

AUMT

2025 Newsletter



Volume 1

AUGUST 2025



FSAE 2024 COMPETITION RECAP

Competition in 2024 raised the standard for what AUMT could achieve, having completed all static and dynamic events and becoming the first team to pass scrutineering. With our largest points haul yet, we realised the potential of our team in a competitive environment, surpassing expectations and delivering great results.



**9TH
OVERALL**



**LARGEST
POINTS HAUL
EVER**



**FIRST
THROUGH
SCRUTINEERING**

Leading up to competition, the team got together to ensure that our car was legal and performing at its best. We had the opportunity to get hands-on and support each of the subsystems during the manufacturing period. The opportunity to get involved in various aspects of the car's manufacturing and assembly meant each of our team members gained valuable practical experience.

In addition to the time spent in our workshop refining the final design, we had many opportunities to see the car on track. Our drivers pushed the new car to its limits, providing valuable data that helped identify areas where performance could be optimised. Importantly, track days allowed the whole team to see the car in action and collaborate outside of the usual workshop setting.



The exhilaration of competition was reflected in the energy the team brought to our week-long stay in Victoria. With every member assigned a role, everyone who attended had the opportunity to contribute to getting the car ready and out on track. Beyond this, the static events pushed some of our members out of their comfort zones to prepare for and present at the cost, design, and business events. In between events, we witnessed incredible works of engineering on display as the other university teams completed their runs.

COMP RECAP

At the conclusion of the main event, we got to participate in team-building activities such as dinners, karting, and a social night. Attending competition provided us with chances to bond with each other while celebrating the year's achievements, fostering a stronger sense of community within the team. All the feedback received from team members was overwhelmingly positive, with a strong enthusiasm to carry the momentum into the 2025 season.

As we continue to develop ADL25e, we strive to focus on raising the bar for what we can achieve as a team, while fostering a positive culture and effective knowledge transfer ahead of the university merger.



FUTURE GOALS

1. HAVE MONOCOQUE DRIVING BY JULY

- To maximise our 25E testing and driver training.
- To push towards 26E development early.

2. INVERTER RELIABILITY / GENERAL RELIABILITY

- To ensure the car behaves as expected.
- Achieve 95% accuracy of torque feedback at launches

3. 100 POINT INCREASE AT COMPETITION

- Analysed last years points to determine where we can gain points.
- Key areas of improvement are: Acceleration, Efficiency, skidpan, and business presentation.

4. BEGIN 26E DEVELOPMENT IN AUGUST

- To continue our momentum and set the team up in the best position possible for 2026.

5. 500KM OF TRACK TESTING

- 300km of track testing minimum on 25E.
- To optimise our car setup and give our drivers extensive experience.

As we move through the second half of the year, we're excited to share our progress and direction.

Our primary goal for the remainder of the year is to successfully integrate all components onto the ADL25E monocoque. This includes implementing well-planned integration strategies, such as utilising a laser-cut monocoque jig to ensure precise alignment of the car's suspension pickup points. Once ADL25E is assembled, our focus will shift to validating the car through extensive static and dynamic testing to ensure safety, functionality, and performance.

A critical part of this phase involves suspension tuning. Through rigorous testing, we aim to develop tailored suspension setups for each of the four dynamic events, these being skidpan, acceleration, autocross, and endurance. The data collected throughout this year will also help us identify any limitations that ADL25E may have, and will be used to improve our design philosophy for future years.

MEET THE TEAM

1. What subsystem/s are you involved in (if any) and what is your role title?
2. What degree are you currently studying?
3. Go to energy-boosting song for when you have an aero package to finish by midnight?
4. Highlight of your time on the team?
5. What's one skill you've developed from being in AUMT that you'll take into your future/future career?



