

Robotic Arm



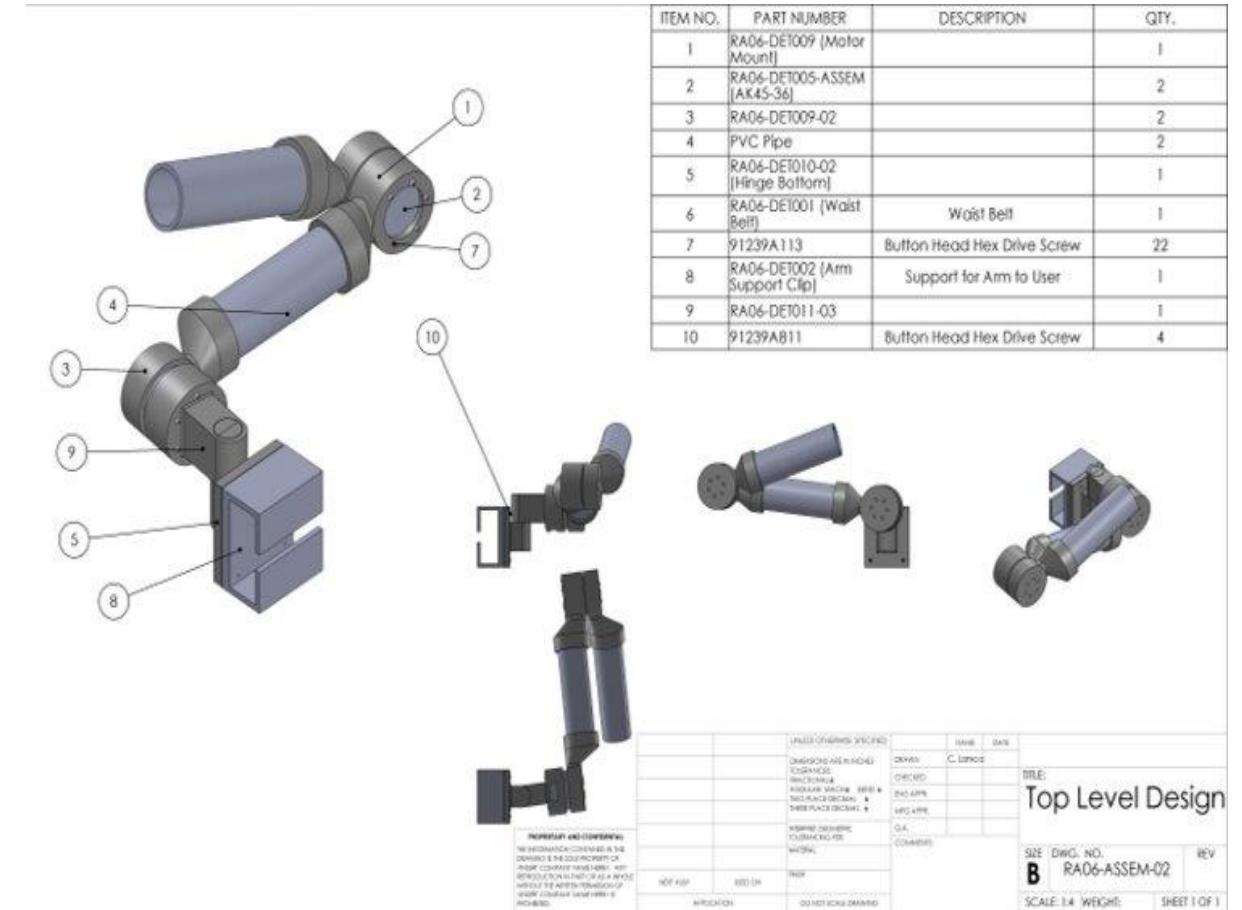
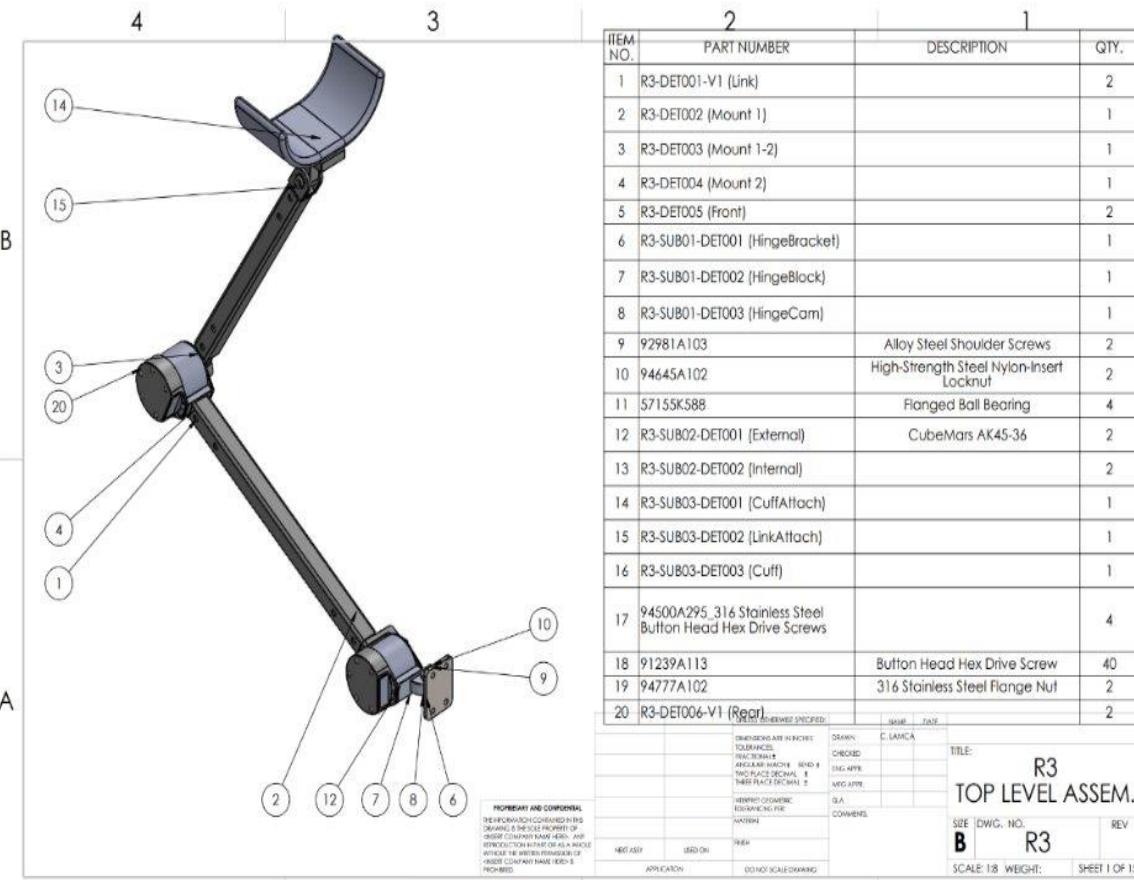
Cole Pace, Caleb Lamca, Kaitlyn Davis Joel Gisleskog, and Colin Donnellan

