Specifications

Features
• 31 HP Briggs and Stratton Vanguard V-Twin
• Three Speed Midwest Supercub Transaxle
• Suspended Seat
• Four-Link Front Suspension
• 800 lbs (unballasted)
• Titan 26-12x12 tires

Value Proposition
• Filling the void in compact recreational tractor market

Impacts
• Developing future engineers
• Defend reputation of Purdue engineering

Special Thanks

Team Members:
• Calvin Sander
• Grant Wagner
• John Koellisch
• Terry Schwab
• Richard Chen
• Zoe Rainey

Advisor:
Dr. John Evans

Sponsor:
Dr. John Lumkes

Financial Sponsors

PQS-1: Quarter Scale Tractor:
Hammerdown 22

Purdue Pullers

Pulling More Than Our Own Weight

Daniel Foley, Matthew Gobel, Nathan Sprague
Background and Scope
The ASABE Quarter Scale tractor pulling competition is an annual event where collegiate teams design, build, and compete with 900 lb tractors.

Teams are scored by their performance in:
- Maneuverability
- Durability
- Noise level
- Safety
- Pulling ability
- Serviceability

The team used these events as criteria for the design of the tractor.

To be ready for the competition in early June, the team made schedule to stay on track:

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Design
A CAD model was built using Creo, to decide layout and component fit.

FEAs were performed on components subject to high stress, such as the frame rails.

Solution
The Hammerdown 22

The Hammerdown 22 is designed for maximum pulling and reliability. It features:
- Mechanical 2WD driveline (high reliability & simplicity)
- Rear operator’s station
- Joystick-controlled linear actuator
- Floor mounted clutch and brake system
- 4-link suspension and seat suspension ensures operator comfort
- Shielding on all moving parts