

Cyclone Power Pullers; Iowa State University's 1/4 Scale Tractor Pulling Team

DECEMBER 2013 EDITION

Sponsorship Pull



Senior Bart Harris preparing to pull one of the team's tractors, the *Cornburner*.

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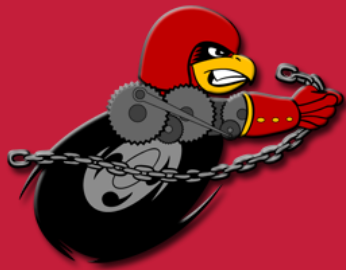
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On Saturday, October 19th 2013, the Cyclone Power Pullers hosted our annual sponsorship pull. Despite some cold weather and wind, the event was a success. This event allows us to display our projects to our sponsors, as well as giving younger members a chance to pull any tractor they wish. The event also allows us to gather pulling data to use in the newest tractors design. We will be holding another sponsorship pull in the Fall of 2014, with invitations being sent in August.

“I’m looking forward to seeing how our designs will change The DeCYder’s performance”
- Cole Sunderman



Vermeer Day



Iowa State's mascot "Cy" trying out the 2013 tractor "The DeCYder"

On October 7, 2013, Vermeer Corporation visited Iowa State's campus to network with students and display some equipment. The Cyclone Power Pullers displayed two tractors at the event. This event was a great opportunity for us to network with Vermeer Corporation, and to show other students what great projects we work on every year. We would like to send a special thank you to Vermeer Corporation for inviting us to this event.

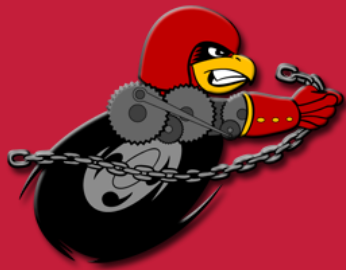
2014 X-Team Update

In building on the successes of "The DeCYder" and formulating ideas and plans for the improvement of the vehicle, the X-Team has put in a lot of analysis and design work this past semester. The team started off the year by disassembling the working tractor and pinpointing the areas that needed redesign. Safety and functionality are the primary goals for the team's redesign efforts. The team split into groups to work on fixes for the tractor including: hitch assembly, improving serviceability, strengthening the steering column, improving the braking system, and implementing a rear end similar to that of the 2014 tractor.

Looking forward to the spring, the X-Team deems testing as a priority. They want to put into place the fixes that they worked hard on in the fall and make certain the tractor performs as intended. The X-Team wants every member of the team comfortable with the tractor before competition. There has been great involvement from all X-Team members, and the team relies heavily on everyone's input to create success for the tractor as they move into the spring semester.

2014 A-Team Update

The design team has been very busy this semester working on the 2014 tractor. A series of discussions over this past summer allowed the team to have a strategy coming into the fall semester and begin the project immediately. A customer survey was constructed and sent out to potential customers to determine what features were desired. The results helped the design team make a number of decisions so we can produce a high performance tractor. Following the design process, the team set the scope for the project and laid out the criteria and constraints. SolidWorks modeling began to get a visual of some of our ideas. From there the team entered into the design phase. A lot of hard work was put into the design and along the way there were several design reviews conducted with club members and advisors. A new feature this year is an aluminum casted transaxle. Combining our hydrostatic/hydraulic transmission and torque biasing rear differential into one housing will minimize leaks, increase manufacturability from an assembly standpoint and provide the opportunity for proper shaft alignment. Improved ergonomics and aesthetics along with a focus on manufacturability were also key aspects of this year's design. The majority of the design is complete and most of the parts will be ordered by the end of December. This will allow the team to begin the build when we return for the spring semester. Following the build, a series of tests will be conducted on the machine and some subassemblies so we can provide a bulletproof machine at our competition. Our team is very excited for this year's model and we are looking forward to the build and test phases.



“The design changes we have made to the new tractor should give us a competitive edge this year” -Conner Toennies

“I am looking forward to starting the build process for the 2014 tractor. It’s always an exciting time of the year”

-Nick Stratton



A rendered photo of the Solidworks model of the 2014 tractor.

Check us out of Facebook. Just search for Cyclone Power Pullers, and Click “Like” for updates & information

**Officer Team
Officer**

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Please contact one of these members with any questions about design, sponsorship or anything else you may be wondering. Or email cyclonepowerpullers@gmail.com
 Check out our website at www.cyclonepowerpullers.org

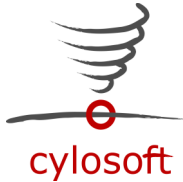
Sponsor Recognition

Current Full Pull Club Sponsors

QUALITY MANUFACTURING CORPORATION



Current Cyclone Club Sponsors



JOHN DEERE



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Current Gold Club Sponsors



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THE HAIGHT FAMILY
CNH AG INFO CENTER
DOUGLAS DESIGN



Current Silver Club Sponsors



GILBERT TRACTOR CLUB
 MID-AMERICA PULLING ASSOCIATION
 ROGER UNDERWOOD
 HUB CITY IMPLEMENT CO.



Support the Cyclone Power Pullers!

Our team is actively seeking new sponsors for the 2013—2014 school year. If it were not for those who support our team, we would not be able to continue participating in the annual ASABE 1/4 Scale Tractor Student Design Competition. Because of this, we recognize our supporters using the following criteria:

Full Pull Club Sponsor: Donations valued at greater than or equal to \$5000 will be recognized on the team display board in addition to those recognitions given to Cyclone Club Supporters.

Cyclone Club Sponsor: Donations valued at less than \$5000 but greater than \$1000 will be recognized on the team trailer in addition to those recognitions given to Gold Club Supporters.

Gold Club Sponsor: Donations valued at less than \$1000 but greater than or equal to \$500 will be recognized on the team t-shirt in addition to those recognitions given to Silver Club Supporters.

Silver Club Sponsor: Donations valued at less than \$500 but greater than or equal to \$100 will be recognized on the team website, in the team newsletters, and on the 2011 tractor.

Bronze Club Sponsor: Donations valued at less than \$100 will be recognized on our team website.

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