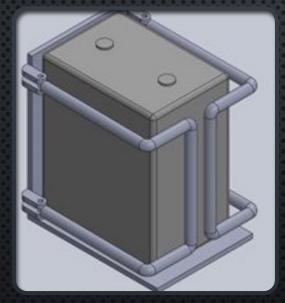
EBAJA

OCTAVIO DURAN – BUDGET LIASON BRENDON JAMESON – CAD/MANUFACTURING ENGINEER BENJAMIN PLIS – TEST ENGINEER ABRIANA ROMERO – PROJECT MANAGER JARED WALKER - LOGISTICS

DESIGN EFFORTS

BATTERY CASINGGEARBOX (DRIVETRAIN)



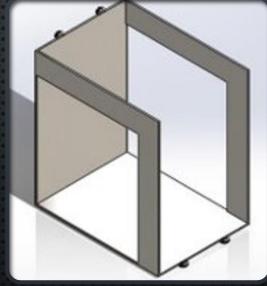


Figure 1: Iteration 1 (Battery Casing)

Figure 2: Iteration 2 (Battery Casing)

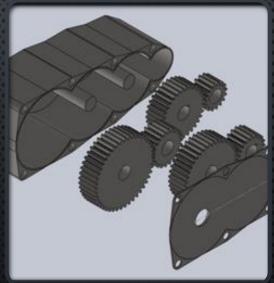




Figure 3: 7th Iteration of Gearbox Design

Figure 4: Torque Converter

Brendon Jameson, Octavio Duran 21F13 04/26/22

DESIGN EFFORTS

- FINAL BATTERY CASE DESIGN
- BATTERY FITS!

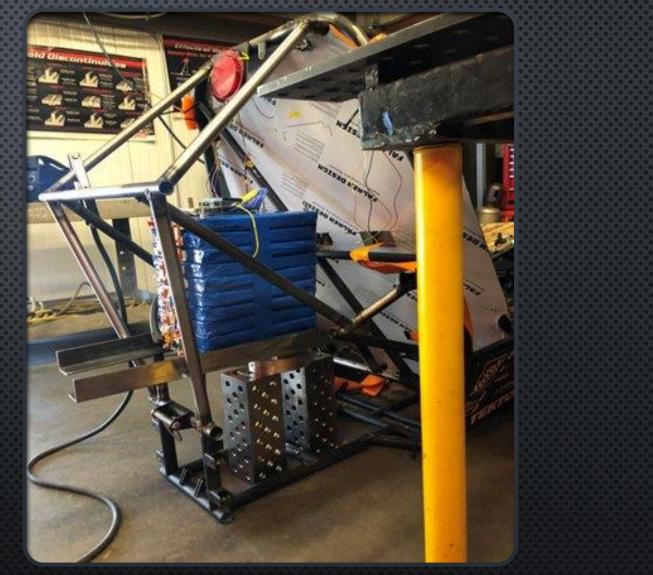


Figure 5: Battery Mount Test with failure safety devices

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Table 1: Final Purchasing Plan

