

Bryan Seibert (ASM), Tanner Gray (MSE), Nicholas Gregory (MSE)

Problem Statement: The Purdue Ag Centers would like to utilize an existing tractor carried three point weighing system to document bale weight as the forage is moved from storage areas to feeding areas. Project will require the design, fabrication, and testing of design for precision and accuracy.

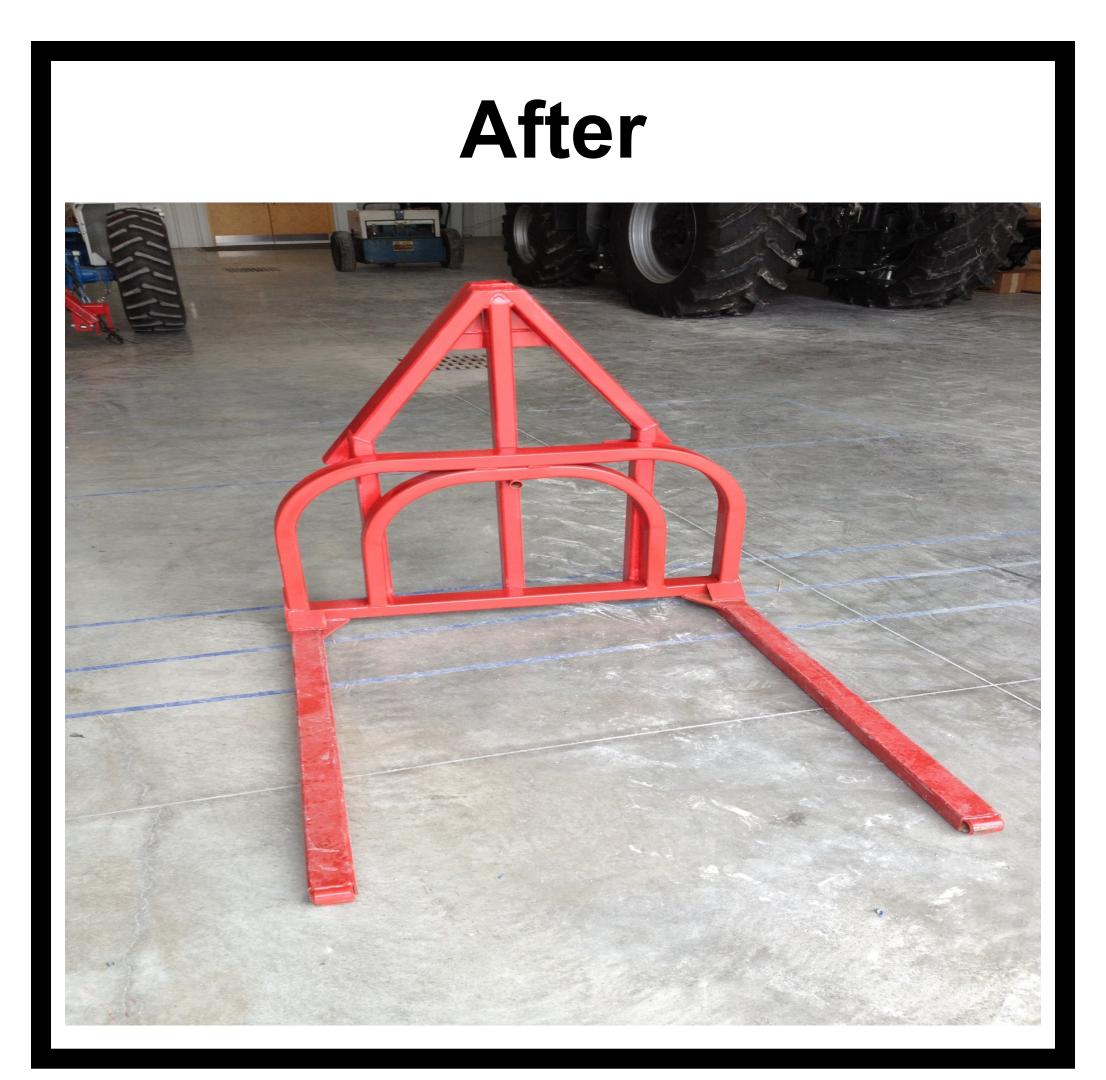


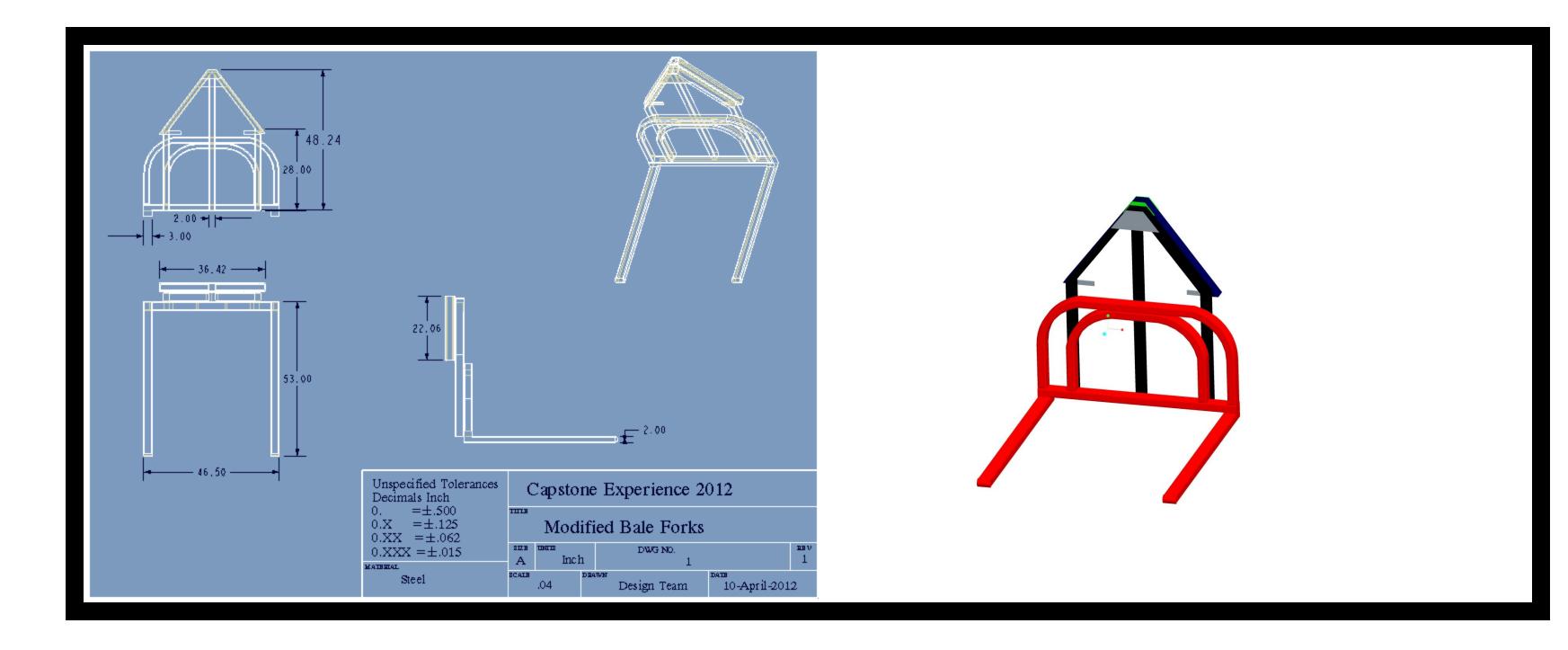
Alternative Solutions: •Using front end loader Portable field weighing station Stationary centralized weighing station

Final Solution: We chose to go with the forks instead of spears due to preference from our sponsor. For the leveling system we chose to go with the inclinometer over a gyro or accelerometer. The inclinometer will give us the degree of accuracy we are looking for as well as being user friendly. The particular model chosen is designed for heavy machinery as well as being weather proof.

CAPSTONE EXPERIENCE 2012

Hay Fork Weighing System







User Instructions:

- Calibrate scale
- •Zero scale
- Position tractor on level surface
- •Level forks using display in cab
- Once weight has been displayed, hold print to store to
- DDL logger

Load Cell Bracket Data Logging Software Paint Bale Forks Steel Inclinometer Machine Shop Services Total

> **PURDUE AGRICULTURE** PURDUE UNIVERSIT

Budget

\$276 \$585 \$20 \$825 \$54 \$1200 \$40 \$3000







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