

## **Cub Manufacturing and Engineering News February 2018**

While it has been a while since we last visited, we assure you we have been busy and have tons to share! This year, like many things, has had its ups and downs but most importantly it will be one to remember! Thanks to all of your support, we have had the opportunity to grow Cub Manufacturing and Engineering to new levels that were only dreamed about last year at this time. We have experienced some pretty significant growing pains which have created an opportunity for us to work through and learn about the importance of back-office systems and supports. Our teachers and advisory board members have been a great help as we work to build systems, review efficiencies, and merge our classes and businesses in such a way that we all succeed.

### **New Investments:**

Thanks to a grant from [EcO15](#), Cub Engineering and Cub Manufacturing teams were able to purchase a brand new Vinyl Cutter, 3D Printer, CNC Gantry Router, Variable Speed Mill, and a Laser Cutter. The Vinyl Cutter will allow for us to do even more things; for instance cutting out new logos and even stickers to custom modify our latest projects. The 3D printer has already come in handy with our latest project of building drones. We have been able to make the body of our selected drones through this great device. The Laser Cutter will be helpful with constructing glasses, bottles, burning wood, metal, and plastics.



### **Christmas Parade Float:**

The Cub Engineering, Cub Manufacturing, and MCHS Technical Theater classes all came together to make this project a reality. Over fall break MCHS Senior Andy Holcroft made a model of his vision for the Madison float entry for the Very Merry Christmas Parade. He then shared the model with the Cub Engineering class to help figure out the necessary next steps to turn his 12" x 6" parade float model into a life-size replica for the parade.

Once all the materials were ordered and received, it was time to start working. This

was a great collaboration of many members of our teams working together as we had a tight turnaround on the work. The float consisted of a huge gingerbread house, a table on the front for Mickey and Minnie Mouse, a christmas tree on the back, and of course candy canes. Next, it was time to start the building process which started with the walls of the gingerbread house, which turned out to be the easy part, the door gave us trouble all the way up to the day of the parade. One cool element we incorporated was the fog machine that sat in the chimney which added the element of a cozy fireplace awaiting Santa!

The Christmas float was a success! So much so that it won an award for the Best Parade Float for a Non-Profit. The award was great but what made the celebration even more exciting was that others in the community appreciated the hard work and were able to enjoy it in the parade. And as a bonus our MCHS staff treated all three classes to a pizza party for their hard work!

### **Class Guests:**

Lee Billington, a representative of Ohio Technical College (O.T.C.), came into our Cub classes to speak to everyone about taking the skills learned while in class and apply them in college. He presented the education process as viewed by O.T.C. and what it can offer to young students who excel at hands on mechanics. Mr. Billington went through the numerous courses students could take to further their experience in the automotive field. He also shared that the length of courses are usually no longer than 18 months and the main requirements are that you show up on time and be ready to work. Courses in High Performance Motors, Diesel Engine Repair, Custom Painting and Air Bag Installation are just a handful of all the courses that can be taken at O.T.C.



### **Jeep Wrangler:**

This '94 Jeep Wrangler, a class project/work in progress owned by Ryan Lamb, has been sitting in the shop all year with a list of problems which grow daily. With renewed energy and inspiration the Intro to Transportation and Cub Manufacturing class members are about to check this project off of the TO-DO list! The team has spent long days working to restore this vehicle. So far, they have learned about and worked on the frame, finders, rewiring, new axles, reconstructed the steering box, and a brand new paint job. In a matter of months, this project will be complete and the team will feel the satisfaction of a job well done!



### **UPDATE - Weight Room Racks:**

A total of 11 racks have now been designed by the Cub Engineering class and built by the Cub Manufacturing class. This project took several weeks to complete with no time to waste as Mr. Roney is always looking for ways to improve efficiency in this space. All of these carts have been put in the Madison Consolidated High School weight room to make it more accessible to transport the weights and cut down on time being wasted in CrossFit class. This is the perfect example of students helping students, learning in the process, and creating a safer, more efficient space for our students and athletes during a number of classes throughout the day. The weight room is used by our PE and CrossFit classes each day and is always busy before and after school with in-season and out-of-season athletes using the facility for training and conditioning.







### **Banner Holders:**

Through a partnership with the Jefferson County Veterans Association we are working to complete the display brackets which will be used to hang banners designed by community members. The modified holders will be put on every light pole throughout downtown Madison to hold banners and small flags. There has been a total of 70 already made with another 60 needed to complete this project. Right now Cub Engineering class is working on its third design of banner holders, while the manufacturing class has been busy building all of them.

### **Royer Cages:**

One of many projects taking place right now includes safety cages that will be put around each of Royer's robots. This is to ensure a safe working environment for those working and others passing by. The Cub Manufacturing class has been working effortlessly on cutting frames out, assembling the brackets, and then it will be time to put the screens in for ultimate protection.



### **A Special Thanks:**

Both Cub classes would like to thank everyone who has helped out in anyway to make this program what it is now. We owe everything to our community partners, teachers, mentors, and valued customers who keep coming back...we hope we have pleased you with our hard work.

Don't forget about our [Cub Manufacturing/Engineering FaceBook](#) page where you can message us to keep in contact, we do check it daily.



Until we visit the next time, have a great day!

The Cub Manufacturing and Cub Engineering Team!