

# *THE IDEAL WORKSTATION*

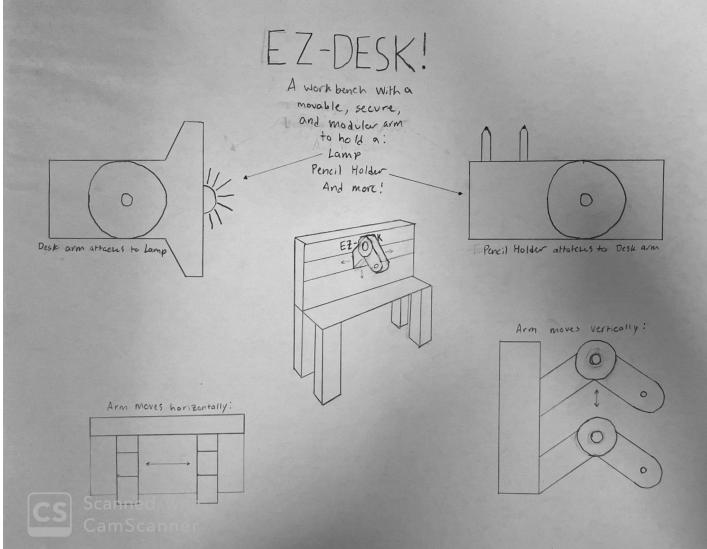
ME 1670 Group Project

*Subramanian, Shreyas; Wright, Trent; Nachaloor, Siddharth; Munshi, Kaif; Singhal, Akul*

*Introduction to Engineering Graphics and Design | FALL 2023*

# Project Proposal

**ME1670**  
**Final Project Proposal Template**

Section / Team Number	ME1670-A, Team 5
Team Name:	Georgia Desk Yellow Jackets
Team Members:	Trent Wright, Akul Singhal, Shreyas Subramanian, Siddharth Nachaloor, Kaif Munshi
Proposed Project Title:	EZ-Desk
	<p><b>In a paragraph, describe the problem you have chosen to address after the in-class Final Product Concept Critique. You are to choose either:</b></p> <ul style="list-style-type: none"> <li>• An existing product or product type to which you believe adding functionality or features would increase its value and usefulness</li> <li>• A new product idea, based on your own or others' expressed needs</li> </ul> <p>In either case, describe the opportunity for design, highlighting current unmet needs of users of the product or product-to-be, and how your proposed design might go about addressing those needs.</p> <p>Please provide the selected representative team design sketch (inserted as an image into this section). If the team ends up combining several concept sketches into a single design – please make sure to include all corresponding sketches (you do not need to make a new “combined” sketch)</p> <p>Engineers, architects, and artists tend to work on very detailed hand-drawn and assembly projects. To achieve their goals, they need their hardware and tools to be accessible but out of their way, yet still need sufficient lighting. The EZ-Desk provides a solution to this by providing light through a movable lamp attached to a gantry, and mounts trays and a pencil holder next to it. This gantry enables the light to be moved to all portions of the desk while also staying out of the way of the drafter/drawer's head. This desk will provide a sturdy yet efficient workspace for anyone that enjoys drawing, working on, or assembling projects.</p> 
Problem Definition:	Each team member must model at least 4 parts. The set of parts from the team will be assembled into one final assembly model. Please list the foreseeable/potential components of your design/assembly here, and if determined, who will be modeling each component on the team. Include a difficulty rating for each part, and attempt to distribute the more difficult parts among the team.

	<ol style="list-style-type: none"> <li>1. Lightbulb</li> <li>2. Lamp</li> <li>3. Pencil Holder</li> <li>4. Hardware Tray</li> <li>5. Articulating Lamp Arm</li> <li>6. Table</li> <li>7. Table Gantry Attachments</li> <li>8. Overhead Gantry</li> <li>9. Table Wheels</li> </ol>
Rationale for interest in this project topic choice:	<p><b>Describe why you chose this project topic. This could be based on an area of particular personal interest, an identified opportunity for improvement of the design of a product you currently use, or an invention that you came up through identification of a design opportunity, etc. Explain your motivation and interest, whatever it may be.</b></p> <p>We chose this project topic because as aspiring engineers, in our respective fields, we all require high-quality light sources to ensure we can fully meet the needs of our assignments at a high level to exceed expectations. Buying a single lamp can lead to dark places and shadows on far ends of the desk, especially when we are sketching for ME 1670. This motivated us to create a product that could move across an individual's workplace to assure that everywhere is properly lit and an individual is not restricted to only one part of the desk.</p>
Foreseeable Challenges/ Difficulties in Modeling:	<p><b>Describe any particularly challenging parts, features, modeling processes, or other aspects that you foresee as potentially difficult.</b></p> <ul style="list-style-type: none"> <li>- Troubles with getting the assembly to move with the proper limits.</li> <li>- Trying to integrate all our parts between the group members.</li> <li>- Trying to figure out the best way to design and model the gantry and attachments to work best with the design.</li> </ul>
Argument for Level of Complexity/ Difficulty of Chosen Project:	<p><b>Projects that are determined to be more complex and difficult will be judged and graded differently than those that are simpler. If a particularly complex or difficult design is chosen, grading will be adjusted to give extra credit for attempting a harder project. Make an argument for the level of difficulty of your project in terms of CAD modeling it, on a scale from 1 to 5:</b></p> <p><b>5- numerous complex surfaces well outside the scope of ME 1670,</b>  <b>3- being a typical ME 1670 project</b>  <b>1- a project that employs only basic shapes and is too simple for ME 1670.</b></p> <p>We would argue that the difficulty of our project on a scale of 1-5 would be a 4. This is because there is quite a bit of complexity in the modular attachment portion of our design. We also plan on using complex forms to remove some of the rigidity shown in the hand drawings. Once we begin designing, we are going to be mindful of the user and add as many accessible features that we could see useful if this was a production product.</p>
Additional Comments to Instructors:	<p><b>Include any additional comments to the instructors here.</b></p> <p>N/A</p>

# Preliminary Sketches

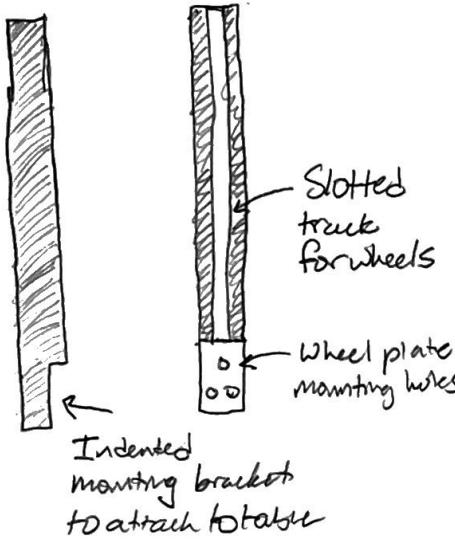
# Preliminary Sketches

Shreyas Subramanian

Team Project Part Sketches:

Vertical Posts: (x2)

Side View: Front View:

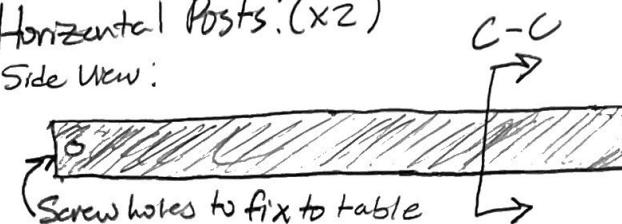


Wheel Plates: (x2)

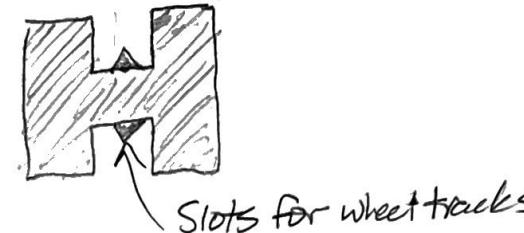


Horizontal Posts: (x2)

Side View:

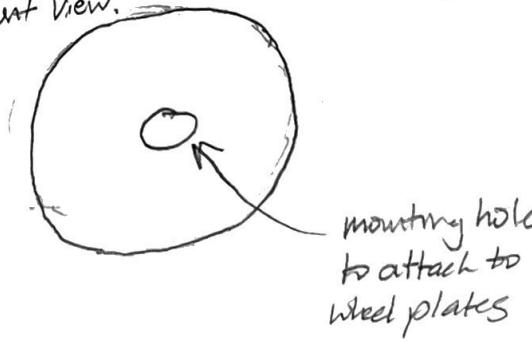


Cross Section C-C:

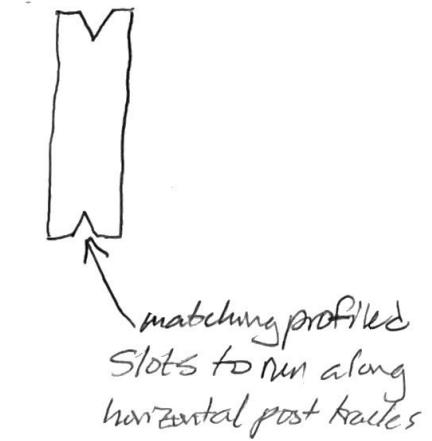


Wheels: (x6)

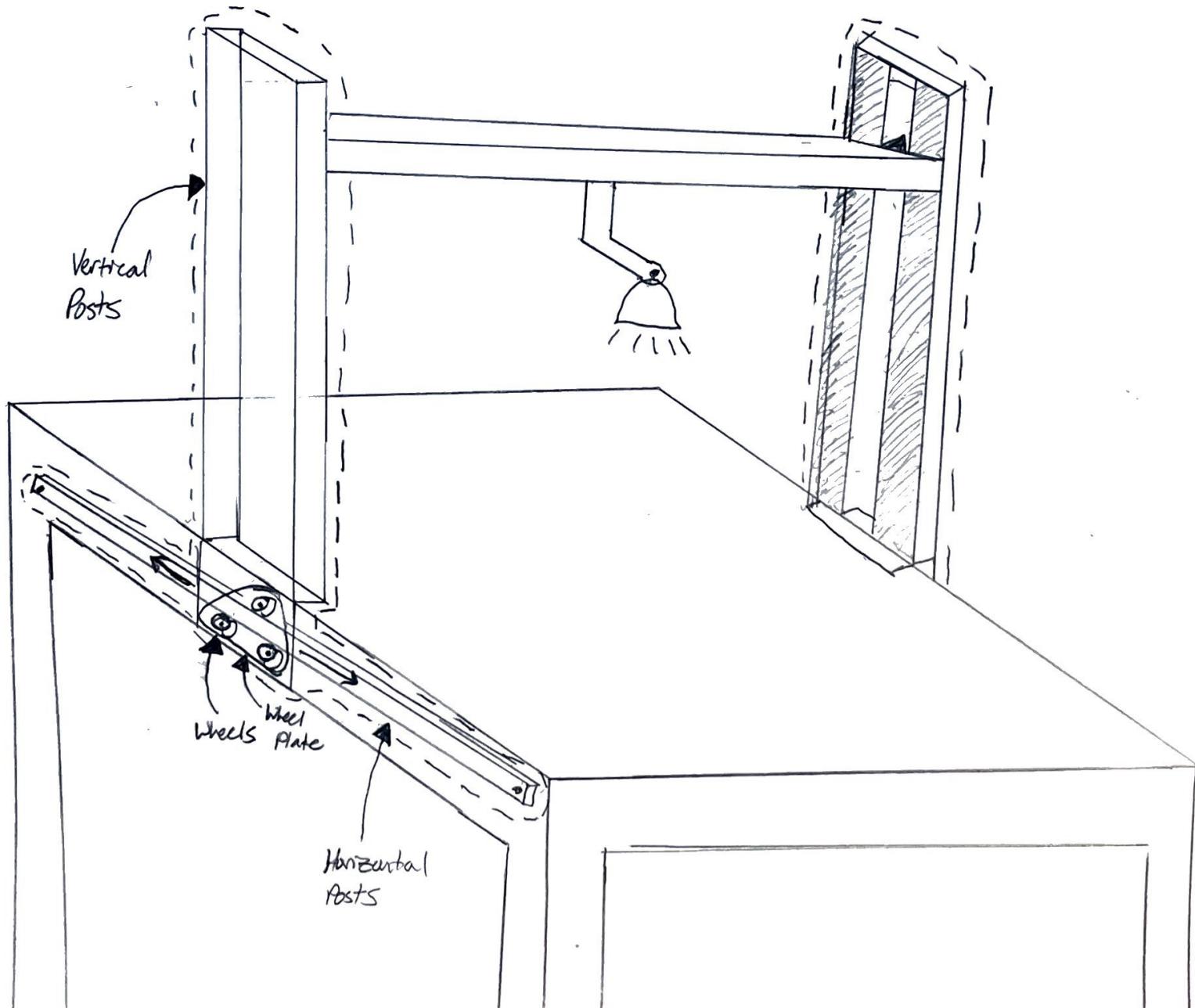
Front View:



Wheel | Side View:

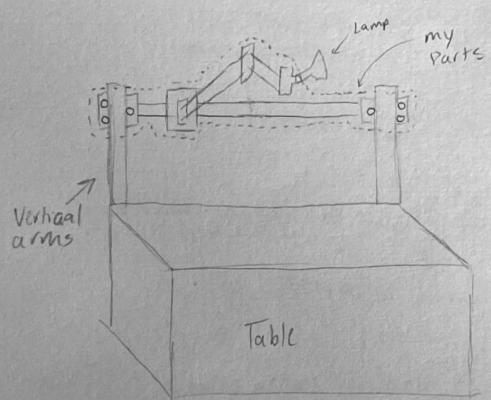


# Team Project Assembly Drawing:

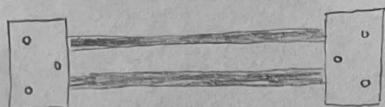


# Preliminary Sketches

Trent Wright



Track:



Modeled as one part. Has threaded holes in ends to accept the wheels that grip onto vertical posts.

Middle plate:



Simple plate to hold all 4 arms. They also allow for the arm rotation

Wheels:



Wheels with threads & spacer. These will grip onto vertical post.

Arm (x4)



This is one segment of the total articulating arm. It has a bearing in each end to facilitate rotation.

End plate:



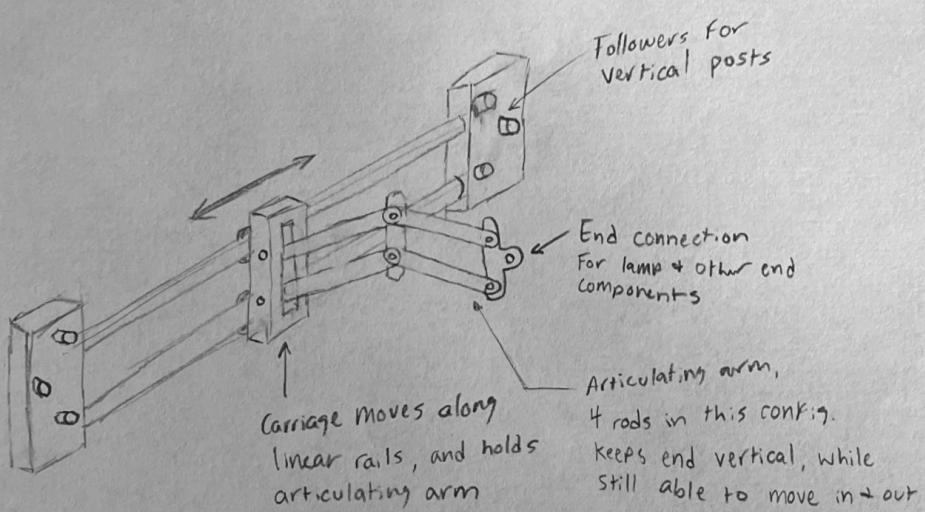
2 holes attach to arm, + the other attaches to lamp assembly.

Carriage:



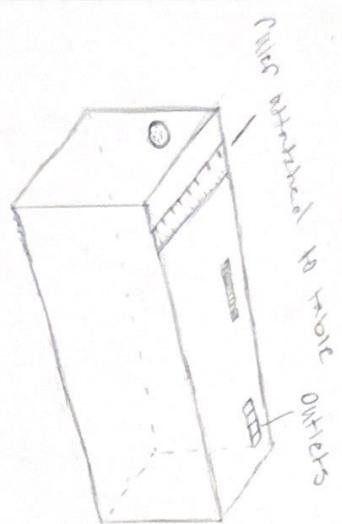
The carriage connects the arms to the track. It has bearings so it can slide on the track.

Trent Wright  
Group project sketch



# Preliminary Sketches

Kaif Munshi



TOP OF  
TABLE



Table Fan:

- rises out of table



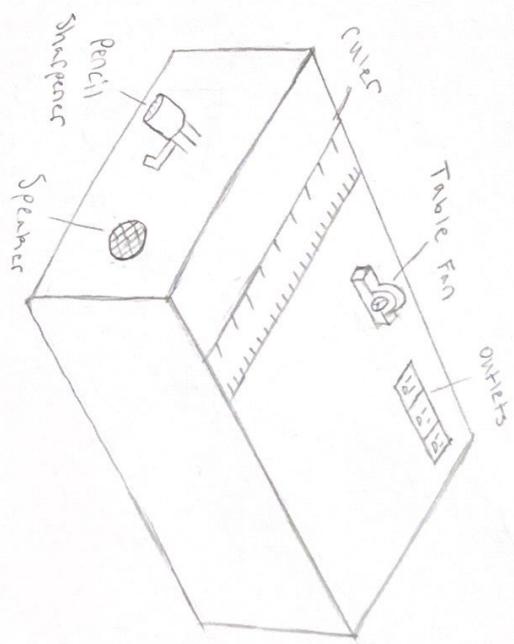
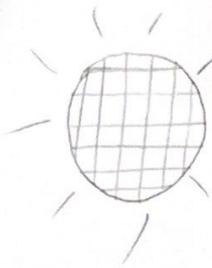
Pencil sharpener:

- attached to  
side of table's top

some waves

Speakers:

