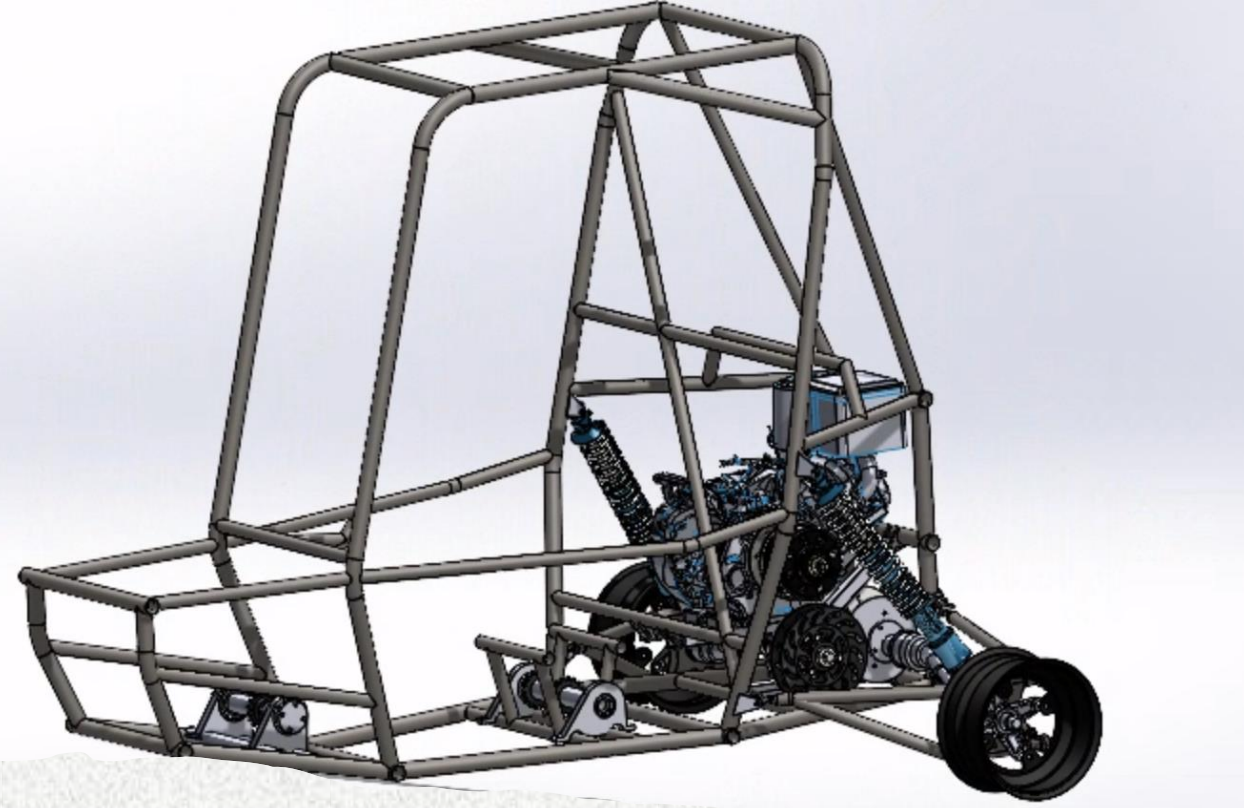
