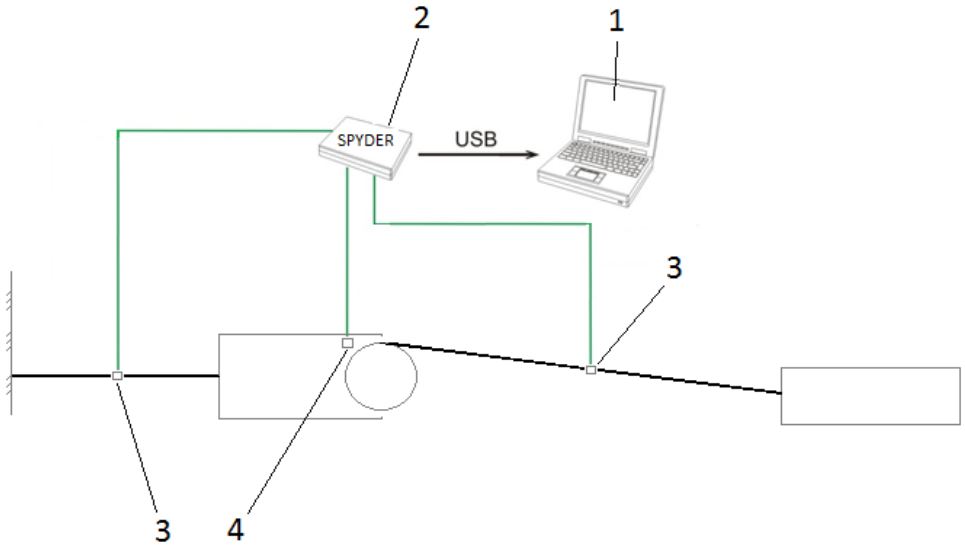
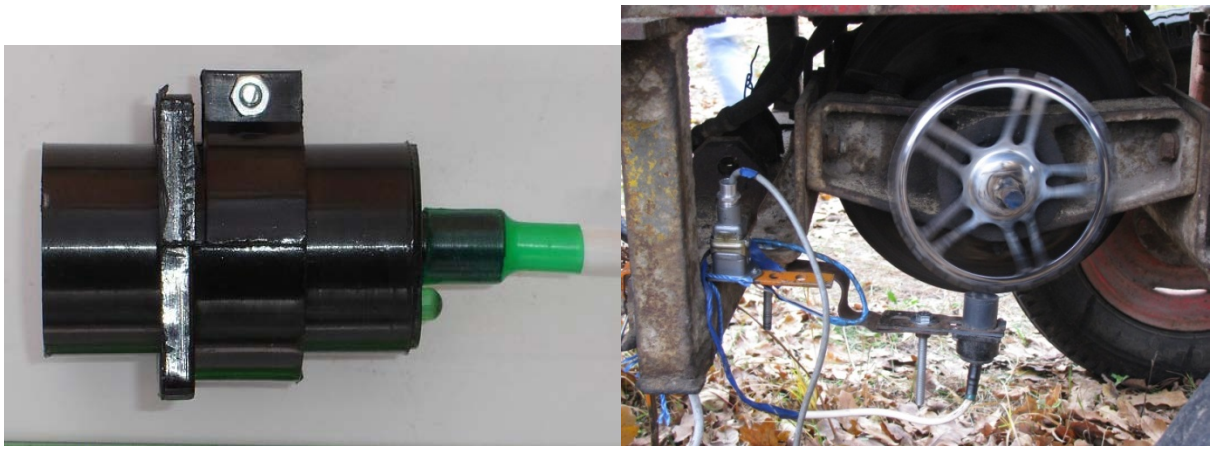


Fig. 3. Scheme measurement and recording equipment on the field model.

To measure the necessary parameters of the sensor used DCHV-01 and measure the sensor 2 K P-20. For digital signals from the set of sensors used digital-analog converter-amplifier SPIDER 8-FO 5254 and 6100 HP PC with the software Catman Express 4.5, allowing transfer experimental data in the office suite MS Exel for further processing. Electronic data collection to record signals from sensors every 0.1 sec. Scheme sensors on the field model shown in Fig. 3.



and b

Fig. 4. DCHV-01 sensor for contactless control of the rotation frequency detail components and mechanisms: and - a general view; b - placing the sensor on the shaft of the drum.

and b

in

Fig. 5. measure force sensor K-20-R: And - a general view; b - placing the sensor on the towing rope; in - prozmischennya sensor rope-stretching.

1. Technical characteristics Sensor DCHV-01.

parameter name	Value
Operating temperature range, oC	-20 ... + 70
Nominal voltage, V	12 ... 36
The maximum supply current, A	0,003
Frequency response, Hz	1 ... 1000
degree of protection	IP 65

2. Technical characteristics of the sensor K-R-20.

parameter name	Value
Operating temperature range, oC	-30 ... + 50

Nominal voltage, V	5 ... 12
Input impedance, Ohm	400 ± 50
The highest limit of measurement, H	5000
degree of protection	IP 68

At each stage experiment conducted a series of studies 3 to 5 attempts each. Used cargo weighing 450 kg, 1200 kg and 1800 kg.

During the experiment tryfaktornoho recorded, the following system parameters: traction rope efforts; efforts rope-stretching; speed drive drum.$S_{\text{к}} S_{\text{р}} n_{\text{б}}$

The use of variable loads allows approximately reflect the diversity of production conditions in the cutting areas.

Conclusion. To confirm the adequacy of the results of research methodology was developed for experimental research. The scheme arrangement, mounting and experimental data collection system for further processing. Based on the results studied the dynamics of movement above the mechanical system. The results of the data collected subsequently invited to compare with theoretical research.

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In Article rassmotreno Conducting experimental Studies Changed usylyya in Cana odnobarabannoy lebëdky. Present scheme naturnoy model with ustanovlennым-rehystryruyuschym the measuring equipment and method of conducting the experiment.

***Perehodnoy mode usylye, experiment,** rehystryruyuschee the measuring-equipment.*

The paper considers pilot study changes in rope -drum efforts winch. Shows a diagram of full-scale model with established measurement and recording equipment and methodology of the experiment.

Transient behavior, effort, experiment, measuring and recording equipment.

UDC 662.763.3.2

INVESTIGATION OF GRADUAL SUPPLY OF SUBSTRATE A BIOGAS REACTOR

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