

FORMULA MONTHLY

APRIL 2025

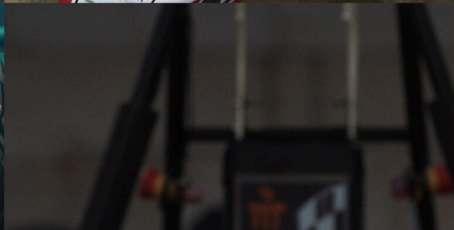


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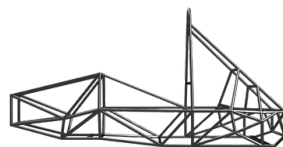


TAKE A SNEAK PEAK INTO OUR PROGRESS



Structures

This month, structures has been working on the design of the upcoming season's new chassis. The chassis is designed around the suspension pickup points provided to us as well as the new tsac dimension, ergonomics of this season's drivers is also being factored in.



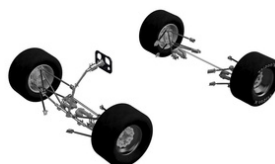
Aerodynamics and composites

Preliminary test layup was completed for the TSAC Lid test piece. Another test layup was also carried out on a front wing flap. The cooling calculations were revised, and potential designs for intake and exhaust duct were explored. Additionally, materials were procured, and multiple simulation iterations were conducted to refine cooling duct geometries and radiator placement.



Vehicle dynamics

Vehicle Dynamics made substantial progress on the car design, determining the track widths, wheelbase and finalizing the outboard and inboard suspension geometry. A front upright without the steering arm mount was designed. The new front brake calipers were finalised to be ISR 22048-OF, and the calipers were dispatched by ISR Sweden.

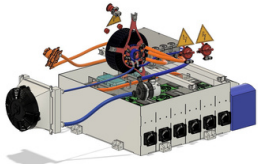


KEEPING UP WITH FM



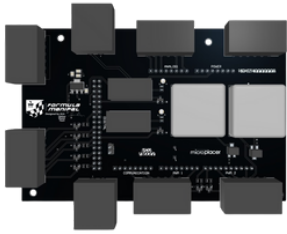
Transmission

The transmission assembly design was finalized with updates to the stubs and halfshafts. Limited slip differential research is ongoing. Alternate low-FOS halfshafts, tailored for the FMXXV model, have been drilled and are set for testing to evaluate performance and durability.



E-Powertrain

The E-powertrain team made significant progress on the battery pack for the upcoming season. The design was refined to achieve improved packaging efficiency, and the brackets for the battery pack were developed. Hand calculations are currently underway to validate the bracket designs.



Electronics and controls

The Electronics team is transitioning to MOSFET switching in place of relays. This month, the team prototyped a DAQ board that logs data from the motor controller and has been successfully integrated with the wheel speed sensors. Work is also underway on developing the electrical harness.



Driverless

The Driverless subsystem successfully interfaced its code with the FSDS simulation environment. The team is now focused on further improvements and tuning, while development of the perception logic is set to begin soon.



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