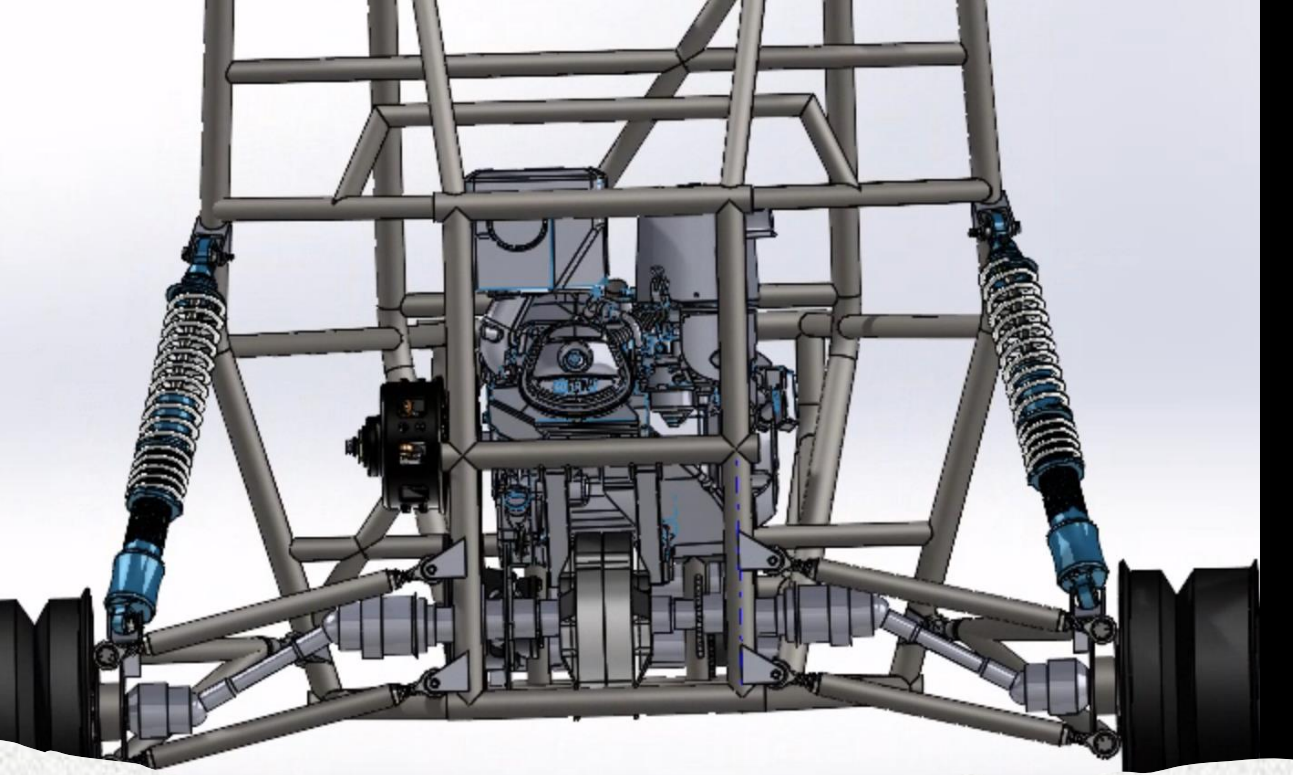




