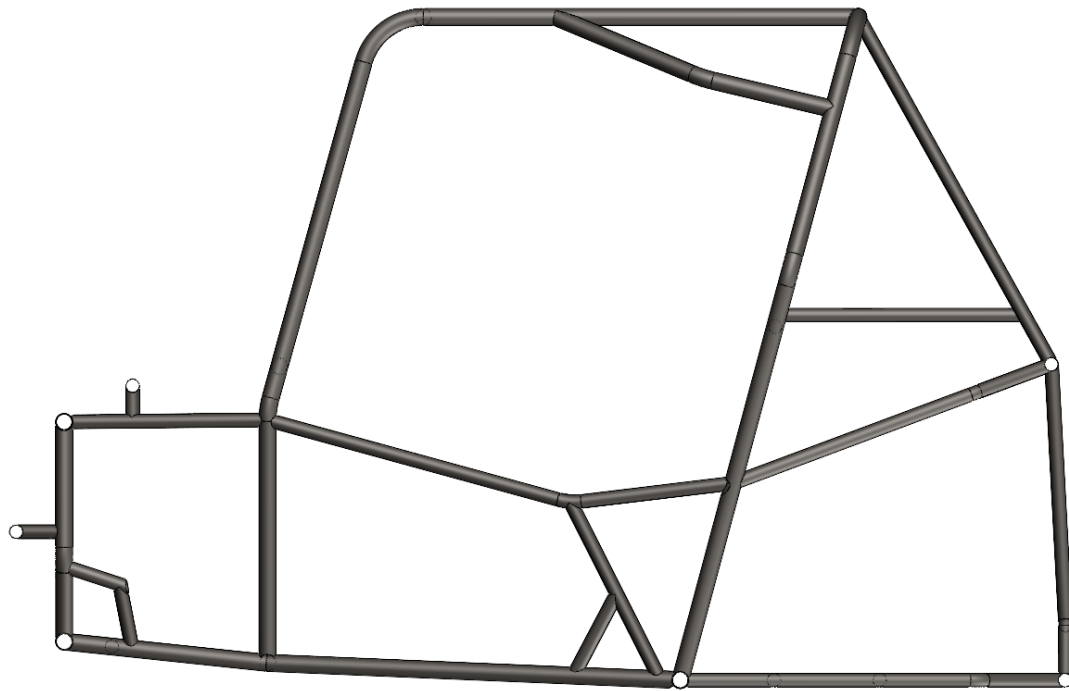


# SAE Baja '24 Frame

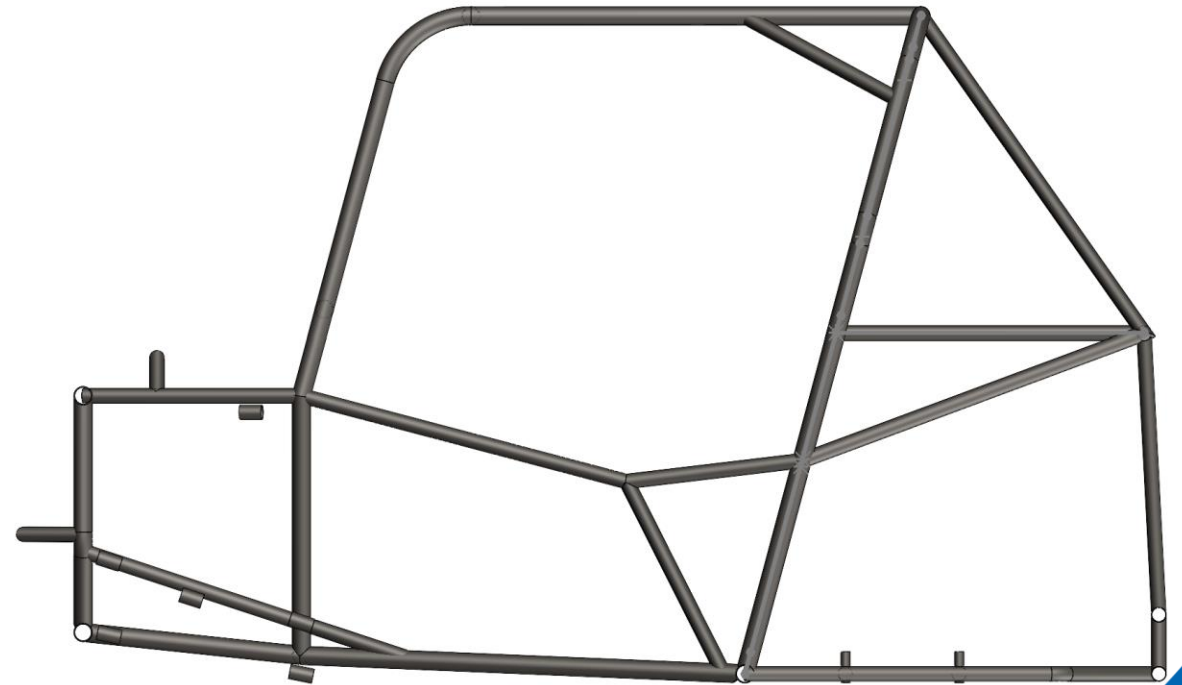
**66% Hardware Check**

Antonio Sagaral, Cooper Williams, Gabriel Rabanal

# Design Efforts



Current Design



Old Design

# Design Efforts

System	Current State
Roll Cage	100% Designed, 95% built
Frame Tabs	100% designed, 75% Cut, 25% Jigged
Seat	100% Designed, In Manufacturing
Side Paneling/ HROE Guards	30% Designed, Beginning Material Selection



# Purchasing Plan

SAE Baja Frame BOM											
Part	Description	Manufacturer/Vender	Qty	Units	Make/Buy	Part Status	Lead Time	Unit Cost	Cost	Obtained	
Primary Members	4130 1.25x.065" tubing	IMS	45	ft	Buy	Tacked		0	0.00	0.00	Y
Secondary Members	4130 1x.035" tubing	BFS	45	ft	Buy	Tacked		0	8.00	569.00	Y
Epoxy	Carbon resin epoxy	Novakinetics	1	gallon	Buy	In House		0	0.00	0.00	Y
Harness	Standardized	RaceQuip	1	unit	Buy	In House		0	0.00	0.00	Y
Submarine Straps	Standardized	RaceQuip	2	unit	Buy	In House		0	0.00	0.00	Y
Fire Extinguisher	5BC Standard	TBD	2	unit	Buy	In House		0	0.00	0.00	Y
Fuel Tank	Pyrotect SFC1000 Fuel Tank	Pyrotect	1	unit	Buy	Ordered	2 weeks		350.00	350.00	N
Exhaust Deflector	Kohler PN: 17 730 03 S	Kohler	1	unit	buy	In House		0	0.00	0.00	Y