PURCHASING PLAN

Items 100% Purchased

Total Spendings: \$3,268.01

Octavio Duran 21F13 04/26/22

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CV Axles	East Lake Axle	161.48	Alresady have	Assembled
Hex Head Screws (Front)	McMaster	\$33.12	Already Have	Assembled
Socket Cap Screws (Front)	Fastenal	\$12.15	Already Have	Assembled
Lock Nuts (Front)	Fastenal	\$10.84	Already Have	Assembled
Hex Nuts (Front)	Fastenal	\$12.26	Already Have	Assembled
Swivel Joint Bearings (Front)	Amazon	\$85.12	Already have	Assembled
O-Rings (Front & Rear)	McMaster	\$16.78	Already Have	Assembled
Flat Washers (Front)	Fastenal	\$1.61	Already Have	Assembled
Front Hubs (Front)	Lonestar Racing	\$384.49	Already have	Assembled
Master Cylinder (Front)	Summit Racing	\$175.90	Already have	Assembled
Spindles (Front)	Lonestar Racing	\$208.68	Already have	Assembled
Steering Box (Front)	Hyper Racing	\$375.27	Already have	Assembled
Bearing Cup (Front)	Off Road Warehouse	\$33.44	Already have	Assembled
Safety Harness (Frame)	Amazon	\$44.75	Already have	Assembled
Liquid Rubber (Frame)	Home depot	\$29.98	Already have	Assembled
Firewall (Frame)	Home Depot	\$95.40	Already have	Assembled
Battery Casing material (Drivetrain)	Mayorgas Welding	\$174.80	Already have	Assembled
Rear Plate (Drivetrain)	Mayorgas Welding	\$38.37	Already have	Assembled
Bearings	VXB Ball Bearings	\$11.60	Already have	Assembled
Wheels (Front & Rear)	HSD Racing	\$261.90	Already have	Assembled
Disc Brakes (Rear)	Summit Racing	\$80.55	Already have	Assembled
CVT Converter	GO Power Sports	\$595.00	Already have	Assembled
Rear Wheel Hubs (Rear)	Ebay	\$34.94	Already have	Assembled
Front Spindle Castle Nuts	Ebay	\$19.14	Already have	Assembled
Splined Steering Shaft	Amazon	\$15.93	Already have	Assembled
4 Front Wheel Hub Stud Bolt	Amazon	\$10.99	Already have	Assembled
Brake Disk Screws	Amazon	\$20.98	Already have	Assembled
Brake Disk Rotor	Amazon	\$81.98	Already have	Assembled
Alloy Steel Round Bar 4130	Online Metals	\$147.92	Already have	Assembled
Fire Extinguishers	Home Depot	\$29.97	Already have	Assembled
Rubberized Chain	Home Depot	\$20.80	Already have	Assembled
Quick Link	Home Depot	\$8.44	Already have	Assembled
Bolts	Home Depot	\$8.44	Already have	Assembled
Roller Chain	Tractor Supply	\$24.99	Already have	Assembled

Table 2: Final Manufacturing Plan

Manufacturing Plan						
Part Name	Cost	Fabrication Status	Manufacturer	Location	Time to Manufacture	Material
Top Panel	\$50	Future Work	TBD	TBD	TBD	Carbon Fiber or kevlar
Side Panel	\$100	Future Work	TBD	TBD	TBD	Carbon Fiber or kevlar
Brake Mount	\$10	Future Work	eBaja Team	Machine Shop	1 day	1/8" steel plate
Control Arm	\$20	Completed	eBaja Team	Machine Shop	1 week	4340 Steel Pipe
Dashboard	\$10	Completed	eBaja Team	Machine Shop	2 days	Plywood/Aluminum, rubber
Front Knuckle Assembly	0	Completed	eBaja Team	Machine Shop	2 hours	Steel
Steering Wheel	\$20	Completed	eBaja Team	Machine Shop	4 days	Steel plate
Bushings	\$0	Completed	eBaja Team	Machine Shop	2 days	Steel
High Misalignment Spacers	\$0	Completed	eBaja Team	Machine Shop	3 days	Steel
Frame	\$150	Completed	eBaja Team	Machine Shop	2 weeks	4340 Steel Pipe
Jackshaft and Mount	\$0	Completed	eBaja Team	Machine Shop	2-3 days	6061 T6 Aluminum
Rear knuckles	\$120	Completed	eBaja Team	Machine Shop	2-3 days	6061 T6 Aluminum
Motor Mount	\$20	Completed	eBaja Team	Machine Shop	1 day	Steel plate
Battery Casing	\$50	Completed	eBaja Team	Machine Shop	2-3 days	Steel plate, rubberised chain
Firewall	\$10	Completed	eBaja Team	Machine Shop	3-4 hours	Steel, Rubber
Rear Plate	\$100	Completed	eBaja Team	Machine Shop	3 days	Steel Plate