NAU SAE Baja  
Drivetrain  
Hardware  
Status  
Update-100%

Team 9: Logan Gerard Wilson,  
Claire Pescatore, Erik DiMaria



Design efforts (CAD)

# Purchasing Plan

Key
Item Owned or Purchased
Item Manufacturing Done
Item In Progress
Item Not Started
Running Total (\$)
1976.64

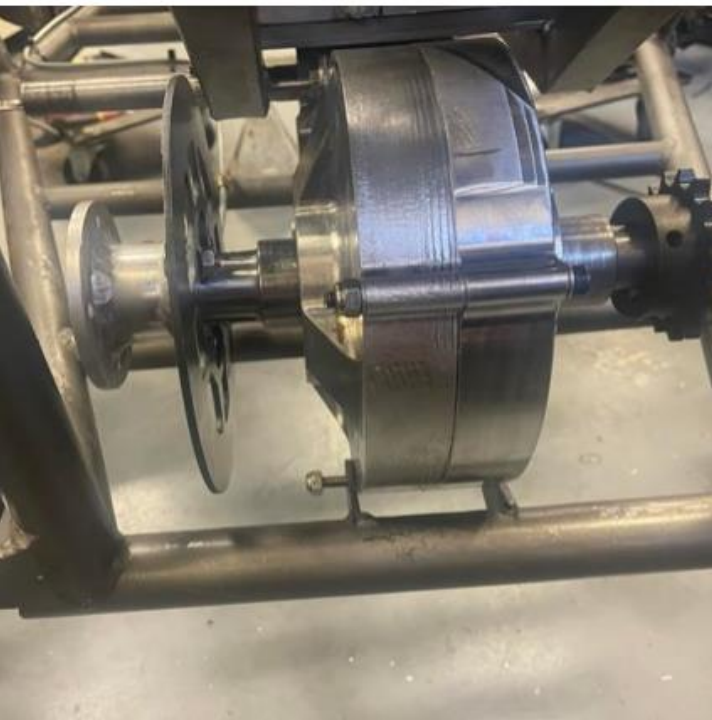
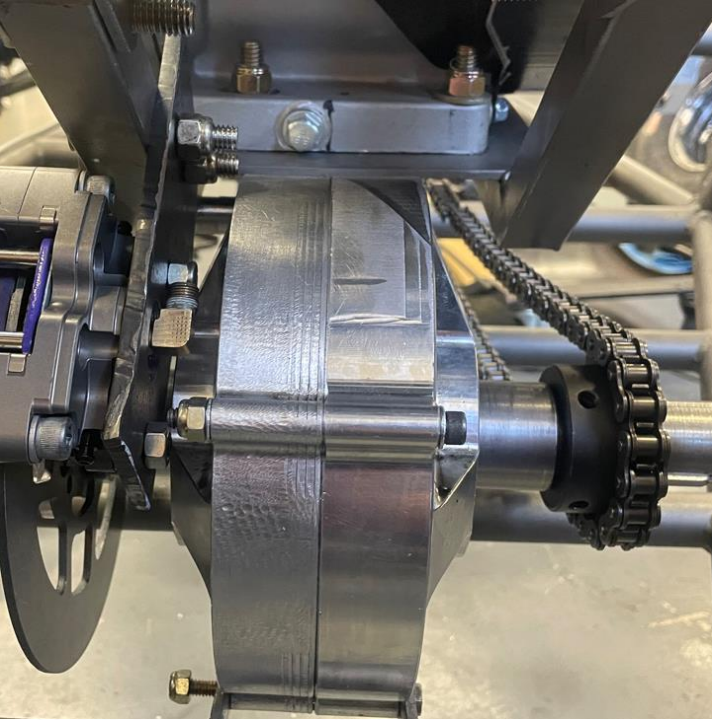
Drivetrain