Project Description

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- Goal: develop a **waist-mounted robotic arm** that
 - Offers **active gravity compensation**
 - Remains **lightweight, low-profile, and energy efficient**
 - Enables the arm to rest naturally by the user's side.
- **Client:** Dr. Zach Lerner, Associate Professor of Mechanical Engineering, NAU.
- **Sponsorship:** W.L Gore

New model VS old model



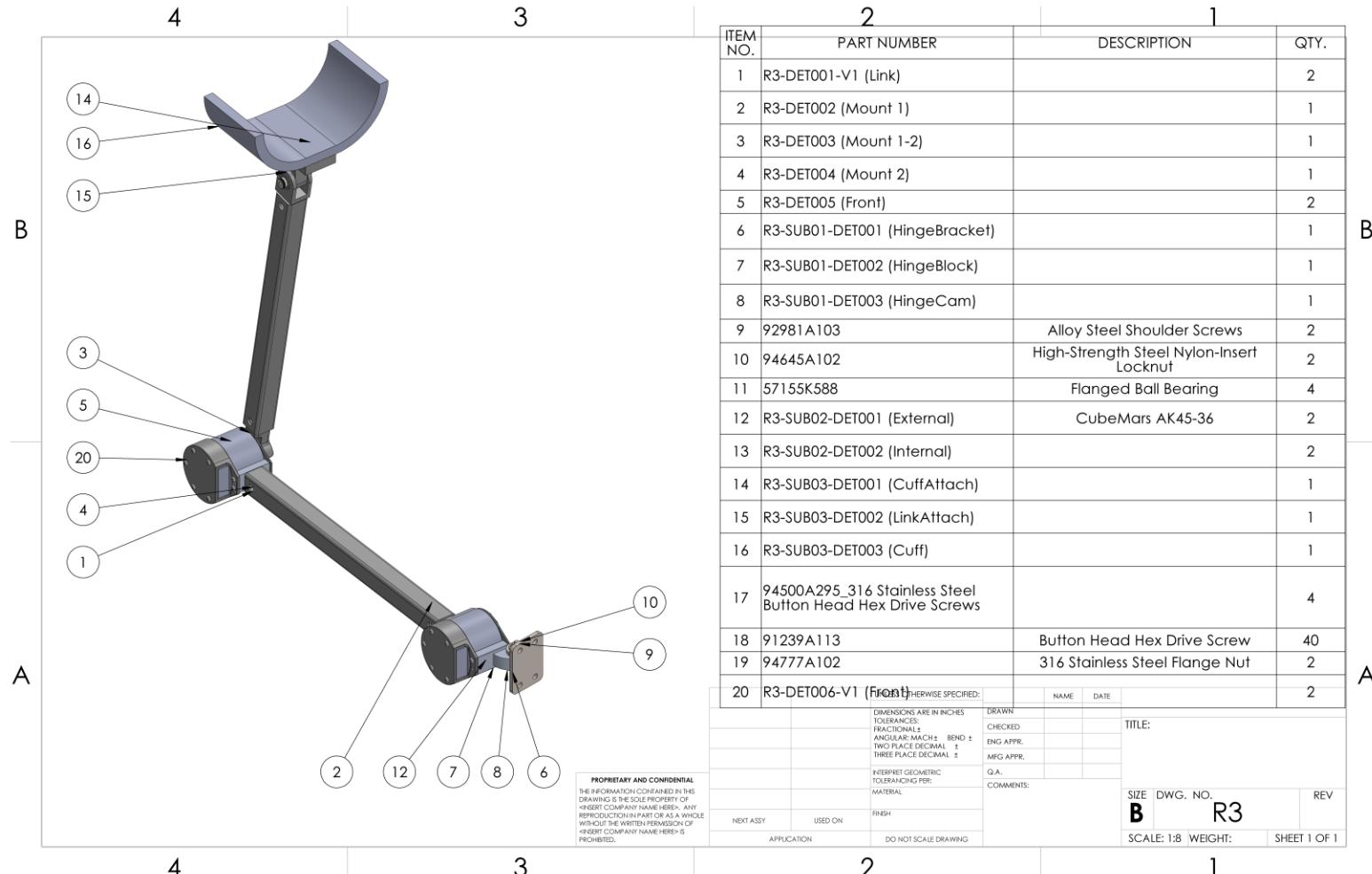
Purchase Plan

Type	Including	Percentage bought	Percentage on Hand
Fasteners	Screws, bolts, washers, heat set inserts, etc.	100	90
Printing Material	PLA, Onyx, and Carbon	100	100
Electronic Components	Batteries, Motor, control boards, etc.	80	80
Machined Parts	Commissioned Aluminum or other material	0	0
Overall		70	68

