



LONGHORN RACING MONTHLY NEWSLETTER

AUGUST
2022



The Electric team and car at the track in Michigan



The IC team on the Michigan track with the Friendly Goose



RECENT EVENTS

These past two months have been exciting for Longhorn Racing. Our Combustion and Electric teams represented the University of Texas in Michigan at the FSAE competition while the Solar team represented UT in Kansas at the FSGP. In Michigan, the Combustion team brought home an outstanding 10th place overall with even higher rankings in numerous individual events. Meanwhile, the Electric team worked hard to pull off a phenomenal 7th overall and 1st in the state of Texas! Finally, our Solar team was doing great, passing every test, when their BMS had an unexpected issue on their last day, preventing them from racing on track. However, the issue has been fixed since and Lone Star works beautifully now!

Outside of the races, our Ops team has been busy preparing for the coming school year. Members of all three teams have been out on Speedway almost every week to meet new freshmen and get them interested in LHR. Outside of recruiting, members of our Solar team also helped out at the Girl Scouts' Turbo Trefoils Solar Car Race both as judges and to encourage the girls to pursue a future in STEM.

Overall, this has been an incredible summer. We are incredibly thankful to our corporate partners, faculty, and students who have all made this possible. With our spirits riding high, Longhorn Racing is winding up for an even better 2023 season! If you'd like to be able to experience this coming season, make sure to follow us @LonghornRacing.

Left:
Lone Star
after a
successful
drive at
the Pickle
Research
Center

SPECIAL THANKS

A huge thank you to our
new title partner,
AYRO

AYRO

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MONTHLY UPDATES

Since the last newsletter, the combustion team attended the June FSAE competition and placed 10th overall! Our members have worked hard all year to bridge the knowledge gap we found ourselves in a few years back, and we're very proud of our progress as a team. For the first time in five years, the combustion team completed a car in one cycle, and we owe this feat to the tenacity of all of our members.

Our team had great results in all categories at the competition. Besides placing 10th overall, we placed 8th in design, 9th in acceleration, and 5th in efficiency. This year's competition was a great learning experience for our team which had a high percentage of new members who had not been to a competition before; it gave them not only a peek into other teams' designs and strategies but also insight into how our car compared both in terms of design and on-track performance. Our newest members have now seen firsthand what goes into a full design and manufacturing cycle for a successful FSAE car, and we look forward to their involvement picking up for the upcoming 2023 car.

Shortly after competition ended, the combustion team started on the car for the next cycle. This year's leadership team has been coordinating to derive high level parameters for the upcoming design, and the team and system meetings are now taking place on a weekly basis. The powertrain system has been focusing on tweaking last year's runner designs to clear up engine oscillation issues that plagued us before and during competition. The dynamics system has been focusing on high level design and began outlining the basis for our next vehicle. The electronics system has been taking input from competition and designing smaller, more packagable integration solutions for the upcoming vehicle. Meanwhile, the body system is focusing on training and validation plans for

the upcoming year while beginning initial work on the new frame design.

As we begin more and more part level designs as the year approaches, we will also be taking on a host of new members for our new recruitment cycle and looping them into this new design cycle. We look forward to welcoming future members into our organization, and hope to be able to provide an amazing experience to all the new members we take on this year as we reach for even higher goals at next year's competition.

Thank you for supporting our team throughout this year and your interest in our performance. Please look forward to future monthly updates. Thank you!



Top Left: The IC car racing at Michigan

Top: The Friendly Goose being rolled out to the start line

Left: The IC team receiving feedback from the design judges



MONTHLY UPDATES

The Electric team entered the June 2022 FSAE Event in Michigan and produced excellent results! The team achieved 7th overall, 5th nationally, and 1st in Texas! Electric also ran in the endurance race and came home with 1st in efficiency! The results are very impressive since most of the team had never seen an FSAE car run prior. Another important note is that we did not have a test vehicle to learn from, so this car was essentially built off of the understanding of vehicle dynamics. The team worked extremely hard in order to achieve these results. The seeds of success are planted in the early on, which is why starting early in the summer was crucial for our results. After a few weeks of relaxation after competition last year, the team started to make higher up decisions in order to properly prepare for the upcoming season.

