ANALYSIS OF CURRENT ISSUES REGARDING DIAGNOSTICS, SERVICE AND OVERHAUL OF AGRICULTURAL MACHINERY

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Abstract: In the last decade in Republic of Macedonia and the Balkan region, the import and use of modern agricultural machines and equipment has been intensive. Some makes and models are manufactured by well known brands, there is also imports of generic construction via a fast manufacturing process. The trend of developing and perfecting of both is a complex process, and it is rare to find an exclusive distributor. Usually the dealerships do not pay attention to servicing and overhaul or instructions on proper handling during usage. Because of the wide selection of brands that have been imported, the issues with servicing and overhaul are not resolved on state or regional level which causes problems, delays and expenses during the life span of the machines. Until now there has not been a strategy made for overhaul centers.

Introduction:
With the import and use of the latest machinery and equipment, the lack of proper servicing and overhaul, as well as the availability of spare parts is increasingly noticeable. The purpose of this analysis was aimed toward resolving these issues, with implementing a new system that is required by the latest machinery models and equipment that meets the needs of its users and service centers. The necessity for such measures comes from these significant parameters that require new approach and new concept.

Results from the analysis:
In the past two decades in Republic of Macedonia, the structure of self-propelled and farm implements has changed. The absence of a law regarding agricultural machinery, and the lack of the ability to categorize and classify tractors and other self propelled machinery has allowed the import of machines of different brands, manufacturers as well as counterfeits of the leading brands. The unclear concept regarding the education program that is rarely carried out and the unavailability of spare parts has made the usage of these machines more difficult. Issues occur in the process of service, overhaul and supply of spare parts. The main goal of the larger firms is sales and distribution while there is not enough attention paid to service and overhaul centers with optimal amount of spare parts in stock where basic or specialized repairs can be made. The service and overhaul centers are necessary, especially now in an open market where the import of parts made by variety of manufacturers for machines and models is possible. The lack of spare parts creates a delay in the usage of the machinery which decreases their economic viability per hour and per hectare. It is possible to organize categorized service and overhaul centers at different locations in Republic of Macedonia or to group certain manufacturer brands to create a one center that will offer education service and overhaul.

Conclusion:
As shown on the map of Republic of Macedonia, the location of the service center would be in the central area of the country, with adequate structure for communication, railway and road.

Conclusions and recommendations:
The service centers in Republic of Macedonia should be build according to the needs, structure and diversity of the agricultural machinery used by the farmers. The conducted analysis show that a suitable solution would be to build one service and overhaul center, in cooperation of the government, firms and manufacturers of agricultural machinery that would be interested. The functionality of the service center must match the application of new agricultural techniques and technologies, to have the necessary equipment and trained personnel. The service center should also offer educational training in collaboration with the trade high school that constantly produce personnel that is up to date with the latest technologies. Building a service and overhaul center will contribute in easier and better use of agricultural machinery as well as lowering the cost per hour of using the machinery.