MANUFACTURING PLAN

Abriana Romero 21F13 04/26/22

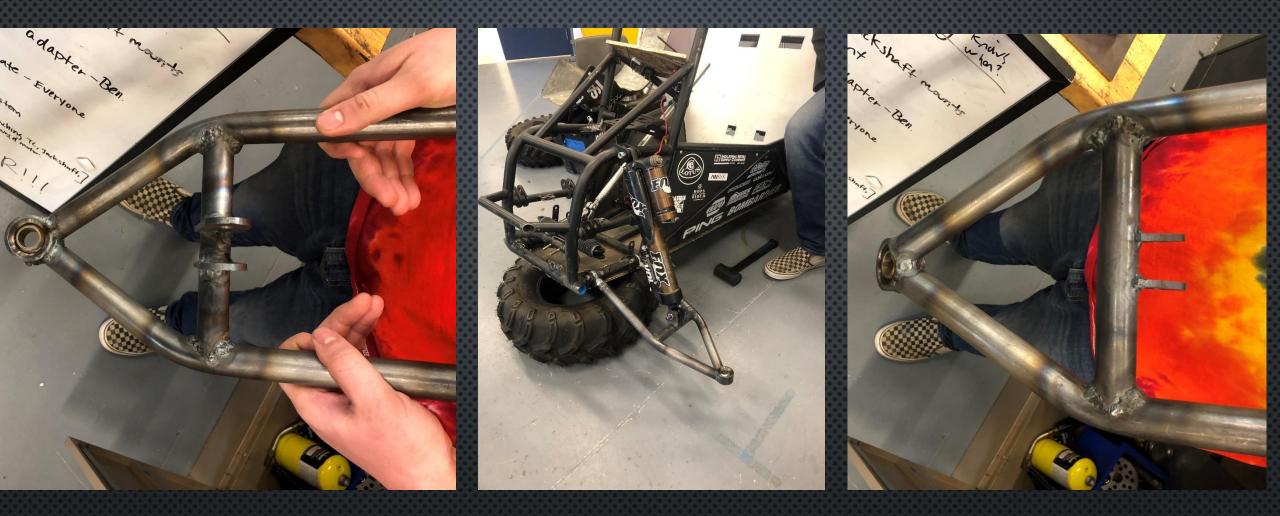


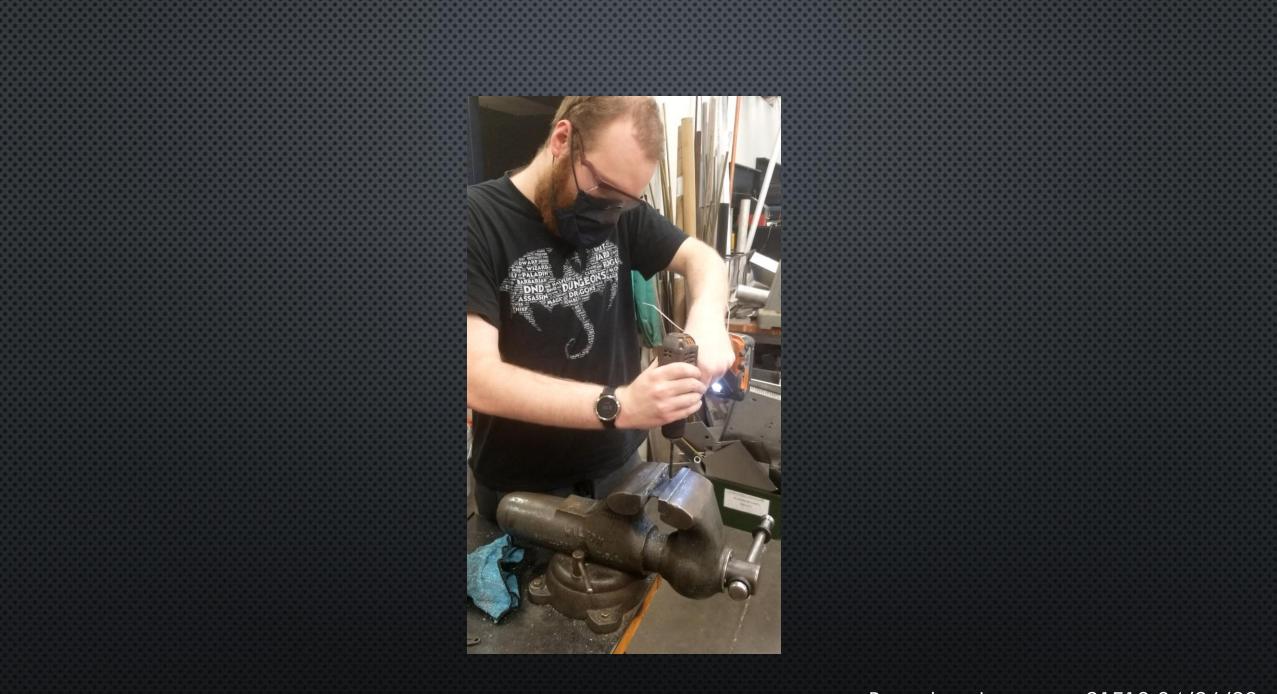
Figure 6: Finished FE Control Arm Figure 7: Lower Control Arm Fitment Figure 8: Slightly Less Terrible Welds