ERIN PEREIRA

1. **Team Leader**
2. Mechanical Engineering with Banking and Finance
3. Borderline - Tame Impala
4. Recruiting incredible members at the beginning of the 2025 season and watching them pick up new skills in their respective subsystems
5. Developed my project management skills, which go hand-in-hand with my Engineering/Business double degree and will be beneficial in my future career



**HAMISH
TREHEARNE**

1. **Chief Engineer**
2. Mechanical Engineering with a major in Aerospace
3. Cosby Sweater - Hilltop Hoods
4. Competition. Working alongside each other in a high-intensity environment and seeing the team mesh together to get the car ready for each event under a strict timeline.
5. My ability to design for manufacturing and assembly. Being able to critically analyse a design and see how it will be made and assembled. This skill helps me identify if a design cannot be manufactured or assembled.



ALICIA VALE

1. **Business Manager**
2. Mechanical Engineering and Finance and Banking
3. Someone in the Crowd – La La Land Cast
4. This year, I have had the opportunity for full creative freedom in what areas our Business team focuses on. I've thoroughly enjoyed creating fun social media posts, especially when we recapped the Australian Grand Prix.
5. I'd say project management; coordinating the business team has taught me how to check in with people and keep complex projects moving. It's a skill I wouldn't have had the chance to develop until much later in my career, so I'm grateful I've been able to build that now.



KALAN TAIT

1. **HR Manager** and Vehicle Dynamics
2. Mechanical Engineering and Finance and Banking
3. I'm Sprung by T-Pain
4. Meeting all the new members and working alongside them
5. Project management and where I spend my time, as they are very valuable skills I'll need.



**JESSICA
IANKOV**

1. **Operations and Track Manager**
2. Mechanical Engineering with a Mechanical major
3. Everybody Talks by Neon Trees
4. A highlight of being on the team for me would be my first competition, when the team came first in endurance. We had been working long days and nights, and seeing our efforts rewarded made the energy unbeatable.
5. The hands-on skills you get from designing and manufacturing parts are something that is vital experience in engineering, and for my future career.



NOAH LOBBE

1. **Electrical Leader**
2. Mechanical Engineering and Computer Science
3. Either "This is what it sounds like" from K-pop Demon Hunters or "Ich hass dich" by Nina Chubba and Chapo102
4. Last year, constructing ADL24E accumulator with Mattiske, Glynn, and Joel. Super fun and learnt lots.
5. Managing people and their projects. Still not good at it, but it's a learned skill



**THOMAS
BUTSON**

1. **Structures Leader**
2. Mechanical Engineering (Honours)
3. Any ACDC or Foo Fighters track
4. I've been on the team since 2024, and my highlight is helping with the monocoque manufacturing in 2024
5. AUMT has been instrumental in developing my leadership and interpersonal skills, especially since stepping up into a leadership role this year. All the administration duties that come along with it and the close work you do with the other leaders have greatly improved my confidence and leadership skills



**HAYDON
BARWICK**

1. **Vehicle Dynamics Leader**
2. Mechanical Engineering majoring in Mechanical
3. The Thirst Pt.7 - Hilltop Hoods
4. A highlight for me being on the team would be finishing all events at competition in 2024. The effort and determination from the whole team to finish the car and ensure it crossed the finish line was an amazing experience to be a part of
5. One key skill I've taken from being a part of this team is leading a team and mentoring new members into highly competent engineers with a vast variety of skills



**ASHLEY
BATES**

1. **Co-Aerodynamics Leader**
2. Mechanical Engineering with an Aerospace Major
3. Can You Roll Her - UFO
4. The excitement of attending 2024 competition and being able to participate in design event
5. Through my time on the team I have developed valuable CAD skills which will be crucial for a career in engineering, and gained an understanding of CFD which I hope to take into a career in motorsports



**JAMES
GURNEY**

1. **Co-Aerodynamics Leader** and have been around the team being Team Leader & Technical director in previous years
2. Mechanical Engineering with an Aerospace Major
3. Rehearsal - Skegss
4. Winning & driving endurance in 2023
5. The majority of my aerodynamics knowledge has come through learning brought on by work for the team, and has absolutely become the basis for the knowledge I'm taking into my career

ADELAIDE UNIVERSITY MERGER

As part of the broader university merger between the University of Adelaide and UniSA, our two Formula SAE teams have begun the exciting journey of becoming one. At the end of this year, AUMT and UniSA Motorsport will officially unite under a new name: **Adelaide University Racing (AUR)**. This new chapter represents not only a rebrand but a unique opportunity to combine our engineering expertise, resources, and team cultures to create a more competitive and capable racing team.

