

# **SAE Mini Baja**

## Progress Report

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# Overview

- Introduction
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# Project Introduction

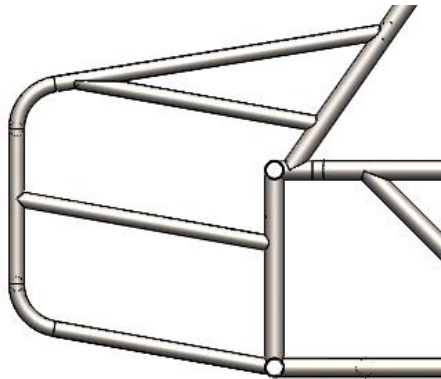
- 2014 SAE Baja Competition
- Customer is SAE International
- Create international design standards
- Hold various collegiate design competitions
- Stakeholder is NAU SAE
- Project advisor is Dr. John Tester

# Need Statement

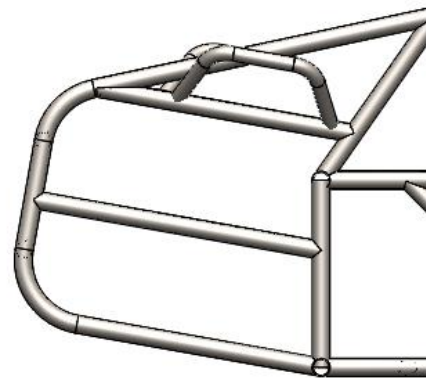
- NAU has not won an event at the SAE Baja competition in many years.
- Goal of the frame team is to design the lightest possible frame within the SAE Baja rules.
- Goal changes to overall vehicle safety compliance after completion of the frame.

# Front-End Redesign

- Originally 1" x 0.035" tubing
- Changed to 1.25" x 0.065 tubing
- Changed front angle



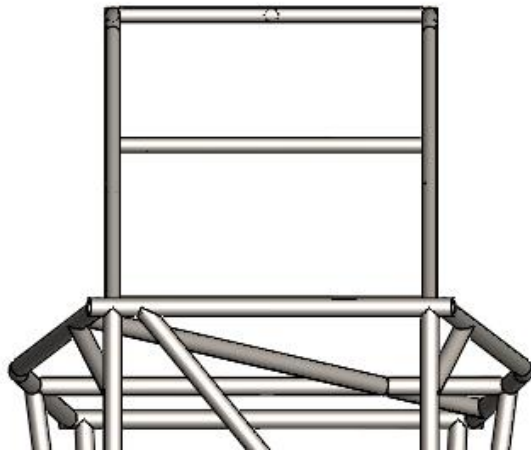
Old Design



Current Design

# Rear-End Redesign

- Originally designed for separate gearbox and differential
- Redesigned for single unit combined gearbox and differential

