

**EXPERIMENTAL DEVICE FOR STUDYING THE PERFORMANCE OF
THE LABELING OPERATION OF SHOE PARTS ON PRESS EQUIPMENT
WITH A LINEAR ELECTROMAGNETIC MOTOR**

Luchynskiy M.A. - graduate student, *greengrem21@gmail.com*

Polishchuk O.S. - Doctor of Technical Sciences, Prof., *opolishchuk71@gmail.com*

Lisevich S.P. - senior teacher, *lisevichsv@gmail.com*

Khmelnyskiy National University

The purpose of the work is the development of an experimental setup for researching the performance of the stamping operation of shoe parts on press equipment with a linear electromagnetic motor.

An experimental study of technological modes of power electromechanical impact systems of press equipment for light industry operations is carried out to obtain complete information about the characteristics of the machine in question [1]. Studying the regularities of their operation, developing recommendations for the rational selection of individual design and mode parameters allows to ensure the maximum mechanical energy at the output of the engine with the greatest possible efficiency.

For the purpose of experimental research of press equipment with a linear electromagnetic motor (LEMD) for the performance of the stamping operation, the installation presented in fig. 1.

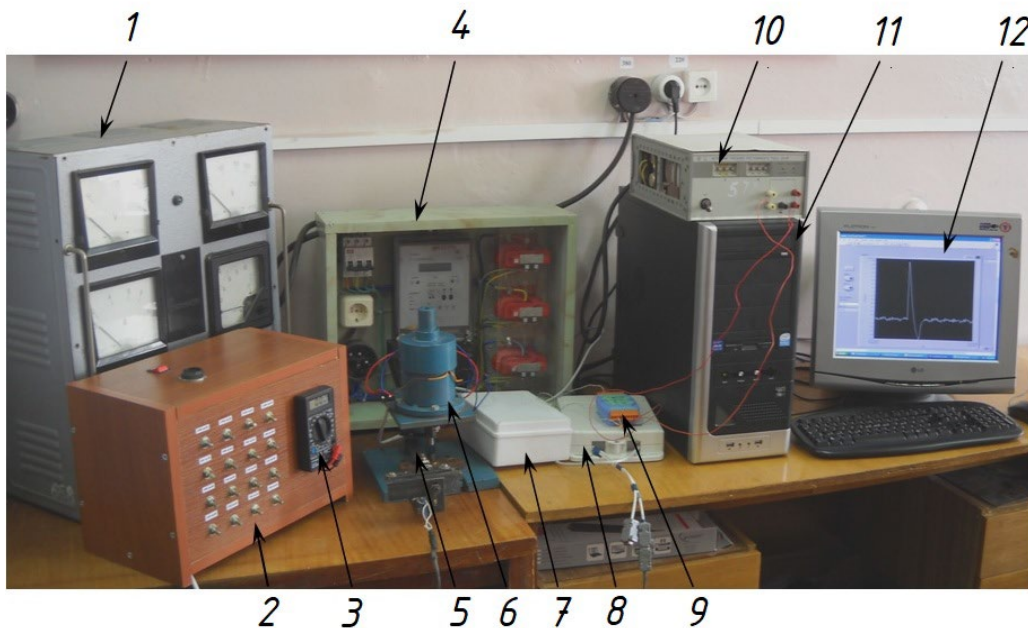


Figure 1 – General view of the experimental setup

**Платформа: ЕЛЕКТРОМЕХАНІЧНІ СИСТЕМИ. ЕНЕРГЕТИЧНІ СИСТЕМИ.
ВІДНОВЛЮВАЛЬНА ЕНЕРГЕТИКА ТА ЕНЕРГОЗБЕРЕЖЕННЯ**

It included: press equipment from LEMD; power supply and control device; unit of measuring equipment.

The experimental setup for researching the working processes of the pulse LEMD impact machine (Fig. 1) consists of: LATR 1; power supply unit 2; electronic multimeter 3; three-phase electronic electricity meter ELVIN 4; resistor with variable resistance for measuring the movement of the working body 5; press from LEMD 6; device with voltage divider and current sensor 7; signal matching unit NI SCC-68 8; block of galvanic isolation 9; power sources 10; a computer with a built-in data collection board 11; of the LabVIEW 12 software virtual instrument.

Conclusion. The proposed experimental setup will make it possible to investigate the operation of stamping shoe parts on press equipment with a linear electromagnetic motor.

R e f e r e n c e

1. Polishchuk OS Electromechanical press equipment at enterprises lung industry: monograph / O. S. Polishchuk – Khmelnyskyi: Publishing House PolyLux , 2018. – 285 p.