Over the past year, we've held a series of collaborative meetings and joint events to align our vision and operations. These iterative discussions have helped lay the groundwork for a smooth integration, both technically and culturally. Most recently, on July 21st, we held our first joint Annual General Meeting, where we introduced our combined team structure and shared our long-term goals for 2026 and beyond.



We're especially excited about the new facilities now available to us at the Mawson Lakes campus, including expanded workshop access and shared technical resources. These will allow us to scale our manufacturing and testing capabilities significantly.

As part of this merger, we've also restructured our leadership team and its dedicated subsystems to better support collaboration, innovation, and long-term performance.

LEADERSHIP TEAM



At the core of the team are three key leadership roles:

- **Team Leader / President** – Oversees the overall direction of the team, manages operations and people, liaises with university faculty and sponsors, and ensures we meet competition deadlines.
- **Chief Engineer / Vice President** – Leads all engineering subsystems, manages the car's development timeline, and coordinates design, validation, and manufacturing.
- **Business Lead / Secretary** – Manages all non-technical areas, including finance, marketing, sponsorship, social media, videography, and event planning.

ADELAIDE UNIVERSITY MERGER

- **Finance** – Responsible for budgeting, financial reporting, and maintaining sustainable funding practices.
- **Sponsorships and Documentation** – Manages sponsor relationships, outreach, proposals, and activation opportunities.
- **Marketing & Media** – Designs visual content, livery, and apparel, while also creating promotional material and running our social media platforms.
- **Events & Engagement** – Coordinates internal events, competitions, community engagement, and external communications.



BUSINESS SUBSYSTEMS



ENGINEERING SUBSYSTEMS

- **Chassis** – Responsible for the monocoque and other structural components, including mounting systems, pedal box, and driver seat. Ensures compliance with technical rules and performance standards.
- **Aerodynamics** – Designs and tests all aero components, focusing on CFD simulation and real-world validation to optimise downforce and drag. Manages deadlines and sponsor integration.
- **Suspension** – Designs, analyses, and tests all suspension, steering, and braking systems. Balances ride, handling, and performance using various software, including SolidWorks, SusProg, and OptimumG.



- **Electrical** – Covers PCB development, sensor integration, embedded systems programming, and diagnostics. Works cross-functionally to ensure seamless operation of all electrical systems.
- **Powertrain** – Develops and maintains high-voltage systems, including the accumulator, motor controller (inverter), motor, and final drive (chain + differential). Focuses on performance and safety.
- **Performance** – A new subsystem dedicated to analysing driver data, managing vehicle setup, and running structured testing. Their insights directly influence both design decisions and race-day strategy.

OPERATIONS AND SUPPORT SUBSYSTEMS

- **Operations & Track** – Handles logistics for track days, testing, and competition, including trailer prep, bookings, and coordination. Also liaises with key sponsors supporting on-track activity.
- **Human Resources** – Supports team culture, onboarding, and welfare. Ensures that collaboration remains strong across subsystems and that all team members feel supported and engaged.

This restructured framework allows for deeper subsystem specialisation, smoother integration across campuses, and a more professional and competitive approach to Formula SAE. As we look toward our 2026 goals and beyond, this leadership and subsystem model will be critical in helping us design, build, and race a world-class vehicle.

ADELAIDE UNIVERSITY MERGER

Looking ahead, we're eager to keep building momentum as Adelaide University Racing. With a stronger foundation, expanded facilities, and a united team, we're well-positioned to reach new heights in 2026 and beyond.

