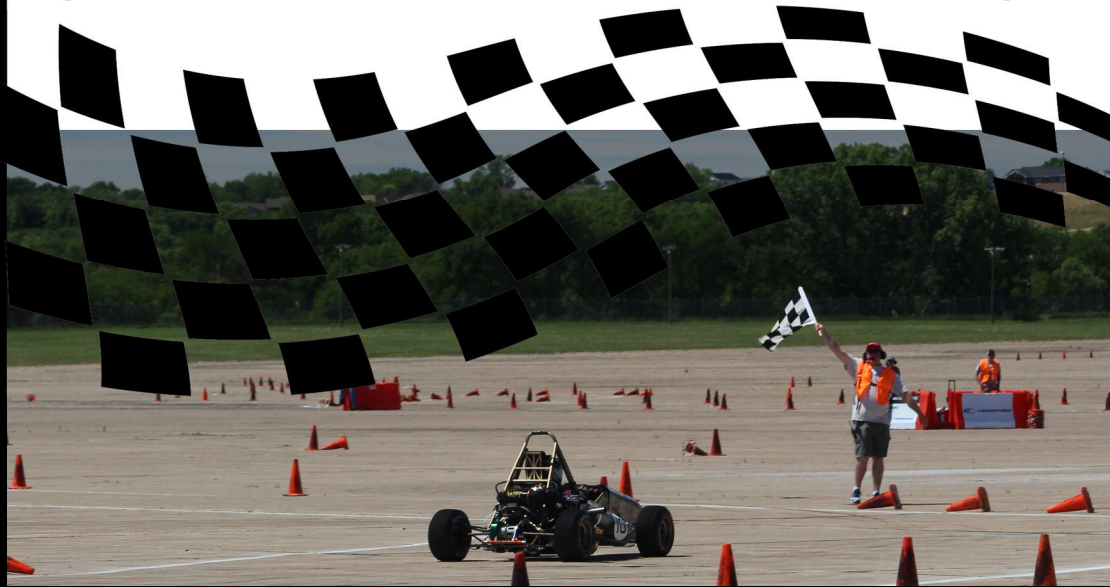
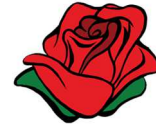
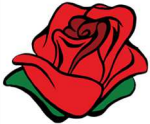




Warrior Racing

Road Warrior 11
"Rose"

From Unveil to Formula North 2017



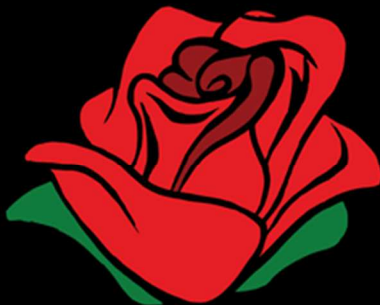
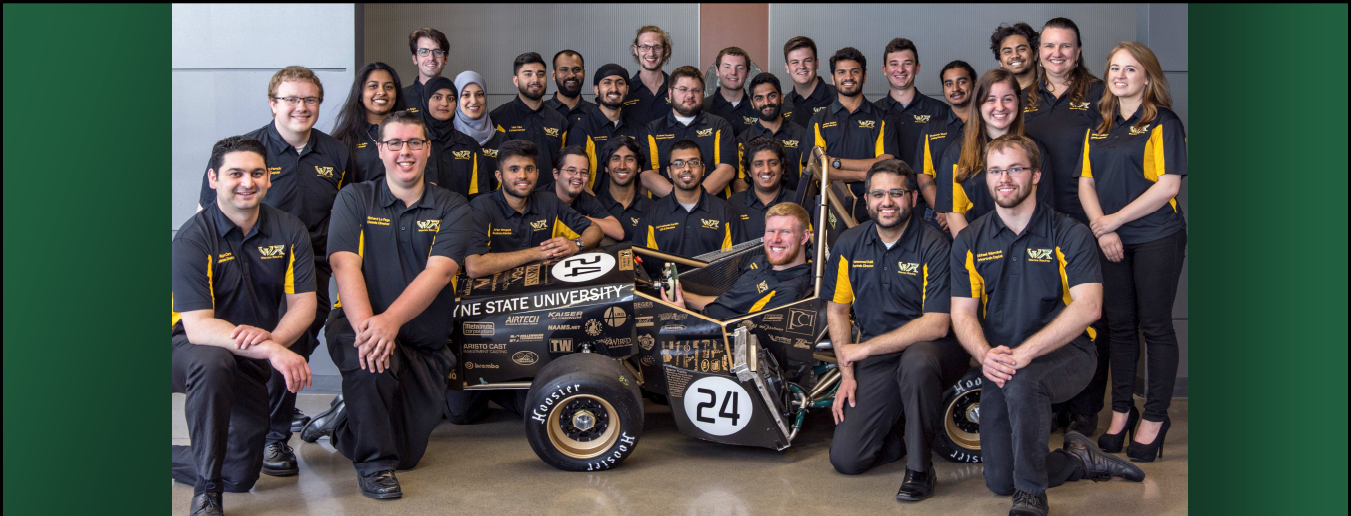
Competitions have come to an end for this season of Warrior Racing, and Road Warrior 11 or "Rose" has come a long way from unveil to the first competition at Formula North! Our car is named Rose in honor of WSU Police Sergeant Collin Rose who tragically lost his life late last year while on duty. A big thank you goes out to the Wayne State University Police Department for working with us to pay tribute to Sgt. Rose, for his service, and give our support for the Wayne State Police Department and the Rose family.

