

# Spot Tag Lamination Machine



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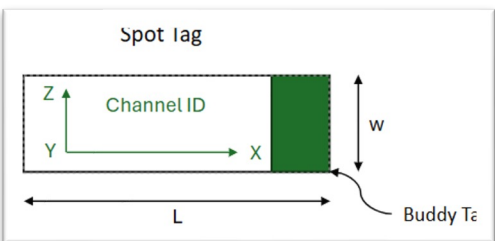
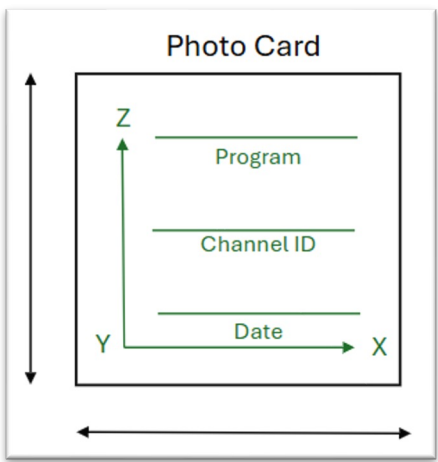


## Project Background

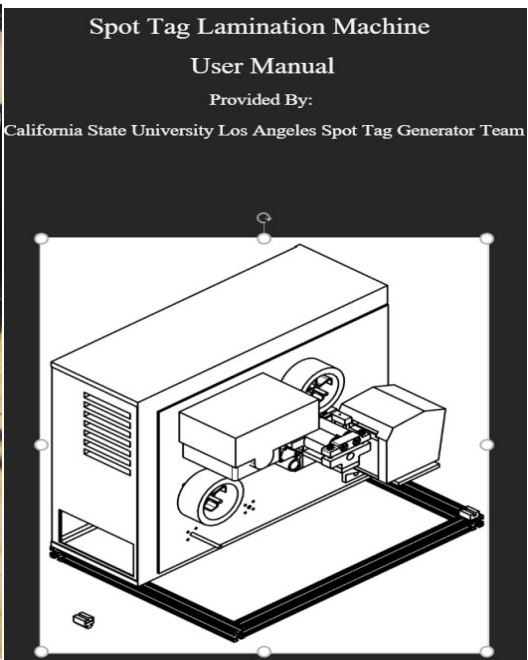
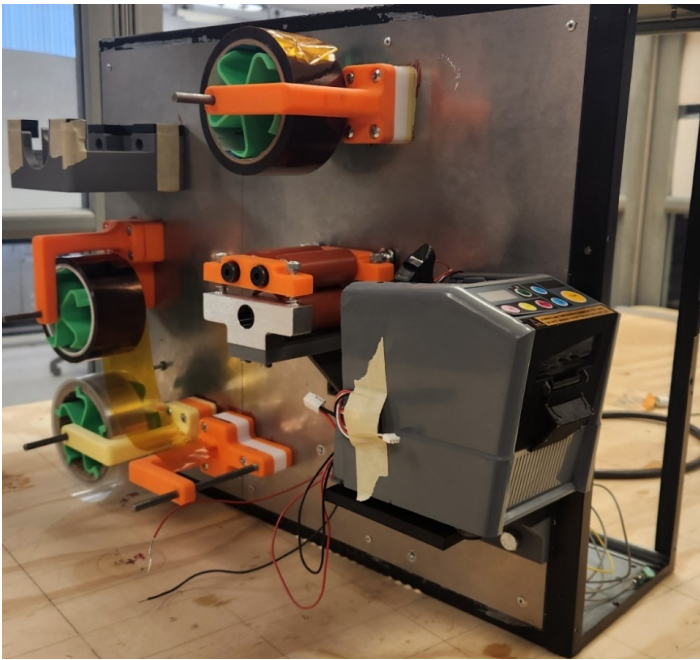
Boeing currently relies on manual processes to laminate spot tags used in instrumentation testing. This approach is tedious, time-consuming, and inefficient, creating a bottleneck in test preparation and increasing the potential for human error. Automating the spot tag lamination process is critical to streamline test operations, minimize manual labor, and enable engineers to focus on higher-value testing activities, ultimately improving the overall efficiency and reliability of Boeing’s instrumentation testing workflows.

## System Requirements

- Print spot tag with a width of 0.5 in.  $\leq w \leq 1.0$  in.
- Print spot tag with a length of 1.0 in.  $\leq L \leq 1.5$  in.
- Print photo cards no larger than 4 in. x 4 in. & no smaller than 2 in. x 2 in.
- Have a buddy tab along the short dimension side with no adhesive for easy removal
- Operated by a single-person.