From here, the merger process includes:

- **Increased Focus on Team Building** – We've already begun building connections between the two teams through joint activities such as go-karting nights, which have helped members get to know each other in a relaxed and enjoyable setting. These initiatives are just the beginning, with plans to ramp up collaboration throughout the rest of the year and into 2026 as we continue fostering a united team.





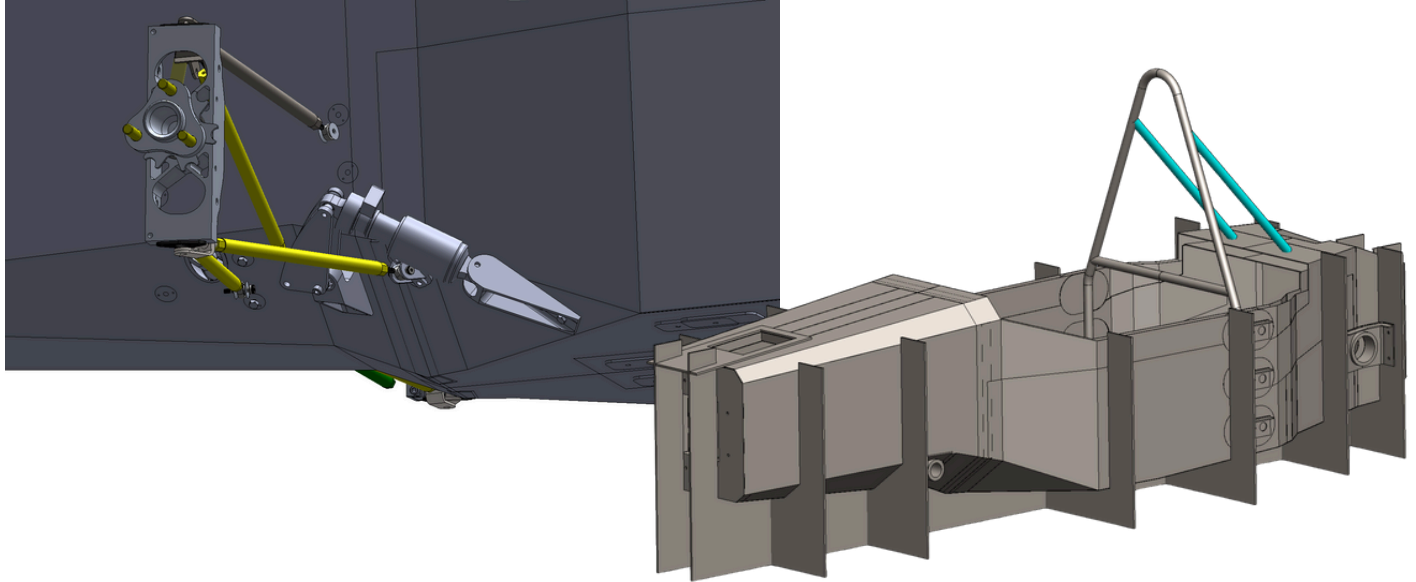
- **Internal and External Meetings** – Internal and external club amalgamation meetings with team executives, faculty advisors, allow both teams to make decisions regarding logistics, team direction, and establishing a new constitution.
- **Liaising Between Teams, University and Faculty Staff** – Liaising between all the different parties involved means gaining different perspectives on the best way forward for each of our teams. We have been able to relay ideas and initiatives from our team members to the university, and in turn, be advised about the processes that accompany bringing two student teams together.



- **Combined Team Goals for 2026 + Long-term Aspirations** – Looking ahead, our long-term vision is to transition to a rear-wheel drive hub motor configuration. This ambitious shift will begin with the design of a planetary gearbox, a process expected to continue into the middle of next year. Following this, the team will perform a thorough analysis comparing 10-inch and 13-inch wheels to determine the best option in terms of weight, packaging, and performance, whilst simultaneously designing new uprights tailored for the hub motor layout and chosen wheel diameter.

