

SAE Baja '24 Frame

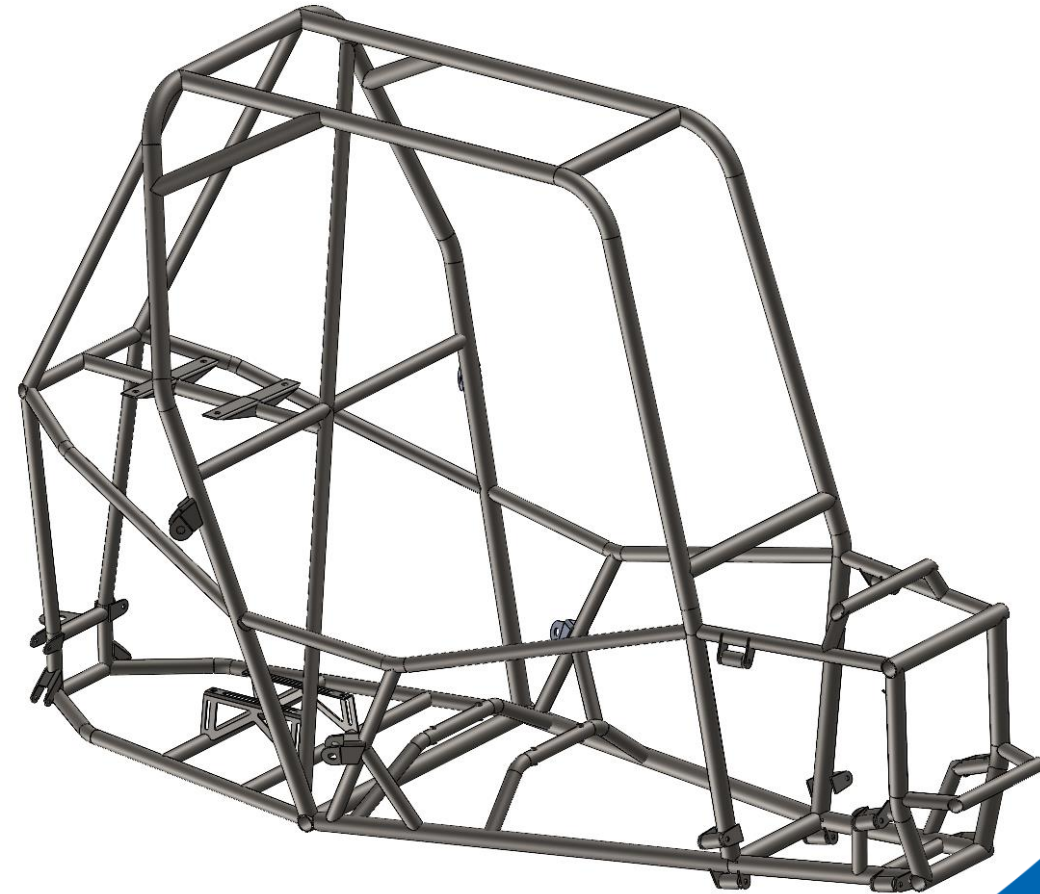
33% Hardware Check

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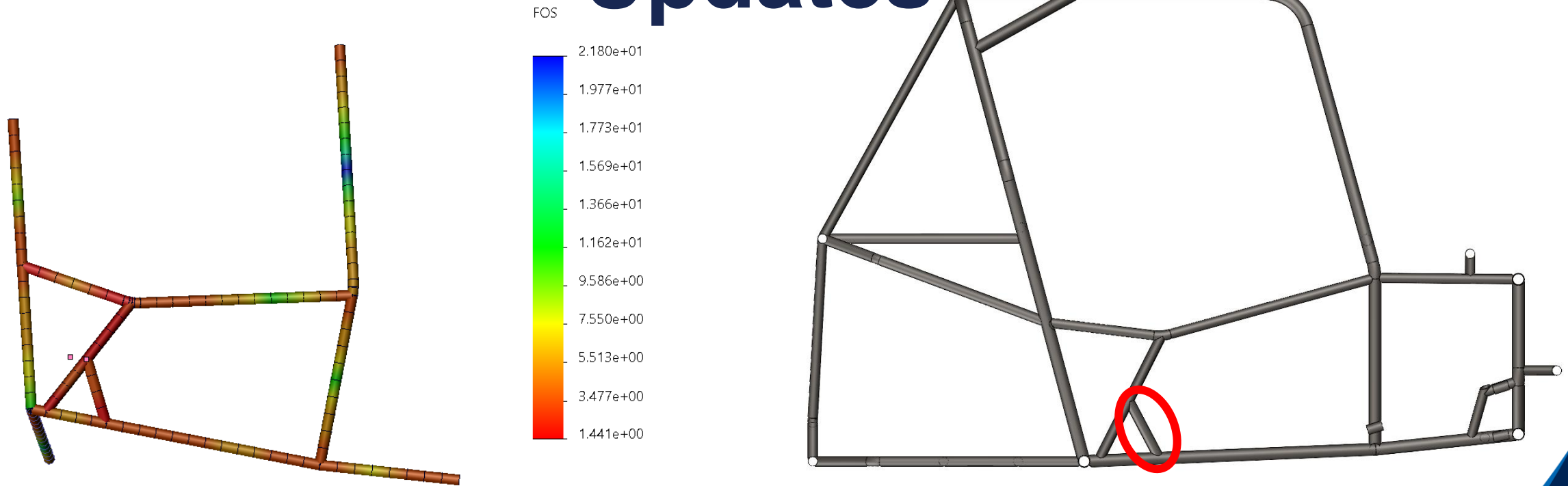


Design Efforts

System	Current State
Roll Cage	Designed, 50% built
Frame Tabs	Designed, in manufacturing
Seat	Design in progress
Side Paneling	Design in progress



Engineering Calculation Updates



Added structural member to support trailing link mount

- Support member keeps SIMs from buckling under severe load
- Adds stiffness to the rear suspension platform, improving performance

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	Cut, Awaiting Bending	0	8.00	569.00	Y
Epoxy	Carbon resin epoxy	Novakinetics	1	gallon	Buy	In House	0	0.00	0.00	N