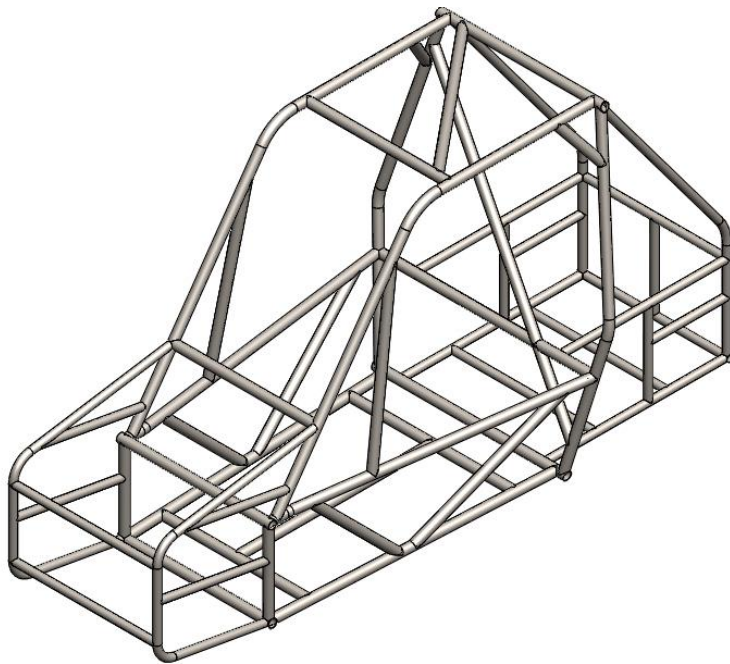


Old Design

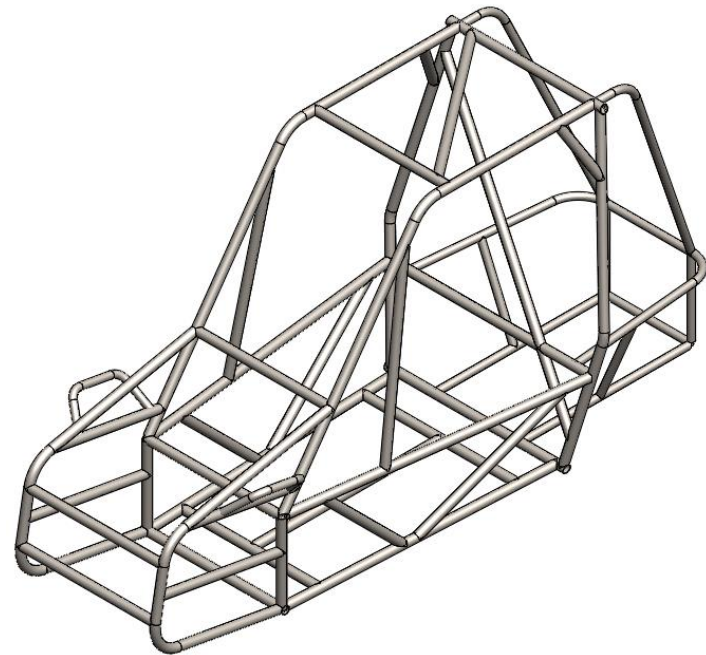


Current Design

# Isometric View

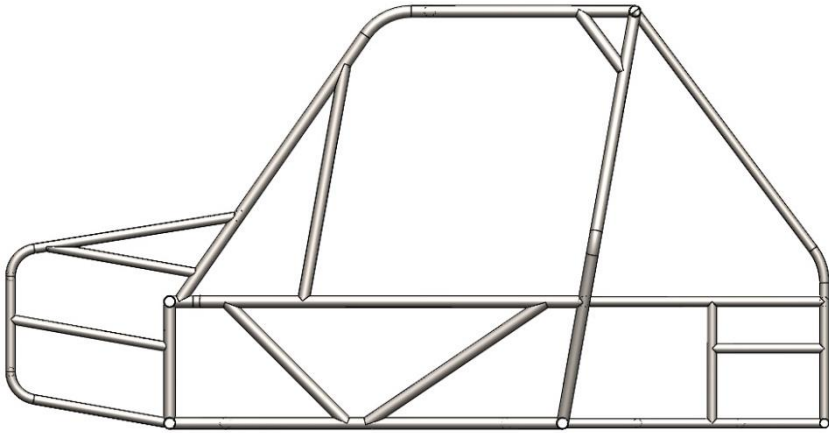


Old Design

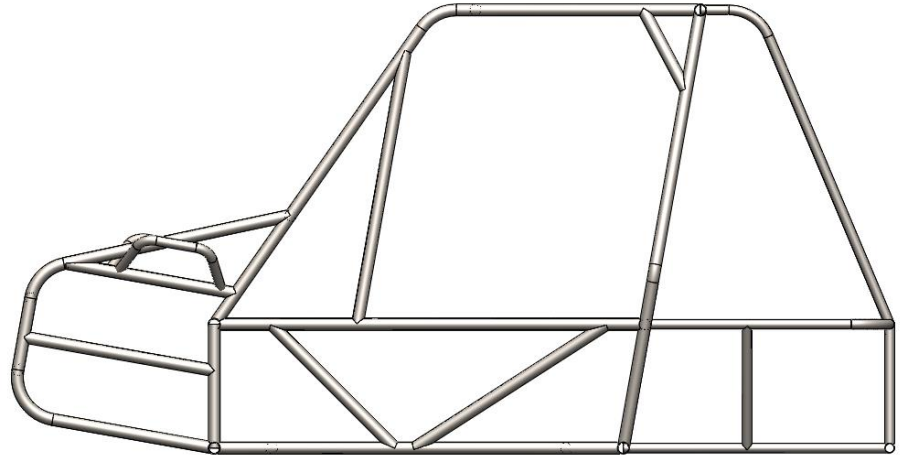


Current Design

# Side View



Old Design



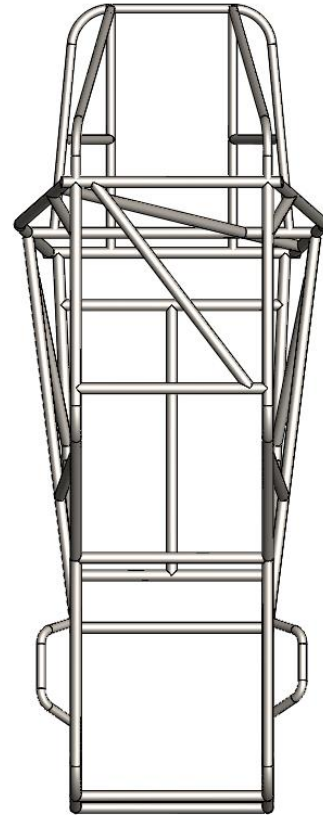
Current Design



# Top View



Old Design



Current Design

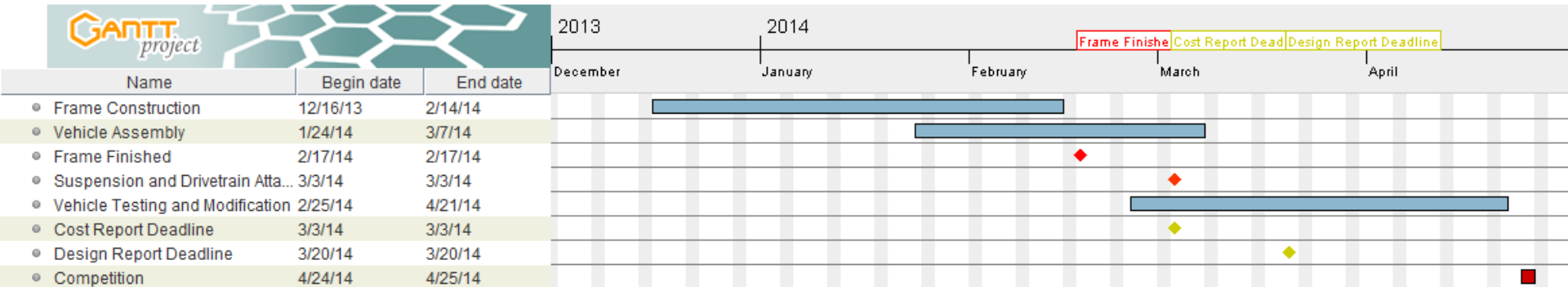
# Current Progress



# Spring 2014 Project Plan

- Complete Frame by February 15
- Final Assembly by March 3
- SAE Cost Report by March 3
- SAE Design Report by March 20
- Competition on April 24

# Spring 2014 Gantt Chart



# Conclusion

- SAE international is the client, NAU SAE is a stakeholder, and Dr. John Tester is the project advisor.
- The frame team will build the lightest possible frame to maximize chances of winning.
- Geometry of the front end was redesigned to make construction easier.

# Conclusion

- The rear end was redesigned to accommodate the new single unit differential / transmission.
- Currently the roll cage and parts of the front end have been completed.
- The team is currently on schedule. More time has been allotted for frame construction due to the redesign of the front and rear ends.

# Questions?