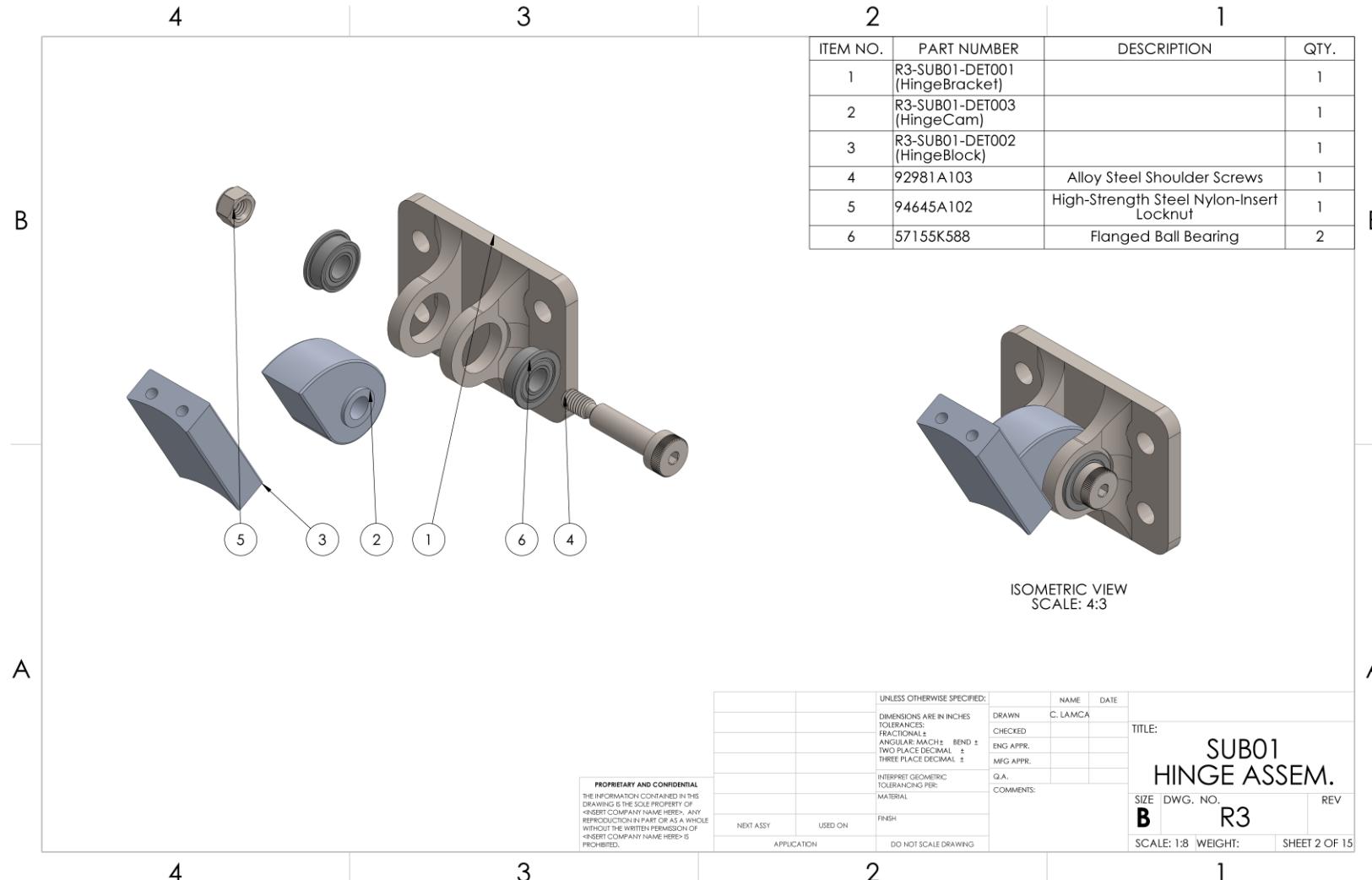
Manufacturing plan

Manufacturing Plan							
Completion	Part No.	Material	Manufacturing Hours / Part	Quantity	Total Time	Quantity Completed	Completed Time
	DET001-V1	Carbon Fiber	2	2	4	1	2
	DET002	ONYX	11	1	11	0	0
	DET003	ONYX	9	1	9	0	0
	DET004	ONYX	6	1	6	0	0
	DET005	Carbon Fiber	2	2	4	0	0
	DET006-V1	ONYX	7	2	14	0	0
	SUB03-DET001	ONYX / 6061-T6	5	1	5	0	0
	SUB03-DET002	ONYX / 6061-T6	5	1	5	0	0
	SUB03-DET003	ONYX	4	1	4	0	0
			Totals:	12	62	1	2
						Completed Manufacturing (%)	8.33%
						Manufacturing Time (%)	3.23%

