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# Stabilizer for reversing vertical spindles in the drum removal area of cotton-picking apparatus

M Shoumarova<sup>1</sup>, T Abdillayev<sup>1</sup> and Sh A Yusupov<sup>1</sup>

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sher\_xxx89@mail.ru

<sup>1</sup> Tashkent Institute of Irrigation and Agricultural Mechanization Engineers (National Research University), Tashkent, Uzbekistan

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## Abstract

The main indicator of the quality of the cotton harvesting machine is the completeness of collectingPDF

the grown crop into the bin, which is usually 3-4% lower than the completeness of collecting spindles. This is because the remover of vertical-spindle machines does not fully remove the cotton bobbins from the spindles. Part of the cotton wound on the spindle is carried away into the working zone without being removed. This phenomenon is called "cotton carry-over". According to previous authors, "Carry-over" reaches 3-4% of the spindle collection completeness. This happens because the spindle roller, after leaving contact with the external belts, rotates by inertia and when it see our Privacy and Cookies policy.



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encounters the inner belts of the removal zone, the spindle suddenly slows down to change the direction of rotation. Here, due to the braking, the cotton bobbin falls off the spindle by "selfrelease". If the braking is excessive, some cotton bobbins lose their grip on the spindle and remain

This site uses cookies. By continuing to use this site you agree to our use of cookies. on it as a free ring. If the brush remover does not remove this "ring", it is "carried over" by the spindle into the working zone. This process reduces the completeness of the collection in the hopper.

In order to ensure the stability of cotton collection by the spindle, it is necessary to provide an increased pulling force of the friction drive in the working zone. In our experiments, this was achieved by replacing the conventional V- belts of the drive with multi-ribbed belts. Multi-ribbed belts increase the pulling force by 1.5 times because their grip with the small radius roller is improved. In the removal zone of the drum, it is also necessary to install multi-ribbed belts, which, due to their better grip, brake the spindle more sharply and increase carry-over. To reduce this process, a stabilizer is installed on the head of the reverse rotation brake, which allows the braking process to be adjusted. This article provides materials explaining the design of this stabilizer. Export

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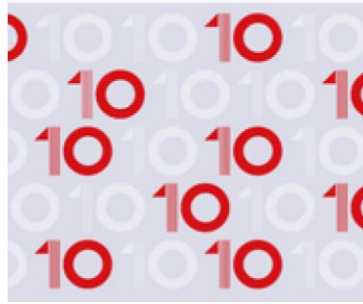
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