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Figure 8: Jackshaft Mount Assembly

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Figure 9: Rack-Pinion Gear Box (Steering)





Figure 10: Steering Wheel Cut Using Tormach

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Figure 11: Drivetrain Mount Fitting

Figure 12: UGRADS chassis

Figure 13: Drivetrain Mount Installation

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Figure 14-15: Drivetrain Coupler

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Company Name					https://w	ww.vertex4	42.com/Excel	Templates	simple-gantt-char	rt.html														
Project Lead	P	Project Start:	Tue, 8/31	1/2021																				
		isplay Week:	20		Jan 10,	, 2022	Jan 17, 2	022	Jan 24, 2022	Jan 31, 20	022	Feb 7, 2022	Feb 14, 2022	Feb 21, 2022	Feb 28, 2022	Mar 7, 2022	Mar 14, 2022	Mar 21, 2022	Mar 28, 2022	Apr 4, 2022	Apr 11, 2022	Apr 18, 2022	Apr 25, 2	2022
		spiny meen.															12 13 14 15 16 17 18 19							
TASK	ASSIGNED TO	PROGRESS	START	END	мтw	TFSS	5 M T W 1	FSS	M T W T F S	S M T W T	r F S S I	M T W T F S	SMTWTF	S M T W T F S	S M T W T F	S S M T W T F	S S M T W T F S	S M T W T F S	S M T W T F S S	S M T W T F S	S M T W T F S S	M T W T F S	5 M T W	T F S S
Team Analytical Analysis Memo	Everyone	100%	4/7/22	4/14/22																				
Prototype	Everyone		4/4/22	4/18/22																				
CAD Package	Everyone	100%	4/4/22	4/18/22																				
Design Description	Everyone	100%	4/5/22	4/8/22																				
Design Requirements	Everyone	100%	4/8/22	4/11/22																				
Design Validation	Everyone	100%	4/11/22	4/14/22																				
Schedule & Budget	Everyone		4/14/22	4/17/22																				
Presentation 3	Everyone	100%	4/4/22	4/18/22																				
Testing procedures	Everyone	67%	3/24/22	4/4/22																				
Risk Analysis & Mitigation	Everyone	100%	4/4/22	4/15/22																				
Conclusion	Everyone	0%	4/15/22	4/26/22																				
Review and Edit Report	Everyone	0%	4/26/22	4/30/22																				
Final Report	Everyone	0%	3/24/22	4/30/22																				
Final CAD/BOM	Everyone	100%	4/26/22	5/5/22																				
Begin Mechanical Tests	Everyone	67%	4/11/22	5/10/22																				
Individual Analytical Report	Individual	100%	4/11/22	5/12/22																				
Prototype Demo	Everyone	100%	5/2/22	5/16/22																				
Final Prototype	Everyone	100%	5/2/22	5/19/22																				
Website Check	Everyone		5/16/22	5/23/22																				

SIMPLE GANTT CHART by Vertex42.com

Figure 16: Updated Gantt Chart

GANTT CHART

Benjamin Plis 21F13 04/26/22

- THANK YOU, QUESTIONS?
- TOTAL HOURS OVER BOTH SEMESTERS

1st Semester	2nd Semester	Total Hours			
857.63	1037.11	1894.74			

