

**DESIGN AND CONSTRUCTION OF A MACHINE TO AUTOMATE DE-
STACKING MECHANISM OF CUTLERY**

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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In this era, most of the work in industry which was done by human is now done by machine. This process where human workers are replaced by machine is called automation. This thesis project is a part of a bigger automation project to automate cutlery sorting until packaging mechanism. This thesis project focuses on automating de-stacking process of cutlery. De-stacking process in this thesis project means unloading a specially design magazine which was design in previous thesis project. At present, there is no particular machine for this task. To achieve the goal of unloading the magazine automatically, moving table and gripper as pulling mechanism are implemented. The pulling mechanism is actuated by stepper motor. The moving table will move in perpendicular axis to the pulling mechanism, it is assigned to change row. The moving table will be actuated by servo motor with the help of linear guide and timing belt and pulley. Both of these actuators will be controlled using Arduino.

Keywords: Automation, Positioning, Arduino, AC Servo Motor, De-stacking Process, DC Stepper Motor.



DEDICATION

I dedicate this works for Jesus Christ,
My family who always support me through all the process,
My friends and teachers,
The future of my country, Indonesia.



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