To support these efforts, the team's structure will be reorganised into dedicated subsystems. A new suspension subsystem will focus on the car's dynamic system, such as the suspension and steering, while a powertrain subsystem will oversee high-voltage systems and drivetrain components. Additionally, a performance subsystem will be introduced to analyse driver telemetry via MOTEC and conduct car setup testing. Their role will be critical in identifying areas where driver input or mechanical tuning can yield lap time gains. Alongside this, we will continue to evaluate the performance of the ADL25E monocoque to identify areas of improvement and to make improvements to future monocoque designs.

- **Joint Access to Software: Design and Simulation** – Both teams use SOLIDWORKS for computer-aided design (CAD) and the ANSYS suite of products for finite element analysis (FEA). To facilitate the merger, AUMT is working alongside UniSA Motorsport to provide them with access to our CAD file storage platform, PDM, to streamline the collaborative design of next year's car.



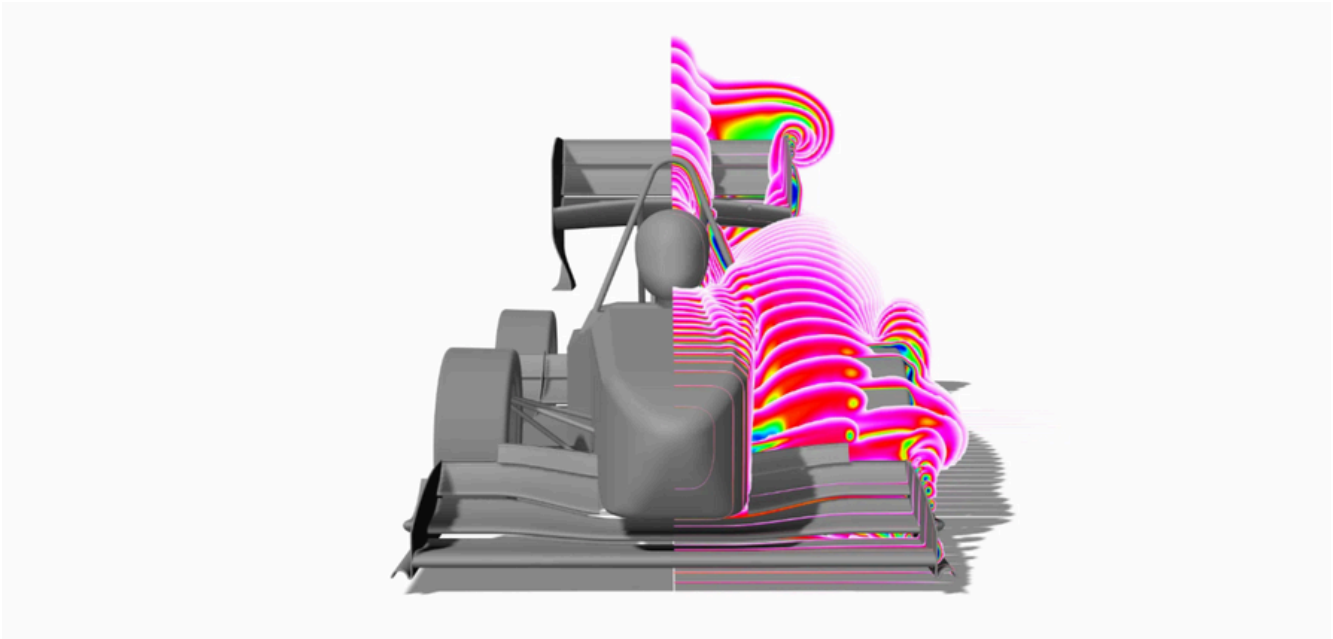
ADELAIDE UNIVERSITY MERGER

- **Cross-Campus Collaboration** – We are fortunate enough to be able to collaborate across campuses, including conducting meetings and facility tours that help the teams get familiar with each other.
- **Handover To New Leadership + Early AGM** – To ensure a smooth transition and set next year's team up for success, we're planning an early handover to the 2026 leadership group. By appointing new leaders in our second AGM this September, they'll have the opportunity to learn directly from the current leadership team, gain hands-on experience across different aspects of their roles, and begin contributing to the development of next year's car well before the season officially begins.