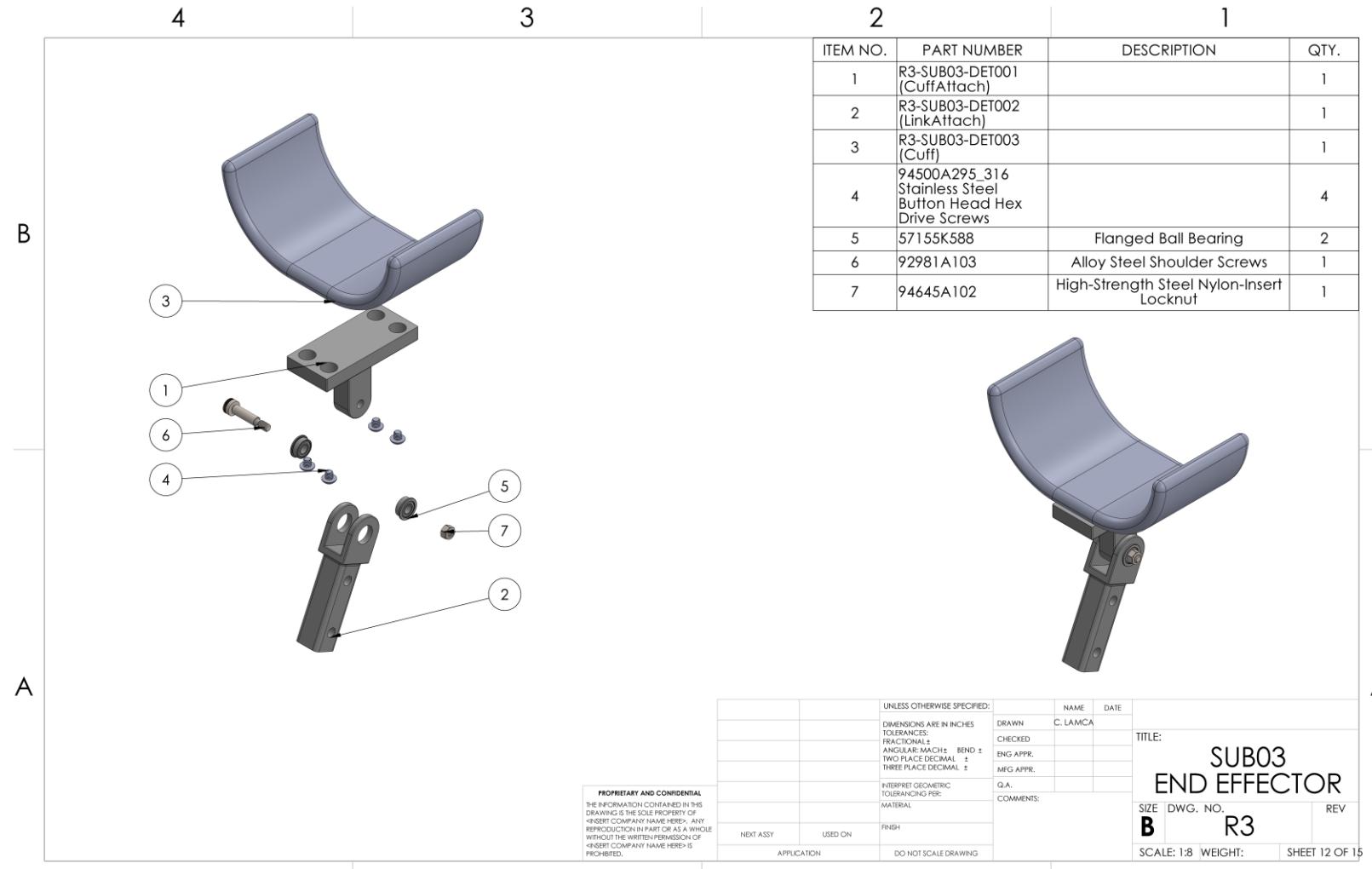
Design Efforts (Spring Semester)