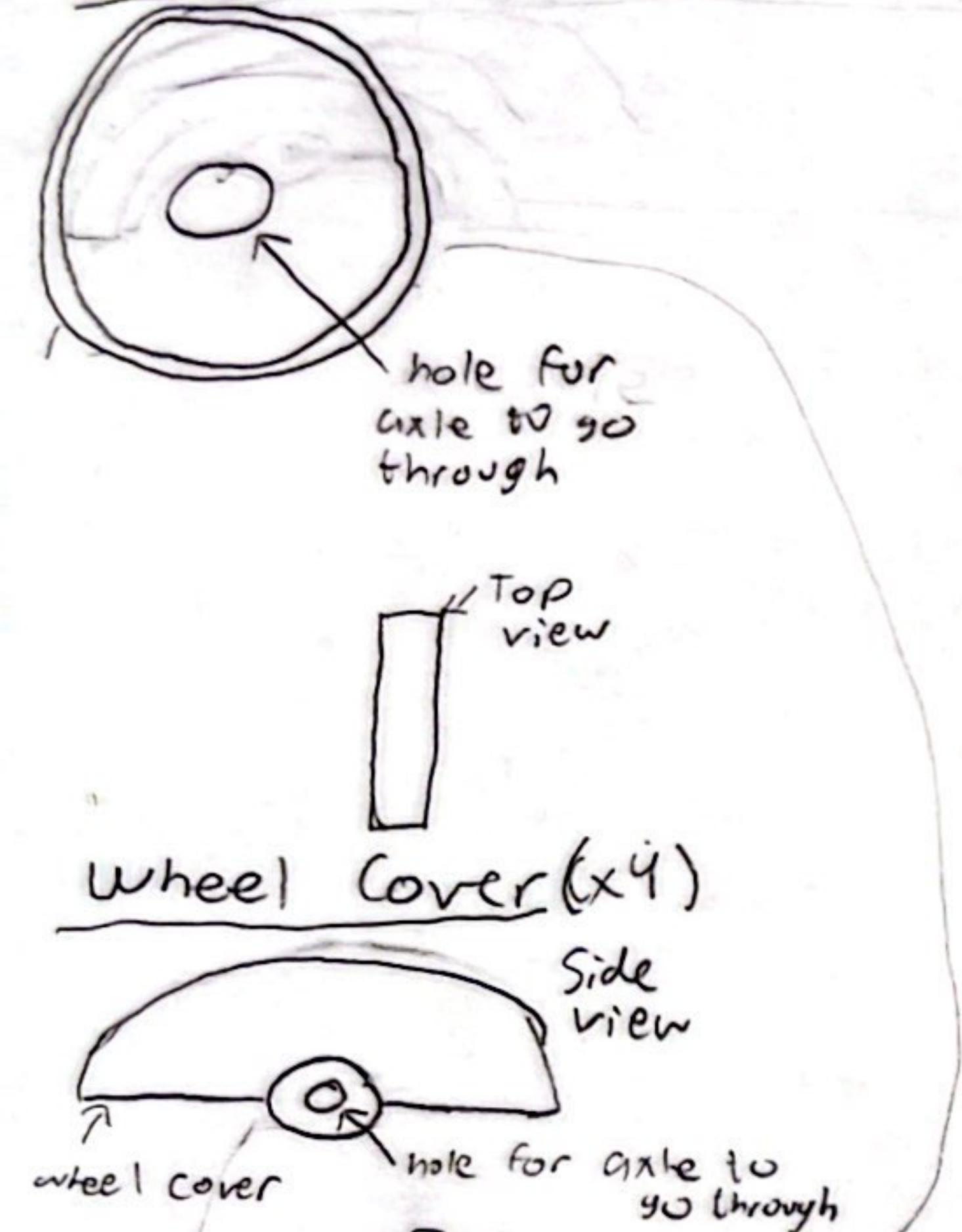
- on side or  
table top



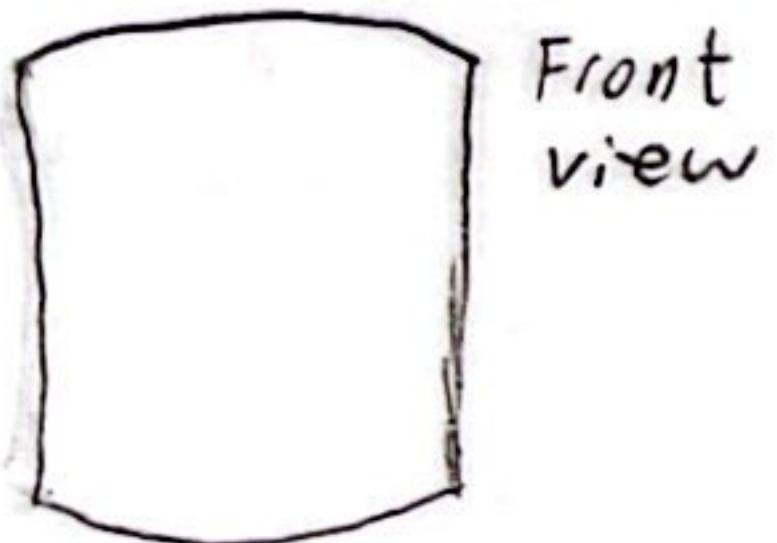
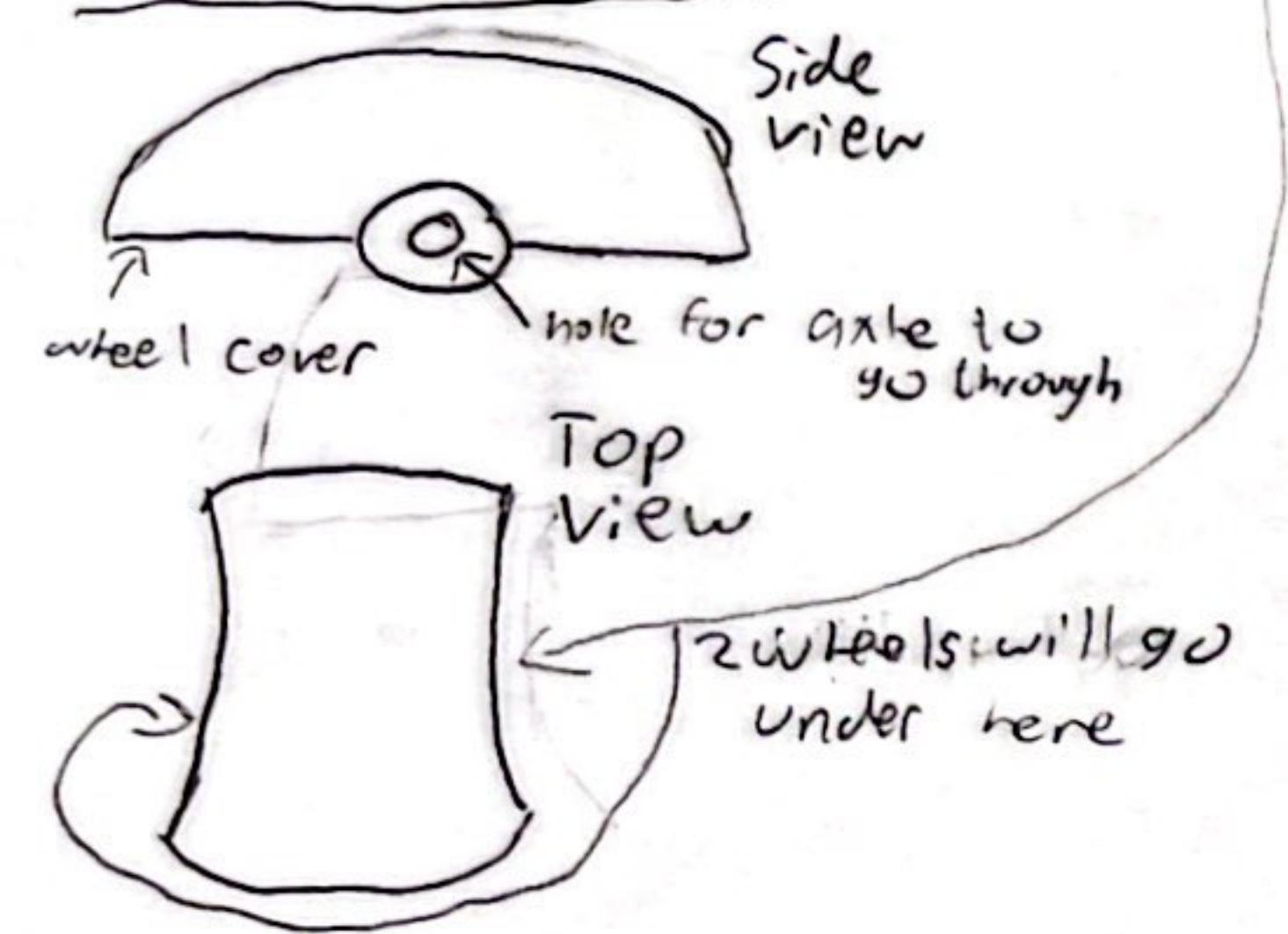
# Preliminary Sketches

Akul Singhal

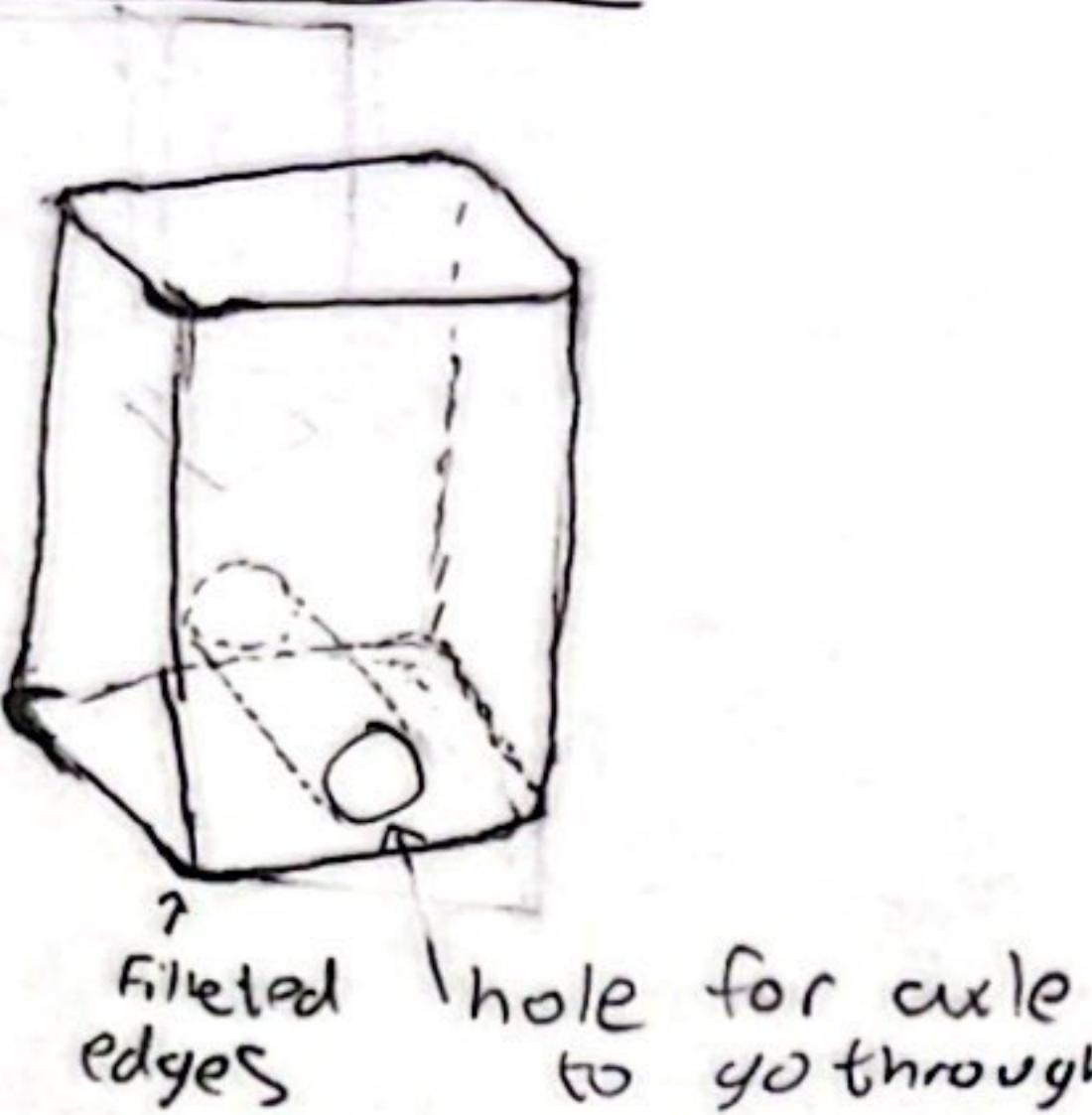
### Wheel (x8)



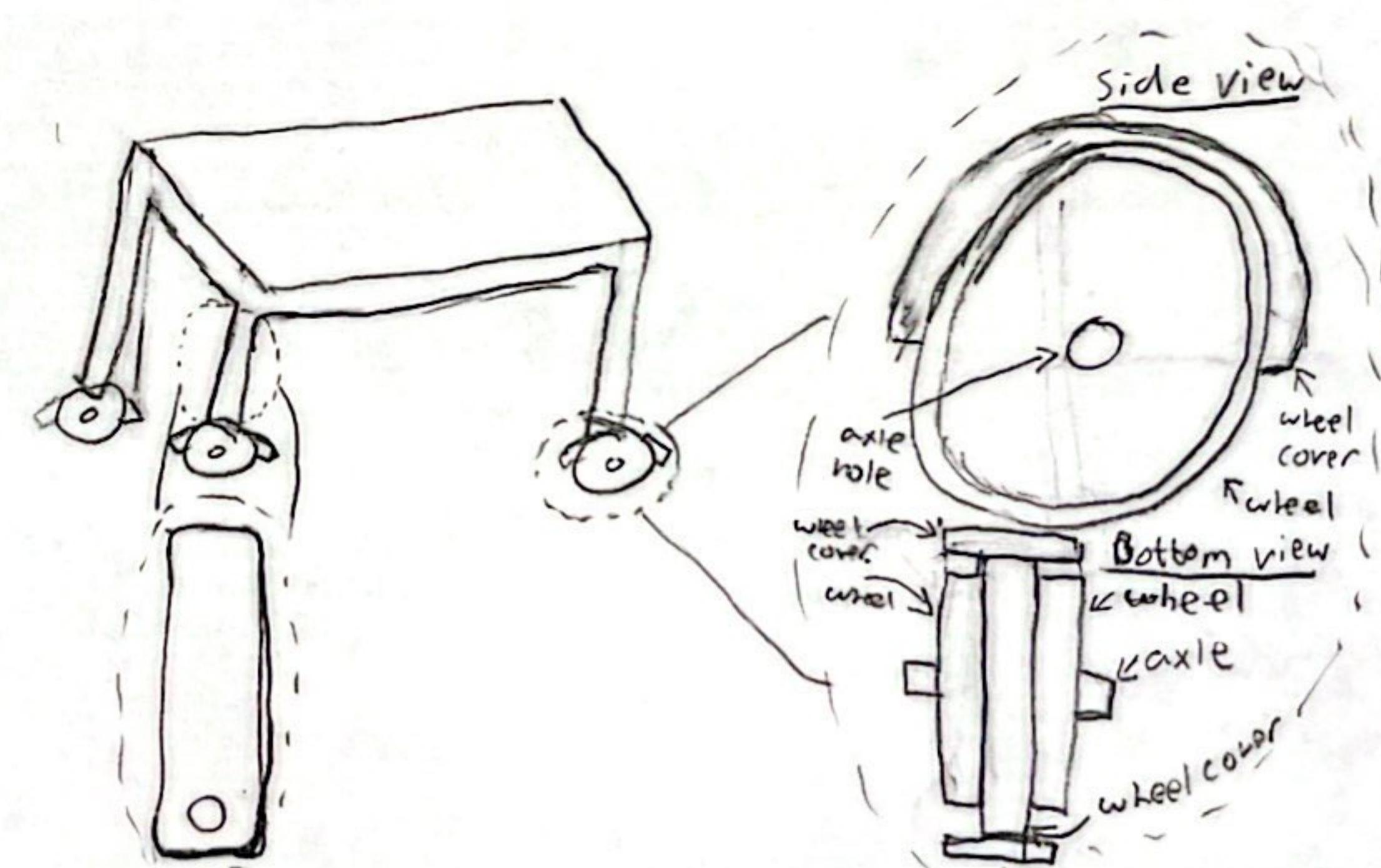
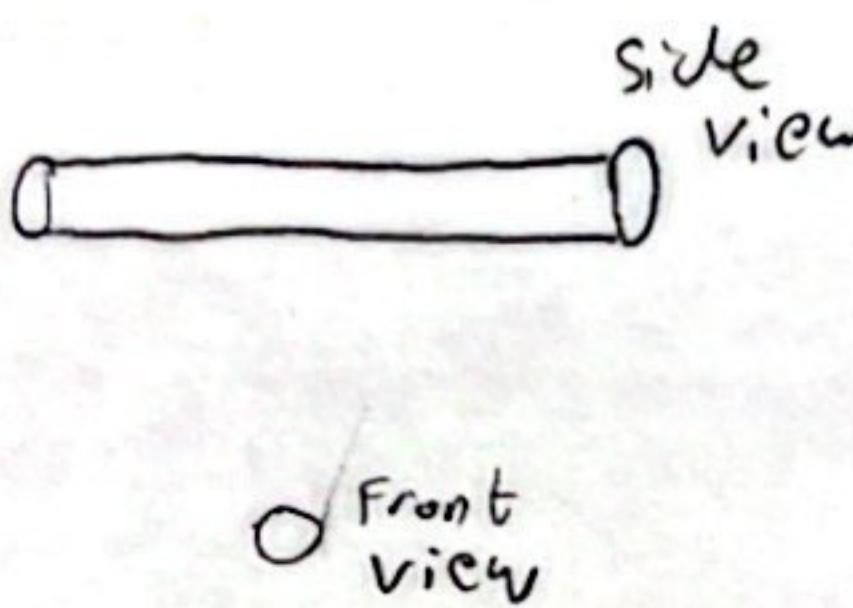
### Wheel Cover (x4)



### Table legs (x4)



### Axle (x4)

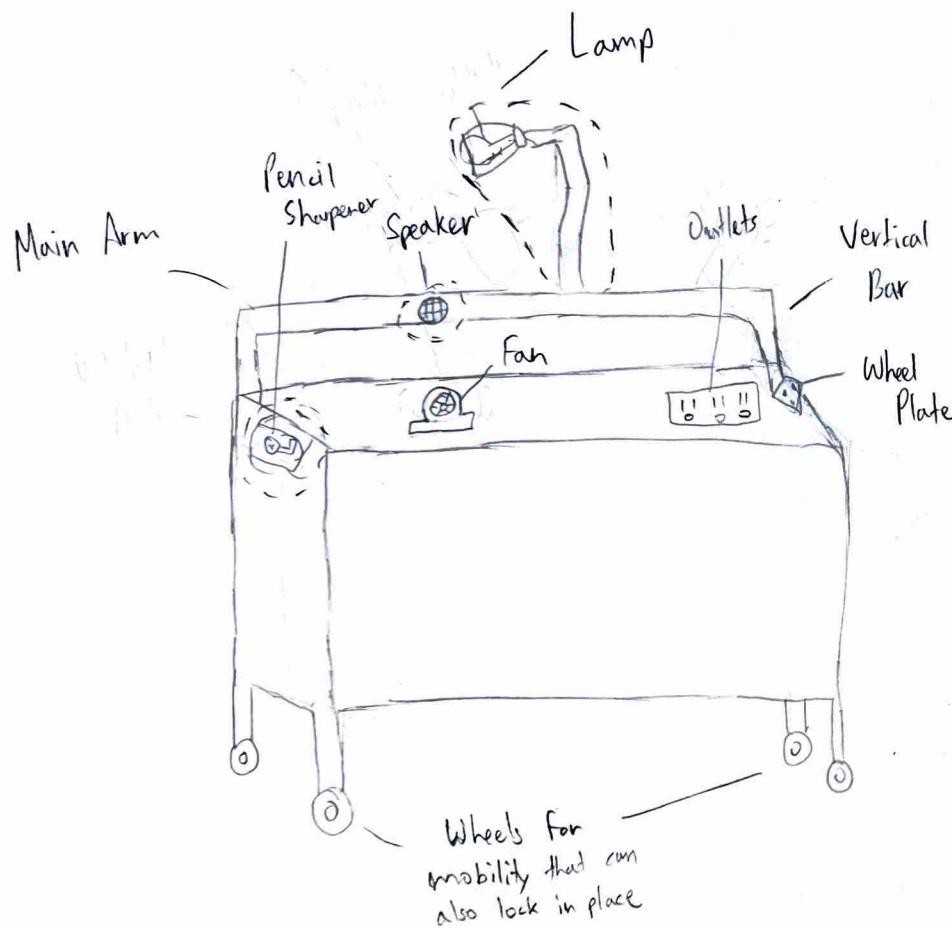


# Preliminary Sketches

Siddharth Nachaloor

# Team Project Assembly Drawing:

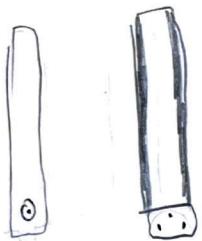
Siddharth Nachaloor  
Group Project Sketches



# Team Project Part Sketches:

Siddharth Nachaloor  
Group Project Sketches

Vertical Bars



Side View Front View

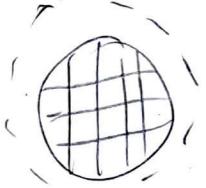
Bars that go on either  
side of the desk

Wheels



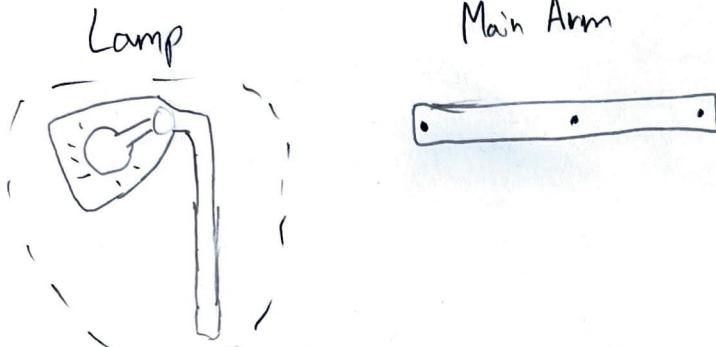
on the bottom of  
the desk

Speaker



On top bar that goes  
across the desk

Lamp



Main Arm

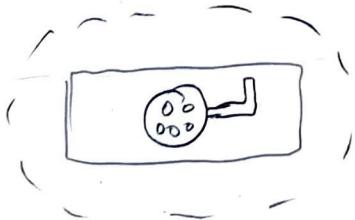


Lamp is attached  
to the bar

Fan



Pencil Sharpener



# Meeting Minutes

**DATE:** November 20th, 2023  
**TIME:** 11:00 AM  
**LOCATION:** Allen Sustainable  
**PROJECT:** Gantry Table  
**SUBJECT:** Parts for Project Discussion  
**TEAM SECTION:** Section A

**ATTENDANCE:** Kaif Present  
Shreyas Present  
Trent Present  
Akul Present  
Sid Present

The purpose of the meeting was to discuss each individual's parts and discuss a timeline for when we should finish our project.  
The following items summarize the discussion:

- **Today's Discussion.**
  - We started to CAD our individual parts
  - Kaif slightly changed his part ideas and Sid came up with two new ones
  - Shreyas and Trent discussed their assembly as their parts go hand-in-hand
  - Discussed due dates and made a plan on when to do what things
  - Start keeping track of meeting minutes
  - Finish most of our parts during Thanksgiving Break
- **Time constraints and time management.**
  - We have to finish within 3 weeks
  - The Thursday before the presentation should be to double check for mistakes/errors
- **Action Items.**
  - Shreyas:
    - Will text the group chat confirming our next meeting
    - Complete parts before end of break
  - Kaif:
    - Keep track of meeting minutes
    - Complete parts before end of break
    - Log meeting minutes
  - Sid:
    - Come up with his new parts
    - Complete parts before end of break
  - Trent:
    - Discuss assembly with Shreyas
    - Complete parts before end of break
  - Akul:
    - Complete parts before end of break
- **Next Meeting.**

Scheduled for: Novemebr 27<sup>th</sup>, 2023 at 11:00 AM  
Place: Allen Sustainable

- **Approval of Minutes (signatures of all team members present)**

**Team members signatures here:** KM  
SS  
AS  
TW  
SN

**DATE:** November 27th, 2023  
**TIME:** 11:00 AM  
**LOCATION:** Allen Sustainable  
**PROJECT:** Gantry Table  
**SUBJECT:** Assembly and Modification for Project Discussion  
**TEAM SECTION:** Section A

<b>ATTENDANCE:</b>	Kaif	Present
	Shreyas	Present
	Trent	Present
	Akul	Present
	Sid	Present

The purpose of the meeting was to start the assembly for the gantry table and modify our parts for assembly. The following items summarize the discussion:

- Previously discussed that each individual part should be completed/almost completed during the break
  - Today's Discussion.
    - Modify individual part dimensions for assembly
    - Final touches on parts
  - Time constraints and time management
    - We have to finish within 2 weeks
    - The Thursday before the presentation should be to double check for mistakes/errors
  - Action Items.
    - Shreyas:
      - Will start the assembly for all parts
    - Kaif:
      - Will modify his parts
      - Place parts into assembly file
      - Log meeting minutes
    - Sid:
      - Modify parts
      - Place parts into assembly file
    - Trent:
      - Align parts with Shreyas's parts as they are dependent of eachother
    - Akul:
      - Modify parts
      - Place parts into assembly file
  - Next Meeting.

Scheduled for: Novemebr 29<sup>th</sup>, 2023 at 11:00 AM  
Place: Allen Sustainable

**Team members signatures here:**

KM  
SS  
AS  
TW  
SN

**DATE:** November 29th, 2023  
**TIME:** 11:00 AM  
**LOCATION:** Allen Sustainable  
**PROJECT:** Gantry Table  
**SUBJECT:** Assembly and Modification for Project Discussion  
**TEAM SECTION:** Section A

<b>ATTENDANCE:</b>	Kaif	<u>Present</u>
	Shreyas	<u>Present</u>
	Trent	<u>Present</u>
	Akul	<u>Present</u>
	Sid	<u>Present</u>

The purpose of the meeting was to start the assembly for the gantry table and modify our parts for assembly. The following items summarize the discussion:

- Previously discussed that each individual part should be modified and completed
  - Today's Discussion.
    - Start drawings
    - Keep going with assembly
    - Start report
  - Time constraints and time management
    - We have to finish within 2 weeks
    - The Thursday before the presentation should be to double check for mistakes/errors
  - Action Items.
    - Shreyas:
      - Assembly for all parts
      - Start part drawings
    - Kaif:
      - Start part drawings
      - Log meeting minutes
    - Sid:
      - Create Report
      - Start part drawings
    - Trent:
      - Start part drawings
    - Akul:
      - Start part drawings
  - Next Meeting.