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	1	unit	Buy	In House	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	1	unit	Buy	To Be Ordered	1 Week	0.00	0.00	N

$\frac{7}{9} = 77.8\%$ of components purchased or on-hand

Manufacturing Plan

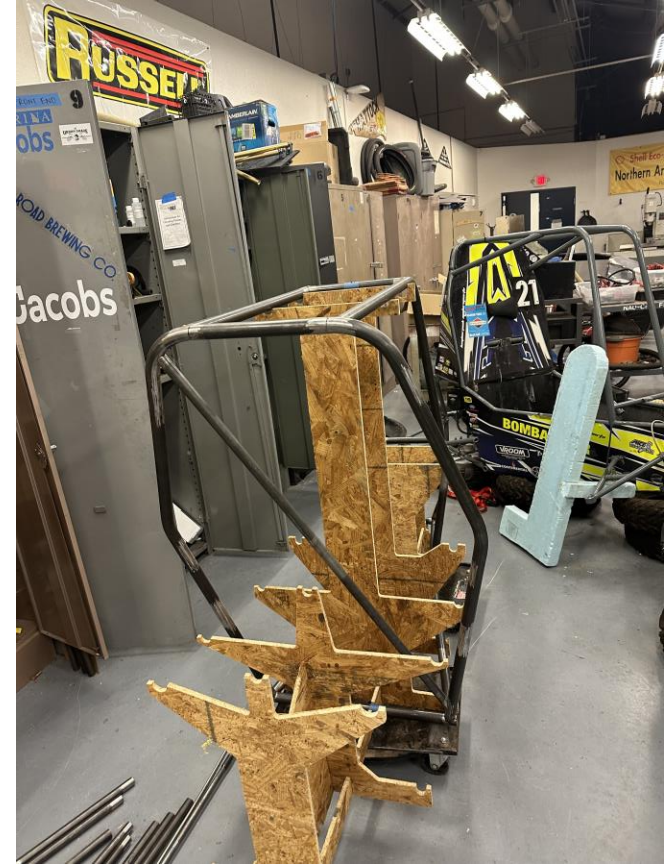
SAE Baja Frame BOM										
Part	Description	Manufacturer/Vender	Qty	Units	Make/Buy	Part Status	Lead Time	Unit Cost	Cost	Obtained
Tabs	4130 0.1" sheet	VROOM Engineering	13	in^2	Make	Being Manufactured	3 days	0.00	0.00	N
Side Panneling	Carbon Weave	Novakinetics	9	ft^2	Make	Design	2 Weeks	0.00	0.00	N
Seat	Carbon Weave	Novakinetics	1	ft^2	Make	Starting Manufacturing	1 Week	0.00	0.00	N
Skid Plate	.06" HDPE	TBD	1	ft^2	Make	To Be Manufactured	2 Week	5.00	30.00	N
Firewall	.02" sheet metal	TBD	1	ft^2	Make	To Be Manufactured	1 Week	7.75	73.63	N