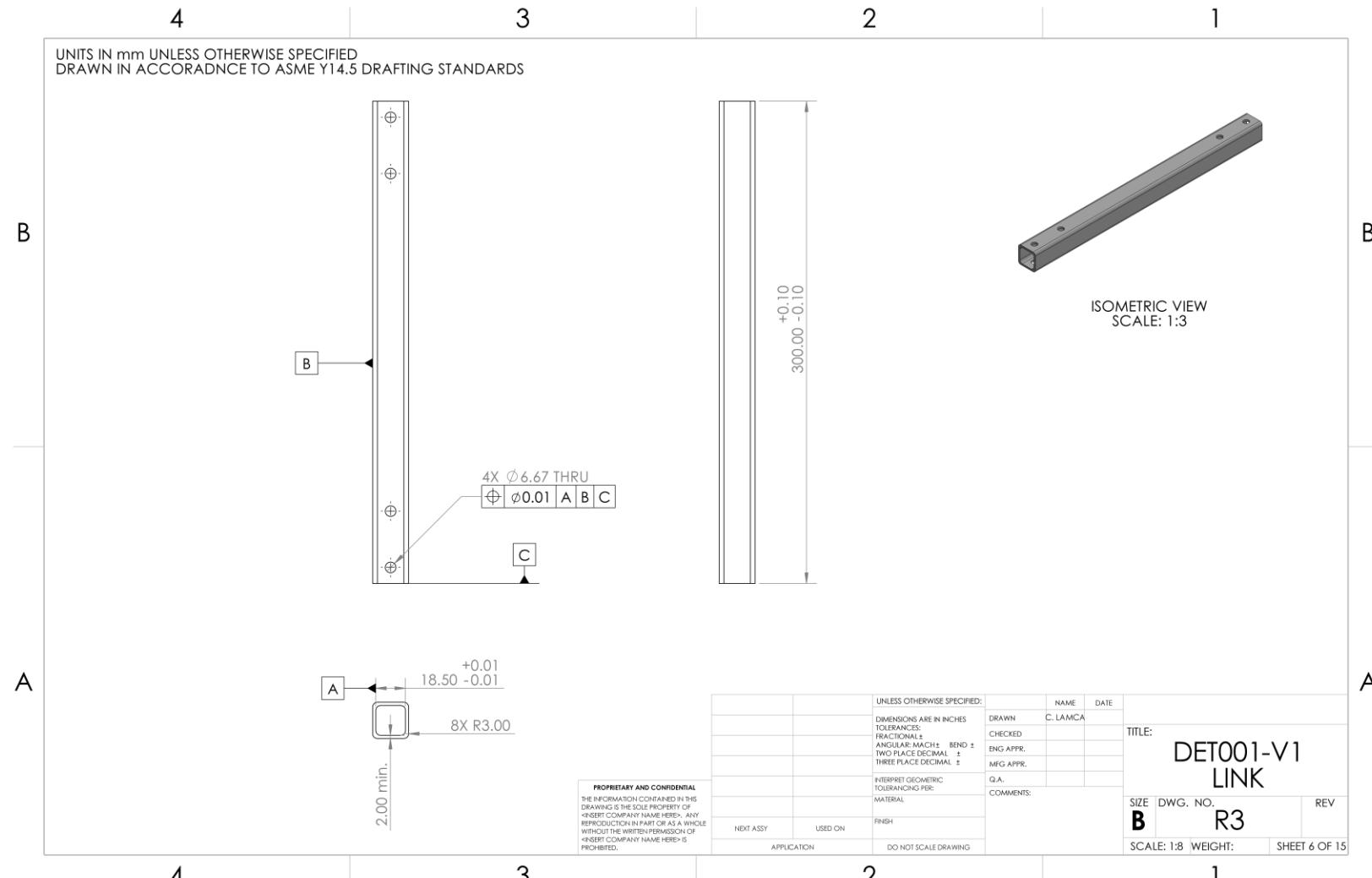
Design Efforts - Continued



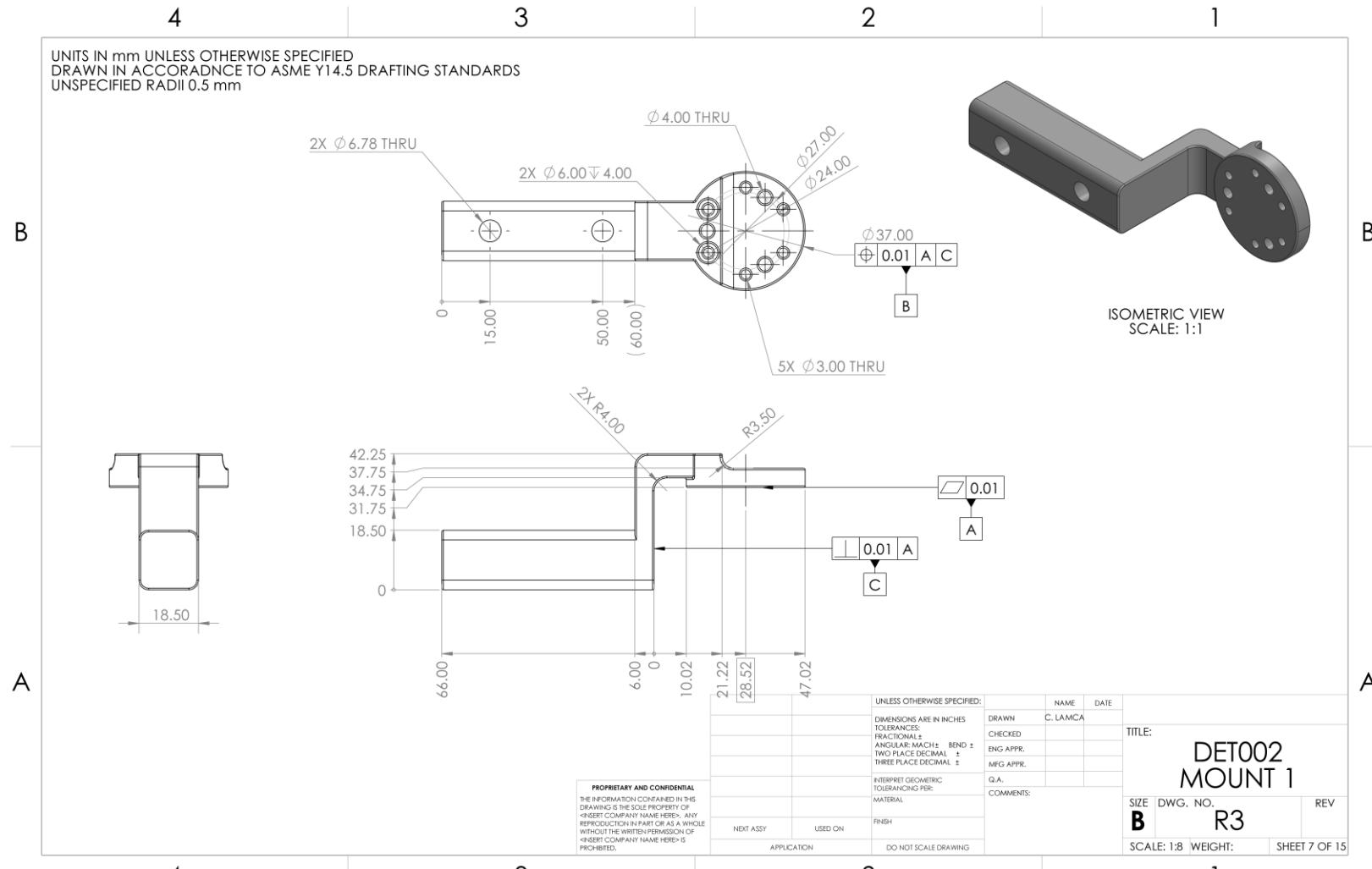
Design Efforts - Continued



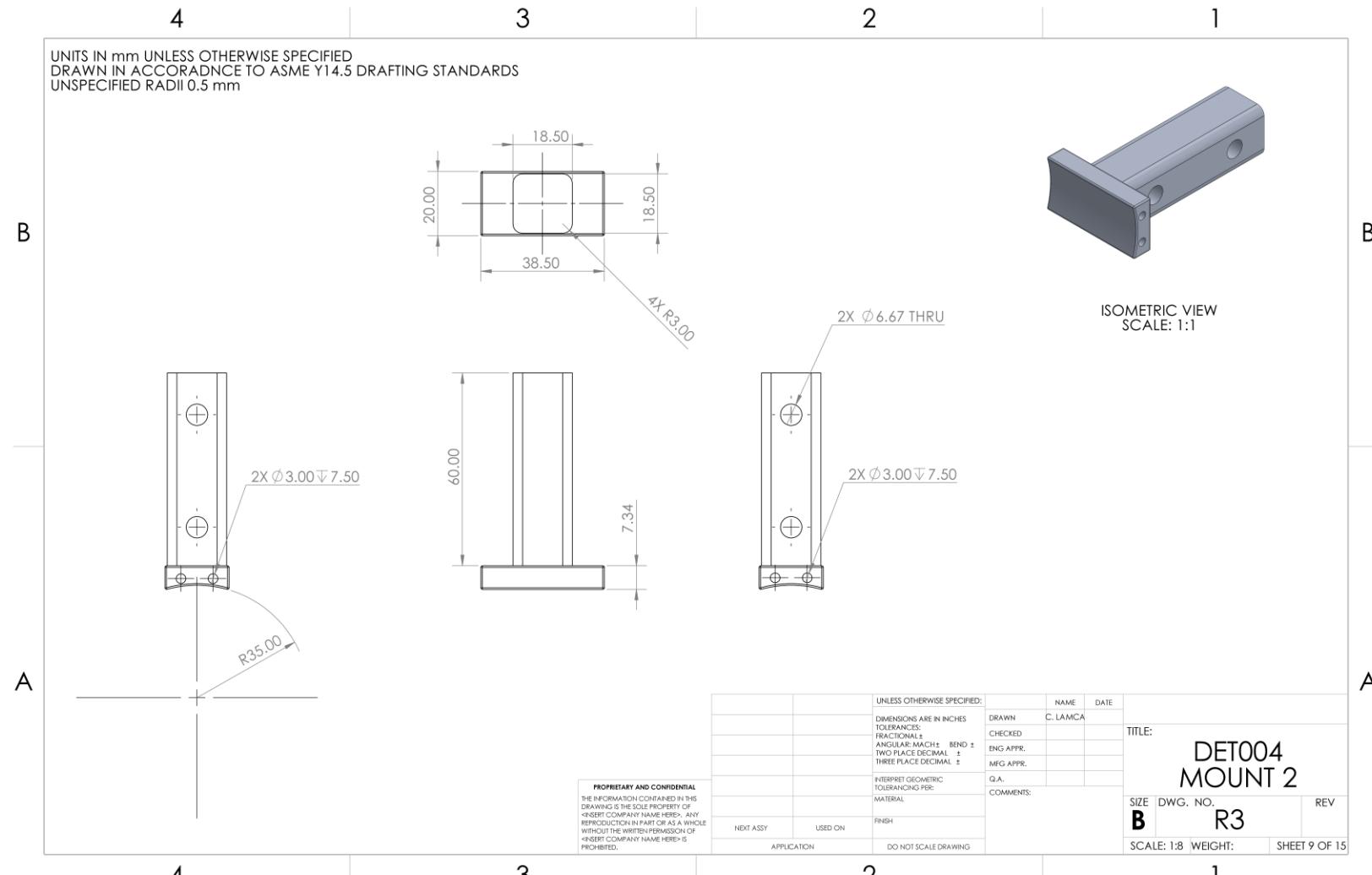