Scheduled for: November 30<sup>th</sup>, 2023 at 11:00 AM  
Place: Allen Sustainable

**Team members signatures here:**

KM  
SS  
AS  
TW  
SN

**DATE:** November 30th, 2023  
**TIME:** 11:00 AM  
**LOCATION:** Allen Sustainable  
**PROJECT:** Gantry Table  
**SUBJECT:** Assembly and Modification for Project Discussion  
**TEAM SECTION:** Section A

**ATTENDANCE:**

Kaif	<u>Present</u>
Shreyas	<u>Present</u>
Trent	<u>Present</u>
Akul	<u>Present</u>
Sid	<u>Present</u>

The purpose of the meeting was to start the assembly for the gantry table and modify our parts for assembly  
The following items summarize the discussion:

- Previously discussed that we should start with part drawings and try finishing the assembly
- Today's Discussion.
  - Finish part drawings
  - Discuss renders
  - Keep going with report
  - Discuss presentation
- Time constraints and time management
  - We have to finish within 2 weeks
  - The Thursday before the presentation should be to double check for mistakes/errors
- Action Items.
  - Shreyas:
    - Finish assembly drawings
    - Finish up part drawings
    - Help look for backgrounds
  - Kaif:
    - Finish up part drawings
    - Log meeting minutes
  - Sid:
    - Finish up part drawings
    - Keep going with report
    - Start presentation
  - Trent:
    - Finish up part drawings
    - Help look for backgrounds
  - Akul:
    - Finish up part drawings
    - Using his computer for renders
- Next Meeting.

Scheduled for: December 4<sup>st</sup>, 2023 at 11:00 AM  
Place: Allen Sustainable

**Team members signatures here:**      KM  
    SS  
    AS  
    TW  
    SN

**DATE:** December 4th, 2023  
**TIME:** 11:00 AM  
**LOCATION:** Allen Sustainable  
**PROJECT:** Gantry Table  
**SUBJECT:** Assembly and Modification for Project Discussion  
**TEAM SECTION:** Section A

**ATTENDANCE:**

Kaif	<u>Present</u>
Shreyas	<u>Present</u>
Trent	<u>Present</u>
Akul	<u>Present</u>
Sid	<u>Present</u>

The purpose of the meeting was to start the assembly for the gantry table and modify our parts for assembly  
The following items summarize the discussion:

- Previously discussed that we should finish with part drawings and talk about our presentation and renders
- Today's Discussion.
  - Start with renders
  - Start presentation
- Time constraints and time management
  - We have to finish within the week
  - The Thursday before the presentation should be to double check for mistakes/errors
- Action Items.
  - Shreyas:
    - Help look for backgrounds for renders
  - Kaif:
    - Help with presentation
    - Log meeting minutes
  - Sid:
    - Help with presentation
  - Trent:
    - Help look for backgrounds for renders
  - Akul:
    - Using his computer for renders
    - Start renders
- Next Meeting.

Scheduled for: December 6<sup>th</sup>, 2023 at 11:00 AM  
Place: Allen Sustainable

**Team members signatures here:**      KM  
    SS  
    AS  
    TW  
    SN

**DATE:** December 5th, 2023  
**TIME:** 11:00 AM  
**LOCATION:** Allen Sustainable  
**PROJECT:** Gantry Table  
**SUBJECT:** Assembly and Modification for Project Discussion  
**TEAM SECTION:** Section A

**ATTENDANCE:**

Kaif	<u>Present</u>
Shreyas	<u>Present</u>
Trent	<u>Present</u>
Akul	<u>Present</u>
Sid	<u>Present</u>

The purpose of the meeting was to start the assembly for the gantry table and modify our parts for assembly  
The following items summarize the discussion:

- Previously discussed that we should start with presentation and renders
- Today's Discussion.
  - Finish renders
  - Finish presentation
- Time constraints and time management
  - We have to finish within the week
  - The Thursday before the presentation should be to double check for mistakes/errors
- Action Items.
  - Shreyas:
    - Help with presentation
  - Kaif:
    - Help with presentation
    - Log meeting minutes
  - Sid:
    - Help with presentation
  - Trent:
    - Help with presentation
  - Akul:
    - Using his computer for renders
    - Finish renders
    - Upload renders to presentation
- Next Meeting.

Scheduled for: December 6<sup>th</sup>, 2023 at 11:00 AM  
Place: Allen Sustainable

**Team members signatures here:**      KM  
    SS  
    AS  
    TW  
    SN

**DATE:** December 6th, 2023  
**TIME:** 11:00 AM  
**LOCATION:** Allen Sustainable  
**PROJECT:** Gantry Table  
**SUBJECT:** Assembly and Modification for Project Discussion  
**TEAM SECTION:** Section A

<b>ATTENDANCE:</b>	Kaif	Present
	Shreyas	Present
	Trent	Present
	Akul	Present
	Sid	Present

The purpose of the meeting was to start the assembly for the gantry table and modify our parts for assembly. The following items summarize the discussion:

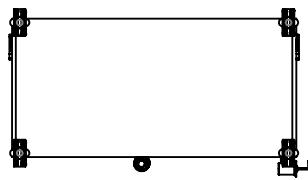
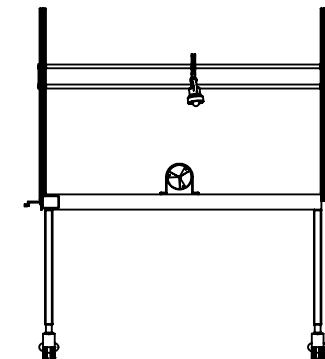
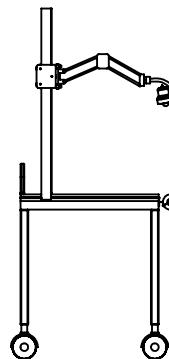
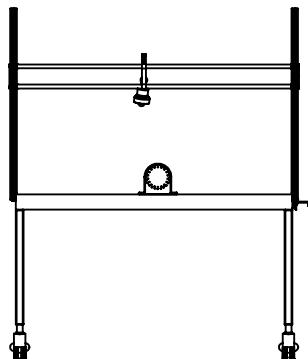
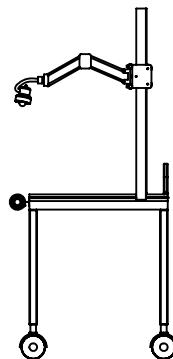
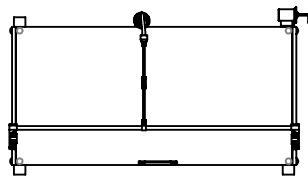
- Previously discussed that we should finish with presentation and renders
  - Today's Discussion.
    - Talk about how presentation will go
    - Complete any last finishing touches
    - Finish presentation
    - Rehearse presentation
  - Time constraints and time management
    - We have to finish by tomorrow
    - The Thursday before the presentation should be to double check for mistakes/errors
  - Action Items.
    - Shreyas:
      - Finish with presentation
      - Rehearse presentation
    - Kaif:
      - Finish with presentation
      - Log meeting minutes
      - Rehearse presentation
    - Sid:
      - Finish with presentation
      - Rehearse presentation
    - Trent:
      - Finish with presentation
      - Rehearse presentation
    - Akul:
      - Finish with presentation
      - Rehearse presentation
  - This is the last meeting before presentation day

**Team members signatures here:**

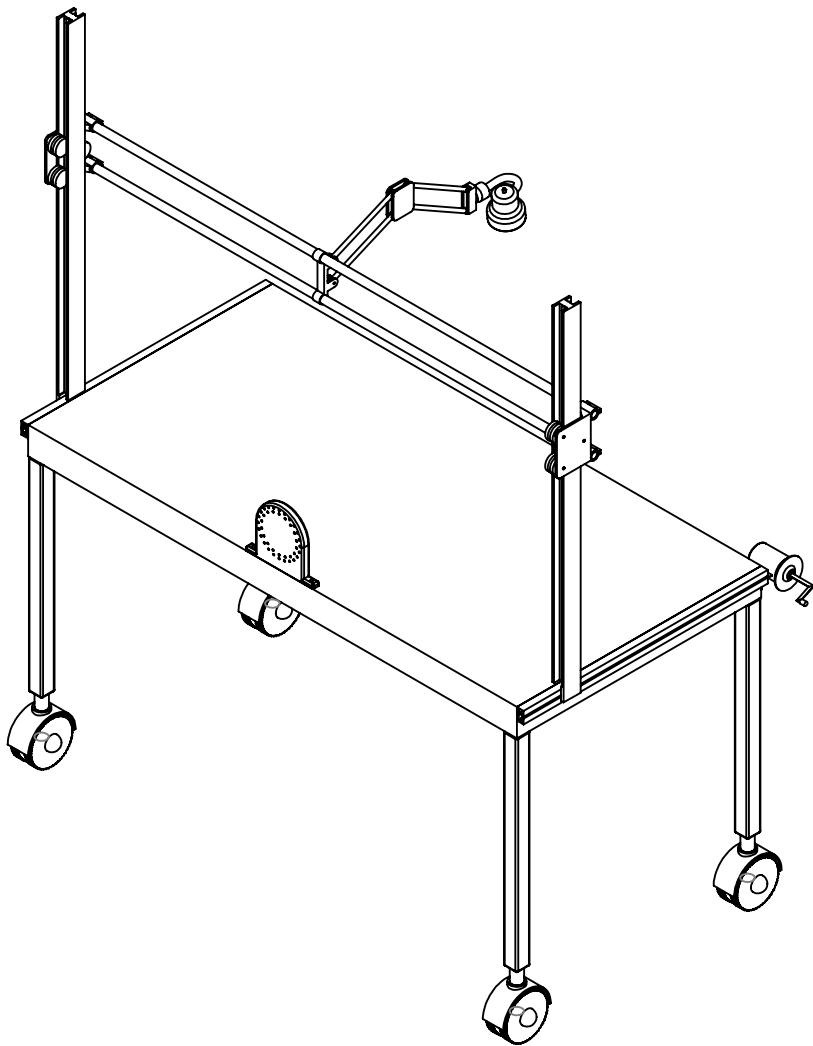
KM  
SS  
AS  
TW  
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# Engineering Drawings

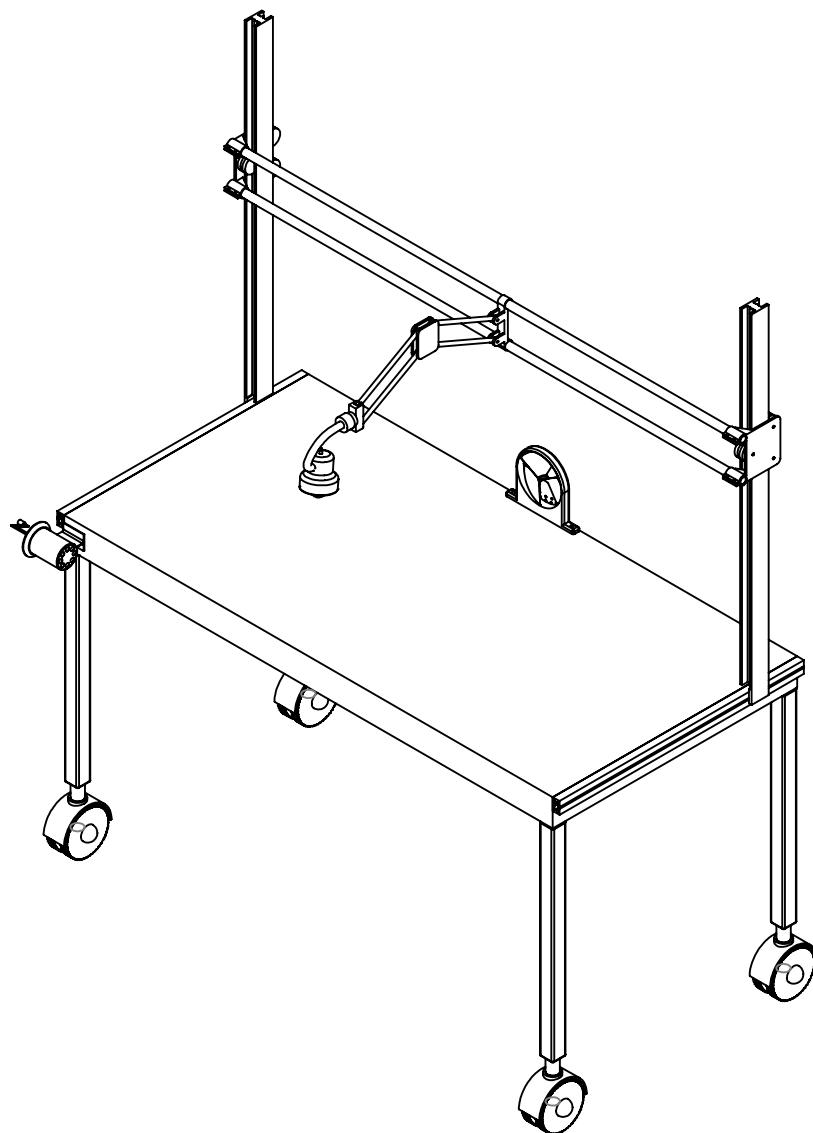
(Assembly + Subassembly + Working Drawings)



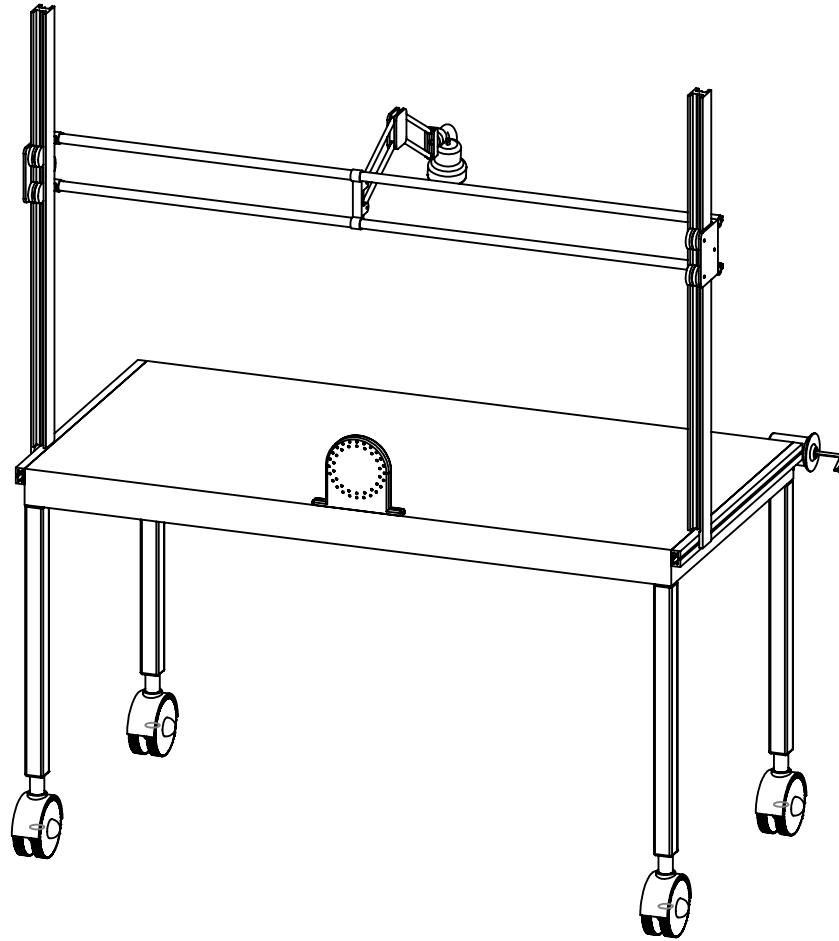
TITLE <b>Desk: Assembly Drawings</b>	DATE <b>12/8/2023</b>		NAME		
	COURSE <b>ME 1670</b>	SEMESTER <b>Fall 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY
				DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE <b>A</b>
				SCALE 1:50	SHEET 1 OF 1



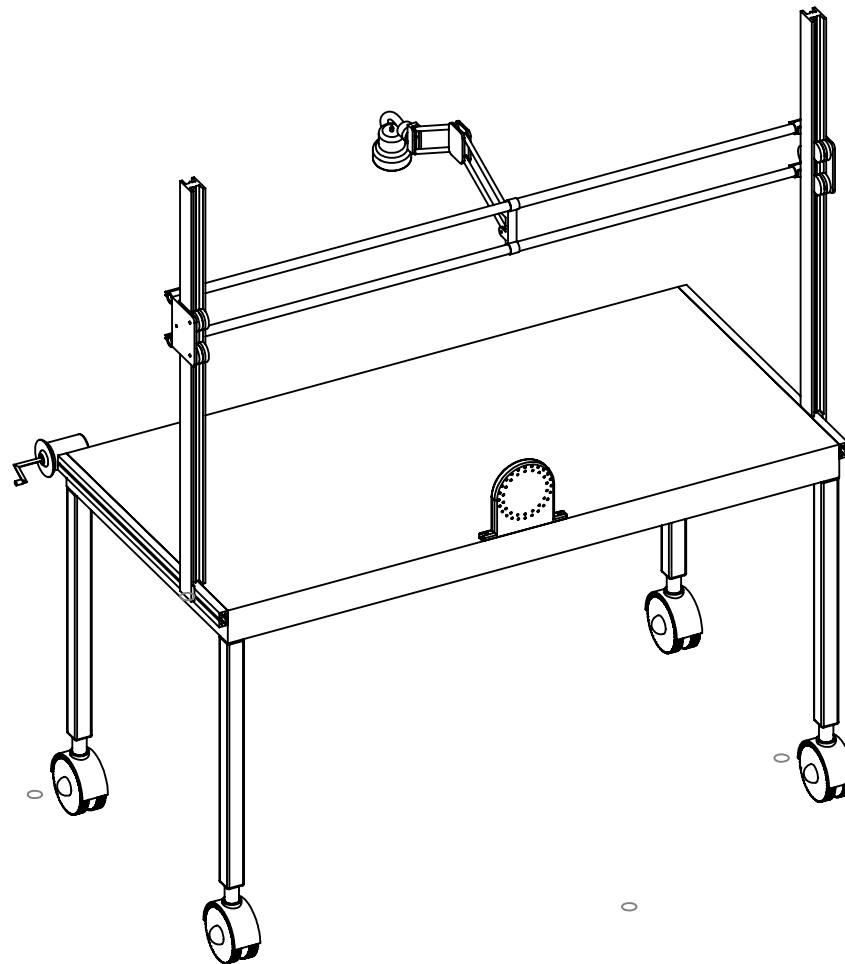
TITLE		DATE		NAME		
<b>Desk: Assembly Drawings</b>		<b>12/8/2023</b>				
COURSE	SEMESTER	SECTION	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE
<b>ME 1670</b>	<b>Fall 2023</b>	<b>A</b>				<b>A</b>



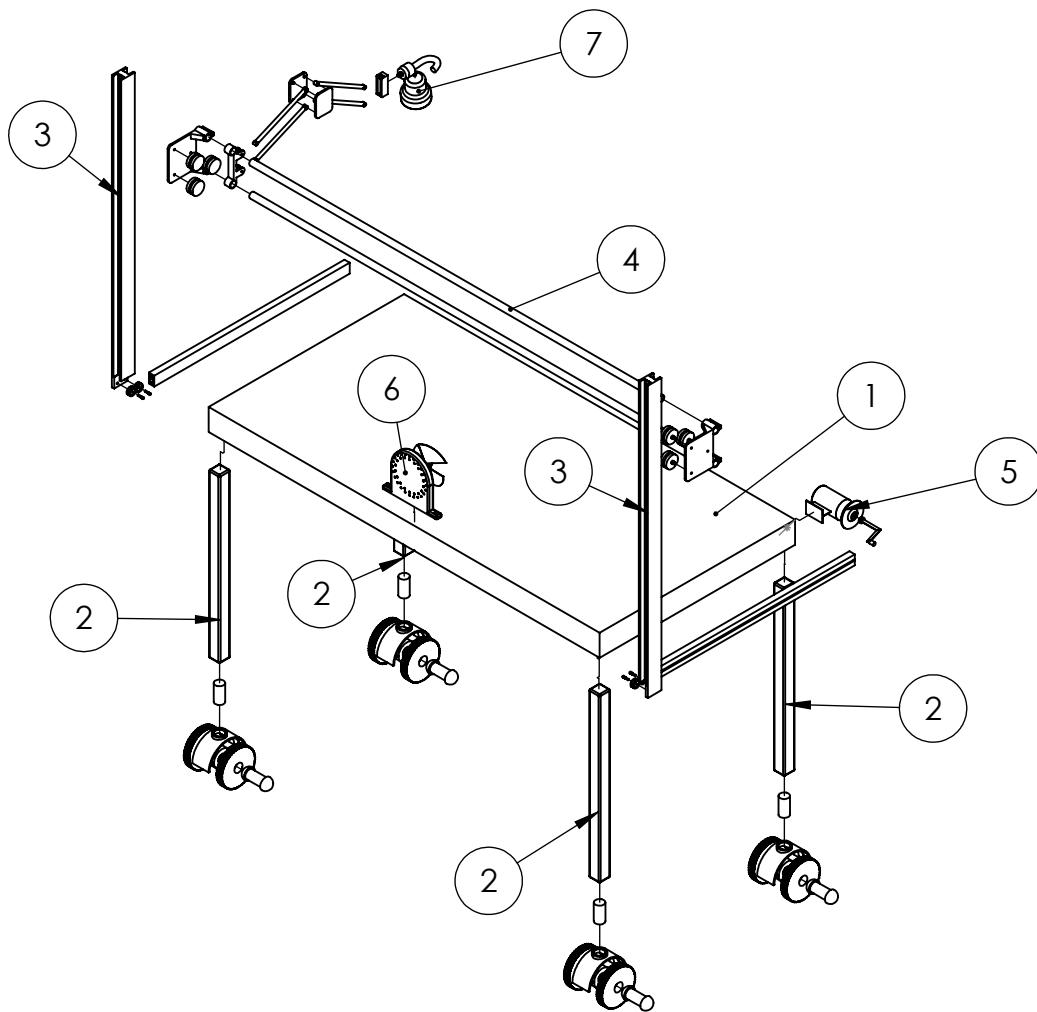
TITLE <b>Desk: Assembly Drawings</b>		DATE <b>12/8/2023</b>	NAME		
COURSE <b>ME 1670</b>	SEMESTER <b>Fall 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES
					SCALE 1:20 SHEET 1 OF 1



