TEAM STEALTH

2010-2011

Preble High School

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Team Stealth

Amy Koenig- Amy has a vast background in engineering classes at Preble. She has taken courses such as IED, AED, Skills USA, and Woodworking. She is currently a senior and is

attending NWTC for mechanical for college. Also she helps service skid steers and spreaders on the weekends.

Justin Clabots- Justin has a lot of experience with automotive repair, engineering, and fabrication. He has taken courses such as IED, AED, Welding, Vehicle service, Machine Tool, Small engines, Fabrication and Restoration, and R&D welding. Along with those classes he also repairs his cars, dirt bikes, and snowmobiles.

Jesse VandenAvond- Jesse also has a background in classes such as IED, AED, Welding, Vehicle Service, and Machine Tool. He is in his senior year and next year he will be attending NWTC to become a police officer.

Phillip Baeten- Philip has a background in IED, intro to technology, and other courses that are related to engineering. After his senior year he will be attending University of Wisconsin Milwaukee and will be working on something in engineering.

The creation of our Car

To start off the year, we created our chassis for our car first. We had to take careful measurements to get everything to line up and follow our drawing we created from the Inventor program so that the chassis pieces fit together. The hardest part of building the chassis was probably when we had to bend the inch and a half steel tubing for the roll bars. After we got the main chassis built, we had to work on cutting a piece of 14 gauge sheet metal to put on the bottom of the chassis. This was a bit of challenge because if we welded the sheet metal in too many spots, it would have caused it to be warped.

Next, our team created the front axle. We cut a piece of steel piping and had to notch the front of our chassis to make it fit. We had to calculate exactly where to place the axle to determine our ride height. After we got the axle mounted out we proceeded to bolt up the front hubs/ball joint assemblies, brake rotors and calipers, and tie rods.

After we got the front axle all setup we had to figure out how to place the steering setup. To do this we had to find exact center and make a special bracket for the rack and pinion assembly. After we got that done we made our own custom tie rods for perfect fitment.

Next on our list to do was to design a seat and pedal system. We created our seat out of aluminum on inventor and had it water jetted out at NWTC. What is unique about our seat is it acts as a firewall as well as a seat. The pedals were also drawn on Inventor and cut out with the water jet at NWTC.

Most recently we went to Fiberglass Solutions to lay up our body. To do this we had to cut the right lengths of fiber glass and mix the resin accordingly. We had to work quickly because the mixture hardens in less than 20 minutes. After we got it completed we had to sand down the edges and do some body work. Then we got it painted blue black and silver by **(SPONSER).** We also got our chassis painted a silver color to match the rest of the car by (SPONSER) once we got all our parts back we started to put the car back together. Finally once everything was reassembled correctly we had a finished car.

About Formula High School

The Wisconsin ***Formula High School*** project was created to allow students who are interested in motorsports, engineering, and technology areas a realistic outlet to showcase their skills and talents. Students who are involved in athletic competitions have regular meets or games in which they compete to see how their abilities compare with other schools. Students involved in ***Formula High School*** will now have the opportunity to compete against other schools in a controlled racing time-trial event. Each team is responsible for constructing a vehicle to a strict set of guidelines. These guidelines help the students construct a safe vehicle that closely resembles the current SCCA Formula First race vehicle. Although the competition vehicles may appear cosmetically similar, the differences in the drivetrains, alignment, and steering geometry make for spirited competition. Despite the ***Formula High School*** event being held at a prominent motorsports facility, the focus of the project is to help the students develop the engineering and technical skills that are vital to our nation's manufacturers.
The goals of the high school formula project are:

- Increasing awareness of engineering and technical careers
- Promoting teamwork and interpersonal skills among competitors
- Construction of a product with specific tolerances and deadlines
- Applying knowledge from other disciplines to an engineering problem
- Connect the schools and students to their local manufacturers
- Apply the concepts of marketing and increase the student's public relation skills

(All goals come off the formula high school website.)
http://www.formulahighschool.com/home.html

Benefits of Formula High School

Formula high school gives kids the opportunity to grow and learn a variety of different skills that are designed to help kids later in life. Like the home page says that help kids become more aware of the local businesses around them by asking them for help with sponsorships as well as learning many different engineering tools. They also provide kids with many teambuilding skills to help us work much better with our peers once we get into the work world. I think working with a team was a task that most of us students have done before but never on a project has that taken a whole year. There were times where we struggled to get along as a group but overall we still got the job done and we all helped out in the end to get the car running. Without formula high school we wouldn't have gotten the same opportunities that will help us down the road.

Formula High School also provides us with a unique opportunity once we build the cars to race them against other teams. This gives everyone a common goal and a little competition goes a long way. The strict guidelines that Formula High School gives out help make competition fair and close. The differences that we can make are the driver, drive trains, alignment, steering geometry, and a few other minor differences can make the races close and fun. We are thankful for the support and all that Formula High School does for our team

After months of working on completing our car with help from every team mate and all our sponsors we had a finished car.

Completed Car

THANK YOU SPOSNERS!

Professional Plating Inc.
An Endries Company

KI

Fiberglass Solutions Inc.

KAPLAN AUTOMOTIVE LLC

MJ COLLISION CENTER