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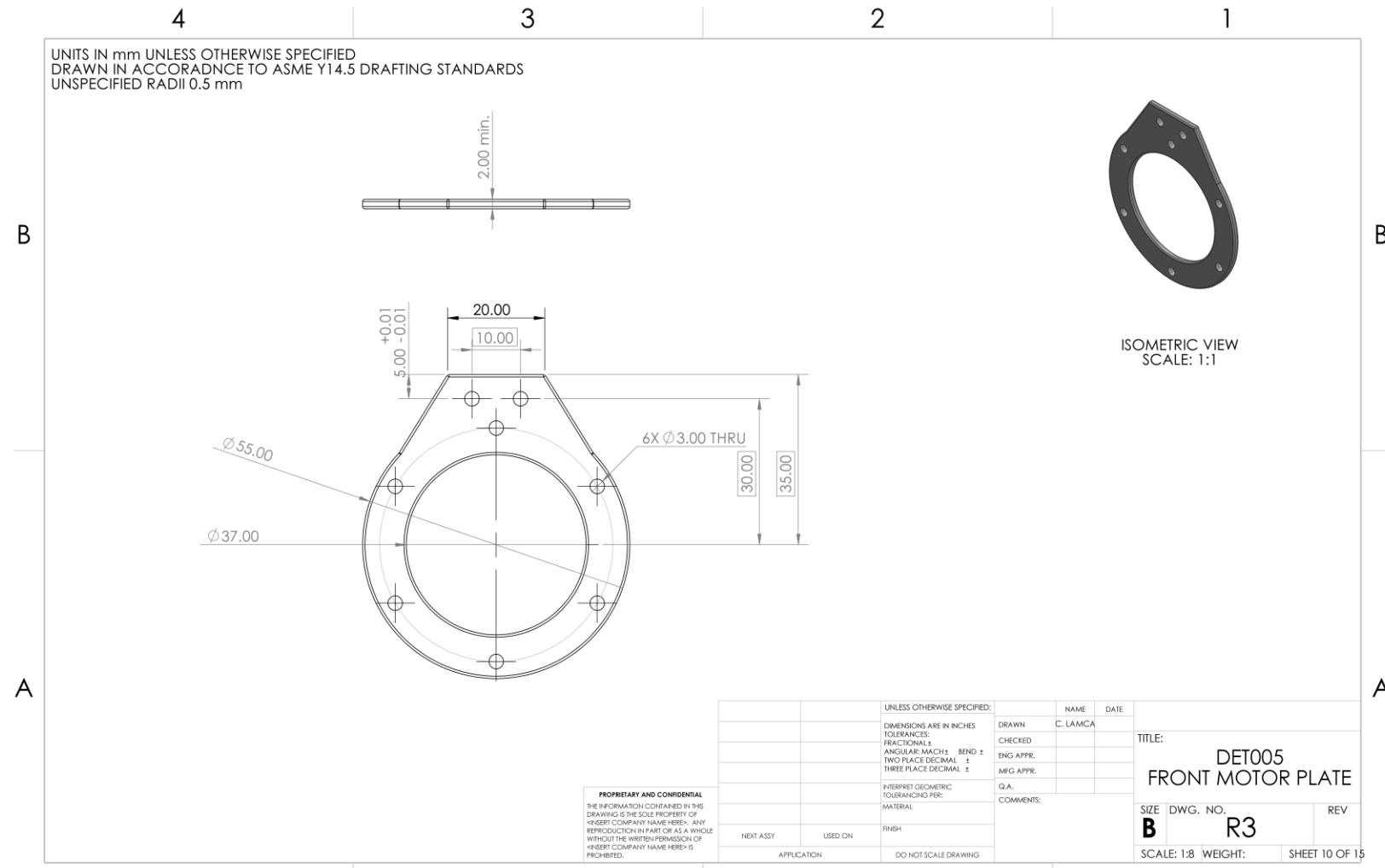
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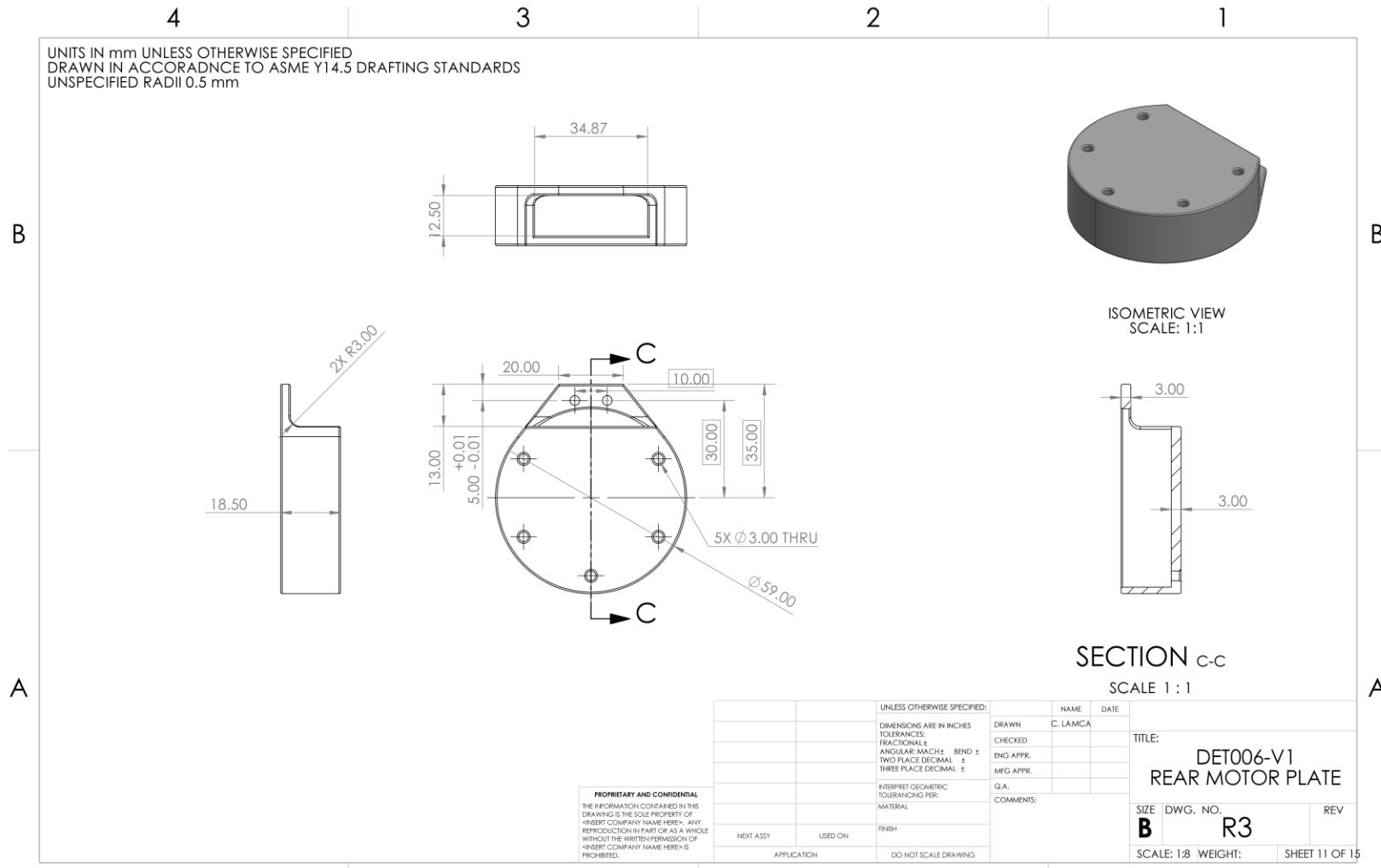
Design Efforts - Continued