Fuel Filter	Kohler in-line Fuel Filter	Kohler	1	unit	Buy	InHouse		0	0.00	0.00	Y
Extinguisher Mount Bracket	Drake FIREX-MNT-DAG	Drake	1	unit	Buy	In House		0	0.00	0.00	Y
Fuel Tank Mounting Washers	McMaster Carr 94733A723	McMaster	8	count	Buy	In House***		0	0.00	0.00	Y
Mounting Hardware	Misc. nuts, bolts, washers needed	TMS Titanium	TBD	unit	Buy	To Be Ordered	1 Week		0.00	0.00	N
									<b>Total Cost</b>	<b>996.50</b>	

$\frac{10}{11} = 91\%$  of components purchased or on-hand

# Manufacturing Plan

SAE Baja Frame BOM										
Part	Description	Manufacturer/Vender	Qty	Units	Make/Buy	Part Status	Lead Time	Unit Cost	Cost	Obtained
Tabs	4130 0.1" sheet	VROOM Engineering	13	in^2	Make	75% recieved, 50% jigged	0.5 weeks	0.00	0.00	75% Y
Side Panneling	Carbon Weave	Novakinetics	9	ft^2	Make	Design	1.5 Weeks	0.00	0.00	N
Seat	Carbon Weave	Novakinetics	1	ft^2	Make	Mold Manufacturing	1 Week	0.00	0.00	N
Skid Plate	Carbon/Kevlar Weave	Novakinetics	6	ft^2	Make	In Design	1.5 Weeks	0.00	0.00	N
Panel Mounting Tabs	0.125" plate	In House	32	count	Make	To be manufactured	0.5 Weeks	0.00	0.00	N
Firewall	.02" sheet metal	TBD	10	ft^2	Make	To Be Manufactured	1 Week	7.75	77.50	N
<b>Total Cost</b>									<b>996.50</b>	

