



# IMPROVE THE PERFORMANCE AND EFFICIENCY OF VERTICAL SPINDLE COTTON SWAGING MACHINE TAILORING EQUIPMENT

Davranov I.<sup>1</sup>, Nematov E.<sup>2</sup>, Parmonov G.M.<sup>3</sup>

<sup>1</sup>Master student, Mechanical Engineering Department, TSTU, Uzbekistan

<sup>2</sup>PhD, Head of Theoretical Mechanics and Machines and Mechanisms Department, TSTU, Uzbekistan

<sup>3</sup>Head of the laboratory department of the Scientific and Technological Center, Rare Metals and Alloys Production Association under Almalyk Mining and Metallurgical Joint Stock Company, Uzbekistan



## Article History

Received: 08/04/2022

Accepted: 13/04/2022

Published: 15/04/2022

Vol – 1 Issue – 1

PP: - 37-39

### Abstract:

The article provides information on the methods of operation of widely used techniques in the field of Agriculture in our country to draw conclusions about their achievements and shortcomings. And the technical description of the vertical spindle cotton-making machine on the base of the TTZ-LS tractor is illuminated.

Keywords: agricultural products, cotton ginning machine, pneumatic, mechanical, pneumatic-mechanical, electromechanical, spindle, TTZ-LS tractor.

## Introduction

In our country, regardless of the form of ownership in the eyes of specialists working in the system of higher education in the field of Rural Development, issues such as the functions of modern village farm machines and livestock equipment used

in the economic entities engaged in the production of agricultural products, the technical classification, the general structure, the adjustment work in the technological process, the detection and elimination of malfunctions that arise in them, remain the main tasks of the present day.

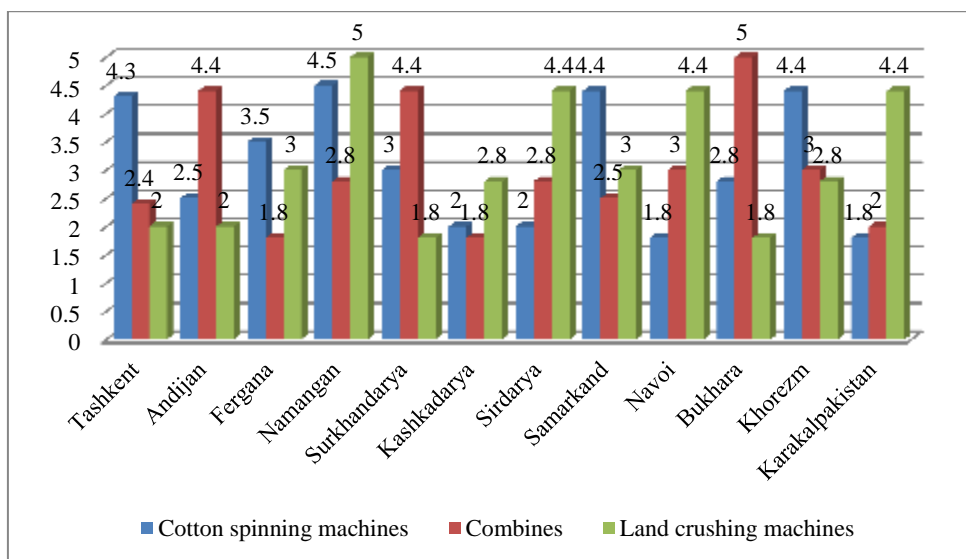


Figure 1. Equipped with agricultural machinery used in the agro-industrial sector of the Republic of Uzbekistan at the cross-section of the regions, thousand units

Cotton ginning machine — q designed for opening cotton ginning machine. x. machines. According to the method of operation, it is divided into pneumatic, mechanical, pneumomechanical and electromechanical types. In pneumatic cotton machines, cotton is harvested with the help of airflow. They are divided into vacuum, ejektor-hose, suction and drive-suction machines. The working bodies of these machines will consist of various soplo (absorbent) and triplets. In mechanical cotton machines, cotton is harvested using a mechanical device. These are spindles, needle-mounted tape (kardali), ilmokli, disc, depending on the type of working organs. Mechanical (mainly spindle) cotton-making machines

are separated into flat processing types by squeezing along the entire volume or from the sides of The Shape of the tubers during the process of harvesting into the tubers.

As a result of the reverse rotation of the spindle and cleaning with a rotating separator made of bristle brushes, the cotton swab from the separator is rubbed into the chamber and collected in the receiving chamber. From there, the ventilator absorbs cotton and passes it to the bunker. Once the Bunker is full of cotton, mexanizator shoots it into the tractor beam. In pneumomechanical cotton machines, cotton is harvested using air and a mechanical device.



Figure 2. TZ-LS tractor based vertical spindle crimping machine

In electromechanical machines, cotton is harvested using an electric field.

Certain technological and operational indicators were taken into account when diagnosing the work of a vertical spindle Cotton Machine. First of all, we will acquaint you with the technical description of the vertical spindle crimping machine TTZ-LS tractor base (Table 1).

**Table 1**

Technical characteristics of the vertical spouted pouch filling machine TTZ-LS tractor base

<b>Productivity in 1 shift, ga</b>	<b>Nominal</b>
<b>Coverage working width, m</b>	1,8
<b>Machine weight (without tractor), t</b>	4,1
<b>Dimensions of gabarite (with tractor), mm</b> - length - width - height (with raised separator)	8030 3240 4000
<b>Speed of movement, km/h</b> - 1-in the term - 2- in the term	4,23 5,13
<b>Required power, kW</b>	Untill 32,0
<b>Bunker volume, kg</b>	800-850

---

## Literature

1. Iofinov S. A., Babenko E.P., Zuev Y.A. Mashina - traktor parkidan foidalanishga oid [On the use of a car-tractor Park]. Spravochnik. Toshkent. Mehnat, 1988 g.-254 b.
2. Shoumarova M., Abdullaev T. Qishloq hujaligi mashinalari [Agricultural machinery] Toshkent. Oqituvchi. 2002. - 245 b.
3. Bektemirov B. S., Ulashov J. Z., Akhmedov A. K., & Gopirov M. M. (2021, June). TYPES OF ADVANCED CUTTING TOOL MATERIALS AND THEIR PROPERTIES. In *Euro-Asia Conferences* (Vol. 5, No. 1, pp. 260-262).
4. Ziyamukhamedova Umida Alijanovna, Bakirov Lutfillo Yuldoshaliyevich, Miradullaeva Gavkhar Bakpulatovna, & Bektemirov Begali Shukhrat Ugli (2018). Some Scientific and technological principles of development of composite polymer materials and coatings of them for cotton machine. *European science review*, (3-4), 130-135.
5. Karimov, Sh.A., Mamirov, Sh.Sh., Khabibullayeva, I.A., Bektemirov, B.Sh., Khusanov N.: Friction and wear processes in tribotechnical system. *International Journal of Mechatronics and Applied Mechanics*, 2021, Issue 10, Vol. I, ISSN: 2559-6497, P 204-208.
6. Norkhudjayev F. R., Mukhamedov A. A., Tukhtasheva M. N., Bektemirov B. Sh., & Gopirov M. M. INFLUENCE OF NITROCEMENTATION MODES ON THE CHANGE IN THE HARDNESS OF THE SURFACE LAYER OF STRUCTURAL STEELS. *JournalNX-A Multidisciplinary Peer Reviewed Journal* ISSN No: 2581 -4230 VOLUME 7, ISSUE 11, Nov. -2021. P. 75-77.