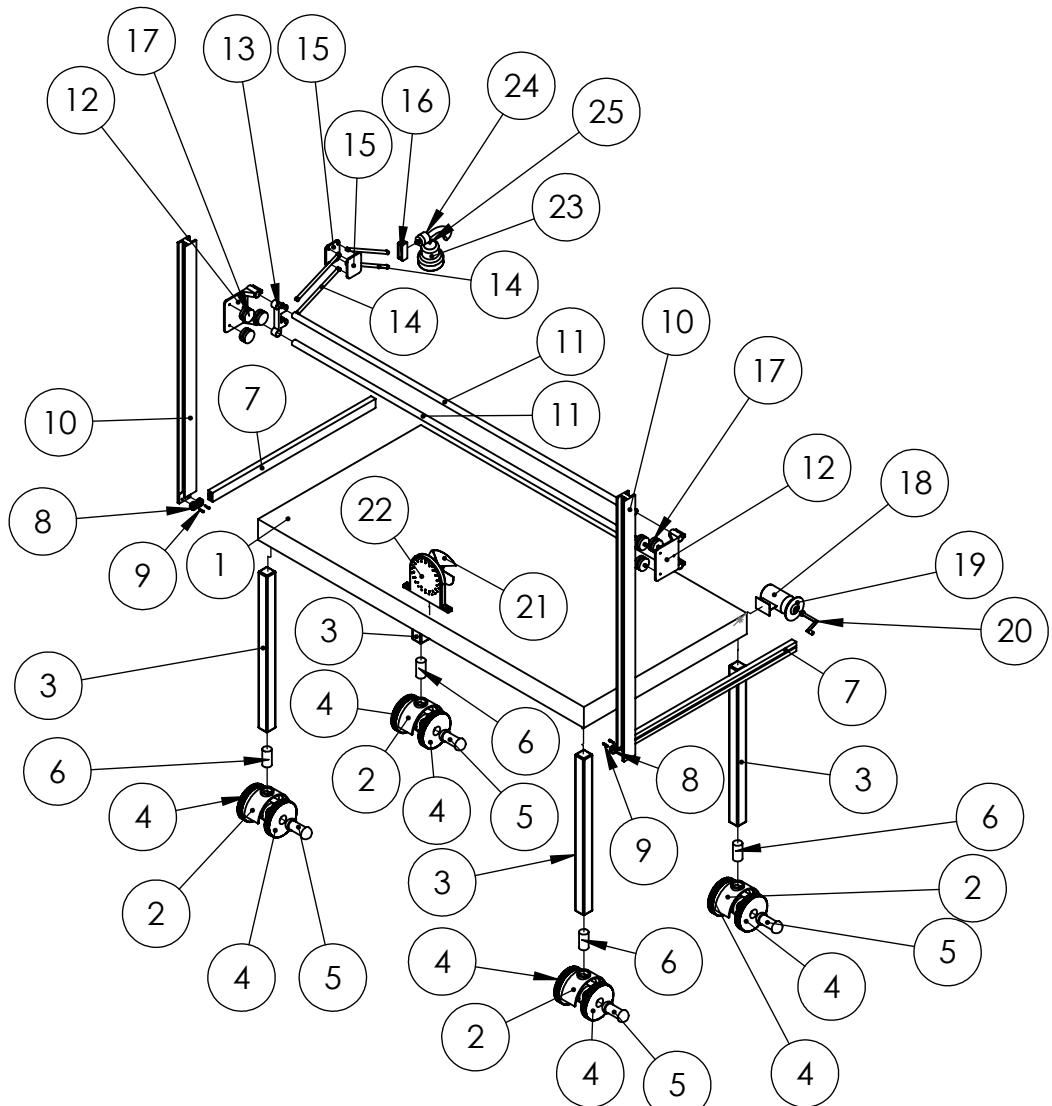
TITLE		DATE		NAME		
<b>Desk: Assembly Drawings</b>		<b>12/8/2023</b>				
COURSE	SEMESTER	SECTION	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE
<b>ME 1670</b>	<b>Fall 2023</b>	<b>A</b>				<b>A</b>



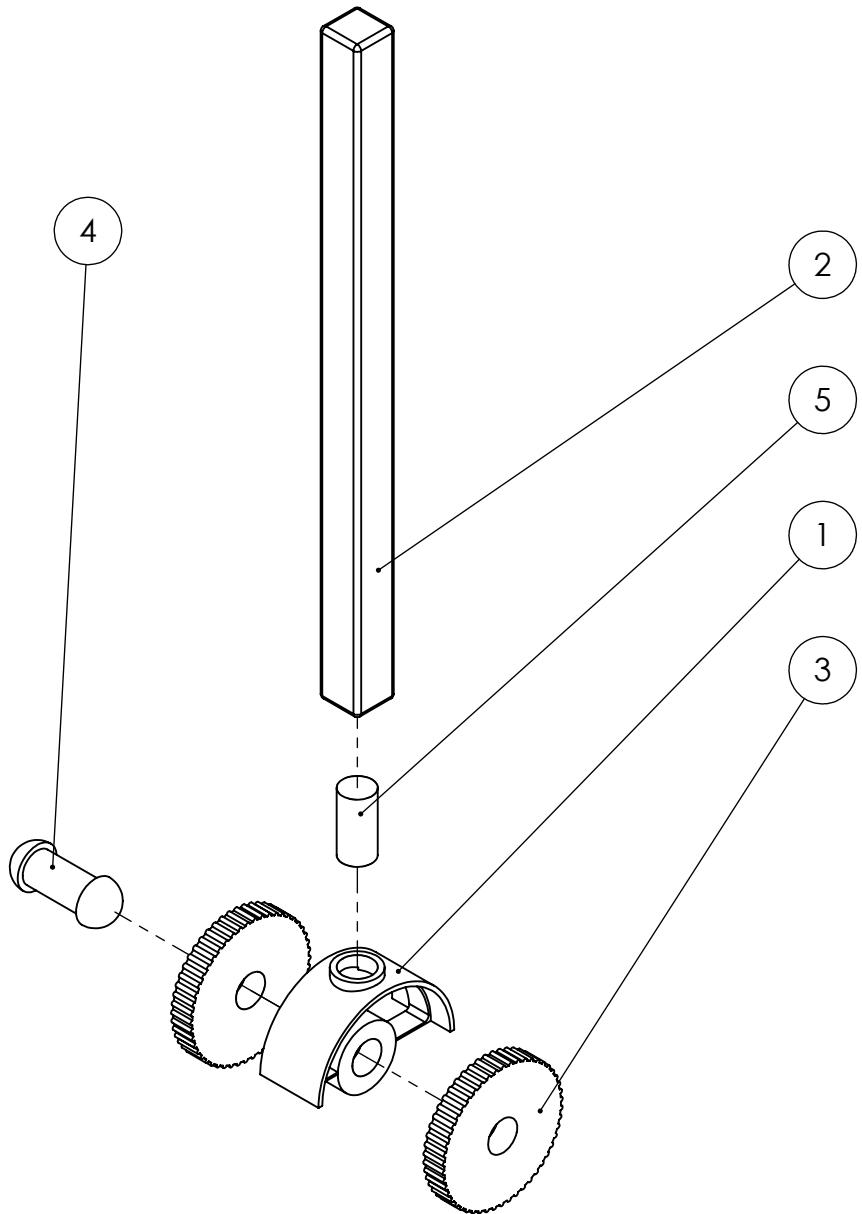
TITLE		DATE		NAME		
<b>Desk: Assembly Drawings</b>		<b>12/8/2023</b>				
COURSE	SEMESTER	SECTION	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE
<b>ME 1670</b>	<b>Fall 2023</b>	<b>A</b>				<b>A</b>



ITEM NO.	PART NUMBER	QTY.
1	Table Top	1
2	Leg Assembly	4
3	Horizontal Assembly	2
4	Overhead Assembly	1
5	Pencil Sharpener assembly	1
6	Fan Assembly	1
7	Lamp Assembly	1



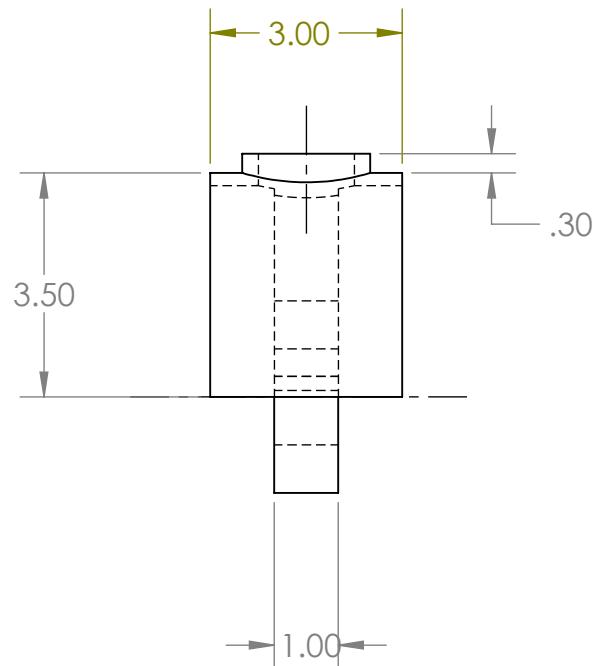
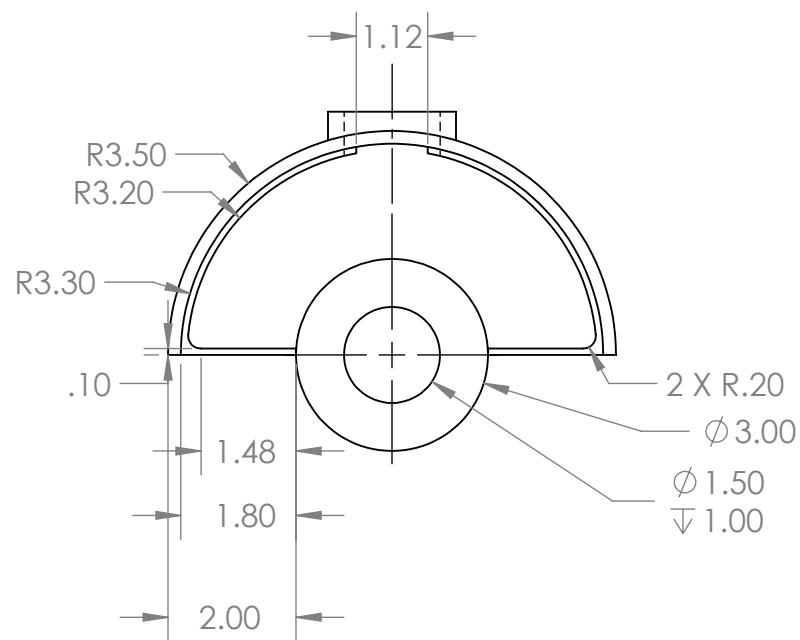
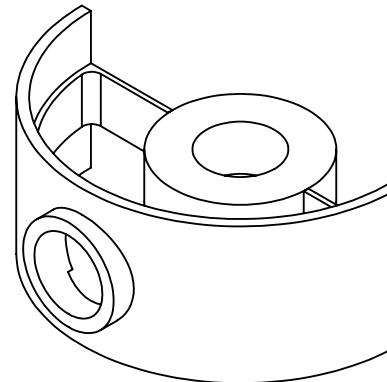
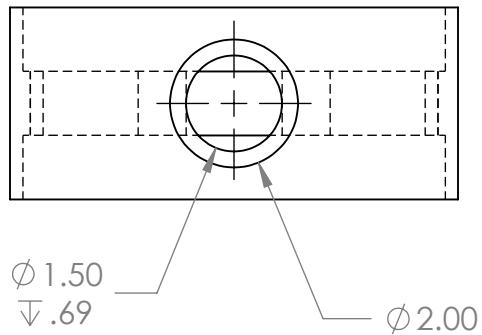
ITEM NO.	PART NUMBER	QTY.
1	Table Top	1
2	GroupProject WheelGuard	4
3	GroupProject Legs	4
4	GroupProject Wheel	8
5	GroupProject WheelAxe	4
6	GroupProject LegAxe	4
7	Horizontal Tracks	2
8	Horizontal Wheels	4
9	Horizontal Wheel Peg	4
10	Vertical Tracks	2
11	Copy of Horizontal tube	2
12	Copy of Horizontal Plate	2
13	Copy of Carriage	1
14	Copy of Arm Rod	4
15	Copy of Middle Plate	2
16	Copy of End Connector	1
17	Copy of Roller Wheel 2	6
18	pencil sharpener	1
19	Sharpener Base	1
20	Sharpener Handle	1
21	Fan blade	1
22	Table Fan	1
23	GroupProject LampHead	1
24	GroupProject LampNeck	1
25	GroupProject LampSwitch	1

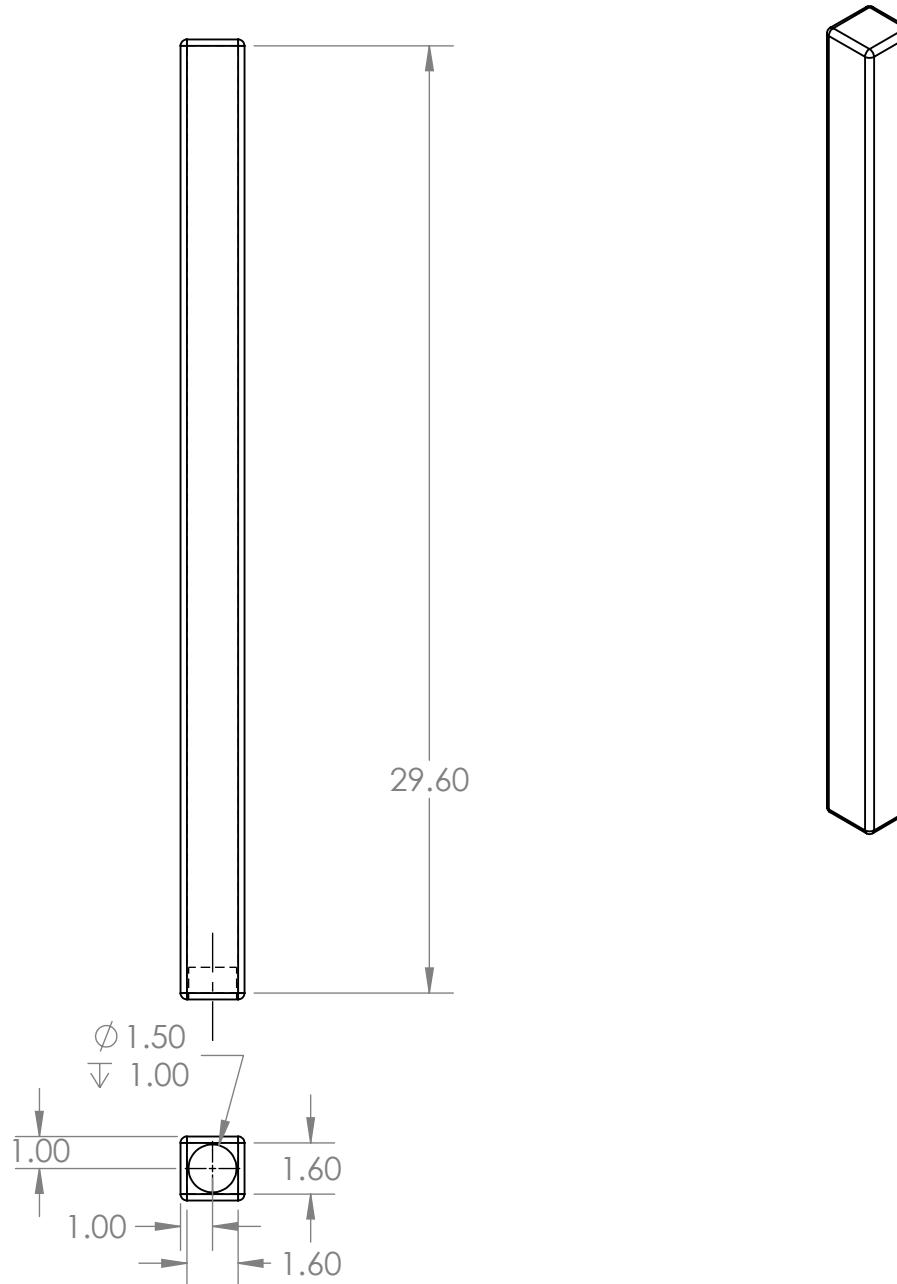


ITEM NO.	PART NUMBER	QTY.
1	GroupProject WheelGuard	1
2	GroupProject Legs	1
3	GroupProject Wheel	2
4	GroupProject WheelAxe	1
5	GroupProject LegAxe	1



TITLE <b>Desk: Akul Subassembly</b>		DATE <b>12/5/2023</b>	NAME <b>Akul Singh</b>		
COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES
					SCALE 1:7 SHEET 1 OF 1

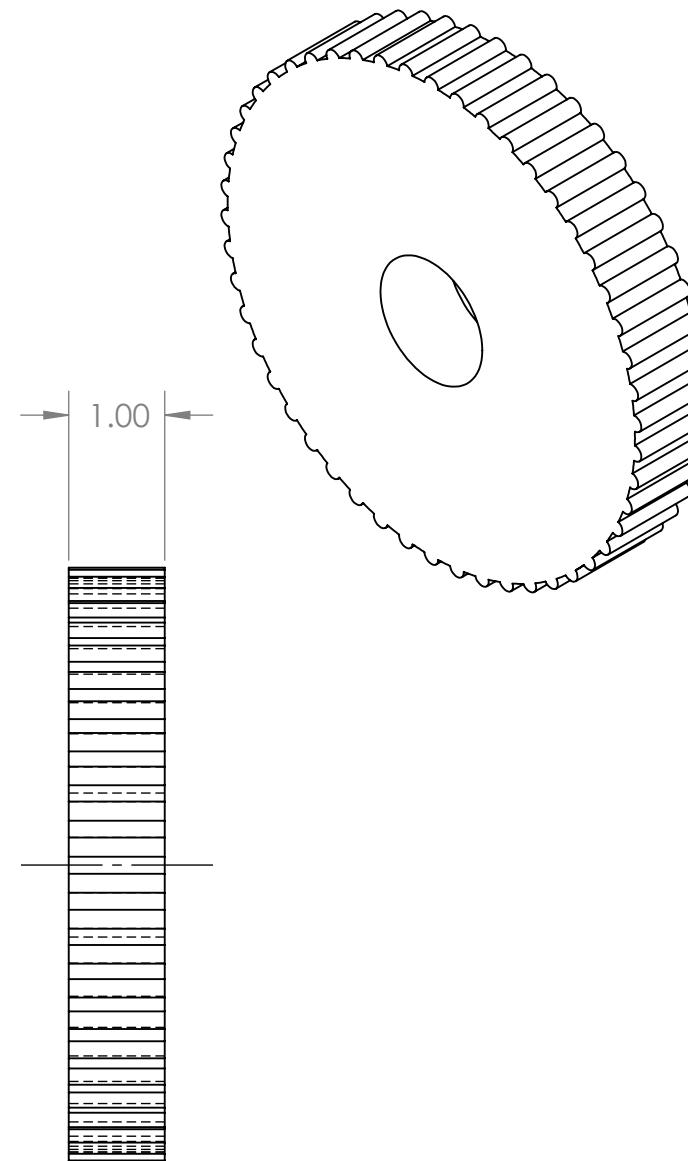
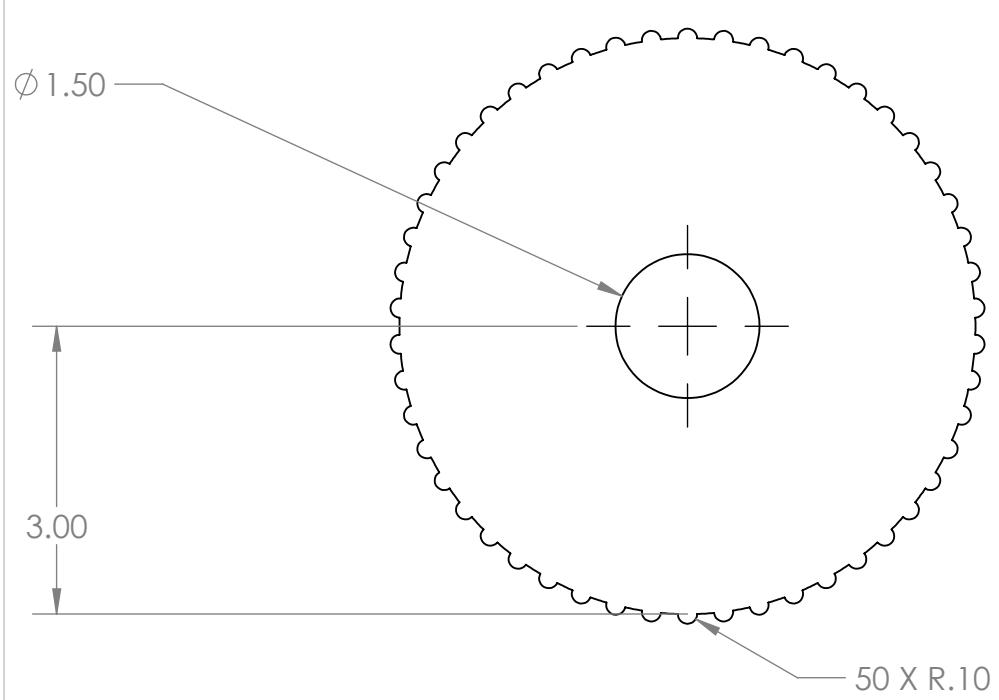