During the fall semester, we bring on new members, who bring fresh ideas to the table. This is important since it is also our design phase. New members encourage us to think outside the box and innovate that much more. A lot of our design work is influenced by our beloved advisors, who help us overcome issues we are facing and give amazing feedback to our design decisions. In the spring semester, we enter the manufacturing phase, where most designs are finalized and made into reality. This is where people's hard work is truly shown with a physical product. We could not have been able to make a car without all the support we receive.



The two electric drivers, Alex and Sohan, with the Easy Driver and their two trophies



The electric car turning in after a very successful run!



The Easy Driver undergoing the tilt test at competition

The last part is the competition. Since we have to travel to get to the competition, the electric team loaded the car into a rental truck and hauled it up to Michigan. This truck was followed by a large group of electric members. A 2-day trip was needed to get to competition safely and on time. Once there, everyone helped out in order to make all of the events go smoothly. This included handing out water and food to people working on the car, while some people ran back and forth in order to grab tools. Throughout the chaos, we completed all of the static events and passed the braking test on the first try! This allowed us to participate in the Endurance race, which was critical to our success.

With morale running high from a successful competition, many members jump-started the next design phase and are working hard to prepare for this new season. We could not be where we are today without the help of our members, corporate partners, and the University of Texas. Thank you and Hook'em!



MONTHLY UPDATES

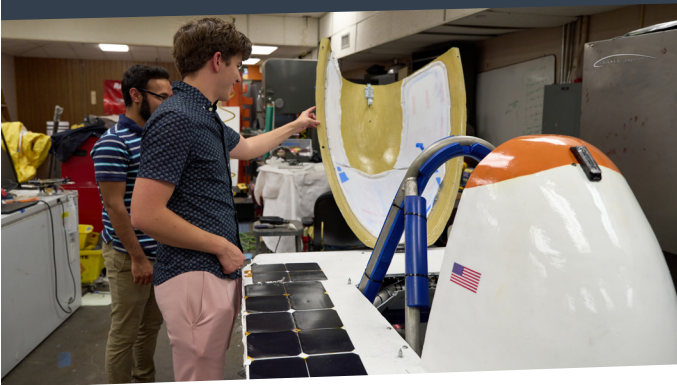
The Solar team participated in FSGP 2022 in Topeka, KS during the first week of July. This event involved 4 days of technical inspection followed by 3 days of driving on a race track. This was the first time any of our members have attended the competition, and it was an amazing experience.

Unfortunately, on the final day of inspections, our vehicle encountered BMS issues that blocked us from participating in the track portion of the event. However, we were able to receive a passing status in our body, electrical, and array systems as well as with our driver operations. We spent a lot of time at the competition learning from other teams and putting together ideas for the next car.

Solar shows Lone Star to Girl Scouts at their Turbo Trefoils Solar Car Race as they help with judging



Solar members touch up the canopy of their car as they prepare to head to their competition in Kansas



Since the competition, we have fixed the car and gotten some driving time with it. We are planning to use this vehicle as a test bed to help further the development of future vehicles.

As of July 24th, we have officially begun the process for our next vehicle's design and development. Our leads have been in meetings discussing the goals for the next car, and we have many ideas to have much more success next year. Over the next few weeks, our team will be breaking down each system's performance at competition and discussing what improvements need to be made for the next vehicle.

As we look to the start of the semester, the Solar team is extremely excited to bring on new members to the team and begin an amazing new design. All of our members now have experience with the design of a solar car (the good and the bad), and we are going to capitalize on this experience to build our next vehicle.

Thank you for all of your support through the journey that was Lone Star. We are very sorry that we could not bring home better results from FSGP, but we know that we are going to come back stronger next time. Hook 'em!



A huge thank you to everyone who made this year and Lone Star possible!