

SAE Baja '24

Rear End

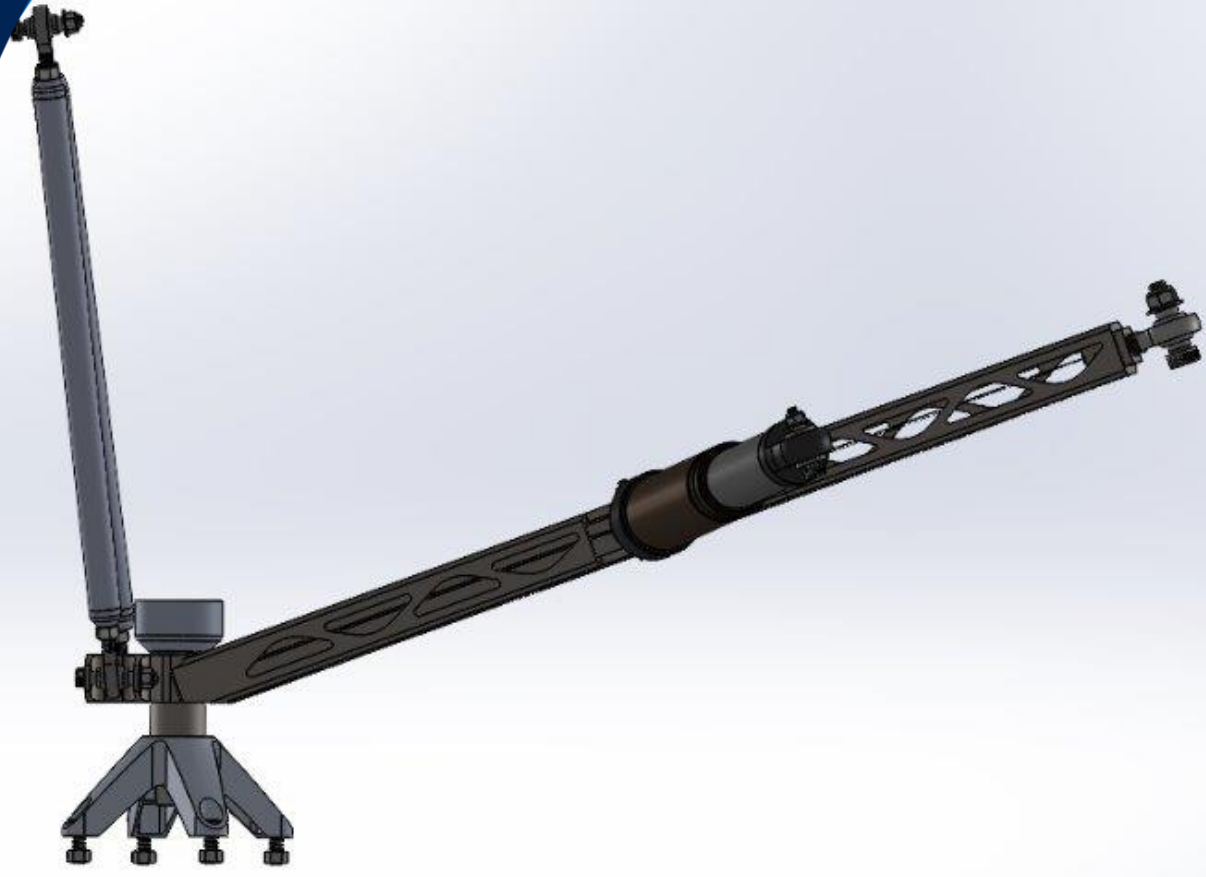
100% Hardware Check

Seth DeLuca, Joey Barta, Lars Jensen

Design Efforts – Rear CAD



Design Efforts – Simplified CAD



Purchasing Plan – Trailing Link

Part Name	Quantity	Cost	Total Cost	Material	Purchase/Made	Vender	Vender Part Number
Trailing Link Laser Cut	10	N/A	N/A	1/4" A36 Steel Plate	Sponsored	VROOM	N/A
Trailing Link Weld	2	N/A	N/A	1/4" A36 Steel Plate	Made	NAU SAE Baja	N/A
Trailing Link Rod End Spacer	4	N/A	N/A	6061-T6 Aluminum	Made	NAU SAE Baja	N/A
Trailing Link Rod End Insert	2	N/A	N/A	A36 Steel	Made	NAU SAE Baja	N/A
Shock Spacer	8	N/A	N/A	6061-T6 Aluminum	Made	NAU SAE Baja	N/A
Float 3 EVOL RC2 Shock	2	N/A	N/A	Magnesium	Own	NAU SAE Baja	N/A
Rear Knuckle	2	N/A	N/A	4130 Steel	Made	NAU SAE Baja	N/A



Purchasing Plan – CV Axle End

Part Name	Quantity	Cost	Total Cost	Material	Purchase/Made	Vender	Vender Part Number
Wheel	2	N/A	N/A	Steel	Own	NAU SAE Baja	N/A
Tire	2	N/A	N/A	Rubber	Own	NAU SAE Baja	N/A
Yamaha Grizzly 350 CV	2	115	230	Steel	Own	Ebay	YFM350FGI
SKF Deep Groove Bearing	4	13.88	55.52	Steel	Purchase	Amazon	B00L5DC82E
Wheel Hub Spacer	2	N/A	N/A	6061-T6 Aluminum	Made	NAU SAE Baja	N/A
Rear Wheel Hub	2	N/A	N/A	6061-T6 Aluminum	Made	NAU SAE Baja	N/A
Yamaha Grizzly 350 Wheel Hub	2	24.56	49.12	Steel	Own	Ebay	5FU-F5377-11-00
Wheel Stud and Lugnuts	2	38.95	77.89	Titanium	Purchase	Ti64	366



Purchasing Plan – Camber Links

Part Name	Quantity	Cost	Total Cost	Material	Purchase/Made	Vender	Vender Part Number
Steel Camber Link Insert	4	N/A	N/A	A36 Steel	Made	NAU SAE Baja	N/A