## Project Outcomes



Spot Tags

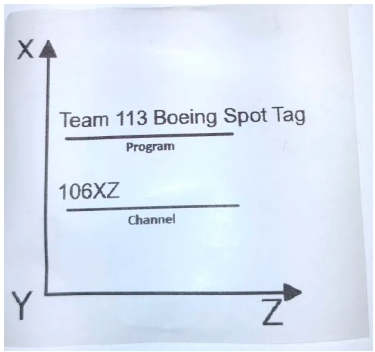
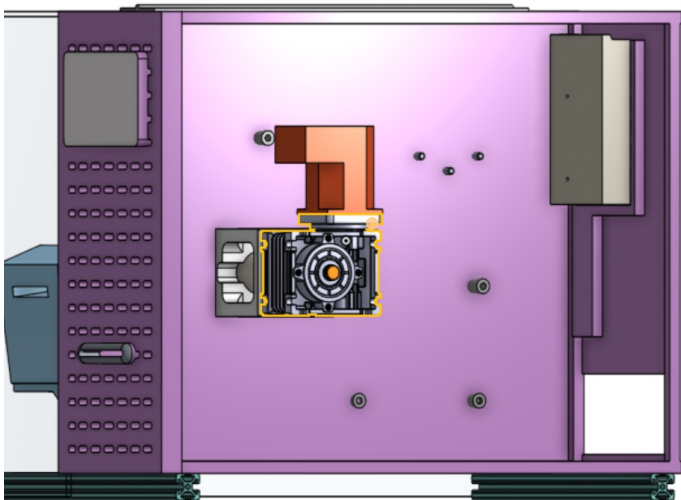
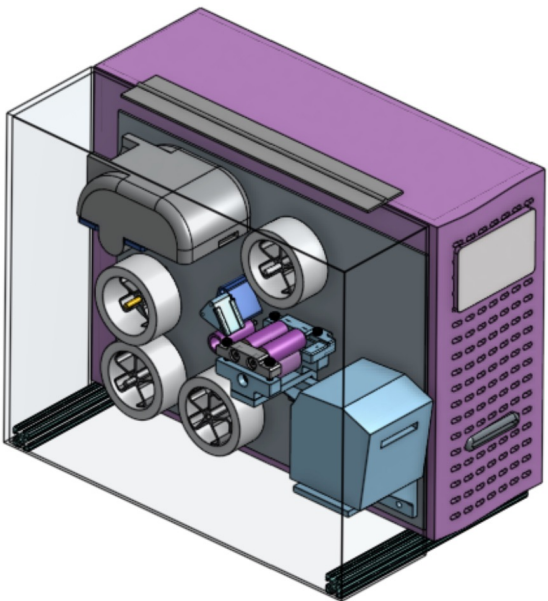
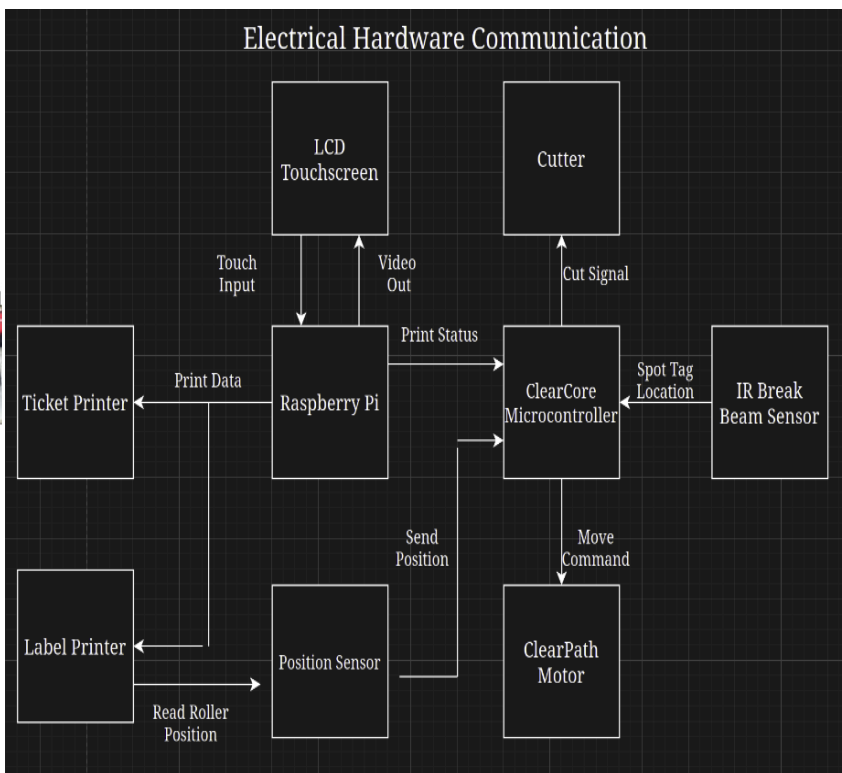
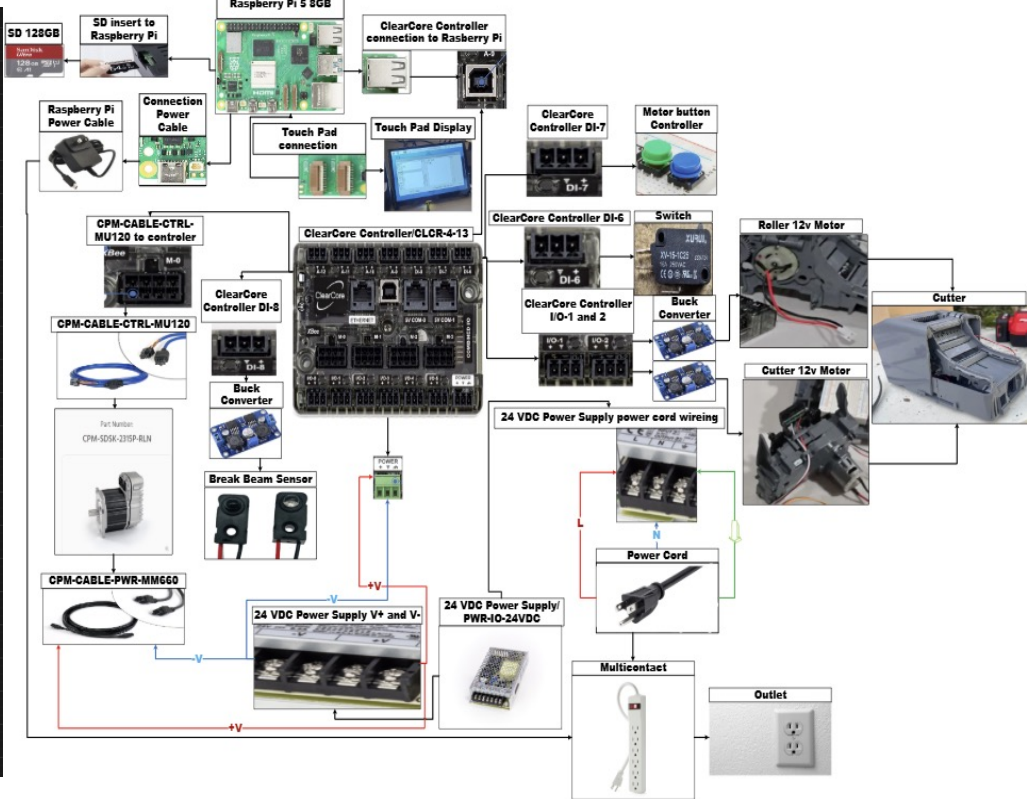
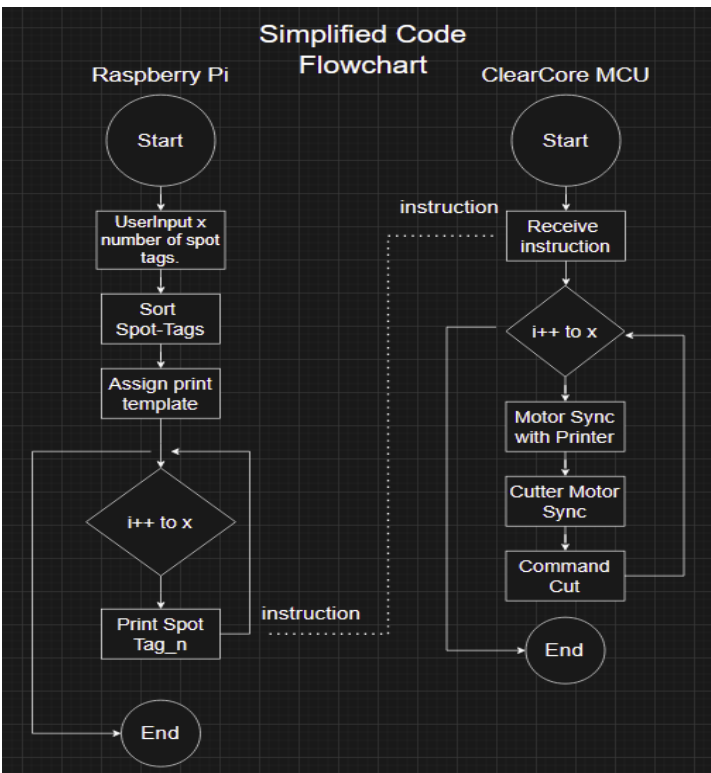


Photo Cards

## CAD Design



## Electrical and Software Diagrams



## Conclusion

- Raspberry Pi and ClearCore MCU was integrated
- Electrical components were tested and inserted into machine
- Met the weight and spot tag size requirement
- Printer was able to print spot tags and photo cards
- Created a user manual for Boeing

## Acknowledgements

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