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Chief Editor: Erin Kronell
Contributors: Andrew
Cucchiara



RW11 Unveiling

Team members, family, friends, sponsors, and the Wayne State University Police Department along with Dean Farshad Fotouhi were all in attendance as we unveiled RW11. Team directors Mohammed Kakli, Filippo Caro, Richard Le Page, and Justin Bekker presented a brief overview of the team goals and the design of RW11. They also introduced all of the team members that contributed to the car over the course of the season. Team faculty adviser Dr. Michele Grimm presented a backstory on the history of the Warrior Racing team as well. Following the speakers, we were briefly showcased our designs for RW11 in detail, coming together in an impressive video produced by team member Brandon Horsch. This was Warrior Racing's largest unveiling event. A massive thank you goes out to those that came to support us and to everyone who has supported our team this season and in seasons past. A special thanks goes out to Dotti Lovins-Wilusz for taking the amazing photographs and Pizza Connection who provided lunch on this special occasion. Check out the video from our presentation here: <https://www.youtube.com/watch?v=I-xp0ojshkc>



ROSE

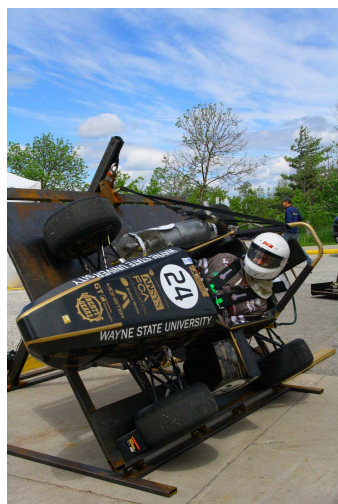
Barrie Molson Centre, Ontario June 1st - June 4th, 2017

Formula North is smaller FSAE competition held in Barrie, ON since 2012. Warrior Racing went to Formula North for the first time in 2014 with RW8 and returned with RW11 in 2017. This year the competition ran from June 1st through the 4th. Although the competition has less overall competitors when compared to Formula Michigan and Formula Lincoln, there was no shortage of quality with teams from around the mid-west, Missouri S&T, University of Michigan - Ann Arbor, University of Pittsburgh, and Cornell University to name a few.

Warrior Racing departed on May 31st after resting up over the Memorial Day holiday. The team made the 5 hour trek to Barrie and checked into the hotel that night. We got off to an early start to the day on Thursday to get to the Barrie Molson Center where the competition takes place. We quickly setup our pit area inside the arena, on the playing surface, minus the ice of course! This is a unique set up for sure, no other competitions we participate in have us pit not only indoors but on a hockey rink. After the pit area in the arena was set up, we brought RW11 inside and began making final preparation for technical inspection. It is critical the car



meets all the safety standards set forth by the rules committee, these rules ensure the safety of the team, drivers, and the car during the dynamic portion of the competition.



