

Engineering



The grass cart 2008

13 EGG

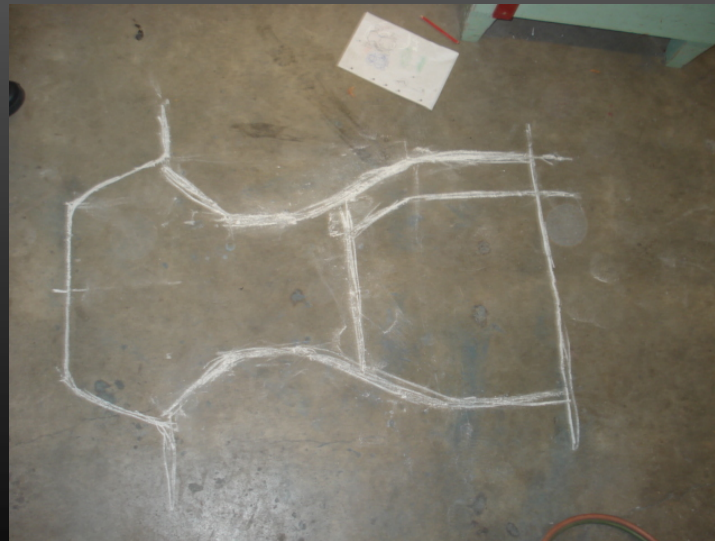
- Consists of :
- Mr Fawcett – Supervisor
- Sean Deroo – Frame and Design
- Evan Kennedy – Steering and finishing
- Blake Hoffmann – Suspension and Welding
- Eugene McKinstry – Axle and Frame
- Brandon Fraser – Welding and Steering
- Anthony Jenkins – Wheels and rules

Team Supreme



The Beginning

Firstly we had to come up with concept designs for the frame, everyone contributed there own thoughts for the best outcome. We then gathered the information experimenting with wire prototypes. We researched professionally built grass karts and came up with the following:



The Next Step

- We then went onto working out what frame material we wanted to use. We had to take into consideration weight, speed, durability and strength. We decided to use 1 & 1/8th steel tubing.



Assembly of the frame

- Next we cut tubing to length and laid it out according to our plan. Then we bent the tube to the shape of the cart, and tacked it together.



**Man that
Sean kids
cool?**

Interesting Discovery

- In our research we discovered that when racing carts corner the inside wheel lifts off the ground. We wanted to avoid this on our cart because it has a small steering lock. We designed our own suspension system to allow both wheels to corner at the same time.

Along the way

- Problems we have faced are :
- Inaccurate measurements
- Waiting for other parts of the cart to be completed
- Equipment failure
- Parts going “missing” during other classes
- Working out and bending tube to the right angles.

More Problems

- Time
- Money
- Experience in TIG welding
- Width of the cart
- Exhaust falling off while trialling

Sponsors

- LIONS \$500
- Reid Industries \$100

What we Bought

- Seats – WKS
- Sprockets – Fishers
- Steering Wheel – WKS
- Engine – Mike Grumbal
- Registration – Organisers
- Tyres and Rims – Firestones
- Frame Work – Steel and Tube
- Bearings – Wilsons
- Axle (4340 High Tensile Steel)
- Rod End - Wilsons

Hours Log

- We started practical at the start of term 2 Thursday the eighth of May.
- Sean:126 hours work. Steering rod=5hrs, frame=30hrs push bar=4hrs, back bumper=4hrs, side bars=8hrs front scope=6hrs, bellipan=5hrs, engine mounts=2hrs, axel mounts=2hrs, foot pedals=1hr.
- Evan:40 hours work; Steering rod=5hrs, foot pedals=5hrs, steering mounts=5hrs, finishing=15hrs, signage 1hr.
- Blake:166 hours work. King pins=20hrs, chain guard=2hrs, seat mounts=4hrs, side bars=8hrs, back bars=4hrs, sprockets=20mins, welding=15hrs, foot pedals=1hr
- Eugene: 50 hours works. Frame=10 hours. Rear axle=20 hours. Key ways=10hours. Mud guards=10hours.
- Brandon:60 hours work. Steering shaft and mounts=5hrs, old foot pedals=10hrs, frame=30hrs, accelerator and brake cable system=1.5hrs, chain guard= 20mins,
- Anthony:19 hours work. Engine mounts=3hrs, wheels=4hrs, stands=12hrs

Steering

What We Enjoyed the Most

- The team really enjoyed welding the kart together.
- Testing the kart and finding out the limitations that it has.

What we Learned

- How to weld.
- Gear a stationary engine.
- Safety requirements of karting.
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What We Enjoyed the Least

- Our little group arguments that weren't getting us anywhere just further behind

Things We Would do Differently

- Get all the measurements sooner so we can start building the frame
- Give Eugene steroids' to make him work faster

Advice For Other Teams

Funniest That Happened