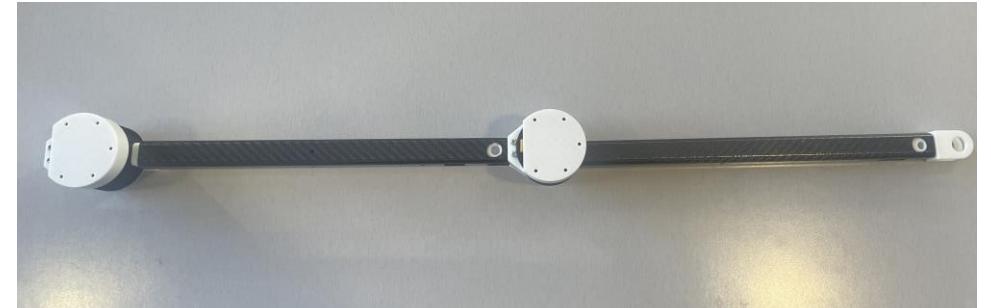
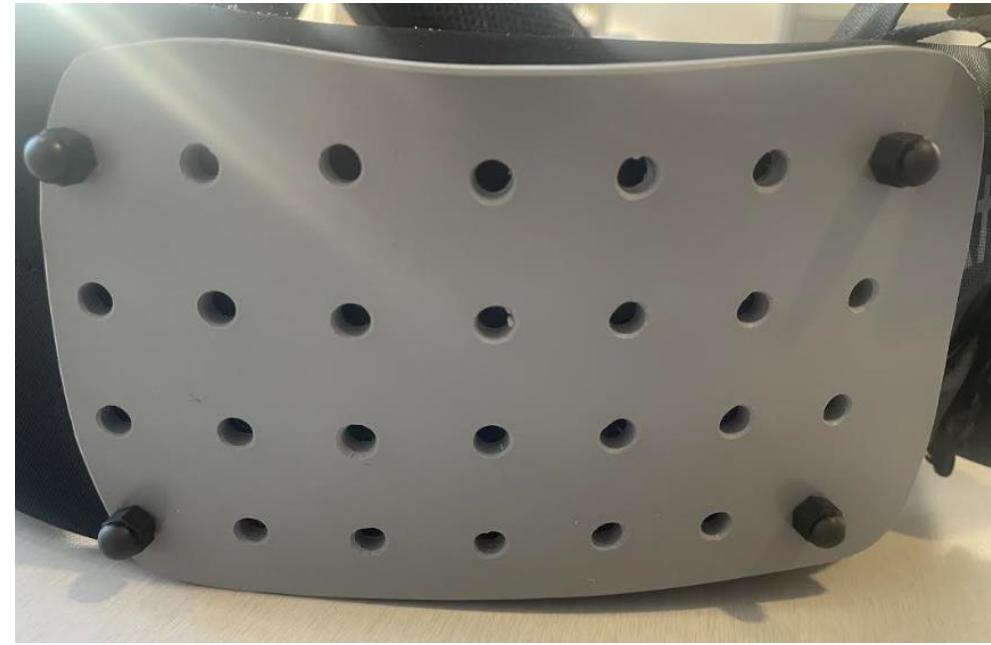
Design Efforts - Continued