Getting through tech the first time without having to correct any issues is difficult and rarely happens. Through the hard work and knowledge of our team in preparing RW11, we were able to get through tech the first time! This gave us more time to prepare for the design event the next day and rest up. Friday morning came and the team prepped the car for the final tech inspections...fuel, tilt, noise, and brakes. After filling the car up with a full tank of fuel, we headed off to the tilt test where the car with the driver, is tilted to 45 degrees to ensure there are no fluid leaks and then to 60 degrees, this simulates the car performing a high g turn. RW11 passed tilt with no problems what so ever, despite Noah becoming slightly unsettled! Now we were onto complete the noise portion of the tech inspections. Noise can be a tough test to pass and has proven to be difficult for Warrior Racing in past years to get through. Again, with the experience and knowledge of this team, RW11 passed noise with flying colors, achieving an idle level of 89 dB and a high rpm level of 99 dB. The final technical inspection to pass was brakes test. It took a few tries to pass, but we ended up passing and getting the fourth and final sticker to the car.

The remainder of Friday was taken up by static events which consist of the business presentation, design event, and cost. This design event was the first time many of the team members presented to a design judge, but judges felt we had made sound engineering decisions with each subsystem. We scored the most points ever in a design event with 115 and were just outside of the design finals!

Barrie Molson Centre, Ontario June 1st - June 4th, 2017

Immediately following the design event, we had the cost event. As costs play an important factor in building a car, teams must put together a 'Cost Report' that contains a list of all components – from wheels to manufacturing processes to labor costs for special tools. Judges then evaluate the clarity and accuracy of the report by comparing the document with the life-size construction. We came in first place this year! Overall, we finished the static events of Formula North in 3rd place! This was the end of our Friday, we headed out to eat and rest as Saturday was the first day of dynamic events.



Saturday morning brought us to acceleration and skid pad, followed by autocross in the afternoon. We headed off to skid pad first where long time team member Brandon Horsch set a time of 5.6 seconds. Next we headed to the acceleration event where RW11 ran through the 75 meter course in 4.6 seconds and reached a top speed of 57mph. During the lunch break and early afternoon there were some gremlins that kept

RW11 from running at 100%. After these issues were fixed we went off to autocross and set a fast time of 61.5 seconds, in the middle of the pack. After the event there were discrepancies with the official scoring of the autocross event, this forced the organizers to remove the autocross event from the overall scoring. This helped some teams and hurt teams as well, we were a team that was negatively affected by this judgement call. At the end of the first day of dynamic events, we held our head high and focused on getting the car ready to perform during the endurance event the next day.



Sunday brought very different weather to Barrie than what we had on the previous days. It was cold and raining, challenging conditions for all teams, drivers, and cars. RW11 had never driven in the rain before, despite this, we were confident Rose would feel at home in the wet conditions. With the rain tires mounted, we did final checks on the car in the pits and headed to fuel for the final fill up before the start of endurance. Endurance is the most important event at competition, it has the most points available, and it is critical you finish in order to have a chance at a top finish. Brandon Horsch started the first stint, his first time driving endurance



for Warrior Racing and his first time driving in the rain. The track was treacherous with puddles and an overall wet surface. Brandon drove RW11 well despite a problem that developed early on that limited the car to only have second gear. Brandon brought the car into the pits at the end of his stint and passed the RW11 to veteran driver Mohammed Khakli who was tasked with bringing the car home. Although RW11 finished, the overall time taken to complete

the event was outside the 145% rule as the track dried out for cars that ran later and thus ran much quicker. This prevented us from earning maximum points, but as they say, that's racing!

Barrie Molson Centre, Ontario

June 1st - June 4th, 2017

The end of the endurance event signaled the end of all events at Formula North for Warrior Racing. We were proud that we finished all dynamic events and drastically improved our static event performance. The overall finish of 11th place was much lower than we had set our goal for. However we came away feeling better about our chances 2 weeks later at Formula Lincoln. We wanted to improve our team's static scores, which we did, won the cost event, and finished the dynamic events in respectable positions. Formula North was a great event for the team to gel and get into the competition mode. The team persevered through the struggles we experienced and it made us a better team. Stay tuned to find out about how the next competition went for the Warrior Racers at Formula West! We will tell all in our next newsletter coming soon.

