Fabrication of Elevated Machinery Maintenance Platform
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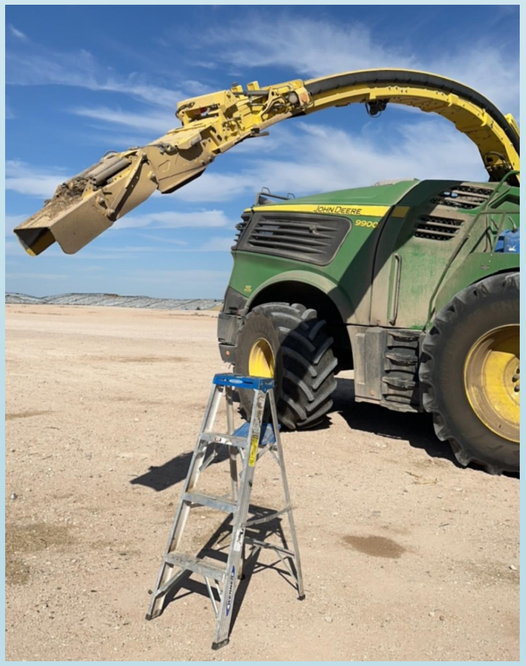
Aim of Project

- To fabricate an Elevated Machinery Maintenance Platform which will allow routine maintenance and repairs to be carried out on **high, hard to access** agricultural and plant machinery **safely** without the need to use a ladder.

Background

- I come from a plant construction machinery and a agricultural machinery background
- When carrying out maintenance and repairs on such machinery I often found myself balancing off a ladder trying to reach large high up machinery ***as seen below***



- Doing so is very dangerous especially when working alone and or on uneven surfaces
- So when the time came so create my 3rd yr. project I had the option to do a fabrication project I knew what to create

Design

- Research existing maintenance platforms
- Fabricate a Stationary Elevated Machinery Maintenance Platform to a high standard and within the time allowed
- Create a model and workshop drawings of the project on Solidworks
- Carry out a study on Solidworks to find out its max strength
- Create a risk assessment on the fabrication of the project

Methodology

- Research, Material Selection, Modelling, Cutting List
- Steel Quotations, Order List, Buy Steel, Cut Steel
- Fabricate Main Structure
- Fabricate Stairs
- Fabricate Handrails
- Complete Reports, PowerPoints And Posters in relation to the project

Materials

Part	Material
Main Structure	Box Section 60x60x4mm
Handrails	Box Section 40x40x4mm
Floor	Chequer Plate 4.5mm
Stairs	C-Channel 260x75mm
Steps	Pre Fabricated Galvanised 900x290x65mm
Legs Plates	12mm Plate 150x150

Challenges

- Completing the project and write up in the time allowed
- Creating a high quality project report
- Sourcing steel from stock holders on schedule
- Modelling the project on SolidWorks
- Ensuring all cuts are correct
- Creating high quality welds

Conclusion

As the project is rapidly progressing through the finial fabrication stage with only the handrails left to weld, completion is soon to be achieved.

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