Warrior Racing

Rebuilding RW-8

Warrior Racing has been working through summer co-ops, classes, and everything in-between to repair our newest car. After our competition in Lincoln, Nebraska, several aspects of RoadWarrior8 (RW8) needed to be addressed before resuming testing. First our differential needed to be sent back for some quick repairs. Last season’s Drivetrain Captain, Adam Niner, led the re-assembly with crucial assistance from Michael Warmbold and the Powertrain Director Mohammed Kakli. After addressing a few bumps along the way, the differential assembly was successfully installed in RW-8.

Our Brakes Captain, Tirath Matharu, cleaned out the line that caused us issues in Lincoln. With the assistance of Mohammed, Tirath bled the brakes and fixed the leak. The suspension rebuild required the most attention. Our new Suspension Captain, Mahesh Umasankar, took on the bulk of the project. To start off the lower clevises were sheared and bent. Manufacturing thicker clevises was the best way to go and so far they are holding up just fine. Threading issues of the bolts that hold the upright to the block were the second major concern. After switching them out with longer bolts the problem was eliminated.
The final system that needed to be addressed was induction. As the throttle opened up, the intake would compress to undesired distances. Warrior Racing’s Induction Captain, Justin Bekker, along with assistance from the Powertrain team cut out our intake and reinforced it with aluminum plates. After sealing the component it was tested on the engine. We were very excited to witness that the compression of the intake had drastically reduced. Afterwards some temporary adjustments were made to our throttle body and cable, resulting in a car that

**Testing & Data Collection**

Before collaborating on new ideas and designs for our upcoming season, we want to test RW-8 as much as possible. Each member wants to know how their components function so they can learn what needs to be improved upon. What better way to find out then by seeing them in action? So from now until the start of the semester Warrior Racing will be testing RW-8 at every opportunity. Night or day, any data collected will go a long way. We’ve already received results from some subsystems, the majority being positive information. Others indicate quick fixes or issues to make sure we address as we move forwards with new designs.
Another goal before the start of the fall semester is to finish our renovations on our work areas. While doing so, especially in the shop, we’re putting safety first. We always practice safe manufacturing techniques and have never had a major accident, but it can’t hurt to be too safe. And as our team continues to grow we want to be sure our new members and all those for years to come are properly equipped.

Our Business Director / Safety Captain / Carpenter Adam Niner lead many of the projects, looking for opportunities to optimize safety. Our team started by inspecting our machinery and analyzing the needs of the operators. Our new Suspension Captain, Mahesh Umasankar, brought to the team’s attention an issue of not having a practical workspace near the mill. Working with Adam Niner, he designed a mobile work station that would house necessary mill components and provide a desk shielded from the projectile shards and fumes generated during manufacturing.

Many of our welders must pace themselves on their projects to avoid creating unsafe work environments with the fumes produced during welding. Although we have a ventilation system in our shop it does not have the ability to cover the areas we are primarily welding near. We reached out to Ace Industrial Products for support. They were extremely helpful and provided us with a portable fume extractor that we have set up in a location to reach our primary welding spots.

Mohammed Kakli, along with help from President Kristina Vujic and Induction Captain Justin Bekker, prepared our Torchmate for our upcoming season. First the unit was drained and cleaned out. Then brand new slates were ordered, picked up, and installed. After a little bit of touch up cleaning the Torchmate is as good as new. Meanwhile Tirath Matharu worked on optimizing the workstation of the Torchmate. With new shelving and proper areas to place documentation, using the laser cutter is more efficient than ever!
Mohammed Kakli has also been addressing the needs of our in-house student built dynamometer. Currently, with the help of his Powertrain team and the President, he’s been rebuilding the chamber for more efficient testing. From concepts as simple as over-head railings for removing cluttering components to re-fabricating the dyno’s wiring harness, they’ve got it all covered. Finally our office has seen quite a bit of renovation. The first push was to remove unused furniture and dilapidated posters. A photographic timeline of our team’s history was hung in place of these posters. Not only does this row of pictures remind us of our growing success but it will provide new members with a quick visual of our team’s progress over the years. It’s amazing to think of how far we’ve come!

Our in office café has also been cleaned up, restocked, and reorganized. There’s plenty of items on the menu and we’re looking to serve up some delicious snacks to all hungry students in the fall. These are just a few of the projects we’ve tackled this summer. There are plenty more completed, some still worked on, and others have yet to be thought of. Optimizing and renovating our shop is an ongoing process and as the season progresses we’ll be sure to think up even more projects. But for now, our office and shop are up and running!

2013 - 2014 Team Video
It takes a dedicated group of enthusiastic individuals to design, manufacture, and test a Formula SAE car. Tirath Matharu and Adam Niner collaborated on a secret project to introduce this dynamic team. Getting the team together for these recordings was no easy feat but the final product was well worth the struggle. So here’s a look back to all the members who made RoadWarrior8 possible!

New Season, New Team
Looking to become a part of our successful team? Contact our Business Director at adam.niner@wayne.edu to learn more. Warrior Racing is a very rewarding program that provides you with invaluable hands on experience, connections in the industry, opportunities to give back to the community, and much more. Think you’ve got what it takes to build a race car? Come find out at Warrior Racing!
Ace Industrial Products sponsored our team with a portable fume extractor. It will be used to keep our team members safe from the hazardous fumes produced through welding. With the amount of welding we do per year, this will be an invaluable tool. Special thanks to Ace for keeping the safety of our team a top priority!

Dremel sponsored our team with a cordless high performance rotary tool. Although we have multiple air powered tools in our shop, this one will provide us with the freedom of mobility and eliminate the need to bring an air compressor on site. It has already come in handy, demonstrating its power by cutting through specific frame members.
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!
Wayne State

Woodward

Special Thanks

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Dr. Marcis Jansons
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Suzanne Royce
Sanket Sirpotdar
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