Steel Camber Link	2	11	22	1" x 0.035" 4130 Steel Pipe	Purchase	Bike Fabrication Supply	TBE-25.4-.9-1200-4130
Steel Camber Link Weld	2	N/A	N/A	Welding Wire	Made	NAU SAE Baja	N/A
Carbon Fiber Camber Link Insert	4	N/A	N/A	6061-T6 Aluminum	Made	NAU SAE Baja	N/A
Carbon Fiber Camber Link	2	20.95	41.9	Roll Wrapped Carbon Fiber	Purchase	Amazon	B0791XDV7W
Epoxy	1	47.01	47.01	Epoxy Resin	Purchase	Amazon	21200822254
Carbon Fiber Camber Link Glue	2	N/A	N/A	Roll Wrapped Carbon Fiber	Made	NAU SAE Baja	N/A
Camber Link Rod End Spacers	8	N/A	N/A	carbon fiber	made	evan	kamp



Purchasing Plan – Hardware

Part Name	Quantity	Cost	Total Cost	Material	Purchase/Made	Vender	Vender Part Number
5/8" Ball Joint Rod End with Nut - RH	2	14.78	29.56	Zinc-Plated Carbon Steel	Purchase	McMaster-Carr	4237N107
3/8" Super-Swivel Ball Joint Rod End - LH	4	N/A	N/A	Zinc-Plated Carbon Steel	Own	McMaster-Carr	6960T23
3/8" Super-Swivel Ball Joint Rod End - RH	4	N/A	N/A	Zinc-Plated Carbon Steel	Own	McMaster-Carr	6960T23
5/8"-1.25" Shoulder Screws	2	N/A	N/A	Alloy Steel	Sponsored	Copper State	10STCP-0630150
3/8"-1.25" Shoulder Screws	6	N/A	N/A	Alloy Steel	Sponsored	Copper State	10STCP-0380125
3/8"-1.5" Shoulder Screws	6	N/A	N/A	Alloy Steel	Sponsored	Copper State	10STCP-0380150
5/16"-18 Nylon-Insert Flange Locknut	12	N/A	N/A	Grade 8 Steel	Sponsored	Copper State	08N8CY-031
1/2"-13 Nylon-Insert Flange Locknut	2	N/A	N/A	Grade 8 Steel	Sponsored	Copper State	08N8CY-050
LH 3/8-24 jam Nuts	8	15.51	15.51	steel	purchase	homeco	99612A119

McMASTER-CARR®



Copper State Bolt & Nut Co.



