

INGRAM SCHOOL OF ENGINEERING

Project Description

Design and manufacturing of suspension frame inserts, shifter mount, chain guard mounts, and clutch mounts for an FSAE car. The goal is to optimize durability, weight reduction, and performance while ensuring ease of maintenance. Our focus was manufacturing real world components.

Background

F1 cars demand high-strength, lightweight components to maximize performance. **Current mounting solutions** face challenges like excess weight, wear, and limited interchangeability. This project aims to develop efficient, high-performance mounting components using advanced materials and manufacturing techniques.

Sponsors & acknowledgements

Assistant Professor of Practice • Dr. James W. Davidson Sponsor/ project advisor Abhimanyu Sharotry

Group M2.01 - Bobcat Racing

Jose Alfredo Mendoza Segura, Abraham Morales-Colin, **Juan Carlos Martinez Rodriguez** Abhimanyu Sharotry

Process and Design

- Manufacturing components of the car Timeline: Design \rightarrow Simulation \rightarrow Machining \rightarrow Assembly \rightarrow Testing
- Ran simulations for suspension inserts
- **Ensured easy installation**
- **Optimize weight & durability**



Future Expansion

Improve future cars for competition Improve design and manufacturing for efficiency



Projects

Suspension Inserts 40 x Welded Inserts 8 x Welded Insert Mid Length 4 x Welded Insert Long Length



Clutch Mechanism

Chain Guard Mounting

Firewall

Steering Linkage Fix

Shifter components mounting

Meet the Team!