- **Develop a Stronger, Higher-Performing Car** – Together, we aim to combine our engineering capabilities, resources, and experience to design a more advanced, higher-performing car. By uniting as one team, we're building a stronger foundation to push innovation, improve reliability, and become increasingly competitive at Formula SAE events.

AERO PACKAGE

The AUMT Aerodynamics team has made significant strides this season in design capability, simulation workflow, and manufacturing quality. Our focus has been on adopting more advanced tools and processes to push the aerodynamic design & performance of our car further.

One of the most exciting developments this year has been the full integration of Siemens NX as our primary CAD platform for aerodynamic design. NX allows us to create a parametric surfaced aerodynamics model fit for CFD (Computational Fluid Dynamics) simulations. The software has made it possible to integrate our custom-designed aerofoil profiles, and better control over their shape and integration over the car.



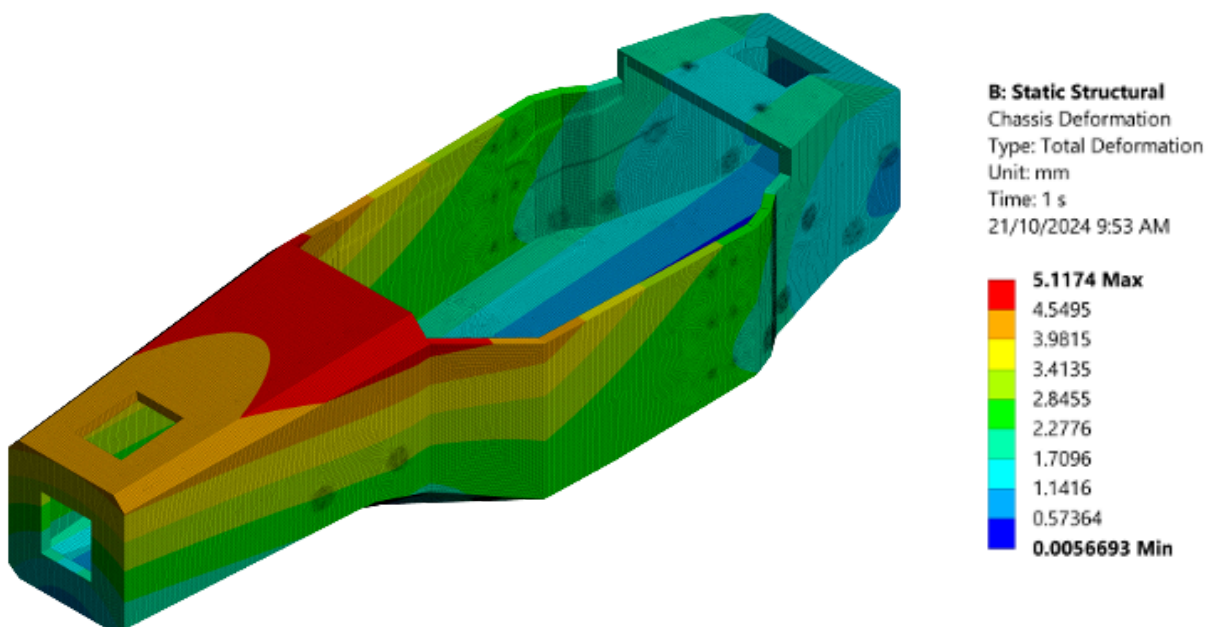
On the simulation side, we've made major improvements to our CFD workflow. We have been able to improve our mesh efficiency, allowing us to run more accurate simulations whilst requiring reduced computational power. One key consequence of this is that we are now able to simulate accumulator cooling fans and see their effect on the airflow over the undertray. Another exciting development in our CFD capabilities is a new cornering simulation, which is currently in the works, undergoing mesh independency checks. Once complete, this will allow us to create a full aero map, giving the drivers and vehicle dynamics team a fuller understanding of how the downforce, and hence grip, changes throughout various corners on a track, helping to inform set-up changes.