Aside from the frame itself, $\frac{0}{5} = 0\%$ of the parts have been manufactured*


*Tabs have been sent to VROOM

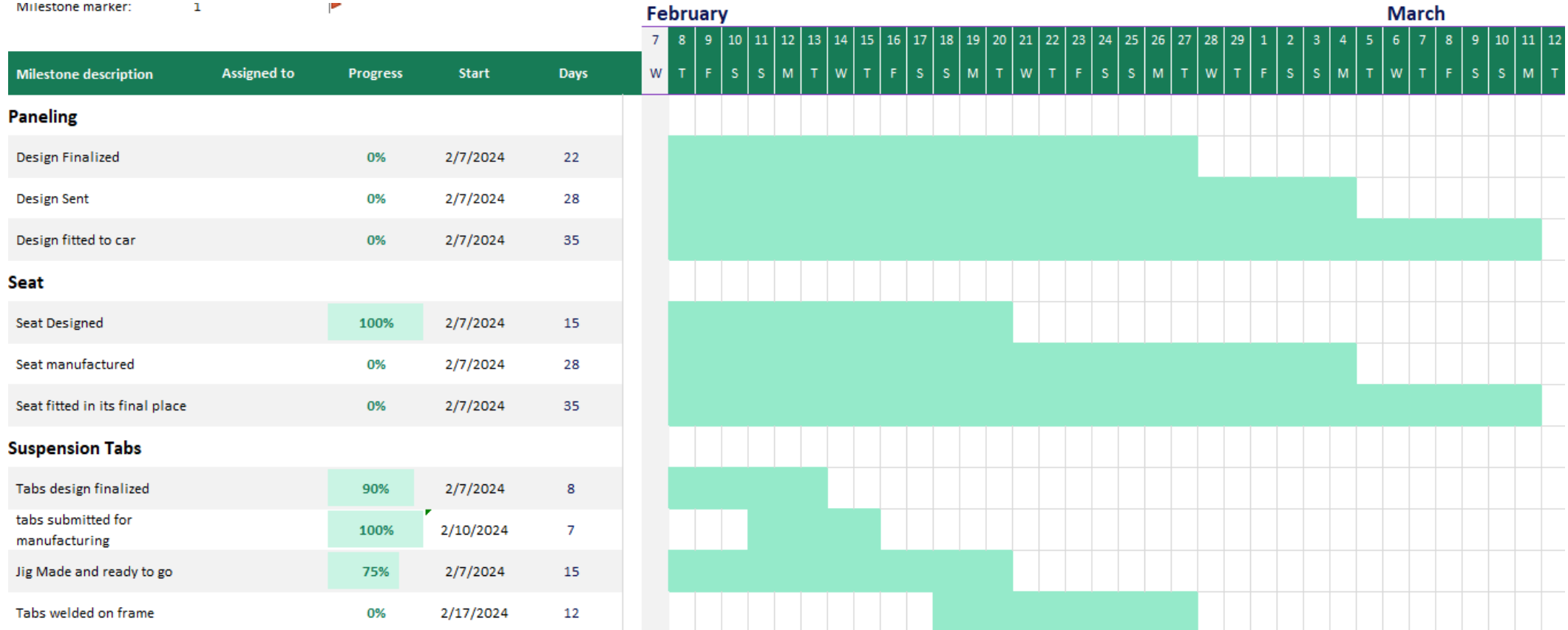
*Seat and paneling manufacturing will begin shortly