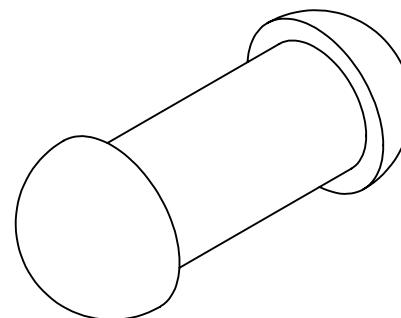
UNLESS OTHERWISE SPECIFIED ALL FILLETS .20



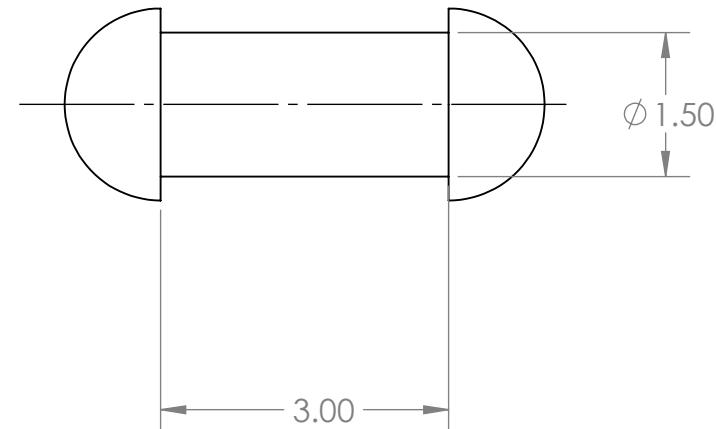
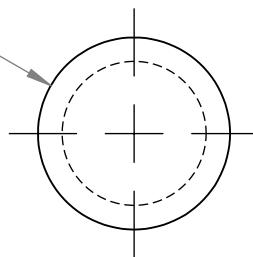
TITLE <b>Legs_drawing</b>		DATE <b>12/3/2023</b>		NAME <b>Akul Singhal</b>		
COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE <b>A</b>



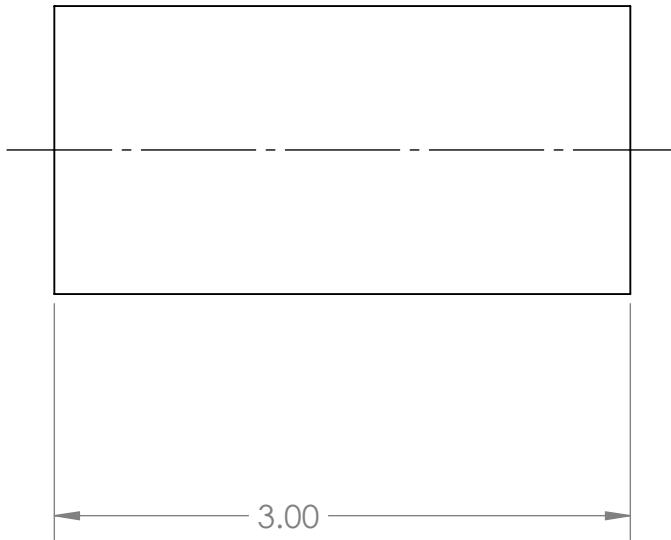
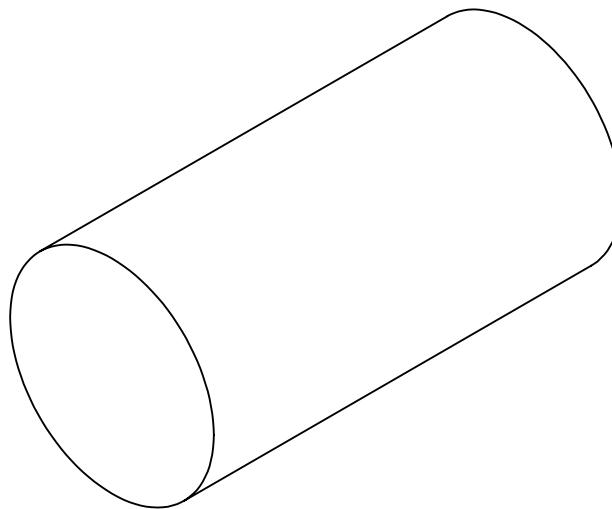
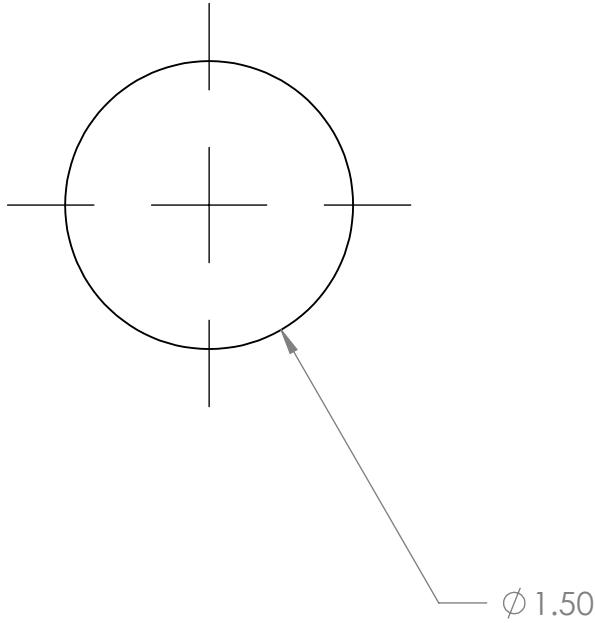
TITLE		DATE		NAME		
COURSE	SEMESTER	SECTION		LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES
ME 1670	FALL 2023	A				SCALE 1:2 SHEET 1 OF 1
						A



$\phi$  2.00

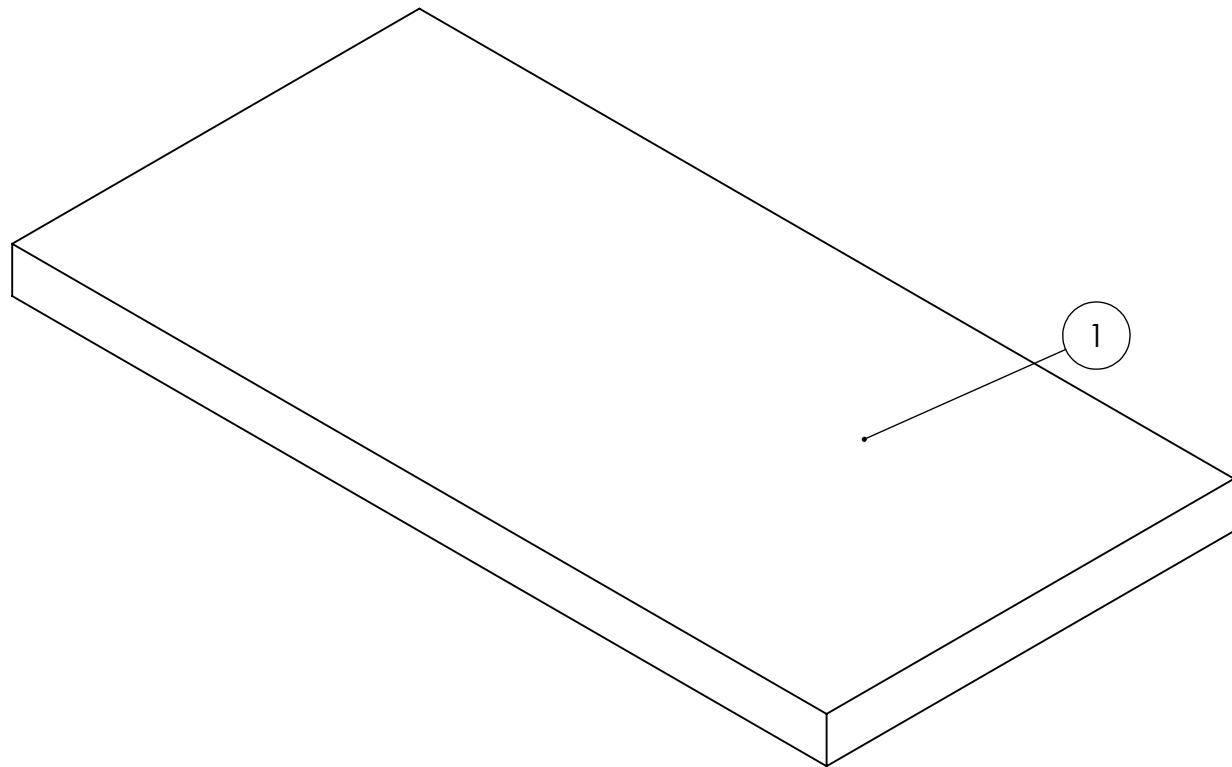


TITLE <b>WheelAxe_drawing</b>		DATE <b>12/3/2023</b>		NAME <b>Akul Singhal</b>				
COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES			SIZE <b>A</b>
					SCALE 1:2	SHEET 1 OF 1		

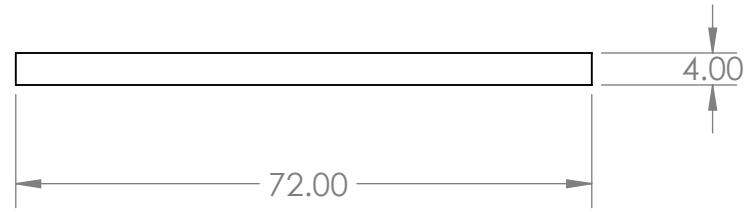
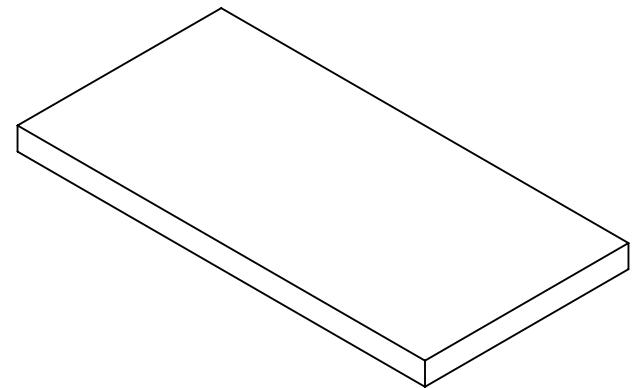
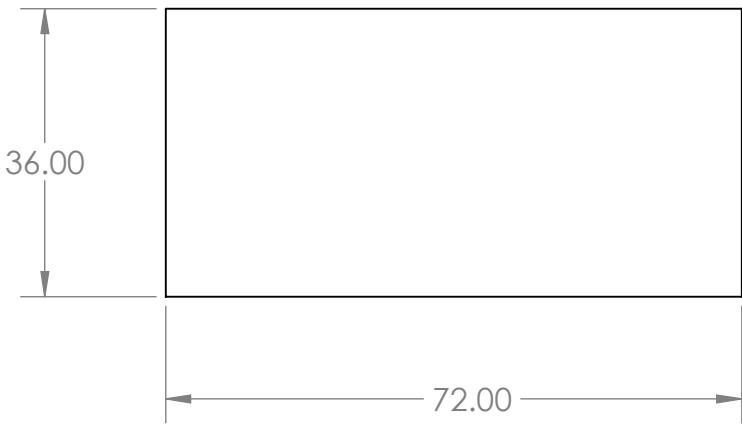


TITLE <b>LegAxe_drawing</b>		DATE <b>12/3/2023</b>		NAME <b>Akul Singh</b>				
COURSE <b>ME 1670</b>	SEMESTER <b>Fall 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES			SIZE <b>A</b>
					SCALE 1:1	SHEET 1 OF 1		

ITEM NO.	PART NUMBER	QTY.
1	Table Top	1

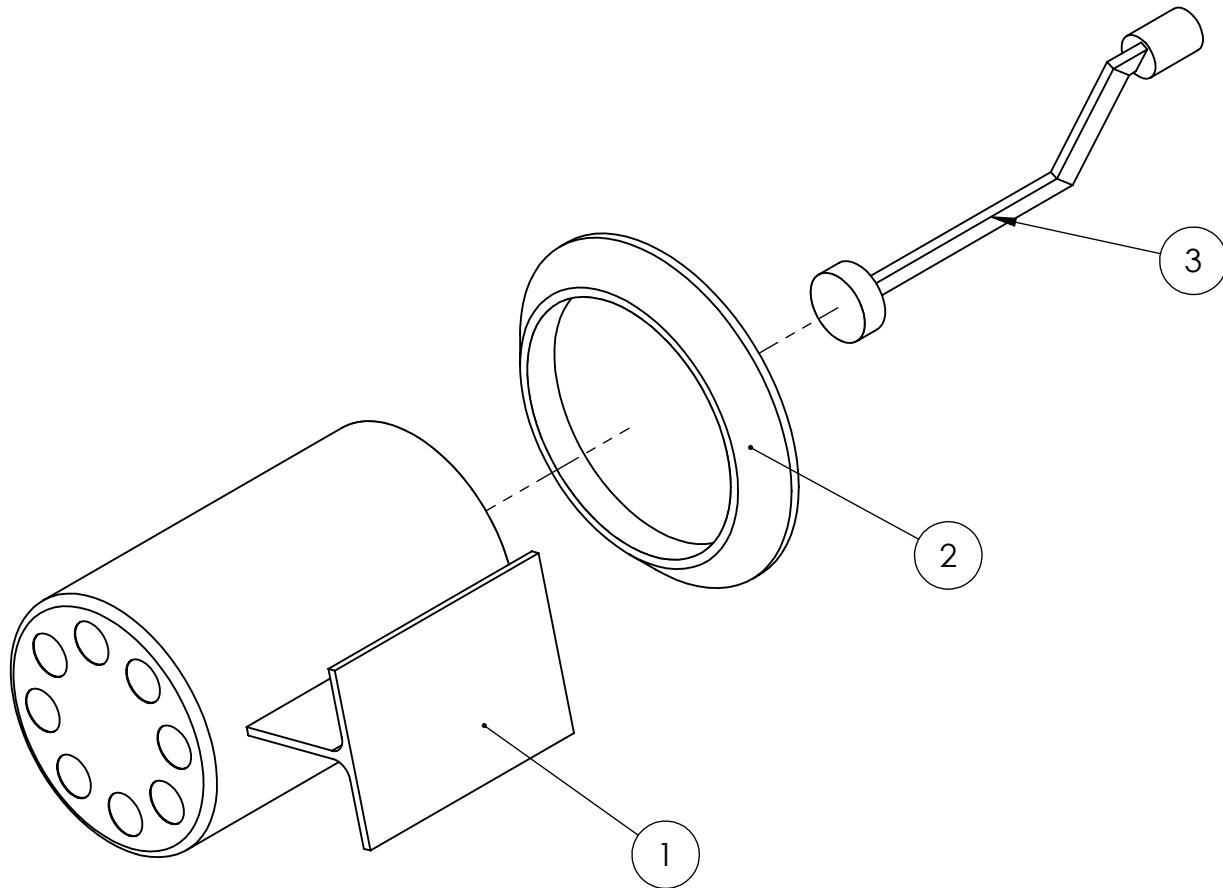


 <b>Georgia Institute</b> <i>of Tech</i> <b>nology</b>	TITLE		DATE		NAME		DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE
	COURSE	SEMESTER	SECTION	LAB	ACTIVITY			
	<b>ME 1670</b>	<b>FALL 2023</b>	<b>A</b>					

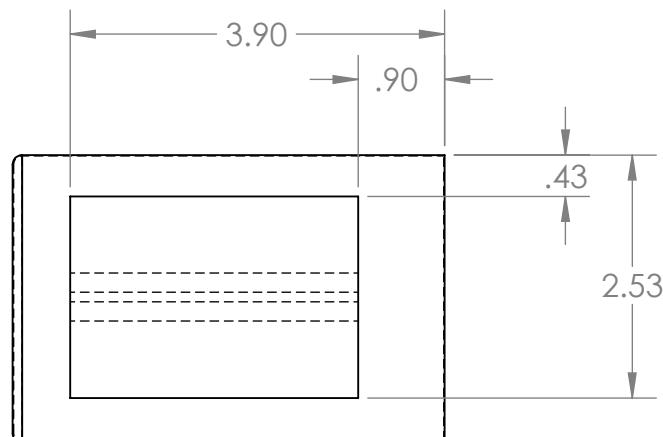
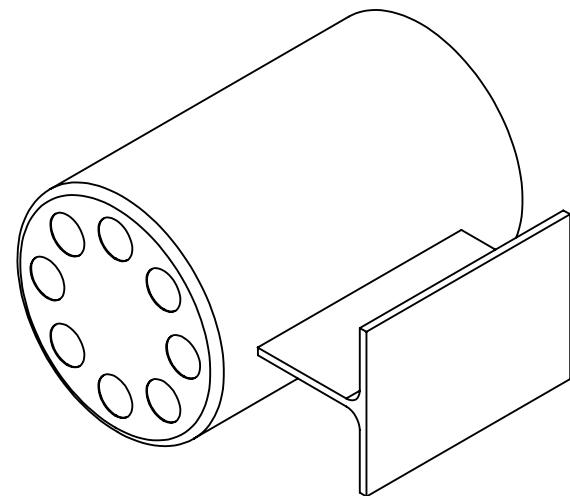
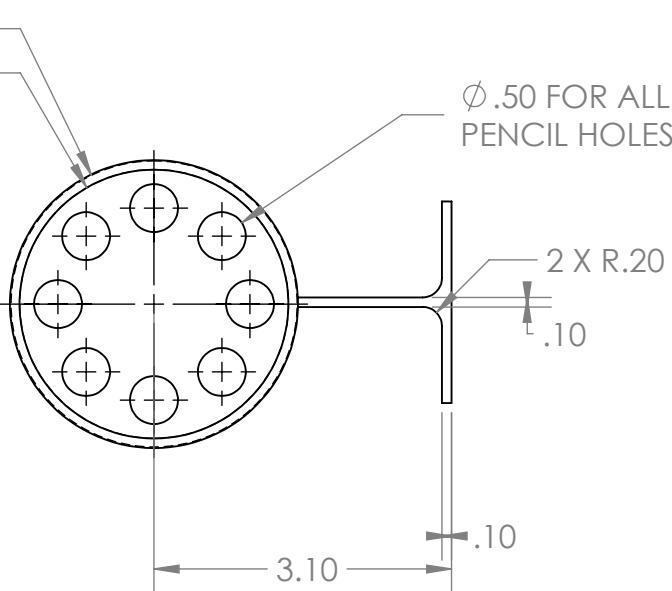
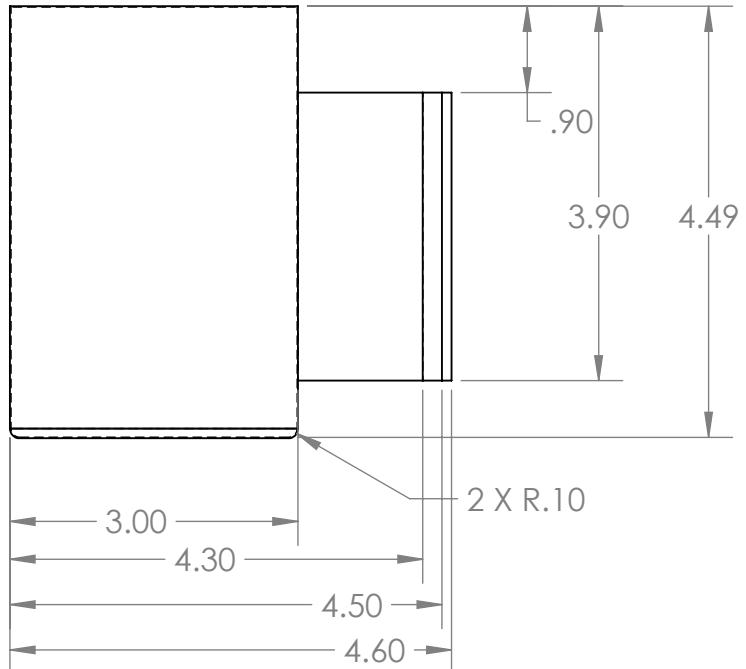


TITLE <b>Table Top</b>	DATE <b>12/05/2023</b>		NAME <b>KAIF MUNSHI</b>		
	COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY
			DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES		
			SCALE 1:24	SHEET 1 OF 1	<b>A</b>

ITEM NO.	PART NUMBER	QTY.
1	pencil sharpener	1
2	Sharpener Base	1
3	Sharpener Handle	1



TITLE <b>SHARPENER EXPLODED VIEW</b>		DATE <b>12/11/2023</b>		NAME <b>KAIF MUNSHI</b>		
COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	
					SCALE 1:8	SHEET 1 OF 1



