

November 21, 2016



This week we have been quite productive! We continue to make our rounds touring through other manufacturing facilities. Most recently, we visited Royer Corporation. The Cub Manufacturing team is expanding upon our designs and products for community customers, as well as, for our school. With the holidays right around the corner, be thinking about your special personalized gift giving! We take orders and can help with the design process.

### **Bonfire Pit:**

Last week, Cub Manufacturing received a job from a community member to design a bonfire pit with a built in stand which can be both mobile and easy to set up. The first week we worked out design flaws such as the height and width of the stand and what material was best to use. The second week consisted of building the prototype and working out problems such as weight, strength, and durability. The weight of the overall project makes mobility a bit tricky, so we have changed to a lighter material. The durability was a bit of a problem as the metal kept retaining heat and warping. But the good news is, we found a sprayable coating so the metal does not rust or retain high heat. The strength was not as much of a problem, it was more of a concern that we were not sure if it would stay upright *while lit*.

### **Christmas Houses:**

We are so thankful to have yet another project we can do for MCHS! We have to admit, at the time, it seemed a bit early to be thinking about the holidays. But after seeing the size of the project we were grateful for the extra time! The houses, as designed by Mr. Kelsey, were actually the size of a small car and the frame is completely made of half inch steel rods! We cut, bent, and assembled the various pieces into a frame which was sent to Mr. Kelsey's room for finishing. The frames were used to create houses that were used during the final scene of the Madison Theatre production of *Meet Me in St. Louis*. You will also be able to enjoy the pieces as part of a holiday light display at MCHS created as part of a joint project of the Art Academy and Practical Arts department. Be sure to drive by and check out the display!

### **Golf:**

The frisbee golf project (prototype pictured on right) has been a great learning experience! The first prototype stand has proven to be a bit of a challenge to get the curvatures, size, and dimensions of the material to spec. We also discovered problems with the material warping from the high temperatures as



we welded but we were able to correct by exposing it to high temperatures with our torch to slowly bend everything back in place. We then proceeded to disassemble and examine everything to see what changes should be made to make this product perfect for the golf team.

### **Equipment Repairs:**



Our learning opportunities continue to expand outside of the classroom and into the hands-on learning area. We had to take apart the front end of the metal lathe to take the gears and belts off to free the engine from the interior so we can ship it back to the company for repairs. While down, we plan to do a deep clean and maintenance. We will work to have all the paint chiseled off so it can be repainted and get all the metal shaving that had been accumulating through the years. This type of learning is as valuable as our class room experiences and shop floor work.

### **Our visit to Royer Corporation:**

Royer Corporation is an injecting molding facility in Madison, IN which produces plastic parts and products that we use and see every day. Products manufactured at Royer Corporation include the Pokemon coins and cake toppers you find at Walmart, as well as, customized products such as straws and stir sticks. While touring the facility, we noticed their employees use the same 3D designing program we do, just a more complex designing level. We are working on a project for them to design and produce two molding racks to hold the molding rigs. We are currently in the design phase of the product and hope to make more progress next week.

That wraps up this edition of Cub Manufacturing News. We hope you have a fantastic week and enjoy time with your family and friends. We look forward to bringing you our next edition of Cub Manufacturing News in early December.

Happy Thanksgiving to you and your family!