Project Demo



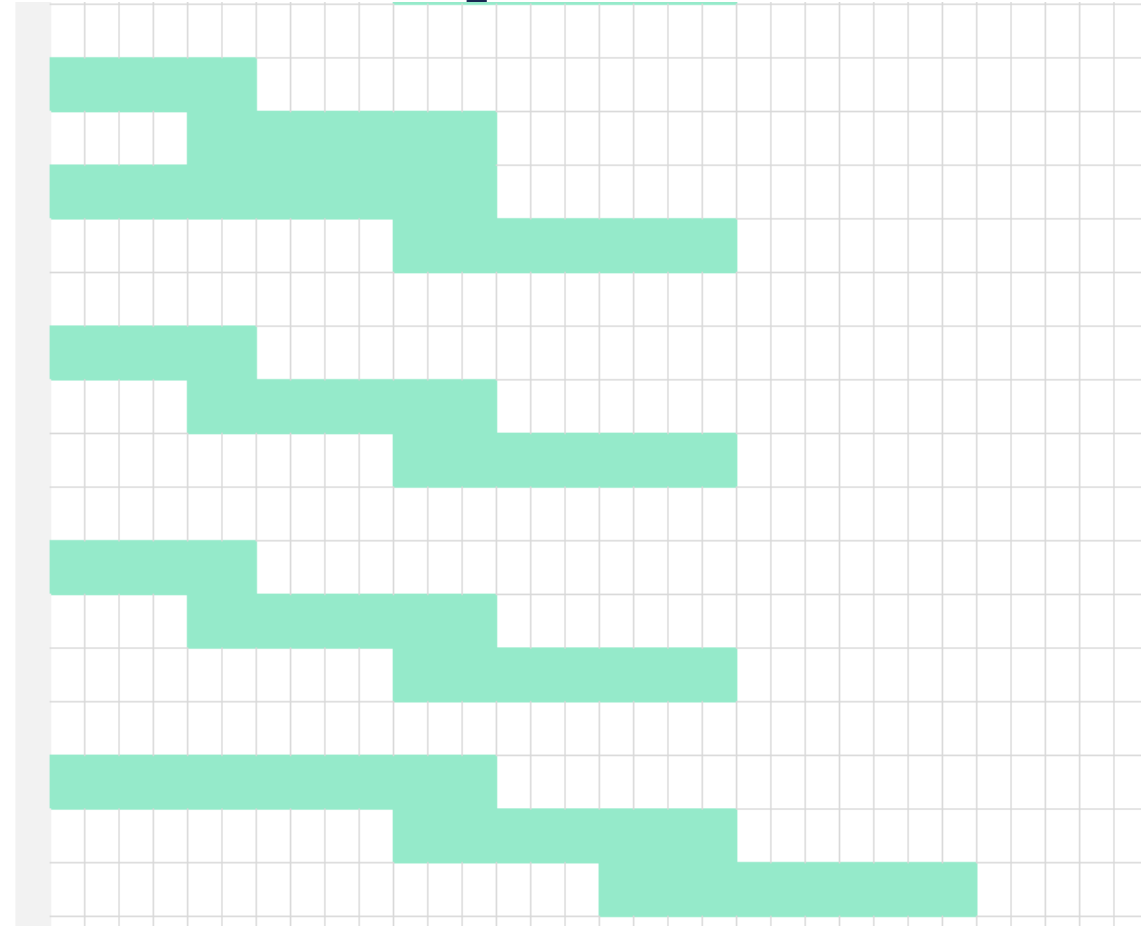
Gantt Chart Updates

Milestone marker: 1 



Gantt Chart Updates

Engine Mounts				
Engine Mounts designed	Gabe	100%	2/7/2024	8
Engine mounts manufactured		50%	2/11/2024	11
Jig for engine mounts?		0%	2/7/2024	15
Mounts welded in the frame		0%	2/17/2024	12
Front Gearbox				
Mounts designed		95%	2/7/2024	8
mounts manufactured		0%	2/11/2024	11
mounts welded in the frame		0%	2/17/2024	12
Rear Gearbox				
Mounts designed		95%	2/7/2024	8
mounts manufactured		0%	2/11/2024	11
Mounts welded in the frame		0%	2/17/2024	12
Gas Tank				
mounts manufactured		50%	2/7/2024	15
mounts in frame		0%	2/17/2024	12
tank in frame		0%	2/23/2024	13



Challenges and Outlook

Challenges

Secondary Bends

- Deformation to cross sectional area of tubing

Outlook

Pushing Forward

- Jigs for tabs – design done
- Seat finalizing
- Paneling
- Tacking Tabs
- Firewall