Design Efforts - Continued

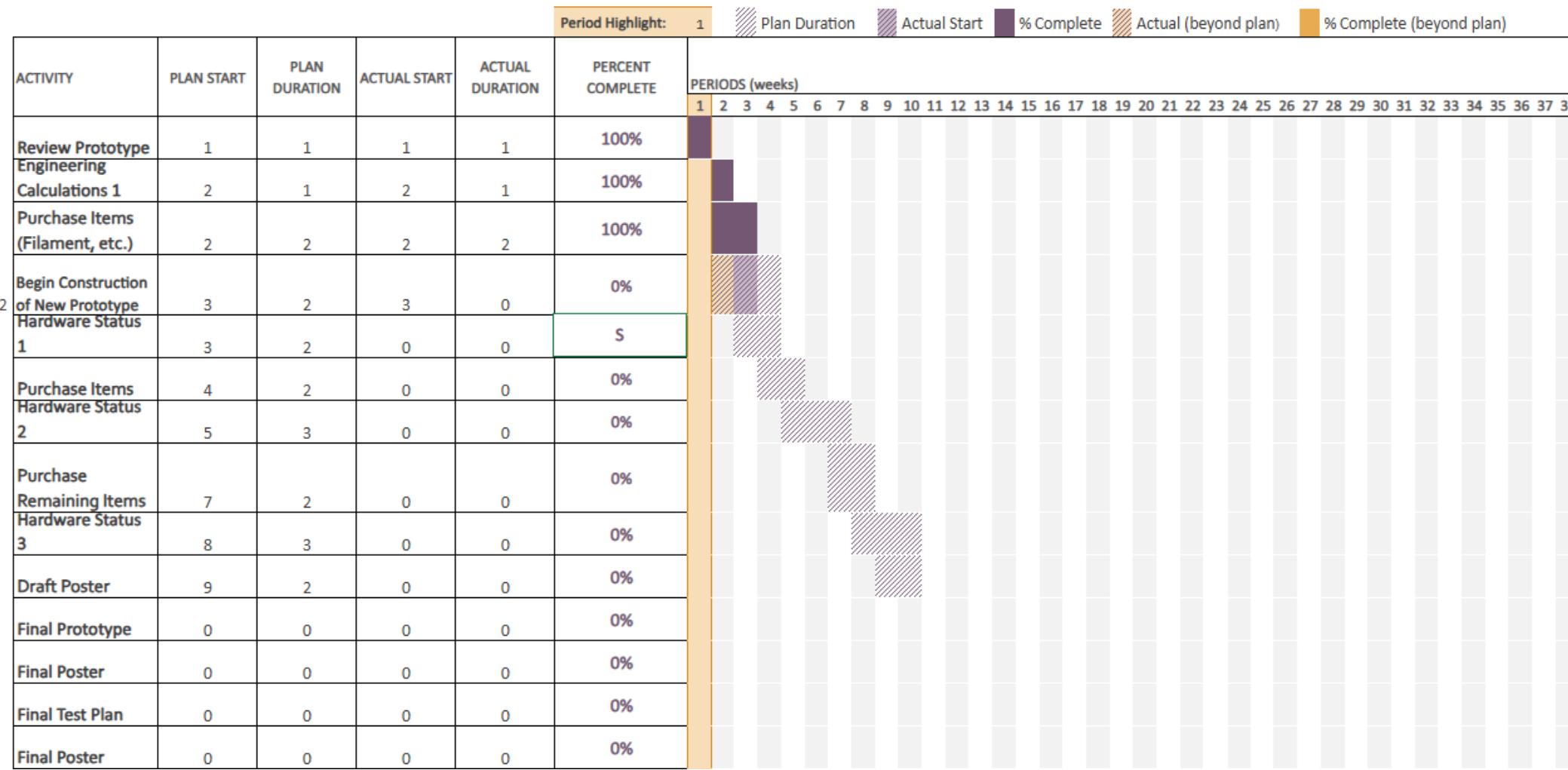


Demonstration



Gantt Chart

Semester 2



Thank you
And
Any Questions?