



Monthly Brief

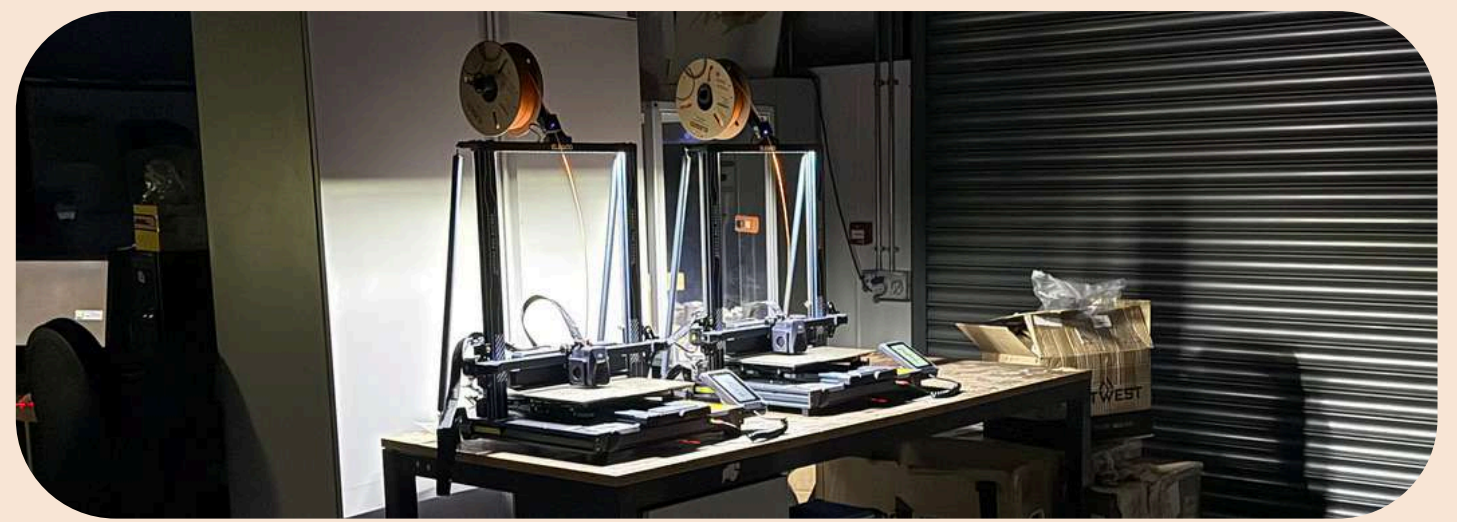
February 2025

TEAM PRINCIPAL OVERVIEW

February saw the team's first taste of car building this year. Several major components were finished — both externally and internally manufactured, allowing for their successful integration into larger systems and the completion of a rolling chassis. This is always an exciting moment, especially for newer members, as they witness first-hand why consideration of compatibility and integration in the design stage are so crucial.

On February 4th, the team submitted the first major technical document of the year: the Structural Equivalency Spreadsheet (SES). This submission represents months of work by the chassis team, detailing the design and construction of the chassis for review by design judges. Approval is essential, as it determines whether we can compete with the current chassis. With the SES behind us, the team is now focused on the costings submission and the new Carbon Costed Bill of Materials (CCBOM), specifically targeting the steering and suspension systems.

I am proud to announce that the team has once again secured the RS Grass Roots funding. This is an award given out to formula student teams awarding £1000 in RS supplied components. These funds will be used for essential parts, including bearings, electrical connectors, and garage equipment.



In early February we received two Elegoo Neptune 4 plus 3D printers courtesy of Elegoo (above). These are already out performing the Ultimaker S5's in both speed and reliability, significantly increasing the team's 3D printing capabilities. 3D printers are a great resource when it comes to Rapid prototyping. This is a key part of our process, helping us test designs, create spacers, and develop fitment aids quickly and efficiently.

Staying on the theme of sponsors, we invited Olly and Matt from Caterpillar to visit our garage during one of our weekly design sessions. This was a great opportunity to get to know the members of the team beyond core management and for us to showcase some of our on-going development. The visit helped identify key areas where Caterpillar's technical expertise can support our work through future technical reviews.

To round off the month our sim racing team once again hit the track, this time at Sydney Motorsport in V8 supercars. Our drivers delivered good results with a 17th in server 1 and 2nd in server 2 placing us 20th overall in the championship standings.

Lastly, as of the time of writing, we are gearing up for our first-ever team Alumni event on March 1st. Organising this has involved over a month of planning—securing facilities and equipment, promoting the event, and reaching out to as many former team members as possible. I'm excited to reconnect with our alumni and share our current projects.

Callum Howes
UoL Racing Team Principal



CHIEF ENGINEERS DEBRIEF

This month has seen the team hit some major engineering milestones, whilst taking large strides towards others.

The month started by assembling our rolling chassis. This was a major moment for the entire team. This was especially poignant for the suspension team who have spent the last 18 months working on this completely new suspension package. The last few months have been spent fine tuning these designs to accommodate the new $\geq 5\text{mm}$ inner wheel clearance rule. This is now a rule we are confident of our legality within.

This week also saw the arrival of the new oil sump and airbox. These have both been Selective Laser Sintered (SLS) out of PA 2200 by Ogle who have supported the team since last year. These projects are significant weight savings as well as reducing the number of unique components. These components also allow for other areas of the team to take a step forward with the addition of a MAP sensor in the airbox and an oil temperature sensor in the sump. The sump will also feature new engine internals for the pickup. These components have been manufactured using metal SLS printing to allow for more design freedom.



This month we have sent a group of students down to Kram Sheet Metal every week with an ever-growing list of components being manufactured by a wide variety of team members. We have also worked with Kram to get our aluminium components anodised black. This will extend the service life of these components whilst also enhancing their appearance as well.

The aerodynamics team have been busy with the first side panel being manufactured in house. This is a large step for the team as this is our first curved aero component to be made in house in several years. Also, the team have finalised a nosecone design and sent this off for manufacture with the aim of getting this component back around Easter.

This month also saw the team begin to work on the harness mounts with these being installed in the car. The new chassis and reclined seating position required a rethinking of the design of the anti-submarine belt mounts. These used to be generic tabs however this has had to be redesigned due to these challenging ergonomic requirements.

Dylan Crawford

UoL Racing Chief Engineer



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