In manufacturing, the team is close to completing the nosecone mould. Thanks go out to our generous sponsor, Centre Line Patterns, who CNC-cut the foam base with precision. With the help of some of our new members, the team reinforced the surface with fibreglass, then filled in the weave with Gyprock. Finally, several coats of epoxy-based primer were sprayed onto the mould, providing a smooth, high-quality surface ready for layup.

These developments mark a big step forward in the capability of the AUMT Aerodynamics subsystem. With a strong foundation in place, we're looking forward to manufacturing and testing our aerodynamic package in the coming months.

MONOCOQUE

2025 marks the first year that AUMT has implemented a monocoque chassis in recent years, and it is an exciting time for the team. The monocoque chassis differs from previous ones in that it is constructed from carbon fibre and aluminium honeycomb, as opposed to steel tubes with a spaceframe. The composite chassis offers the benefit of being lighter than the spaceframe while additionally being simulated to be stiffer, which we will validate with a real-world torsional rigidity test later this year.

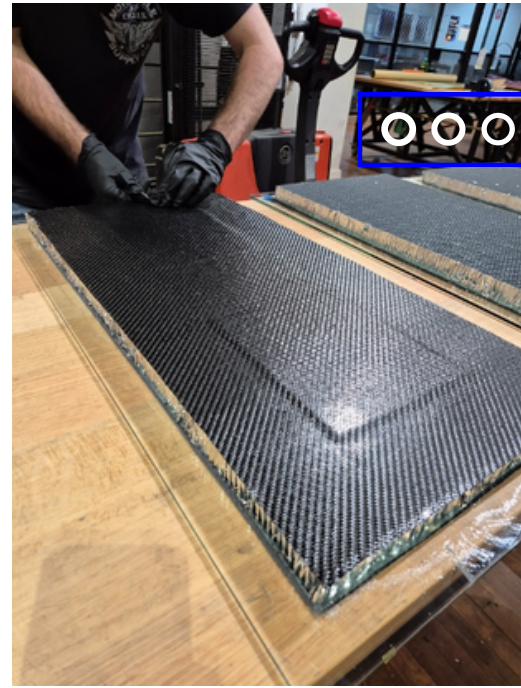


The monocoque was developed alongside our 2024 car, and all our efforts have been focused on integrating the existing components with the monocoque this year. Key components that have required major changes to suit the monocoque include the drivetrain mounts and the suspension pickup mounts.



MONOCOQUE

A key part of implementing a monocoque in Formula SAE-A is the physical testing of the attachment points to the monocoque, which we undertook at the start of this year. These tests involve the in-house manufacture of flat panels, which are the same layup as the monocoque, and then the installation of inserts and mounts into the panels. The tests we have completed include pull-out tests to confirm that the inserts and the mounts can withstand 15kN, which is required by competition rules, and shear tests as well.



Another exciting project AUMT has undertaken is the 3D scanning of the monocoque to validate the monocoque's manufacturing accuracy. The 3D scanning allowed us to produce a CAD model of the monocoque, thereby allowing us to design accurate mounts for the monocoque. The 3D scanning was completed at the university with the university's new 3D scanner, and it was a cool experience making use of innovative technologies.

We are now at the stage of installing the inserts into the monocoque, which will serve as attachment points for every component of the car, from the roll hoop to the suspension link mounts. This involves the use of a laser-cut jig to precisely install the inserts in their correct locations. With over 100 inserts to install in the car, the installation will be a team effort and an exciting time for the team to see the car come together.

