

ABSTRACT

The main purpose of this project is to study all the types of pruning from trees and bushes which are piling around the Cypriot residences and to recommend a low cost pruning compactor for the household usage. At the beginning of this project a brief report was made about the problems which led to the design of such machine.

Subsequently a literature research was performed about the compactors which have already been in existence in the market area and their operation. Following that with the help of a simple questionnaire a research was done for the types of pruning which are accumulating in Cypriot residences and from analysing the results a relevant experiment was made for the pruning compression.

From this experiment important clues were taken for the design of the compressor such as: the forces that will affect the parts of the machine and also the total compression ratio of the compaction. Therefore from the findings of these forces new design ideas have been proposed. This was followed by a detailed process in which the final idea was selected and some specific requirements were made which must be followed and observed by the construction of the machine.

Then, with the help of a programme called SOLIDWORKS ® a design and an analysis was made of the components from which the construction consists off. During the analysis of the mechanical stresses the real stresses and deformations of the parts for their proper functioning and safety factors were given. From this analysis the parts with the highest safety factor were chosen. Also the motion accessory parts were selected from the catalogues. With the completion of these procedures the final product construction and its cost was analyzed .

At the end of the project the final conclusions were given and comments about the final results .