

FORMULA MONDAY

FEBRUARY 2025



KEEPING UP WITH FM

TAKE A
SNEAK
PEAK INTO
OUR
PROGRESS



Structures

We're refining our monocoque design by testing laminate configurations to optimize strength, stiffness, and weight. Material analysis ensures durability and safety. Simultaneously, we're designing components for DV integration, ensuring seamless implementation while enhancing vehicle performance and advancing our development process.



Aerodynamics and composites

The Aerodynamics and Composites team refined the FM26 aerodynamic package, improving downforce and reducing drag. They optimized designs for performance and feasibility, explored cost-effective manufacturing techniques, and began sourcing new materials, actively engaging with vendors to evaluate potential solutions for implementation.



Vehicle dynamics

The Vehicle Dynamics team has begun designing a new outboard suspension geometry on OptimumKinematics and new wheel uprights. The ChassisSim car model is ready for lap time evaluations. Goals include data collection, design validation, and implementing anti-roll bars, carbon-fiber links, and performance-focused components.

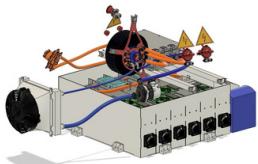


KEEPING UP WITH FM



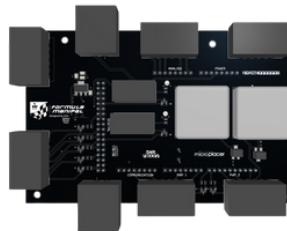
Transmission

The gear design for the limited-slip differential has begun, focusing on key parameters. The clutch pack design is being analyzed for optimal function. Meanwhile, successful dynamic testing confirms that all assembled components are performing as expected.



E-Powertrain

Our team enhanced the perception pipeline, optimizing accuracy and data processing efficiency. Additionally, we initiated testing of the BBW motor, assessing its performance under various conditions to ensure reliability and effectiveness in real-world applications.



Electronics and controls

The car was set up, and necessary adjustments were made for dynamic testing. A coding error prevented data logging, but firmware and hardware were debugged. Sensor integration for data logging is in progress, and design changes ensure rule compliance.



Driverless

Driverless team is working closely with the Structures team to design components for seamless integration, ensuring proper implementation while enhancing vehicle performance and advancing the development process efficiently.



MSAP TESTING

On 19th February, the car was taken to the MSAP track with the objective of conducting a dynamic run of acceleration, skidpad and autocross. The test began with an autocross run where it was observed that the motor shuddered at lower RPMs and there was also a recurring error of overspeed fault. A few changes were done on the VCU and the motor controller software to resolve these errors. In the acceleration run, the car's average time was about 6.5s which has a scope for improvement in the upcoming seasons. An attempt was made at data acquisition, due to an issue with the code the data was unable to be recorded.

The objective for the upcoming session will be to acquire as much data as possible in order to allow various subsystems towards the further optimisation of the car.

BOARD OF 2025-26

**AMOGHA RAO
TEAM MANAGER**

**VANDANA
MALHOTRA
MECHANICAL LEAD**

**KRIT GUPTA
ELECTRICAL LEAD**



**RATISH A.M
STRUCTURES HEAD**

**PRAGNA HARISH
AERODYNAMICS AND
COMPOSITES LEAD**

**RISHI VIKRAM
VEHICLE DYNAMICS LEAD**

**ANSHUL GARG
TRANSMISSION LEAD**

**AABHAAS KALIA
E-POWERTRAIN LEAD**

**PRATYUSH TRIVEDI
ELECTRONICS AND
CONTROLS LEAD**

**GITAANSH H
BHURADIA
DRIVERLESS LEAD**

THANK YOU SPONSORS



MANIPAL
ACADEMY of HIGHER EDUCATION
(Institution of Eminence Deemed to be University)

Styrenix
PERFORMANCE MATERIALS

BATEMO
UNDERSTANDING BATTERIES

ePLAN

TOOLCON SYSTEMS

ANALOG DEVICES

TITAN
TITAN ENGINEERING & AUTOMATION LIMITED

BENDER

AMADA
AMADA WELD TECH INDIA PVT LTD.

TM
TECHNOMECH
ENGINEERING

UNITED
RUBBER INDUSTRIES
(INDIA) PRIVATE LIMITED

FRACKTAL WORKS

LA VITA
DESSERT NEIGHBORHOOD
Anil CNC & Gears
AN ISO 9001:2015 CERTIFIED COMPANY

SmartLink inc.
Channel Project Solutions

WEST COAST
ADVENTURES

easycomposites

BHOR

RHEINMETALL

PIERBURG

**SHARMA
INDUSTRIES**

MISUMI

microplacer
India's leading Product Technology Company

EATON

ador
peace of mind

**M2M
REPAIRS**

Frusk

**50
YEARS
IN BUSINESS
1971-2021** **PPI**

FLUKE

Sika

CHASSISIM
The Winner's Edge

BUY A VOLT

RS 1000 OR US \$20 IS ALL IT
TAKES TO BE A PART OF THE
FORMULA MANIPAL FAMILY!

FOR FURTHER ENQUIRIES CONTACT :

TEAM MANAGER - VIBHAS SRIVASTAVA

Contact No : +91 8460730945

EMAIL ID - FORMULAMANIPAL@MANIPAL.EDU

WEBSITE - WWW.FORMULAMANIPAL.IN



FORMULAMANIPAL