**NORTHERN
ARIZONA
UNIVERSITY**

Purchasing Plan Percentages

Purchased

$$\frac{119 \text{ items}}{119 \text{ items}} = 100\%$$

On-Hand

$$\frac{119 \text{ items}}{119 \text{ items}} = 100\%$$

Manufacturing Plan – Trailing Link

Part Name	Quantity	Cost	Total Cost	Material	Purchase/Made	Vender	Vender Part Number
Trailing Link Laser Cut	10	N/A	N/A	1/4" A36 Steel Plate	Sponsored	VROOM	N/A
Trailing Link Weld	2	N/A	N/A	1/4" A36 Steel Plate	Made	NAU SAE Baja	N/A
Trailing Link Rod End Spacer	4	N/A	N/A	6061-T6 Aluminum	Made	NAU SAE Baja	N/A
Trailing Link Rod End Insert	2	N/A	N/A	A36 Steel	Made	NAU SAE Baja	N/A
Shock Spacer	8	N/A	N/A	6061-T6 Aluminum	Made	NAU SAE Baja	N/A
Float 3 EVOL RC2 Shock	2	N/A	N/A	Magnesium	Own	NAU SAE Baja	N/A
Rear Knuckle	2	N/A	N/A	4130 Steel	Made	NAU SAE Baja	N/A



Manufacturing Plan – Trailing Link



Manufacturing Plan – CV Axle End

Part Name	Quantity	Cost	Total Cost	Material	Purchase/Made	Vender	Vender Part Number
Wheel	2	N/A	N/A	Steel	Own	NAU SAE Baja	N/A
Tire	2	N/A	N/A	Rubber	Own	NAU SAE Baja	N/A
Yamaha Grizzly 350 CV	2	115	230	Steel	Own	Ebay	YFM350FGI
SKF Deep Groove Bearing	4	13.88	55.52	Steel	Purchase	Amazon	B00L5DC82E
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Rear Wheel Hub	2	N/A	N/A	6061-T6 Aluminum	Made	NAU SAE Baja	N/A
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Carbon Fiber Camber Link Glue	2	N/A	N/A	Roll Wrapped Carbon Fiber	Made	NAU SAE Baja	N/A
Camber Link Rod End Spacers	8	N/A	N/A	carbon fiber	made	evan	kamp



