Washkewicz College of Engineering

Title Sponsor

BAJA SAE

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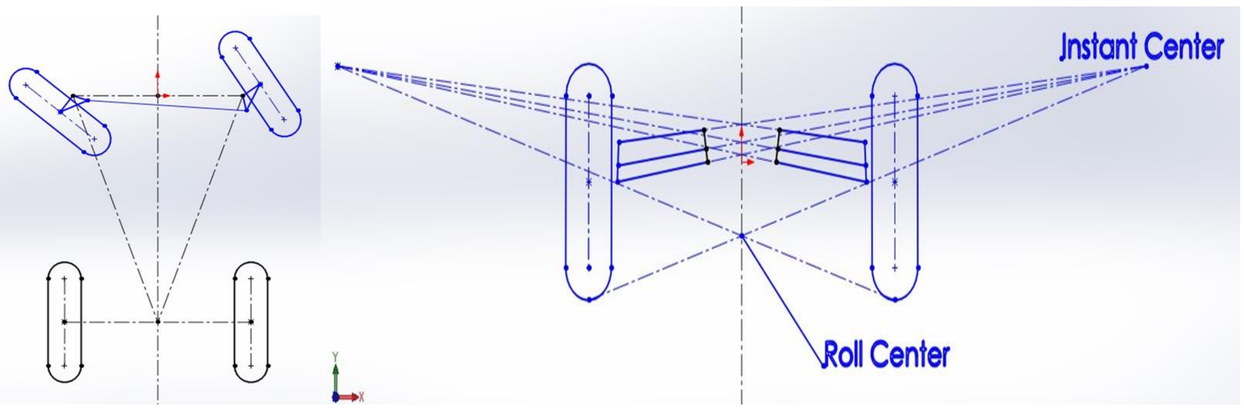
Objectives

- Design and fabricate new off-road vehicle for 2018.
- Compete against 100 international schools at numerous competitions.

Suspension Design

- Ackermann – 100%
- Castor – 15.0°
- Camber – 1.0°
- Kingpin – 4.0°
- Front Toe – 1/16’’ Out
- Ground Clearance – 15’’
- Front Travel – 9’’
- Rear Travel – 10’’

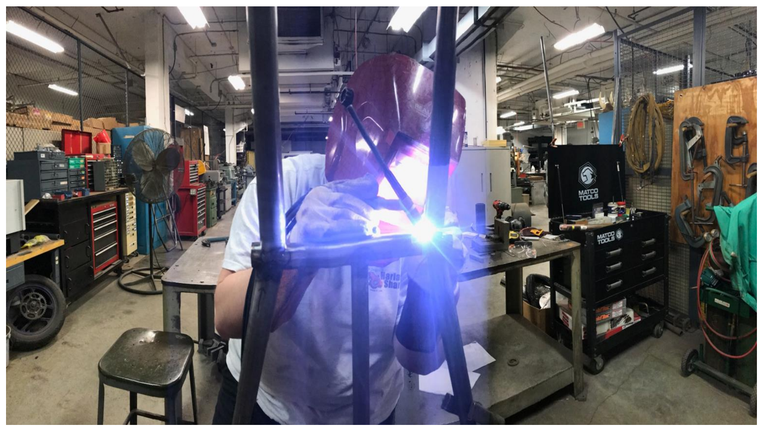


Chassis Design

4130 Chromoly

- 1-1/4’’ X .065’’ Primary Members (Roll Cage)
- 1’’ X .035’’ Secondary Members (Side Impact Members)
- Stronger than 1018 Steel
- Thinner wall tubing allowing for light weight frame

Fabrication



90% of this project is fabrication. By building everything in house, this allowed us to save money as opposed to out-sourcing the labor.

Drivetrain

Engine RPM	3600RPM	Max Torque	627.1755
Max Torque	13.8Ft-Lbs	Min Torque	115.1955
Tire size	23Inches	Vmax Low	5.41734
Gearbox Reduction	13.25:1	Vmax High	29.4944
CVT Low	3.43:1		
CVT High	0.63:1		

Final Product