TITLE  
**SHARPENER CASE**

COURSE  
**ME 1670**

SEMESTER  
**FALL 2023**

DATE  
**12/11/2023**

NAME  
**KAIF MUNSHI**

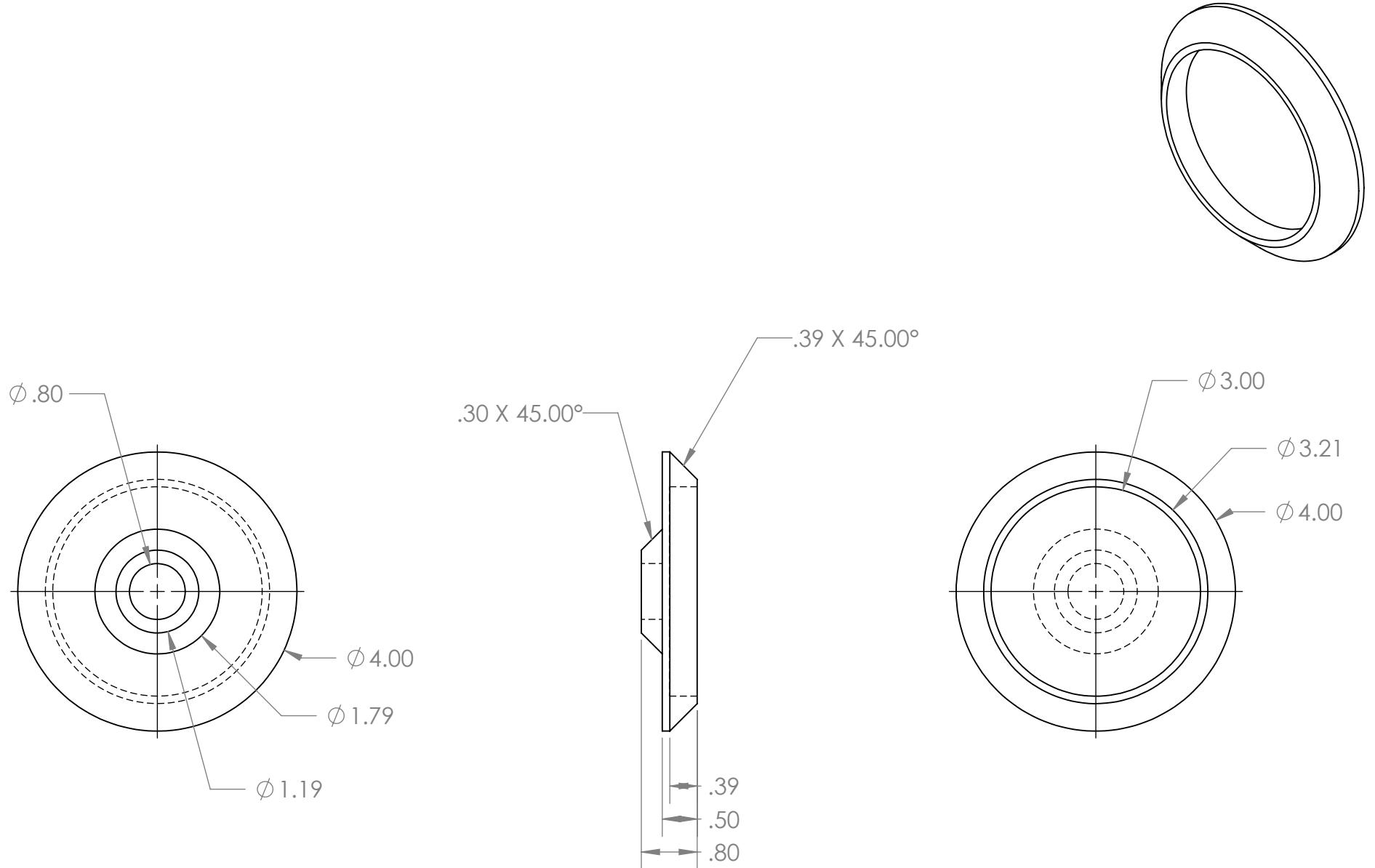
SECTION  
**A**

LAB  
ACTIVITY

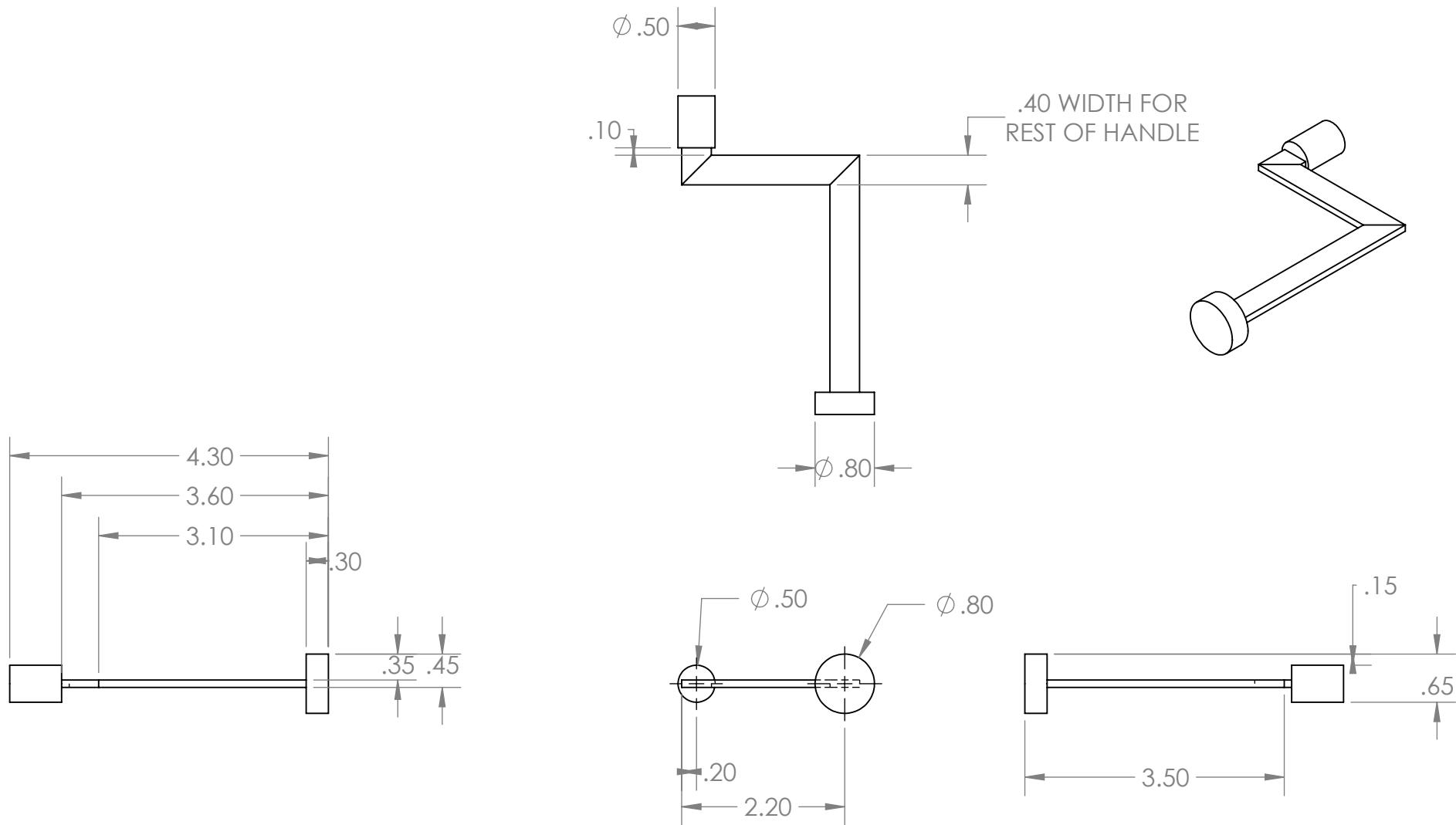
DIMENSIONS ARE IN INCHES  
ANGLES ARE IN DEGREES

SIZE  
**A**

SCALE 1:2 SHEET 1 OF 1

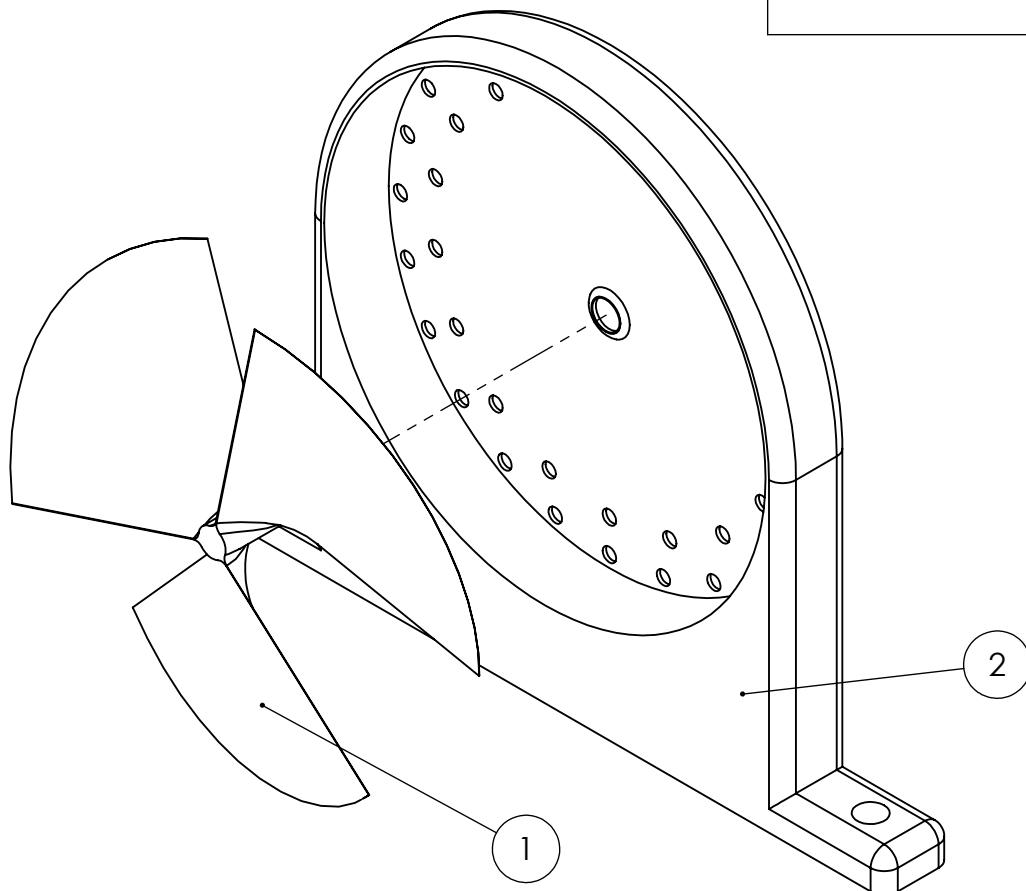


TITLE <b>SHARPENER BASE</b>	DATE <b>12/11/2023</b>		NAME <b>KAIF MUNSHI</b>		DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE <b>A</b>
	COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	
5	4	3	2	1	SCALE 1:2	SHEET 1 OF 1

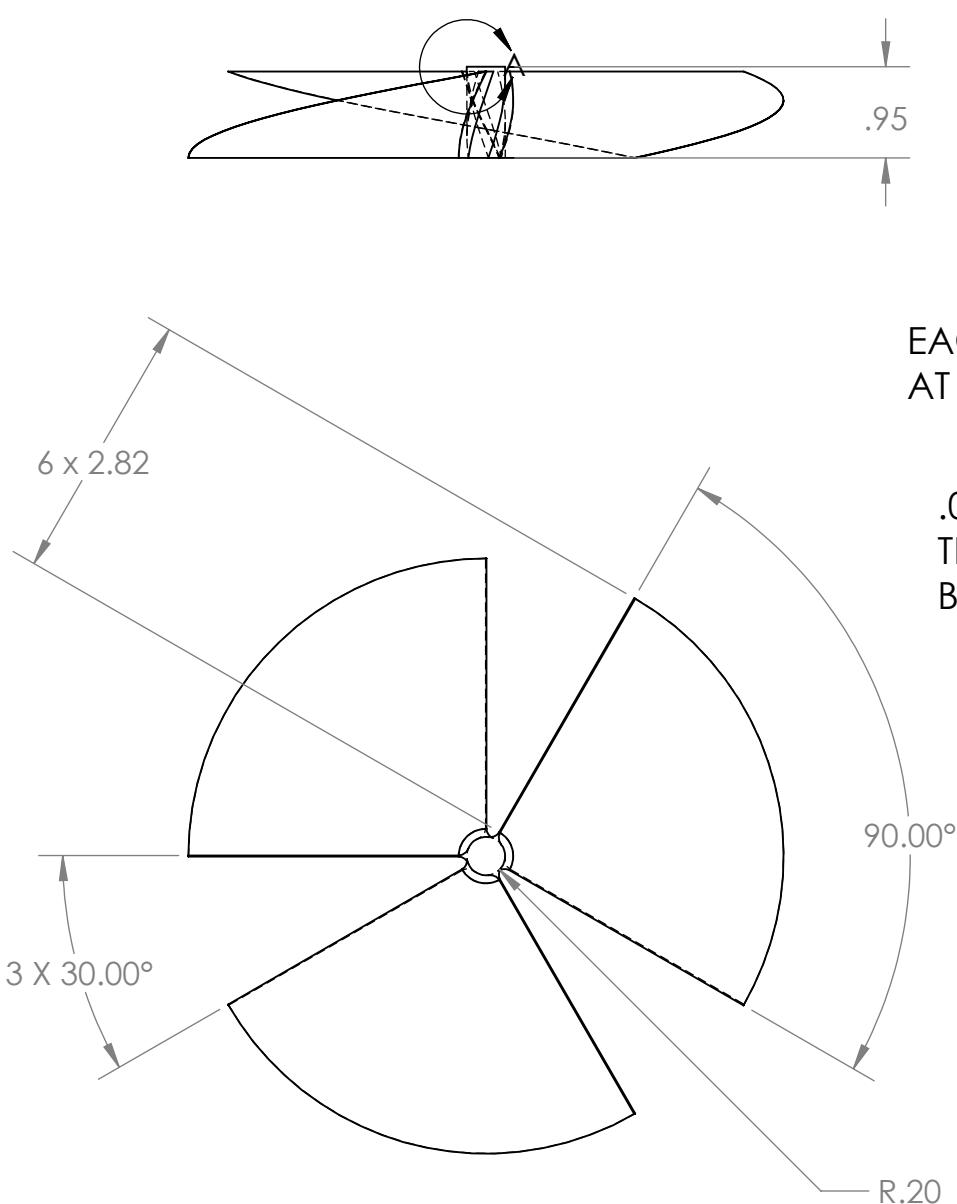


TITLE <b>SHARPENER HANDLE</b>	DATE <b>12/07/2023</b>			NAME <b>Kaif Munshi</b>		
	COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB <b>A</b>	ACTIVITY <b>HW</b>	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES
					SCALE 1:2	SHEET 1 OF 1

ITEM NO.	PART NUMBER	QTY.
1	Fan blade	1
2	Table Fan	1

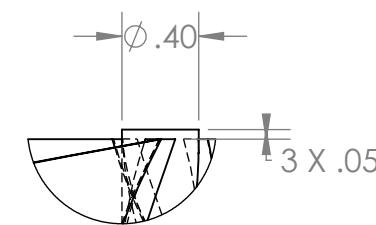
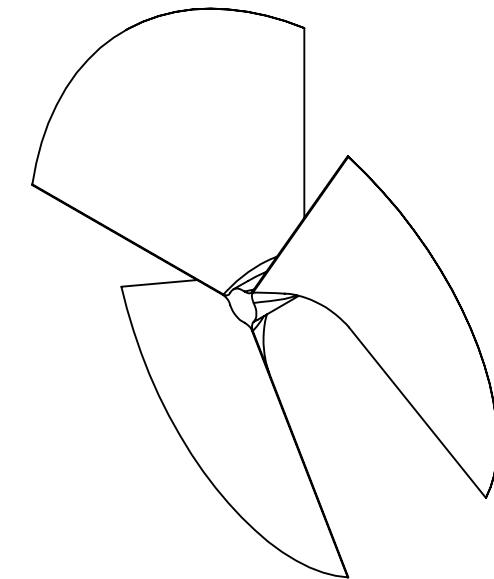


TITLE <b>FAN EXPLODED ASSEMBLY</b>	DATE <b>12/11/2023</b>		NAME <b>KAIF MUNSHI</b>		
	COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES
					SCALE 1:4 SHEET 1 OF 1



EACH BLADE IS CURVED  
AT 90 DEGREE SWEEP

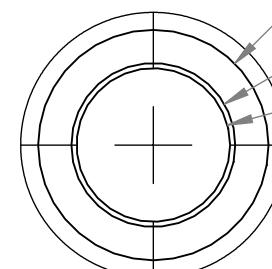
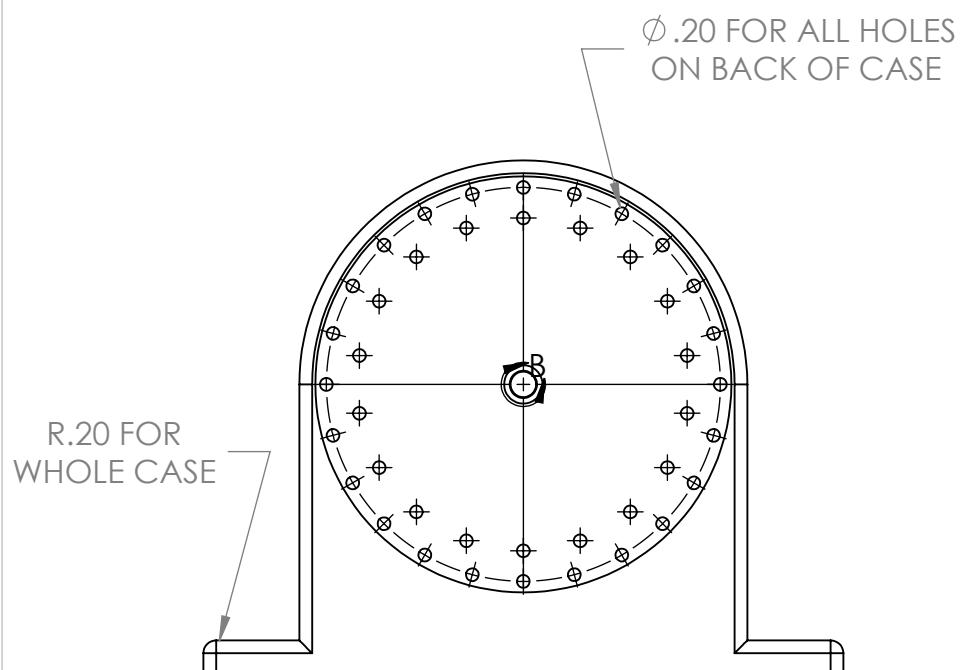
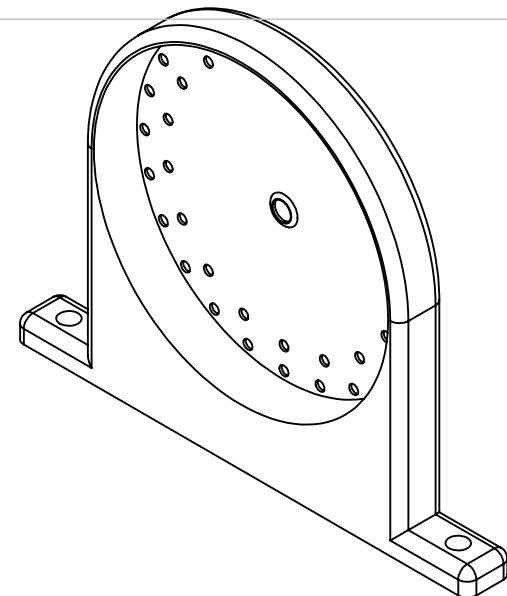
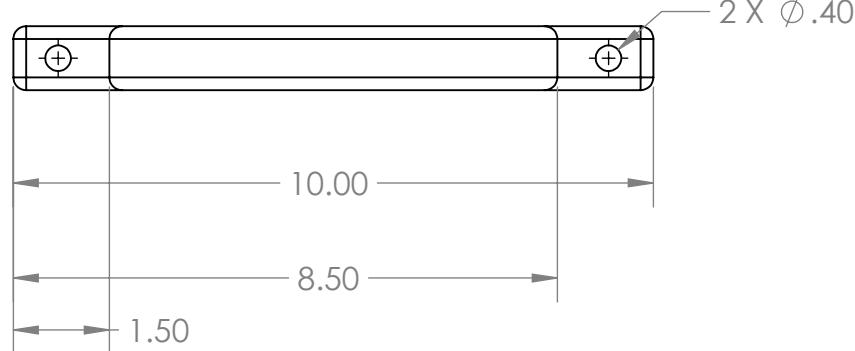
.01 IN. THICKNESS  
THROUGHOUT THE  
BLADES



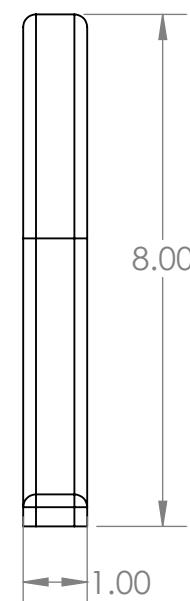
DETAIL A  
SCALE 1 : 1

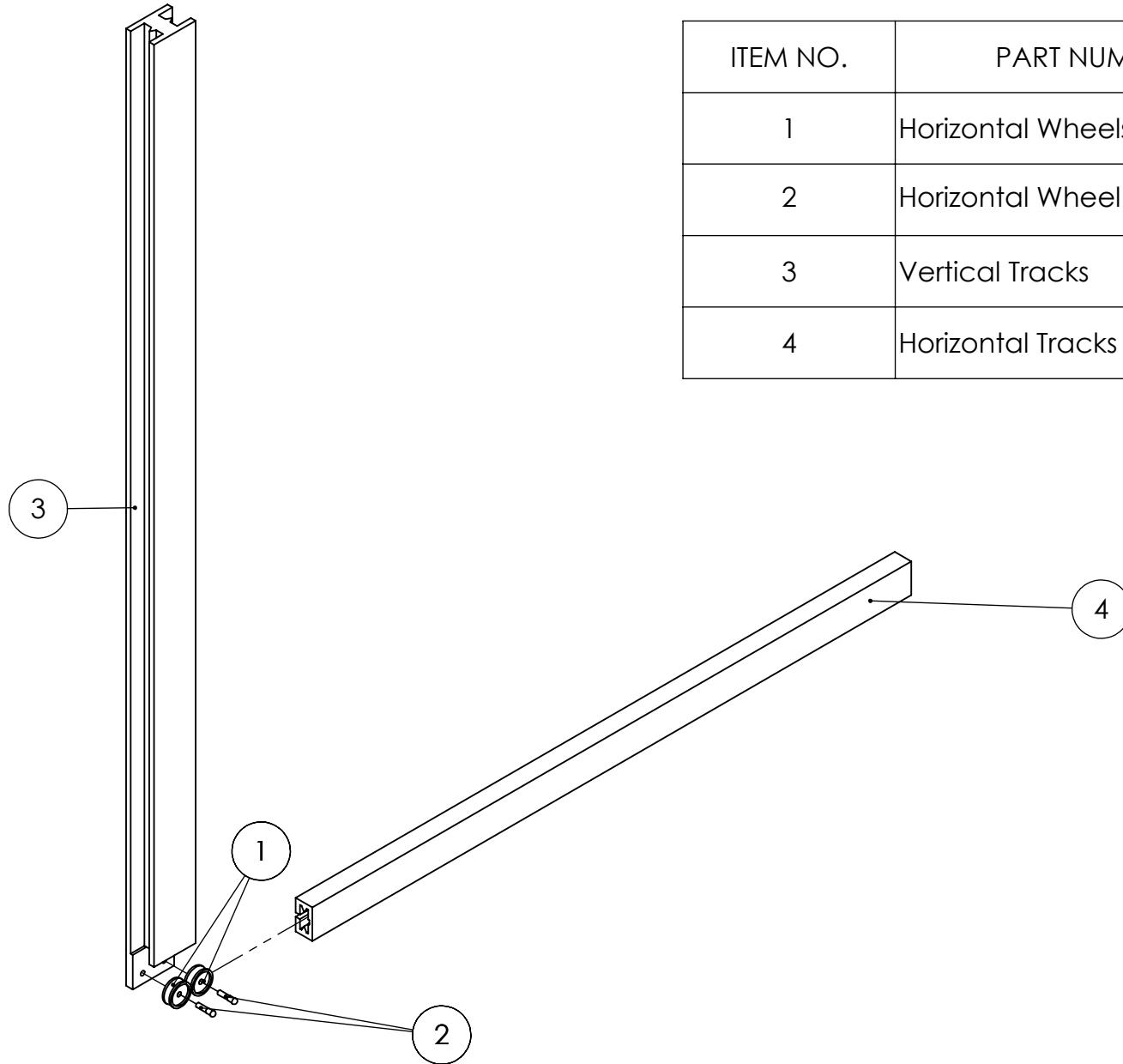


TITLE <b>FAN BLADE</b>	DATE <b>12/11/2023</b>		NAME <b>KAIF MUNSHI</b>		DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE <b>A</b>
	COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	
5	4	3	2	1	SCALE 1:2	SHEET 1 OF 1

