

INCREASING THE WORKING PRODUCTIVITY OF THE CASE 1150 L BULLDOZER BY IMPROVING THE WORKING EQUIPMENT

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Abstract:

In this article, bulldozers adapted to work on hard and frozen soils without a pre-softener cannot be implemented without their special working equipment. This, in turn, leads to the destruction of the working equipment during the operation of the bulldozer, at the same time excessive forces fall on the machine, and it leads to a decrease in the quality of work and productivity. The problems of solving the above problems and achieving high productivity by improving the working equipment of the bulldozer are described.

Keywords:

Bulldozer, working equipment, softener, roller, hinge, tooth with twisting (overturning) softener, knife, rib.

Further improvement of the reclamation condition of the irrigated lands of our republic, development of the network of reclamation and irrigation facilities, rational and economical use of water resources, on the basis of this, ensuring the stable operation of agricultural production, increasing the productivity of the land and agricultural crops Many research works are being conducted in order to increase productivity. A number of decrees and decisions are adopted by our state on the rational use of water resources and improvement of land reclamation. increase is being achieved. In the following years, the measures implemented in the field of agricultural reform, development of farms, establishment of production and market infrastructure made it possible to form a class of real owners in the village, increase the production of agricultural products and the income of the villagers. [1].

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In the past period of independence, the foundations of a legal democratic state and a free civil society were established in our country. Now it is time to further strengthen these achievements, to develop them based on the requirements of modern civilization and the global problems related to the destiny of man and humanity in the 21st century. This is a vital need that requires general updates that directly cover all areas and directions of society. The development strategy of New Uzbekistan for 2022-2026, which was developed at the initiative of President Shavkat Miromonovich Mirziyoyev, includes such huge tasks as achieving the great goals facing our country today. determined [2,3].

The decree of the President on measures for the future implementation of the development strategy of New Uzbekistan for 2022-2026 is related to the implementation of the priority tasks set before us.

It is known that we are paying special attention to the fundamental improvement of the meliorization of irrigated lands during the agricultural reform. This task has been and will remain one of the most important priorities. Because the efficiency of production in agriculture, ensuring the economic and food security of our country, increasing the material well-being of not only rural workers, but also the population of all of Uzbekistan, the productivity of our land, which is our priceless wealth, is an organic garden with regular improvement of its quality. is As a result of the measures taken in this regard in the past period, the reclamation condition of 1 million 700 thousand hectares of irrigated land improved. This means more than half of the total cultivated area. Thanks to such works, the lands with the most severe level of seepage, i.e. up to 2 meters, have decreased by almost 500,000 hectares or one third, and the strongly and moderately saline lands have decreased by 100,000 hectares or 12%. The most important result we have achieved in this regard is that the yield of cotton in the cultivated areas where melioration measures were implemented increased by an average of 2-3 centners per hectare, and by 3-4 centners in grain crops. [4,5].

On April 19, 2018, the decision "On measures to further improve the land reclamation and rational use of water resources" adopted on April 19, 2018 provides for further improvement of the land reclamation, development of the network of land reclamation and irrigation facilities in the period 2019-2021. , rational and economical use of water resources, on the basis of which, ensuring the stable operation of agricultural production, and increasing the productivity of the land are very important issues. In order to ensure the fulfillment of the specified tasks, to further revitalize the work on the introduction of modern energy-saving technologies and equipment, great attention is paid to cooperation in the issues of modernization of agriculture and increase of land productivity, development and maintenance of modern land reclamation techniques. it is mentioned that it should be focused [5,6,7,8,9,10].

As we know, bulldozers are widely used in the mechanization of irrigation and reclamation works, as well as in the construction of agriculture and water management. The CASE 1150 L bulldozer was not developed taking into account the natural conditions of each area and the physical and mechanical properties of the soil. Therefore, improving the work equipment taking into account the physical and mechanical properties of the soil in order

to increase the working efficiency of the CASE 1150 L bulldozer is an urgent problem today.

Bulldozers adapted to work on hard and frozen soils without preliminary softener cannot be implemented without their special working equipment. This, in turn, leads to the destruction of the working equipment during the operation of the bulldozer, at the same time excessive forces fall on the machine, and it leads to a decrease in the quality of work and productivity.

It is known that suspension softeners are equipped with hinged-hardened twisting (overturning) softener teeth for soil softening.

In order to solve the above problems, the working equipment we recommend allows you to rationally use the traction of the tractor and work with a bulldozer on hard and frozen soils. In this case, a tooth with a twisting (overturning) softener is installed on the back side of the bulldozer softener under the lower edge of the carriage. When the bulldozer moves back, the twisting (overturning) softener tooth softens the soil. As a result, when the bulldozer moves forward, the softening teeth automatically move to a horizontal position, and the bulldozer collects the softened soil on the wheel and carries it to a certain distance. Figure 1 shows the wheel of the bulldozer in reverse.

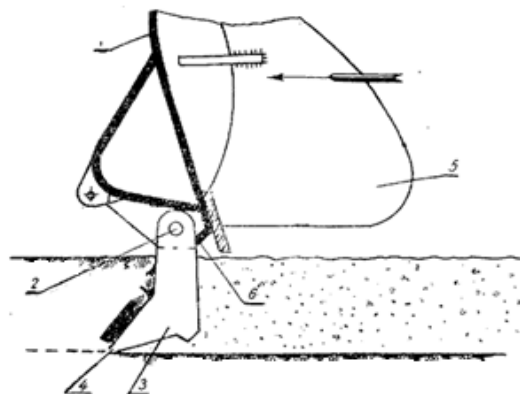


Figure 1. General view of the wheel of the bulldozer softener in the reverse position

1-wheel, 2-hinge, 3- tooth with twisting (overturning) softener, 4-knife,
Side wings of the 5th bulldozer working device, 6th rib

The working equipment that we recommend is attached to the bulldozer wheel 1 to soften the soil when the bulldozer moves backward, and to its lower part, a series of twisting (overturning) softening teeth 3 is attached to its lower part by hinges 2, and in its rear part there is a softening knife 4 for softening the soil. The wheelbarrow is also equipped with side wings to keep the soil on the wheelbarrow when the bulldozer moves forward. When the bulldozer moves backward, the twisting (overturning) teeth 3 are pulled (rest) against the rib 6 of the roller, as a result of which the soil is softened.

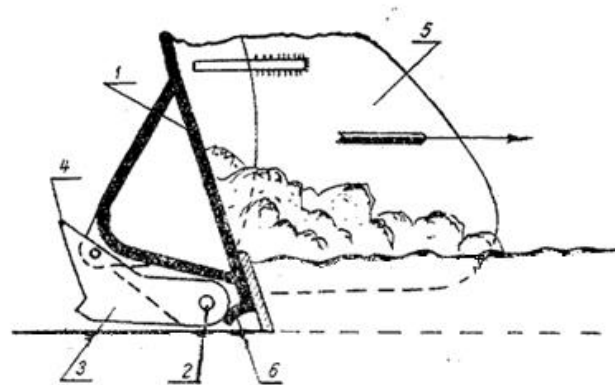


Figure 2. General view of the wheel of the bulldozer softener in the forward position

When the bulldozer moves forward, the softened soil is collected by the wheelbarrow 1 and transported to the desired direction in the state of being held (held) by the side wings 5. When the bulldozer moves forward, the teeth 3 come out and do not interfere with the operation of the plow. As a result, when bulldozers work on frozen and hard soils, their work efficiency increases compared to existing working equipment.

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