Aside from the frame itself,  $\frac{1}{5} = 20\%$  of the subsidiary parts have been manufactured

# Project Demo



Roll Cage structure is 95% welded, only small integration parts left to be welded

# Project Demo

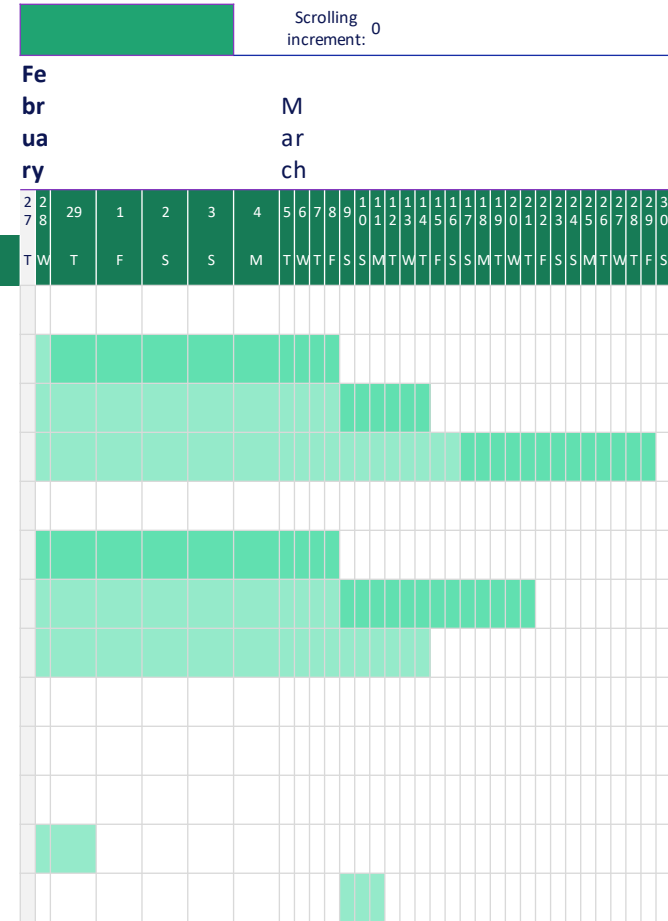


Front end left control arms are on the vehicle, right side to be on by Thursday

# Gantt Chart Updates

Project start date: 2/27/2024

Milestone marker: 1 1

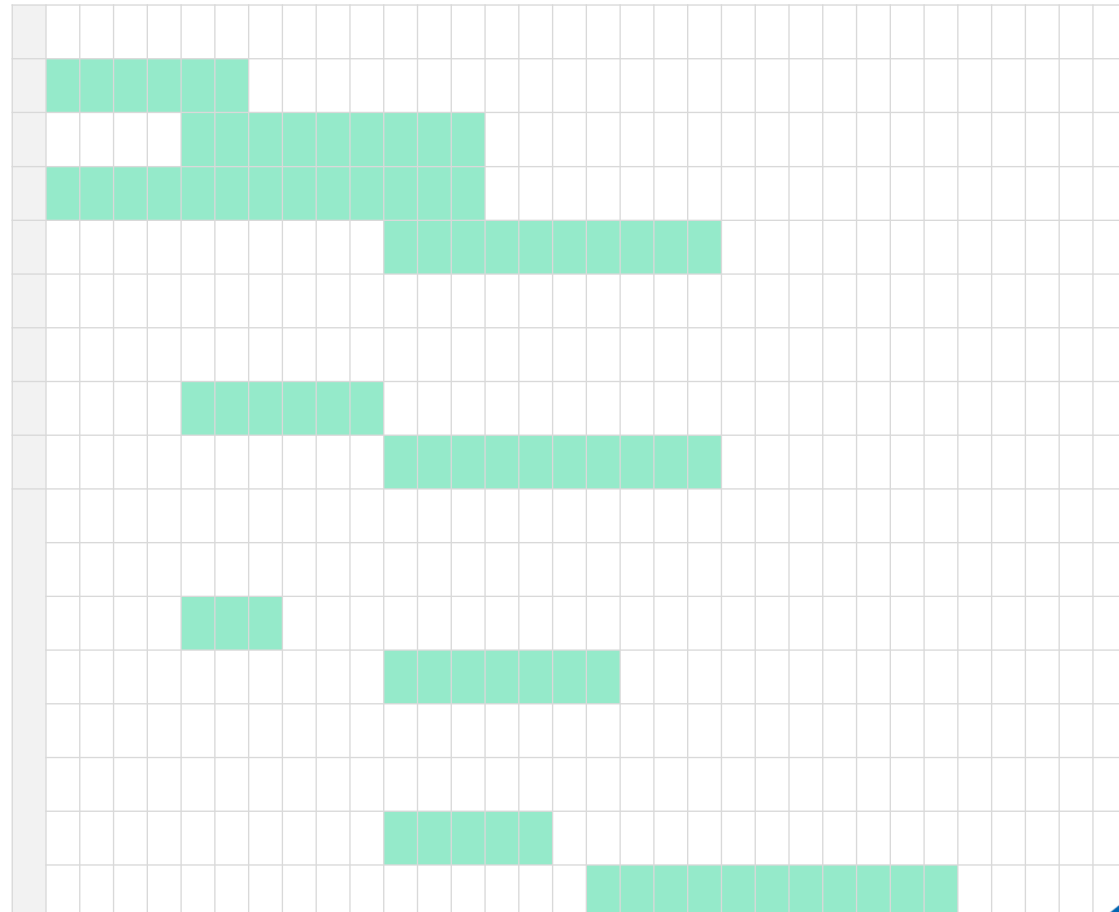


Milestone description	Assigned to	Progress	Start	Days
<b>Paneling</b>				
Design Finalized	Cooper	75%	2/27/2024	3
Design Sent		25%	2/27/2024	12
Design fitted to car		0%	2/27/2024	20
<b>Seat</b>				
Seat Designed	Cooper	100%	2/27/2024	0
Seat manufactured		50%	2/27/2024	12
Seat fitted in its final place		0%	2/27/2024	18
<b>Suspension Tabs</b>				
	Gabe/Antonio			
Design finalized		100%	2/27/2024	0
tabs submitted for manufacturing		100%	3/1/2024	0
Jig Made and ready to go		75%	2/27/2024	4
tabs welded on frame		25%	3/8/2024	5



# Gantt Chart Updates

Engine Mounts				
Engine Mounts designed	Gabe	100%	2/27/2024	8
Engine mounts manufactured		100%	3/2/2024	11
Jig for engine mounts?		0%	2/27/2024	15
Mounts welded in the frame		0%	3/8/2024	12
Front Gearbox				
Antonio				
Mounts designed		100%	2/27/2024	0
mounts manufactured		95%	3/2/2024	8
mounts welded in the frame		0%	3/8/2024	12
Rear Gearbox				
Antonio				
Mounts designed		100%	2/27/2024	0
mounts manufactured		75%	3/2/2024	5
Mounts welded in the frame		0%	3/8/2024	9
Gas Tank				
mounts manufactured	Gabe	100%	2/27/2024	0
mounts in frame		0%	3/8/2024	7
tank in frame		0%	3/14/2024	13



# Challenges and Outlook

## Challenges

Time restraints for rolling chassis

Adding support for suspension mounts

## Outlook

Pushing Forward

- Aligned timing with front and rear teams
- Rolling chassis before spring break
- Driving over spring break