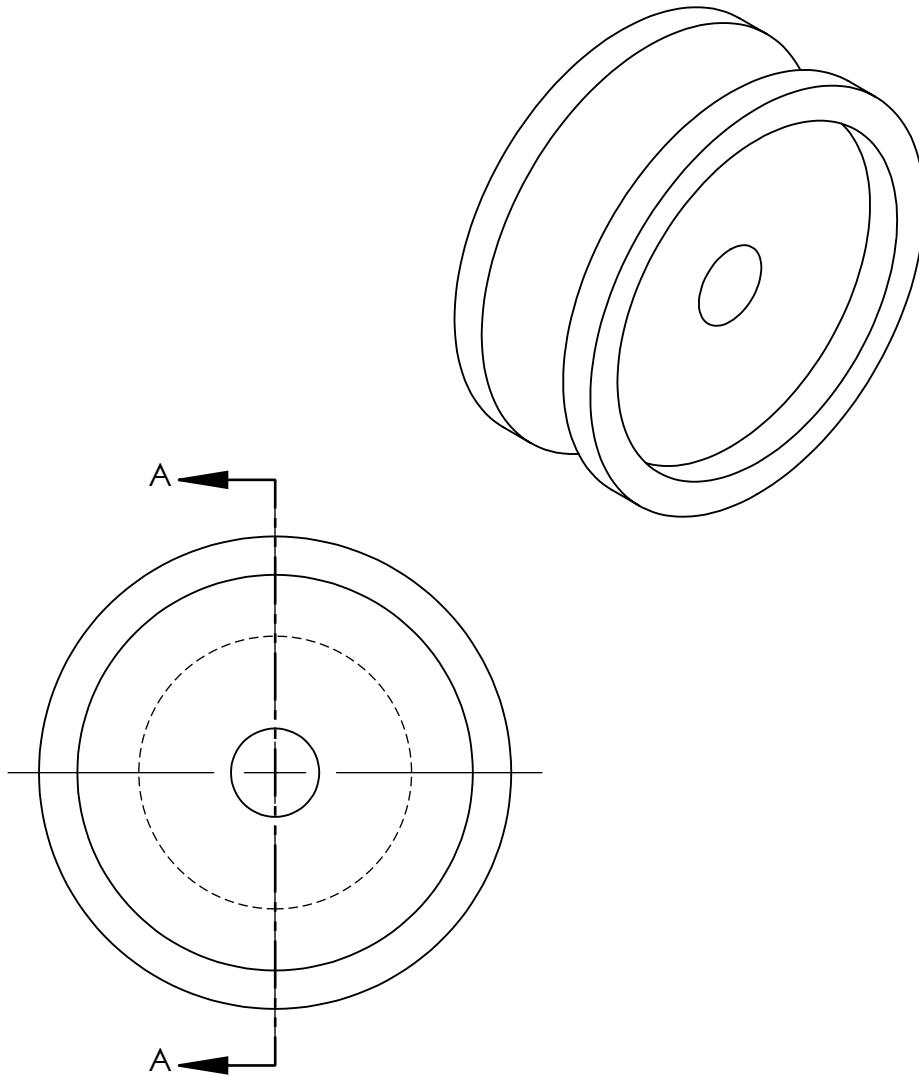
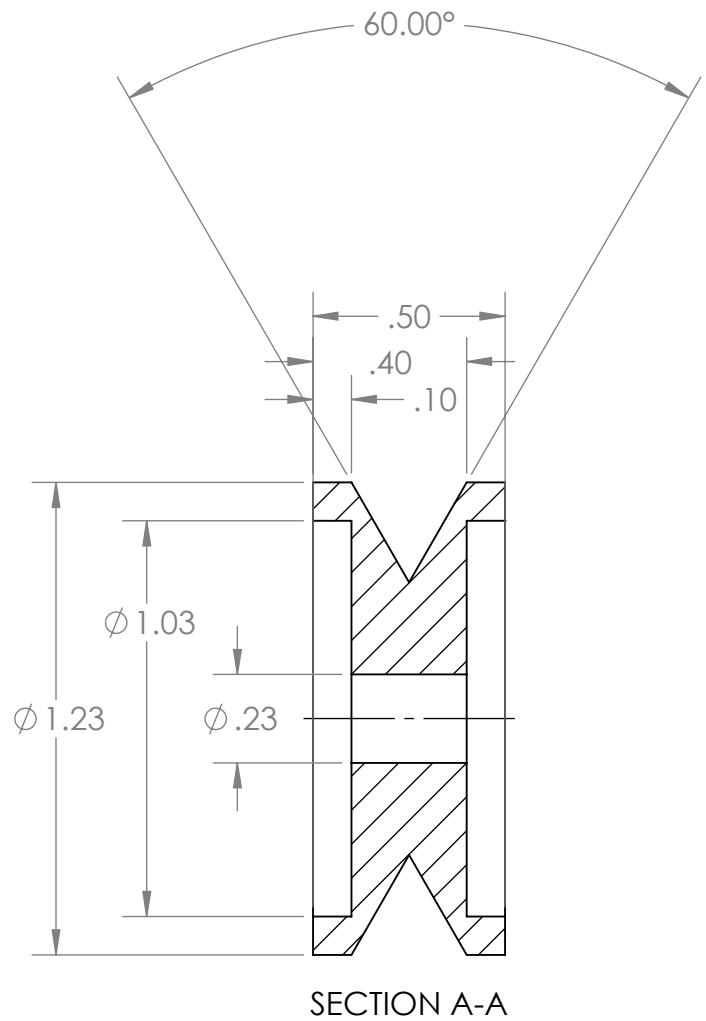


DETAIL B  
SCALE 2 : 1

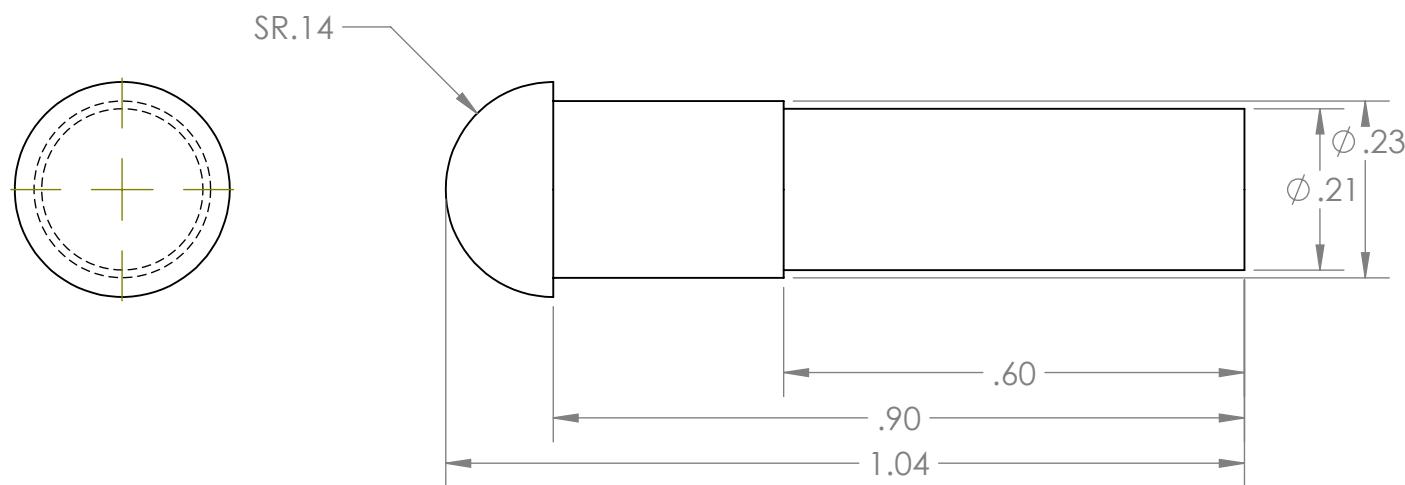
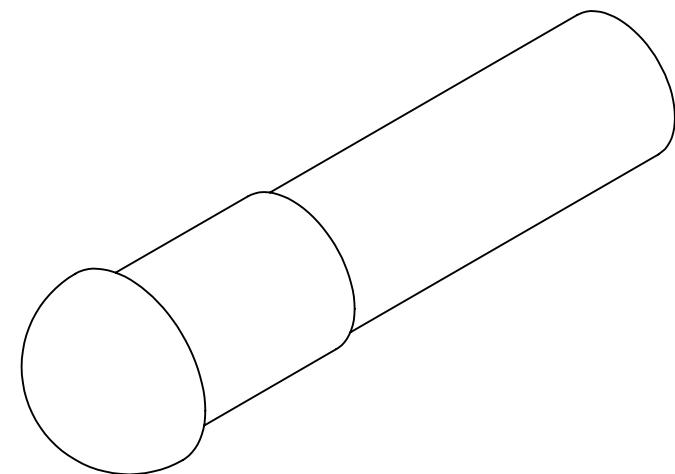




ITEM NO.	PART NUMBER	QTY.
1	Horizontal Wheels	2
2	Horizontal Wheel Peg	2
3	Vertical Tracks	1
4	Horizontal Tracks	1

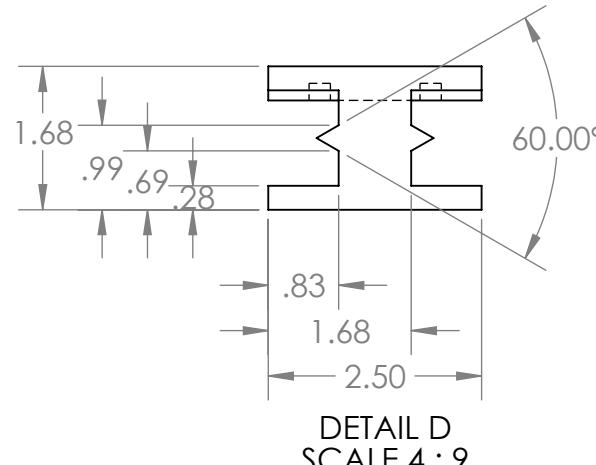


TITLE <b>Horizontal Wheel</b>	DATE <b>12/10/2023</b>	NAME <b>Shreyas Subramanian</b>				DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE <b>A</b>
			COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY

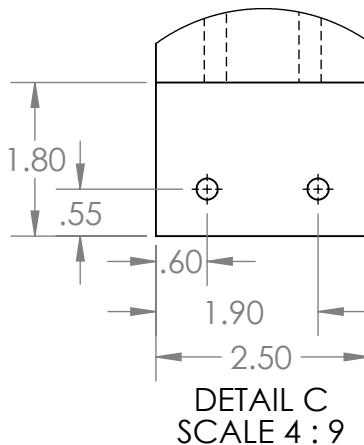


TITLE <b>Horizontal Wheel Peg</b>		DATE <b>12/10/2023</b>	NAME <b>Shreyas Subramanian</b>		
COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES SCALE 4:1 SHEET 1 OF 1

3ED



49.80



1.80

F

DATE  
12/10/2023

NAME

Shreyas Subramanian

TITLE

Vertical Track

SECTION

A

COURSE

ME 1670

SEMESTER

FALL 2023

LAB

ACTIVITY

DIMENSIONS ARE IN INCHES  
ANGLES ARE IN DEGREES

SIZE

A

SCALE 1:9 SHEET 1 OF 1

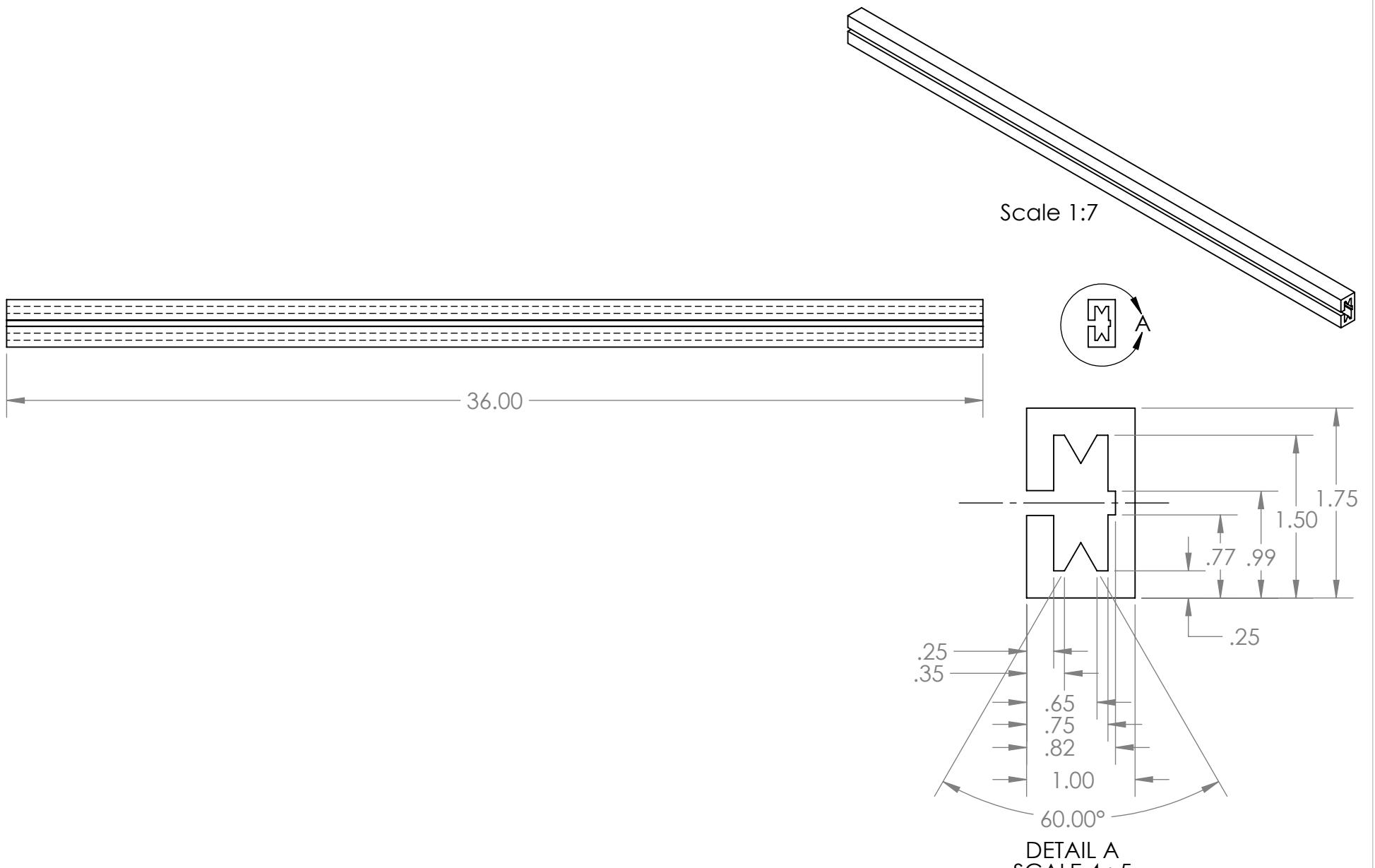
5

4

3

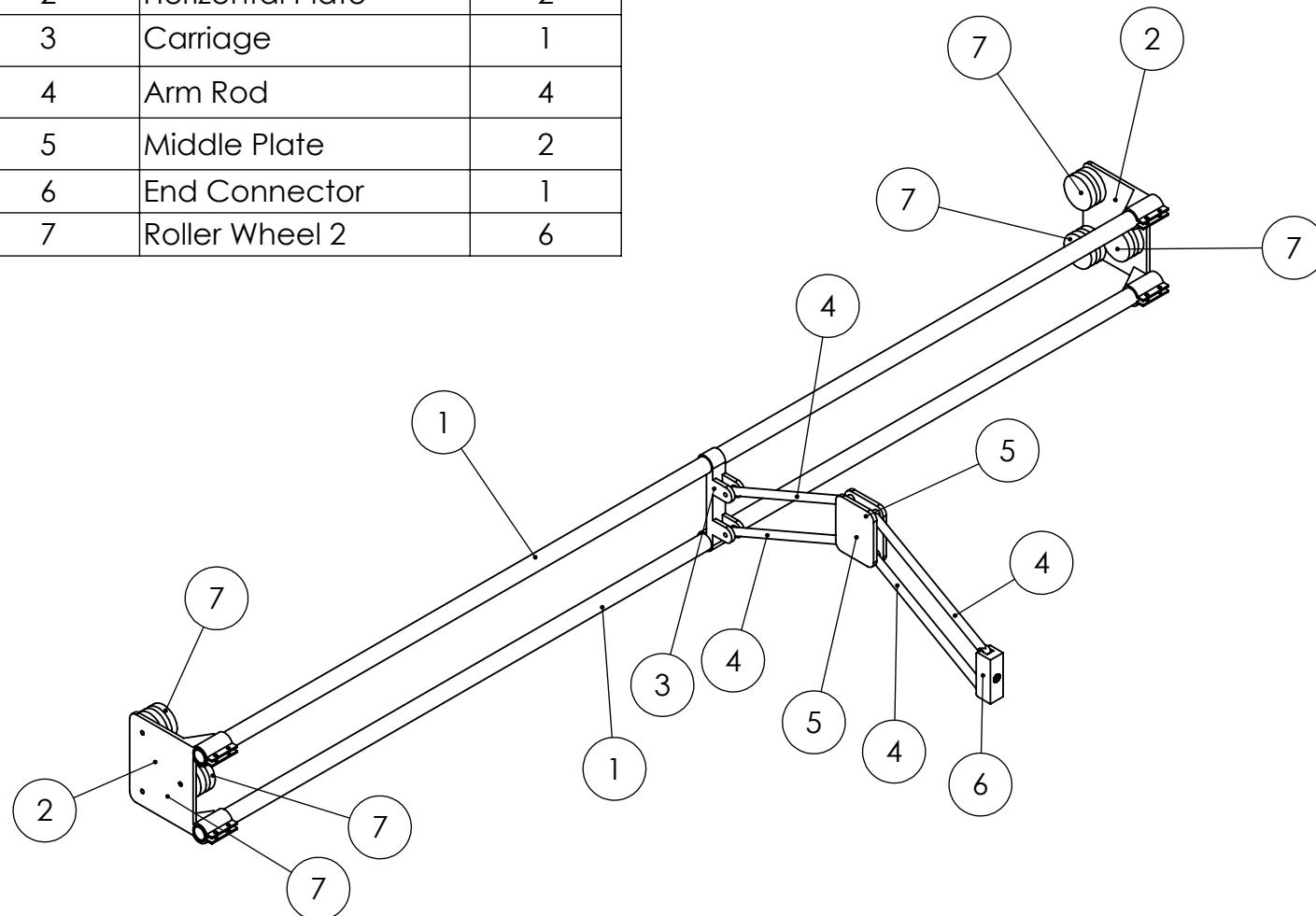
2

1

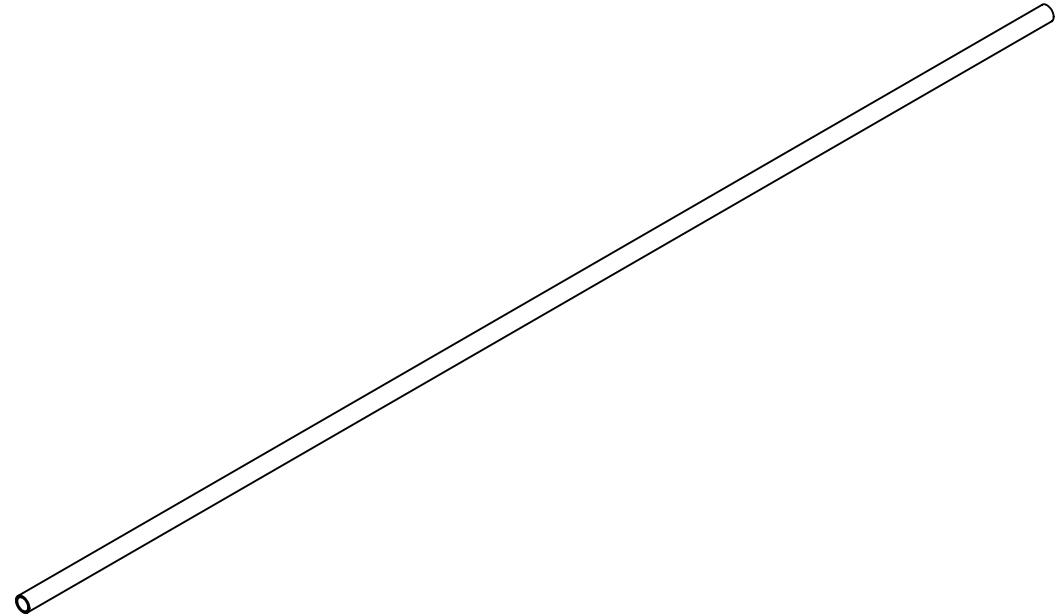


<b>Georgia Institute</b> <b>of Tech</b> nology	TITLE		DATE		NAME		DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE
	COURSE	SEMESTER	SECTION	LAB	ACTIVITY			
	<b>ME 1670</b>	<b>FALL 2023</b>	<b>A</b>				SCALE 1:5	SHEET 1 OF 1