Priority No.	Part Name	Action Needed	Size/Dimensions	QTY	Price (Each)	Price (Total)	Link to Website
1	Gear Casings (2 sides)	made in house	n/a	2	350	700	
2	Gears	Make in house	4 different sizes	4	62.5	250	
3	Input Shaft	make in house	Length: TBD, D: 15mm	1	18.72	18.72	<a href="https://www.mcmaster.com/catalog/129/4208/7478N19">https://www.mcmaster.com/catalog/129/4208/7478N19</a>
4	Middle Shaft	make in house	Length: TBD, D: 15-20mm	1	28.96	28.96	<a href="https://www.mcmaster.com/catalog/129/4208/8927K42">https://www.mcmaster.com/catalog/129/4208/8927K42</a>
5	Output Shaft	Make in house	Length: TBD, D: 25mm	1	154.7	154.7	<a href="https://www.mcmaster.com/catalog/129/4208/7478N38">https://www.mcmaster.com/catalog/129/4208/7478N38</a>
6	Gearbox Casing Bearings (Input)	Ordered/Owned	6004 2Z SKF DEEP GROOVE BEARING - 20 X 42 X 12MM	2	20.52	41.04	<a href="https://www.amazon.com/Pcs-608-2RS-Ball-Bearings/dp/B09PKD8QZZ/ref=asc_df_B09PKD8QZZ/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=564832768295&amp;hvpos=&amp;hvnetw=g&amp;hvrand=15508056620382503717&amp;hvpone=&amp;hvptwo=&amp;hvqmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlcint=&amp;hvlcophy=1013406&amp;hvtargid=pla-1645667255021&amp;psc=1">https://www.amazon.com/Pcs-608-2RS-Ball-Bearings/dp/B09PKD8QZZ/ref=asc_df_B09PKD8QZZ/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=564832768295&amp;hvpos=&amp;hvnetw=g&amp;hvrand=15508056620382503717&amp;hvpone=&amp;hvptwo=&amp;hvqmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlcint=&amp;hvlcophy=1013406&amp;hvtargid=pla-1645667255021&amp;psc=1</a>
7	Gearbox Casing Bearings (Middle)	Ordered/Owned	6205 2RSH SKF DEEP GROOVE BEARING - 25 X 52 X 15MM	2	29.19	58.38	"" ""
8	Gearbox Casing Bearings (Output)	Ordered/Owned	6008 2RS1 C3 SKF DEEP GROOVE BEARING - 40 X 68 X 15M	2	50.7	101.4	"" ""
9	Gearbox Spacers	already owned	aluminum tubes	8	0	0	Aluminum in house
10	Retaining Rings	already owned	Dia: 10-20mm	4	0	0	<a href="https://www.mcmaster.com/catalog/129/3798/92288A715">https://www.mcmaster.com/catalog/129/3798/92288A715</a>
11	Keyways	Make in house	TBD	1	0	0	
12	Keys	Make in house	TBD	1	3.52	3.52	
13	Casing Bolts	Ordered/Owned	Dia: TBD	12	4	48	grab from copper mountain nut and bolt
14	Casing Nuts	Ordered/Owned		12	6	72	grab from copper mountain nut and bolt
15	Casing Washers	Ordered/Owned		12	6	72	grab from copper mountain nut and bolt
16	Guard for Chain Drive (Sheet Metal)	already owned	n/a	1	0	0	
17	Sprockets	ordered		4	16.28	65.12	
18	Throttle Cable	need to order	4ft or 48inches	1	50	50	<a href="https://www.summitracing.com/parts/csi-6004">https://www.summitracing.com/parts/csi-6004</a>
19	Bearings for axels	Ordered/Owned		4	0	0	<a href="https://www.amazon.com/Pcs-608-2RS-Ball-Bearings/dp/B09PKD8QZZ/ref=asc_df_B09PKD8QZZ/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=564832768295&amp;hvpos=&amp;hvnetw=g&amp;hvrand=15508056620382503717&amp;hvpone=&amp;hvptwo=&amp;hvqmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlcint=&amp;hvlcophy=1013406&amp;hvtargid=pla-1645667255021&amp;psc=1">https://www.amazon.com/Pcs-608-2RS-Ball-Bearings/dp/B09PKD8QZZ/ref=asc_df_B09PKD8QZZ/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=564832768295&amp;hvpos=&amp;hvnetw=g&amp;hvrand=15508056620382503717&amp;hvpone=&amp;hvptwo=&amp;hvqmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlcint=&amp;hvlcophy=1013406&amp;hvtargid=pla-1645667255021&amp;psc=1</a>