Manufacturing Plan - Percentages

Manufactured

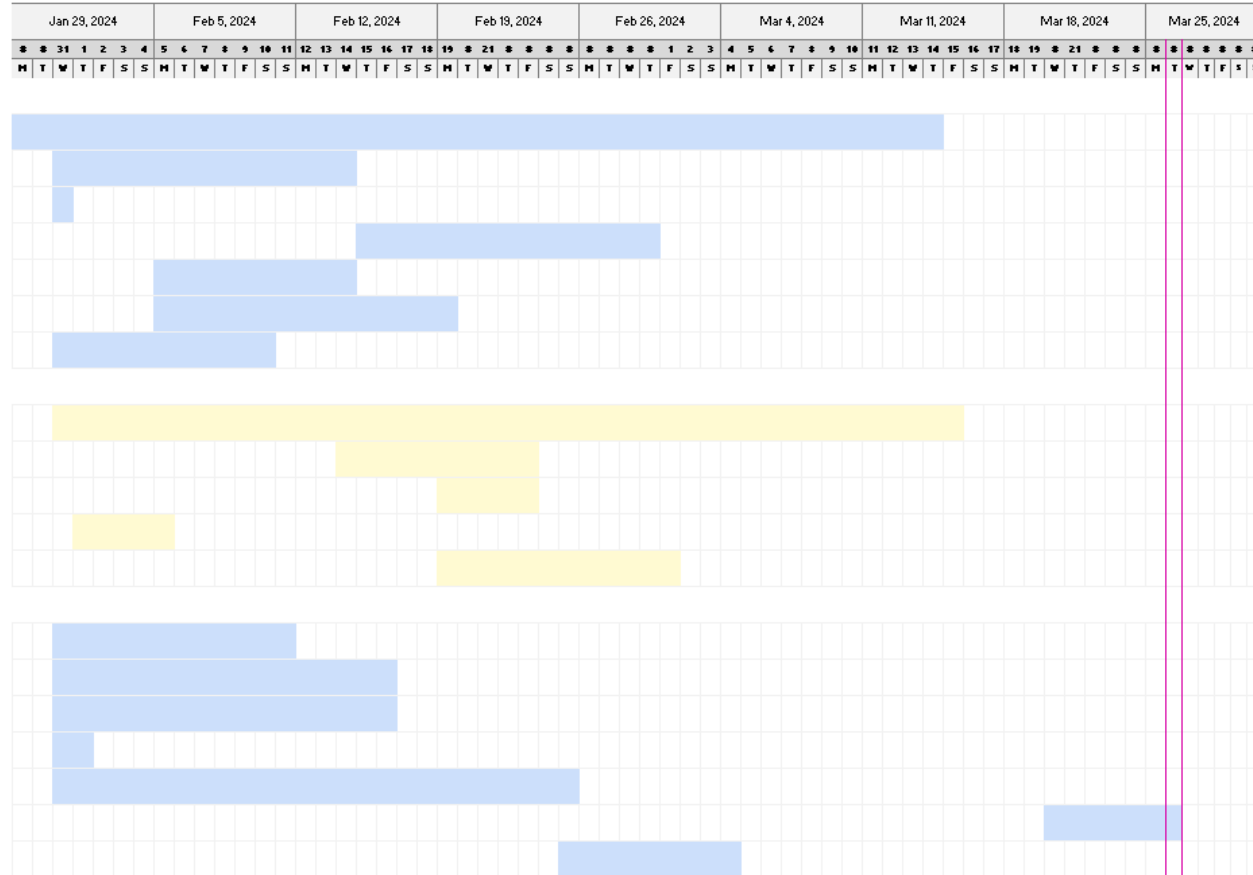
$$\frac{310 \text{ hours}}{310 \text{ hours}} = 100\%$$

Project Demo



Gantt Chart Updates

TASK	ASSIGNED TO	PROGRESS	START	END
Trailing Arm / shock				
Trailing links	Lars	100%	1/16/24	3/14/24
Shock spacers	Lars	100%	1/31/24	2/14/24
Shocks	Lars	100%	1/31/24	1/31/24
Trailing rod end spacers	Lars	100%	2/15/24	2/23/24
Trailing rod end inserts	Seth	100%	2/5/24	2/14/24
Trailing rod ends	Lars	100%	2/5/24	2/19/24
Trailing arm jig	Seth	100%	1/31/24	2/10/24
Camber Links				
Camber links	Joey	100%	1/31/24	3/15/24
Camber rod end spacers	Joey	100%	2/14/24	2/23/24
Camber rod end inserts	Joey	100%	2/19/24	2/23/24
Camber rod ends	Joey	100%	2/1/24	2/5/24
Pivot Hardware	Joey / Seth	100%	2/19/24	3/1/24
CV Shaft / Hardware / Spacer, Miscellaneous				
Knuckle	Team	100%	1/31/24	2/11/24
CV bearings	Seth	100%	1/31/24	2/16/24
Hubs	Seth	100%	1/31/24	2/16/24
Wheels / Tires	Seth	100%	1/31/24	2/1/24
Wheel nuts/screws	Seth	100%	1/31/24	2/25/24
CV Axle	Team	100%	3/20/24	3/26/24
CV hardware	Seth	100%	2/25/24	3/4/24



Immediate Priorities:

1. Help to get car driving (all hands-on deck)
2. Help drivetrain sleeve the rear axles
3. Conduct testing plan

Current Status:

On-track