NEW RECRUITS & ONBOARDING PROCESS

“

In my role as Human Resources manager, I have the privilege to work closely alongside the leadership team and the wider member base. This ranges from sorting out individual member concerns, all the way to helping coordinate sponsored events with big corporations like Red Bull, giving me an extremely unique perspective into the inner workings of the team. For example, a major part of my role for this year was the recruitment of new members for the 2025 season.

– Kalan

This year's recruitment process brought in around 20 new members to the Adelaide University Motorsport team, strengthening our talent pool across mechanical, electrical, and business divisions.

A key focus was on targeted outreach within engineering and related faculties, as well as planned on-campus demonstrations that gave prospective members a hands-on look at the team's work. As a result, it connected with students who were motivated to contribute immediately and learn quickly, whilst being of strong benefit to the team culture. Further, through our recruitment, we encouraged and fostered female involvement in typically male-dominated fields of STEM and motorsports, as we push for gender equality in our team.

A secondary objective of my role is to ensure that member retention and engagement are a major priority, and we've seen strong interest from both new and returning members. By pairing recruits with experienced team leaders early on,

We ensured that skills were transferred effectively while keeping everyone actively involved in ongoing projects. This approach has helped maintain consistency across sub-teams and improved collaboration across the season.

Our first-year members have already contributed to several important projects. They've taken on tasks such as designing and implementing the brake light system for the car, working on regenerative braking integration, and assisting in the early stages of aerodynamic wing design.

These projects not only develop technical skills but also provide practical exposure to the full engineering process—from initial concept to implementation—setting a solid foundation for their continued involvement in future seasons. In addition, we place strong emphasis on team-building through regular social events such as go-karting, quiz nights, and informal catch-ups. These activities provide opportunities for members to bond outside of a technical or formal setting, fostering trust and a sense of belonging in the team. By strengthening interpersonal relationships, we create a more supportive and cohesive team environment that encourages open communication and collective problem-solving as we work towards shared goals.



VOLUNTEER EVENTS



This year, AUMT has been proud to take part in a wide range of volunteer events across both the motorsport and university communities. These experiences not only allow us to support the events and organisations that make our sport possible, but also give our team the chance to represent Adelaide University and engage with future students, sponsors, and motorsport enthusiasts.

On the motorsport front, we've volunteered at high-profile events including the Adelaide Rally, All Historic Mallala, and the Adelaide Motorsport Festival, where we showcased our car and took part in pedestrian marshalling during a special filming event. We also supported the Old Crock's Run, helping with setup, traffic direction, and welcoming entrants as they arrived.

Within the university, we've remained active in outreach and engagement. We took part in O-Week with a team stall and faculty presentations for both the Schools of Mechanical and Electrical Engineering, and hosted an Information Night to introduce new students to the team. We also participated in community and engagement events like Sportopia and the Adelaide University Open Day, where we connected with students, families, and staff to promote the team and showcase our work.

These events are a vital part of our calendar and reflect the values of teamwork, outreach, and community that are central to AUMT.

OUR SPONSORS: DRIVING US FORWARD

Our 2025 season would not be possible without the generous support of our incredible sponsors. Each contribution—whether financial, technical, or in-kind—has helped bring ADL25E to life and enabled us to push the boundaries of what our team can achieve. From materials and manufacturing support to simulation software and branding assistance, our sponsors play a critical role in every stage of the car's development.

This year, your support has directly contributed to major milestones, including the fabrication of our monocoque, the development of a refined aero package, and the implementation of advanced testing tools for driver data and performance analysis. Beyond the technical impact, sponsor backing has also helped us grow as a team by providing access to learning opportunities, networking, and industry exposure.

We are proud to collaborate with a diverse group of partners who share our passion for innovation, engineering, and motorsport. As we look ahead to our transition into Adelaide University Racing (AUR), we're excited to continue building these relationships and showcasing the impact of your support at competition and beyond.

Thank you for being part of the journey.





THANK YOU FOR YOUR SUPPORT



WANT TO FOLLOW OUR PROGRESS?
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