



THE SPARTAN RACER

GO GREEN! GO WHITE! GO FAST!

MAY 2021



Team Updates

Shop Access Granted

Early last month, limited workshop access was granted which has enabled the team to resume the manufacturing and testing of this year's vehicle! Team leaders were thrilled to finally show the shop to new team members who have only seen the virtual side of things for the last fourteen months. Likewise, many new members were itching to get their hands on the car for the very first time.

However, the team wouldn't be operating if it wasn't for a handful of very helpful individuals. We'd like to extend a very special thank you to Dean Leo Kempel, Assistant Dean Amanda Idema, Roy Bailiff, Mike Koschmider, Faculty Advisor Dr. Gary Cloud, and the one who guided the team through the entire approval processes and pushed every step of the way, Associate Dean John Verboncoeur. Your tremendous support does not go unnoticed or unappreciated. **Thank you!**

Manufacturing Continues

Now that the team has access to proper facilities, composites manufacturing has resumed and aerodynamics production is in full swing. A new manufacturing process has been implemented this year that significantly stiffens all hollow carbon fiber layups. Previously, the team used ribs and spars to prevent the deflection of carbon components, but that proved to have inconsistent results. Now, the aerodynamics team uses Rohacell structural foam from Evonik to provide the necessary internal support.



The left side-pod, an aerodynamic component, is laid up with carbon fiber

Testing Days

As soon as the team regained access to the shop, vehicle testing was made a priority. In a traditional competition year, the team prides itself in having an accelerated manufacturing timeline that allows for plenty of springtime testing. This year, however, other universities have had the upper hand. With shop access coming super late, the team is adamant on testing the vehicle whenever possible.

In typical FSAE fashion, testing uncovers the vulnerabilities in a car that was *supposed* to be bullet-proof. It's important to find these vulnerabilities early so that there's adequate time to address the issues in a manner that strengthens the vehicle without adding too much weight or reducing performance.



The vehicle drove for the first time in over a year!

Competition News

SAE has officially announced that FSAE Michigan is confirmed for July 7th-10th at Michigan International Speedway. Originally restricted to ten people per team, competition organizers have updated the attendance limit to fifteen people per team and one additional faculty advisor. With all Michigan COVID-19 restrictions slated to end on July 1st, team leaders are hopeful that the capacity limit will be removed or further expanded to give more students the chance to attend competition. It would truly be unfair to those who have worked so hard for over two years to not have the option to attend.



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Featured New Members

Name: Paige Brechtelsbauer

System: Powertrain

Hometown: Oakland Township, MI

Major: Mechanical Engineering

Class Standing: Senior



Name: Abhyuday Rastogi

System: Powertrain

Hometown: New Delhi, India

Major: Mechanical Engineering

Class Standing: Senior



What are some of your favorite hobbies or activities outside of the racing team?

Outside of the racing team, I've enjoyed being a part of the Beta Theta Chapter of Alpha Xi Delta and fostering animals. This year I came to MSU with one kitty, and I am leaving with four and a dog—all rescued from the Humane Society. My pets help keep my stress at bay as well as being very enriching. They keep me active and are a positive experience overall.

What is your favorite part about being a member of the team?

After several months of online learning due to COVID, the team was finally granted shop access a few weeks ago. Seeing the car in person was my favorite part of coming to the shop, that is, until I saw the car drive for the first time. Seeing some of the design work I did be used on the car was an unreal feeling. Many internships and other classes are seemingly hard to connect with my main goal of working for General Motors, but formula hits the sweet spot. I have learned so much from being in-person and being able to work on the entire powertrain system, finally enabling me to apply all the virtual components into real-life scenarios.

Why did you choose to join Michigan State Formula Racing?

Being an international student, it has been difficult for me to find an internship in the automotive industry and to get a hands-on experience due to sponsorship issues. MSU Formula Racing is the closest opportunity I could get, and it has been a great learning experience for me. I have been able to learn so much about a car from its design to manufacturing in such a short time. Another reason I chose to join the team was that I get to work with some of the best engineering students at MSU.

What is your favorite part about being a member of the team?

My favorite part about being on the team is the teamwork and passion I get to see in each member on the team. It is great to see how each system directly or indirectly connects to one another. Every lead on the team has been so helpful and it is amazing to see how each member can rely on the other when it comes to their system because they trust them to get the job done. I am also getting great hands-on experience with the car and learning something new each day.



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Featured Sponsors



Name: Pratt Miller

Location: New Hudson, MI

Pratt Miller is a Michigan based engineering, design, and fabrication company, as well as MSU Formula Racing's title sponsor. From race-winning technology to innovative military equipment, Pratt Miller is a leading force in the motorsports, mobility, and defense industries.

Rated as one of the top places to work by the Detroit Free Press over the past three years, it is not surprising that Pratt Miller continues to achieve the highest level of customer and employee satisfaction. Their thoughtful work ethics transfer to their generous support of educational activities such as Formula SAE.

Pratt Miller has supported the team in numerous ways, from machining some of the vehicle's most complex components, to helping lay up large carbon fiber aerodynamics, and even offering many of our team leaders once-in-a-lifetime internships.



Name: Cometic Gaskets

Location: Painesville, OH

Cometic gaskets have been the golden standard in the powersports industry for over 30 years. As proud supporters of GNCC, AMA, NASCAR, and other race-teams across the country, they understand what it takes to put everything on the line with one goal in mind: winning.

Cometic is an industry leader when it comes to providing high quality parts and high customer satisfaction thanks to their competitive prices, parts designed to each customer's needs and wants, timely delivery, and continual reviews of customer feedback to improve year after year.

Thanks to Cometic, the team can seal the vehicle's rebuilt engines with confidence. Just a single drop of oil is all that's required to disqualify the team from any FSAE event, so engine seals are critically important. The powertrain team can't thank Cometic enough for their generous and continued support.



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