20	Chains	Ordered/Owned	2 ft/chain	2	0	0	
20	Belt	Ordered/Owned	length 34.83", width 7/8"	2	39.95	79.9	<a href="https://www.gopowersports.com/40-series-drive-belt-203786/">https://www.gopowersports.com/40-series-drive-belt-203786/</a>
21	Chain Links	need to order	Carbon Steel, 0.25 pitch	2	11	22	<a href="https://www.amazon.com/Roller-Chain-Connecting-Links-Pack/dp/B085FQ9P6F/ref=asc_df_B085FQ9P6F/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=459618092337&amp;hvpos=&amp;hvnetw=g&amp;hvrand=3265920101474883529&amp;hvpone=&amp;hvptwo=&amp;hvqmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlcint=&amp;hvlcophy=1013406&amp;hvtargid=pla-945359385976&amp;psc=1">https://www.amazon.com/Roller-Chain-Connecting-Links-Pack/dp/B085FQ9P6F/ref=asc_df_B085FQ9P6F/?tag=hyprod-20&amp;linkCode=df0&amp;hvadid=459618092337&amp;hvpos=&amp;hvnetw=g&amp;hvrand=3265920101474883529&amp;hvpone=&amp;hvptwo=&amp;hvqmt=&amp;hvdev=c&amp;hvdvcmdl=&amp;hvlcint=&amp;hvlcophy=1013406&amp;hvtargid=pla-945359385976&amp;psc=1</a>
22	Chain Tightener	need to order	n/a	2	36	72	<a href="https://www.amazon.com/dp/B07GKXLYBS/ref=sspa_dk_detail_3?pd_rd_i=B07GKXLYBS&amp;pd_rd_w=YdFF&amp;content-id=amzn1.sym.88097cb9-5064-44ef-891b-abfacbc1c44b&amp;pf_rd_p=88097cb9-5064-44ef-891b-abfacbc1c44b&amp;pf_rd_r=DN24X03N03HTKZQ7QBCK&amp;pd_rd_wg=wRDjx&amp;pd_rd_r=d5340de9-5634-4e84-9245-015d782bfd36&amp;s=industrial&amp;sp_csd=d2lkZ2V0TmF1ZT1zcf9kZXRhaWw&amp;spLa=ZW5jcnlwdG-VkUXVhbGimaWVpUEYs1RFRUpBSDBVTzhYJmVuY3J5cHRlZElkPUEwMDU2MzczMVA5M1VHR0Q5TFh0QSZlbnNyeXB0ZWRBZEikPUEwNzY5NjA3MUYyMlpMTZBUUyZyZ3aWRnZXROYW11P1XNwX2RldGFpbCZlY3Rpb249Y2pY2lS2WRpcmVjdCZkb05vdExvZ0NsaWNRXPRydwU&amp;th=1">https://www.amazon.com/dp/B07GKXLYBS/ref=sspa_dk_detail_3?pd_rd_i=B07GKXLYBS&amp;pd_rd_w=YdFF&amp;content-id=amzn1.sym.88097cb9-5064-44ef-891b-abfacbc1c44b&amp;pf_rd_p=88097cb9-5064-44ef-891b-abfacbc1c44b&amp;pf_rd_r=DN24X03N03HTKZQ7QBCK&amp;pd_rd_wg=wRDjx&amp;pd_rd_r=d5340de9-5634-4e84-9245-015d782bfd36&amp;s=industrial&amp;sp_csd=d2lkZ2V0TmF1ZT1zcf9kZXRhaWw&amp;spLa=ZW5jcnlwdG-VkUXVhbGimaWVpUEYs1RFRUpBSDBVTzhYJmVuY3J5cHRlZElkPUEwMDU2MzczMVA5M1VHR0Q5TFh0QSZlbnNyeXB0ZWRBZEikPUEwNzY5NjA3MUYyMlpMTZBUUyZyZ3aWRnZXROYW11P1XNwX2RldGFpbCZlY3Rpb249Y2pY2lS2WRpcmVjdCZkb05vdExvZ0NsaWNRXPRydwU&amp;th=1</a>
23	Guard for CVT (Aluminum/Steel)	already owned	n/a	1	0	0	
24	Metal Mesh for CVT Guard	already owned	n/a	1	0	0	
25	External Kill Switch	Ordered/Owned	n/a	1	62.95	62.95	<a href="https://www.amazon.com/Ski-Doo-1994-1996-Snowmobile-27-0152-414612700/dp/B079FJSJW7">https://www.amazon.com/Ski-Doo-1994-1996-Snowmobile-27-0152-414612700/dp/B079FJSJW7</a>
26	Cockpit Kill Switch	Ordered/Owned	n/a	1	62.95	62.95	<a href="https://www.amazon.com/Ski-Doo-1994-1996-Snowmobile-27-0152-414612700/dp/B079FJSJW7">https://www.amazon.com/Ski-Doo-1994-1996-Snowmobile-27-0152-414612700/dp/B079FJSJW7</a>
27	Sheet metal for back plate	already owned				0	
28	Lubrication	already owned	n/a	1	13	13	
29	CVT	already owned	n/a	1	0	0	
30	Engine	owned	n/a	1	0	0	
31	Gear Casing Tabs	Need to manufacture		5			

