

FORMULA MONTEY

MAY 2025



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TAKE A SNEAK PEAK INTO OUR PROGRESS



Structures

The chassis design along with all associated fixtures has been successfully completed. The required tubes for the chassis have been sourced and are now in the process of being laser profiled and bent to specification. This stage marks significant progress, laying the foundation for accurate assembly and further structural integration in the vehicle's build process.

Aerodynamics and composites

The Aerodynamics and Composites team worked on a couple of nosecone design iterations and created a bluff body to run aero package design iterations. We experimented with Kevlar prepreg and continued procuring materials and contacting machining services, while also researching new design and manufacturing ideas.

Vehicle dynamics

Manufacturing of adapters for the steel wishbones were machined by the juniors and right hand threads were tapped. Wishbone points were finalised and work on actuation began. Steel wishbone insert design began as well as the rear upright design. Goals for the coming month include design and manufacture of suspension brackets, all steel inserts, welding of steel links to inserts, testing of CF links on the UTM, finalising and manufacturing uprights,

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Transmission

The positioning of the Dual Chain Drive assembly was finalized, marking a key milestone. Fixture design for welding is currently in progress to ensure precise alignment. Additionally, the Drexler Limited Slip Differential (LSD) underwent thorough servicing and lubrication to maintain optimal performance and reliability.

E-Powertrain

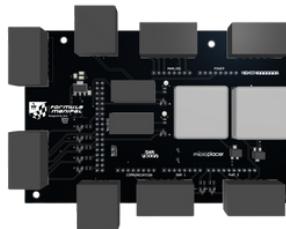
The battery pack design has been finalized, marking a key milestone toward manufacturing. Welding of the container is planned for June, with electronic updates to be completed by July. Focus now shifts to developing the new integrated Rear E-Box and the Motor-Controller Cooling Circuit.

Electronics and controls

The team analyzed the old harness to identify opportunities for improvement. The switching method has also been updated, moving from relays to MOSFETs for enhanced performance. Additionally, the VCU is undergoing design changes to ensure compliance with the latest regulations.

Driverless

The Driverless subsystem is refining Model Predictive Control (MPC) and camera perception algorithms for the Formula Student Driverless Simulator (FSDS). Simultaneously, the team has started developing the Electronic Control System (ECS) harness and has successfully designed the Brake-By-Wire (BBW) setup for the upcoming driverless vehicle.



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