Event	Time	Points	Place
Cost	—	92	1st
Presentation	—	50	18th
Design	—	115	8th
Acceleration	4.609	54.62	17th
Skid Pad	5.652	32.6	16th
Autocross	—	—	—
Endurance	2280.379	29	11th
Overall		442.70	11th

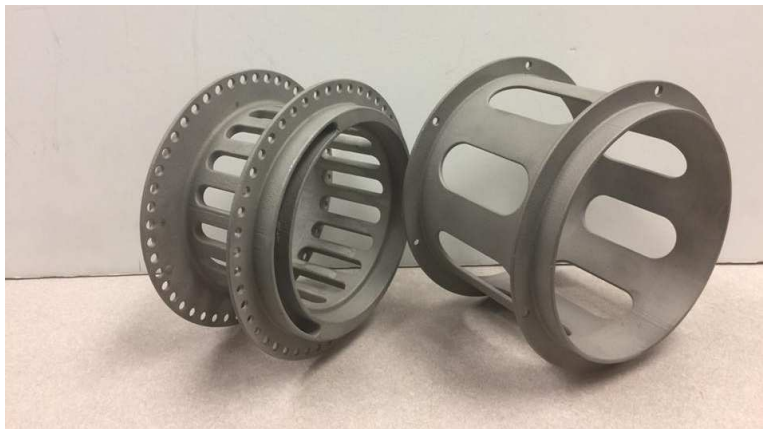
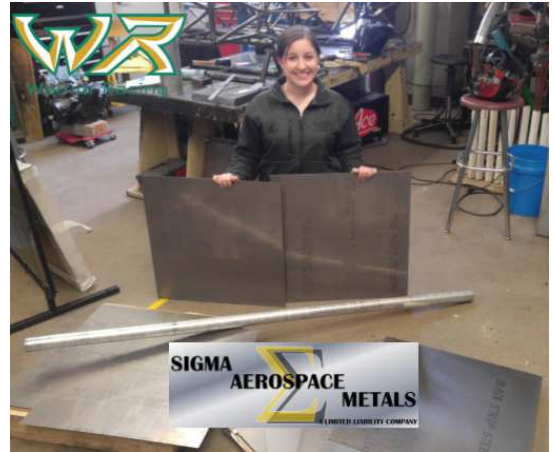


Sponsor Updates



<https://www.sigmaaero.com/>

We would like to thank Sigma Aerospace Metals for supporting us for the second year in a row by donating aluminum and steel we will use to complete the manufacturing of RW11!



ARISTO CAST INVESTMENT CASTING

<http://www.aristo-cast.com>

Do you need to cast parts with amazing quality? Then Aristo -Cast Inc is your source. They generously sponsored our team with cast differential cylinders for our newest car, RW11. Thank you for these amazing parts in such a quick turn around!

Sponsor Updates



<http://graphimaterials.com/>

Thank you to Graphi Materials for providing us with this high strength carbon as we use it for some top secret R&D. We can't wait to show you our prototypes. in the near future.



<http://www.woolfaircraft.com/index.html>

The powertrain team got a major boost with the arrival of our bent tubes from Woolf Aircraft! Woolf supplied the bending for intake, exhaust and cooling tubes which are sure to keep RW11 running strong this season! Thank you Woolf!

Sponsor Updates



<http://www.synergeering.com/>

When it comes to rapid prototype pieces, we know we can rely on our long time supporter Synergeering Group, LLC to help us out with our needs!

Check out our sweet intake that we got back from them!
We can't wait to see how it performs on the track!



<http://teamtechmotorsports.com/>

Shout out to our sponsor TEAMTECH for their awesome seat belts. These things keep our drivers safe in the car while still being comfortable!

Sponsor Updates



<http://www.ostool.net/>

Thank you O&S Tool Inc. for helping our suspension team with our A-arm tube crushers! Without these, our A-arms would never be a reality!



OPUSMACH

<http://opusmach.com/>

Huge thank you to Opus Mach for manufacturing our steering gearbox housing and differential mounts. Opus Mach is a great company to work with and went from design to finished parts in less than a week. We couldn't do it without you!

Warrior Racing 2016-2017 Sponsors

Our team's success is made possible through the generous donations and support from the following companies. Without them our team would not have the resources needed to provide invaluable hands on experience and to manufacture our formula cars. From all members of our team, thank you Warrior Racing sponsors!

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