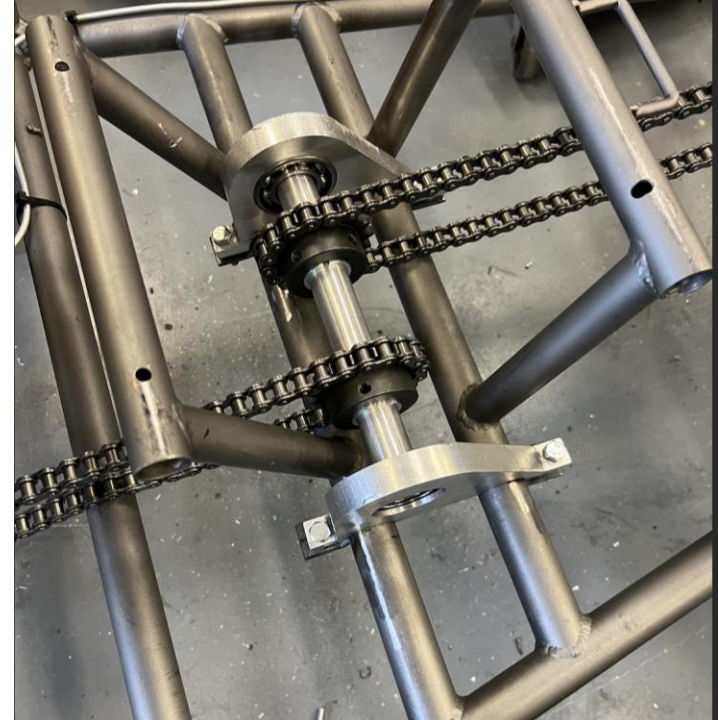
# Manufacturing Plan

Importance	Part	Number of parts	Who	Time to manufacture/part (hr)	Total time (hr)	Raw Material	Location	Material on hand	Percentage Complete
<b>CNC Mill</b>									
1	Shafts for gear box	3	Henry/ Logan	10	30	Steel	Machine shop	Yes	100%
2	Gearbox casing	2	Henry/ Erik	6	12	Aluminum	Machine shop	Yes	100%
<b>Fab</b>									
1	Two extra members on the front	2	Henry/Claire	3	6	Chromoly	Machine shop	Yes	100%
2	Tabs	20	Henry/Erik	0.1	2	Steel	Machine shop	Yes	100%
2	Brake caliper mount	1	Logan	0.5	0.5	Steel	Machine shop	Yes	100%
<b>Lathe</b>									
1	Shafts for gear box	3	Henry/ Logan/Brennan	2	6	Steel	Machine shop	Yes	100%
2	Shafts for Sprockets	2	Logan/ Claire	0.5	1	Aluminum	Machine shop	Yes	100%
3	Shaft collars	2	Claire	1	2	Aluminum	Machine shop	Yes	100%
<b>Mill/Tormach</b>									
1	Bearing holders	4	Claire/Brennan	4	16	Aluminum	Machine shop	Yes	100%
1	Brake caliper mount	1	Logan/Henry	1.5	3	Aluminum	Machine Shop	Yes	100%
1	Brake connector	2	Logan	0.5	1	Aluminum	Machine Shop	Yes	100%
2	Flange to Axel mount	2	Logan/Henry	0.5	1	Aluminum	Machine shop	Yes	100%
1	Brake Disk	1	Claire	4	4	Steel	Machine Shop	Yes	100%
<b>Outsource</b>									
1	Bearings (gearbox&chaindrive)	12	Logan/ Claire	0	0	Steel	Bearings online	some	100%
1	Gears	4	Team	3	12	Steel	Wire EDM	Yes	100%
1	Chains	2	Team	1	2	Steel	Machine shop	Yes	100%
<b>Percent Build=</b>				<b>100%</b>					





Current state





# Demonstration

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# Gantt chart

Phase 3				
Bearing mount placement decision	Claire	100%	3/8/23	3/13/23
Remake final CVT casing	Logan	95%	3/10/23	3/14/23
Gearbox casing cut out	Logan	100%	3/10/23	3/15/23
CAD finalization for 100% and nuts and bolts selection	Erik	100%	3/16/23	3/20/23
Tabs welded to frame for chain	henry/claire	100%	3/22/23	3/22/23
Brake rotor location	logan	100%	4/1/23	4/7/23
brake mounts	claire/logan	100%	4/7/23	4/7/23
test out gearbox	Team	100%	4/10/23	4/16/23
initial testing	team	15%	4/14/23	4/20/23
Safety features (casing)	team	25%	4/16/23	5/5/23
Implementing new gear box	team	15%	4/28/23	5/23/23
Reweld frame	team	75%	4/19/23	5/23/23

# Next steps



Working on four new gears for backup (new gears altogether)



Securing everything to the frame



Work on Safety Features for competition, CVT Guard + Chain Guard



Testing



# Questions?

Erik and Claire are available at the machine shop from 4:00 – 6:00 pm to answer any questions