

Human Powered Tractor

Creators of: *Ready*

Purpose

- Transport payload of 1000 pounds
- Operable by 1 or 2 people
- Material cost less than \$5000

Design Specifications

- 0.17 horsepower per person steady state input
- Lock up wheels on Asphalt
- Reversing capability
- 19 foot turning radius
- Gross vehicle weight of 2000 pounds



HPT Inc.

Brandon Roberts
Matthew Burtis
Ethan Harris
Chas Ogden



Drive Train



- Bicycle component input sprockets
- Planetary ball CVT
- Combining jackshaft
- Half shafts sourced from 2000 Ford Taurus

Transaxle



Original Design

- 3:1 reduction
- Differential
- Forward-Reversing Mechanism

Temporary Solution

- 2.4:1 reduction
- #40 ANSI Roller chain
- Differential
- Forward operation only



Original Design

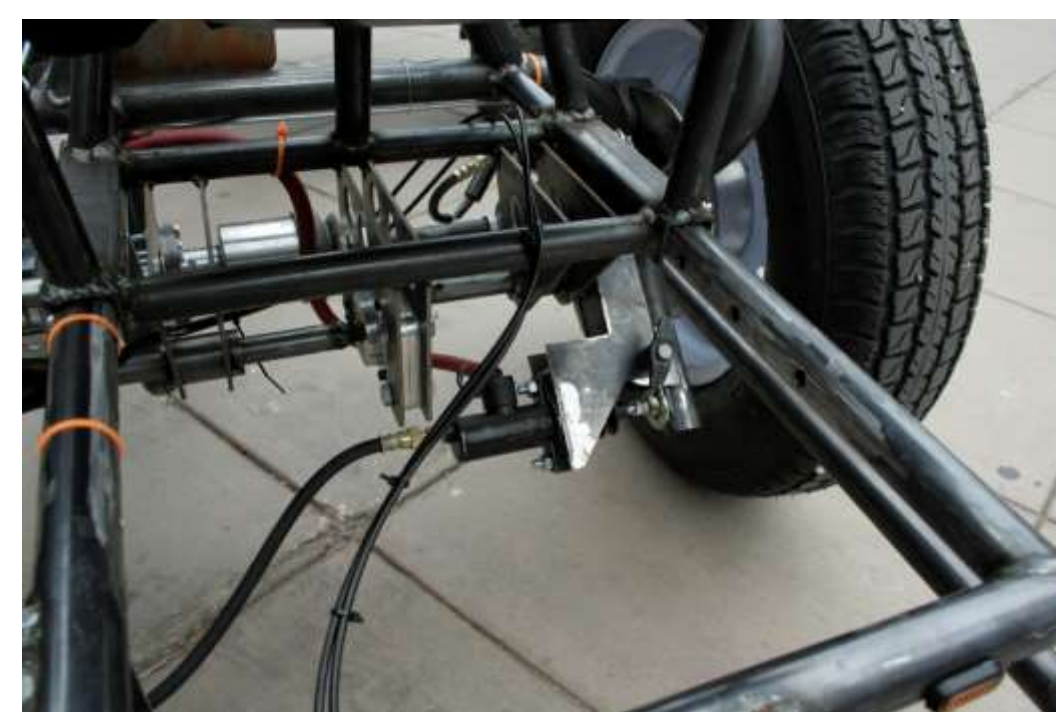


Temporary Solution

Brake System



- Hydraulic brakes sourced from 2000 Ford Taurus
- Actuated by lateral movement of the steering lever
- Attain full wheel lockup on asphalt



Steering



- Articulated steering
- Actuated through dual steering levers, combining box and tie rod
- Turning Radius of 19 feet



Hitch



- Connection between tractor and implement
- Pivot point for articulated steering system
- Allows roll and yaw motion of implement



Seats



- Semi-recumbent positioning
- Adjustable fore and aft
- Molded ABS construction