ITEM NO.	PART NUMBER	QTY.
1	Horizontal tube	2
2	Horizontal Plate	2
3	Carriage	1
4	Arm Rod	4
5	Middle Plate	2
6	End Connector	1
7	Roller Wheel 2	6

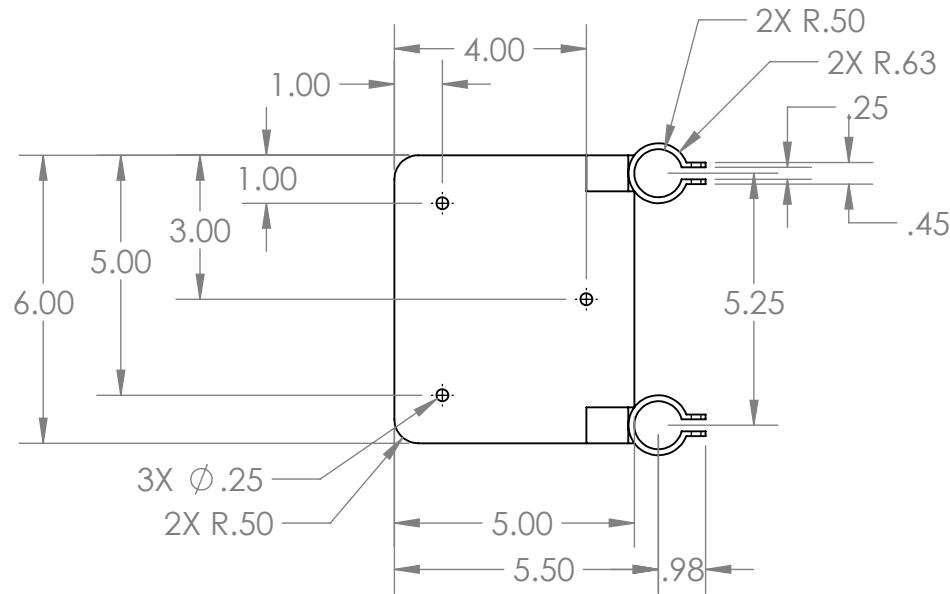
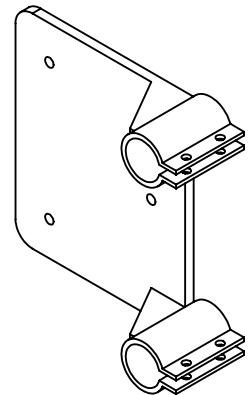
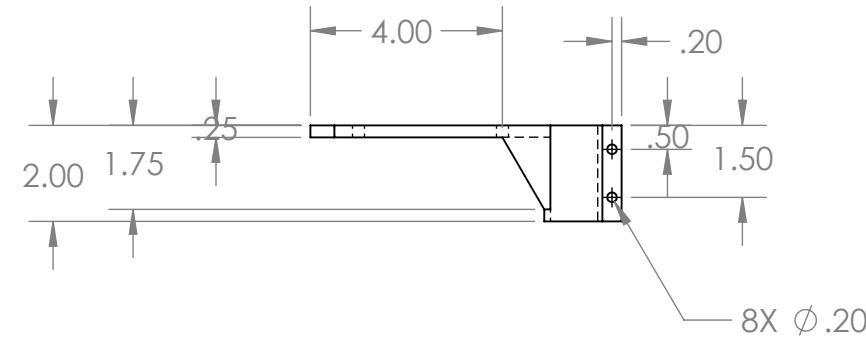
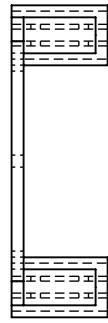


TITLE <b>Desk: Trent Subassembly</b>		DATE <b>12/8/2023</b>		NAME <b>Trent Wright</b>	
COURSE <b>ME 1670</b>	SEMESTER <b>Fall 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES
				SCALE 1:10 SHEET 1 OF 1	

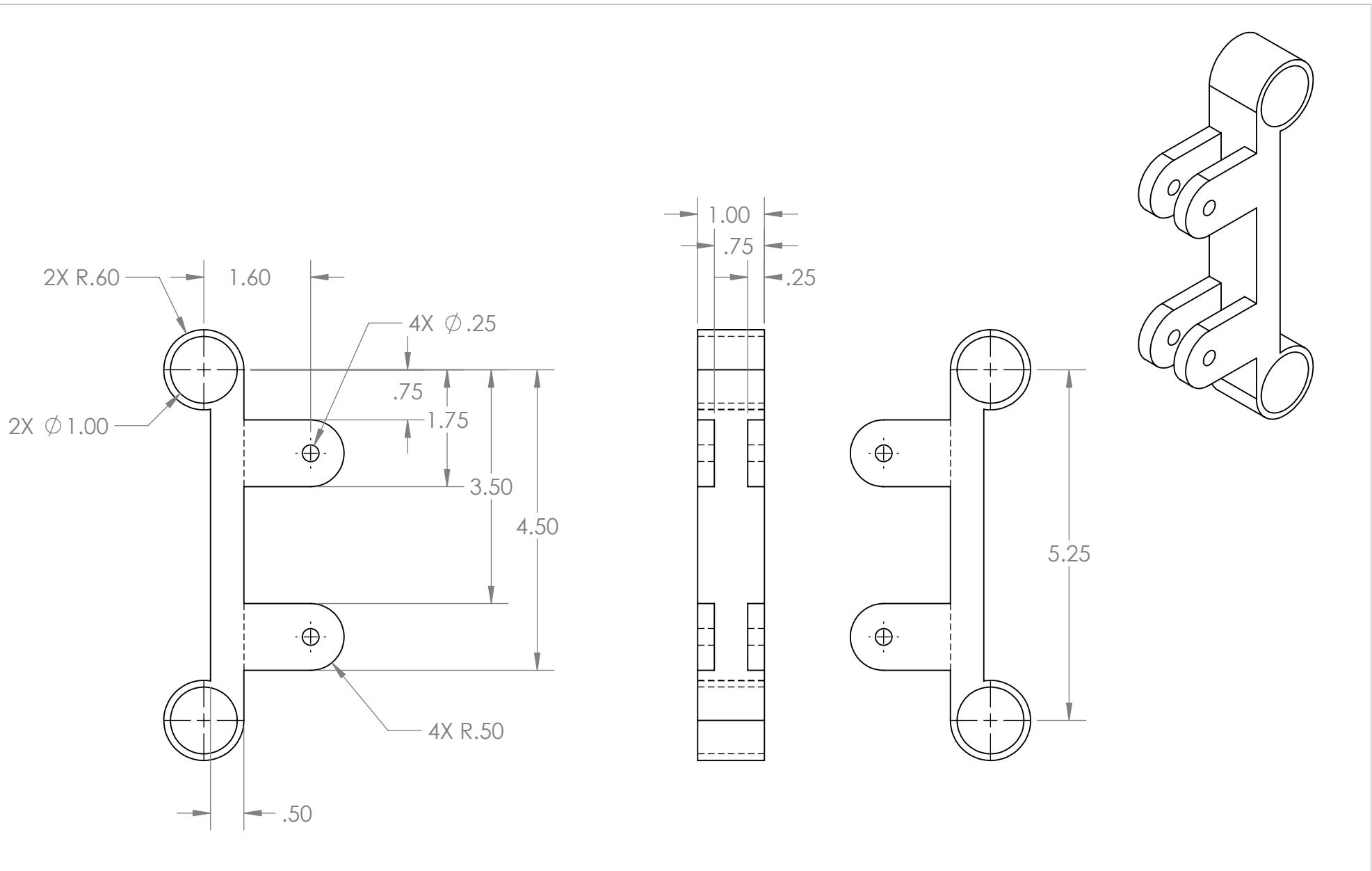


$\phi 1.00$   
 $\phi .80$

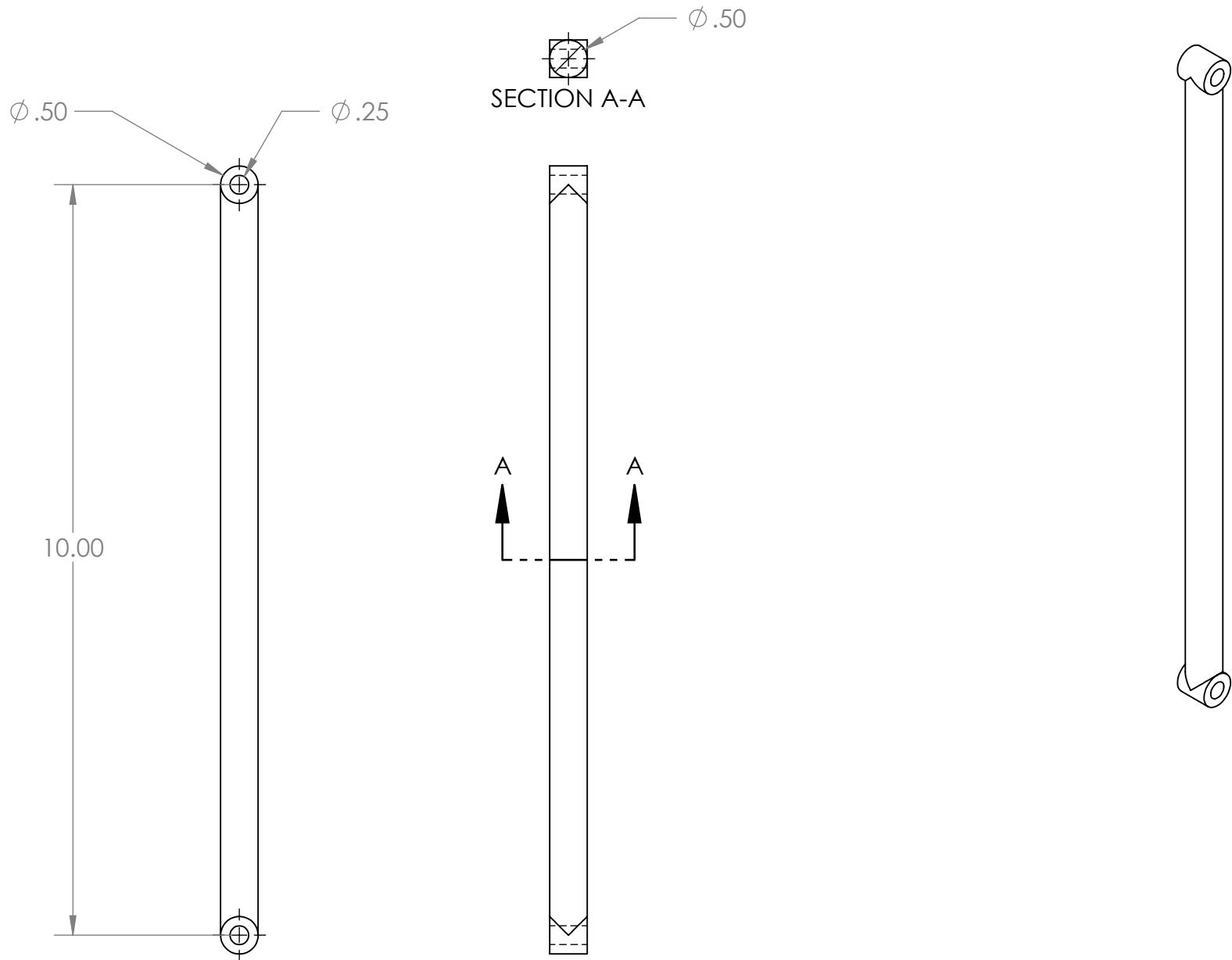
 <b>Georgia Institute of Technology</b>	TITLE		DATE		NAME	
	<b>Desk: Horizontal Tube</b>		<b>12/8/2023</b>		<b>Trent Wright</b>	
COURSE	SEMESTER	SECTION	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE
<b>ME 1670</b>	<b>Fall 2023</b>	<b>A</b>				<b>A</b>
5	4	3	2	1	SCALE 1:10	SHEET 1 OF 1



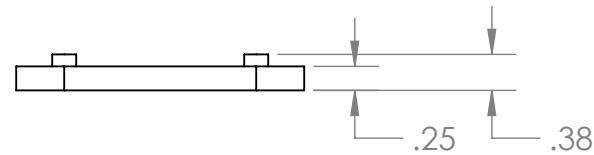
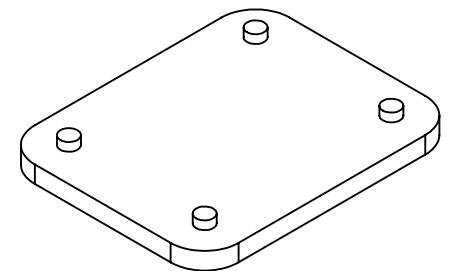
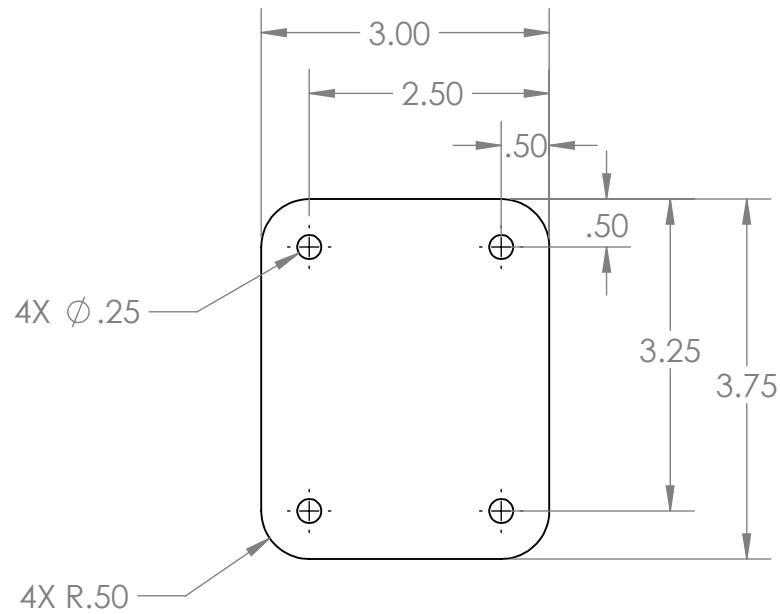
TITLE <b>Desk: Horizontal Plate</b>	DATE <b>12/8/2023</b>	NAME <b>Trent Wright</b>
COURSE <b>ME 1670</b>	SEMESTER <b>Fall 2023</b>	SECTION <b>A</b>
		ACTIVITY
		DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES
		SCALE 1:4 SHEET 1 OF 1



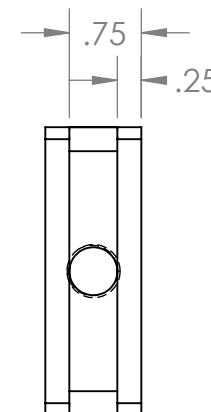
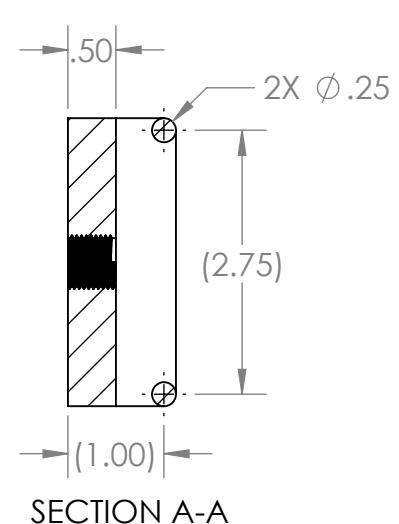
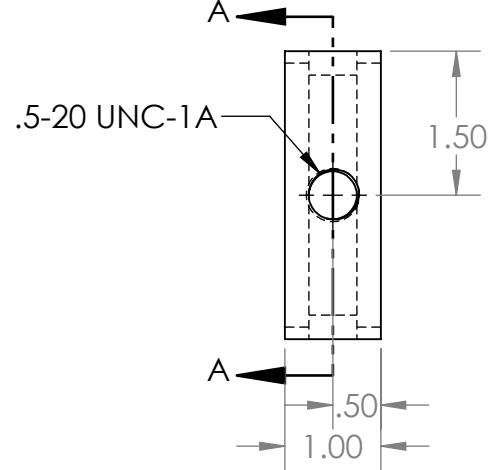
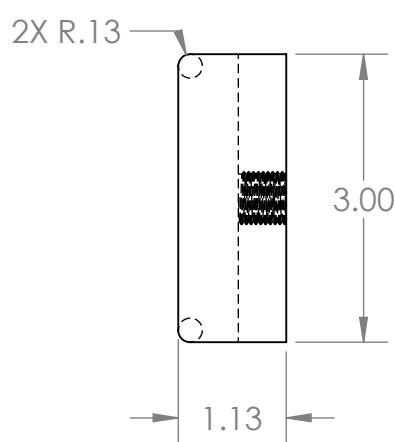
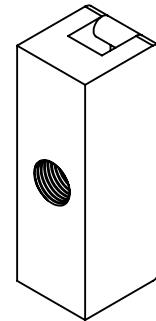
TITLE <b>Desk: Carriage</b>	DATE <b>12/8/2023</b>		NAME <b>Trent Wright</b>		
	COURSE <b>ME 1670</b>	SEMESTER <b>Fall 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY
			DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES		
			SCALE 1:2	SHEET 1 OF 1	



TITLE <b>Desk: Arm Rod</b>		DATE <b>12/8/2023</b>		NAME <b>Trent Wright</b>		
COURSE <b>ME 1670</b>	SEMESTER <b>Fall 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE <b>A</b>
					SCALE 1:2	SHEET 1 OF 1



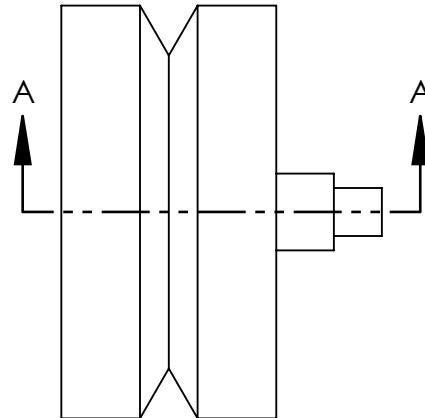
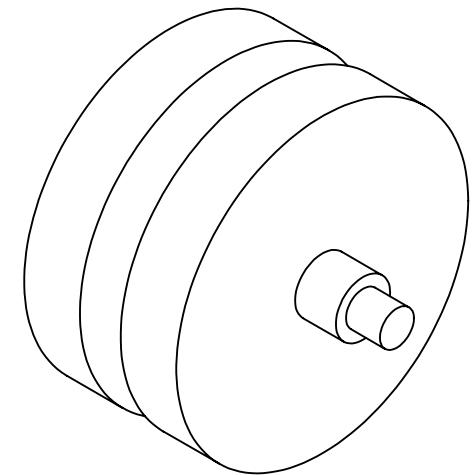
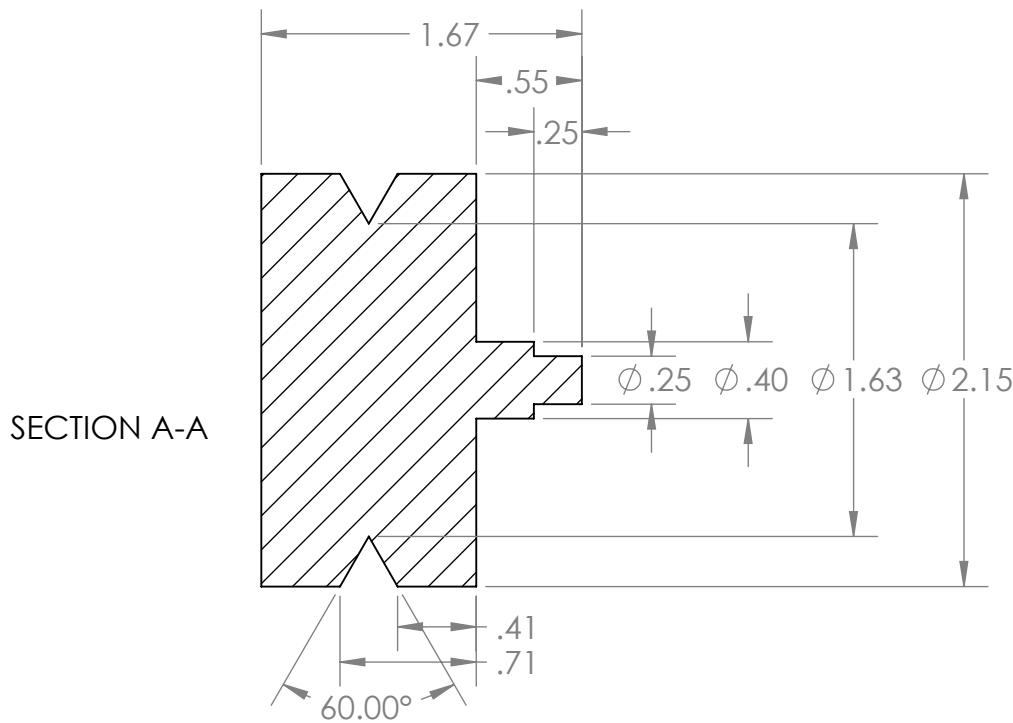
TITLE <b>Desk: Middle Plate</b>	DATE <b>12/8/2023</b>		NAME <b>Trent Wright</b>		
	COURSE <b>ME 1670</b>	SEMESTER <b>Fall 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY
				DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	SIZE <b>A</b>
				SCALE 1:2	SHEET 1 OF 1



SECTION A-A



TITLE		DATE		NAME	
COURSE	SEMESTER	12/8/2023		Trent Wright	
		SECTION	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES
ME 1670	Fall 2023	A			SCALE 1:2 SHEET 1 OF 1



TITLE  
**Desk: Roller Wheel 2**

COURSE  
**ME 1670**

SEMESTER  
**Fall 2023**

DATE  
**12/8/2023**

NAME  
**Trent Wright**

SECTION  
**A**

LAB

ACTIVITY

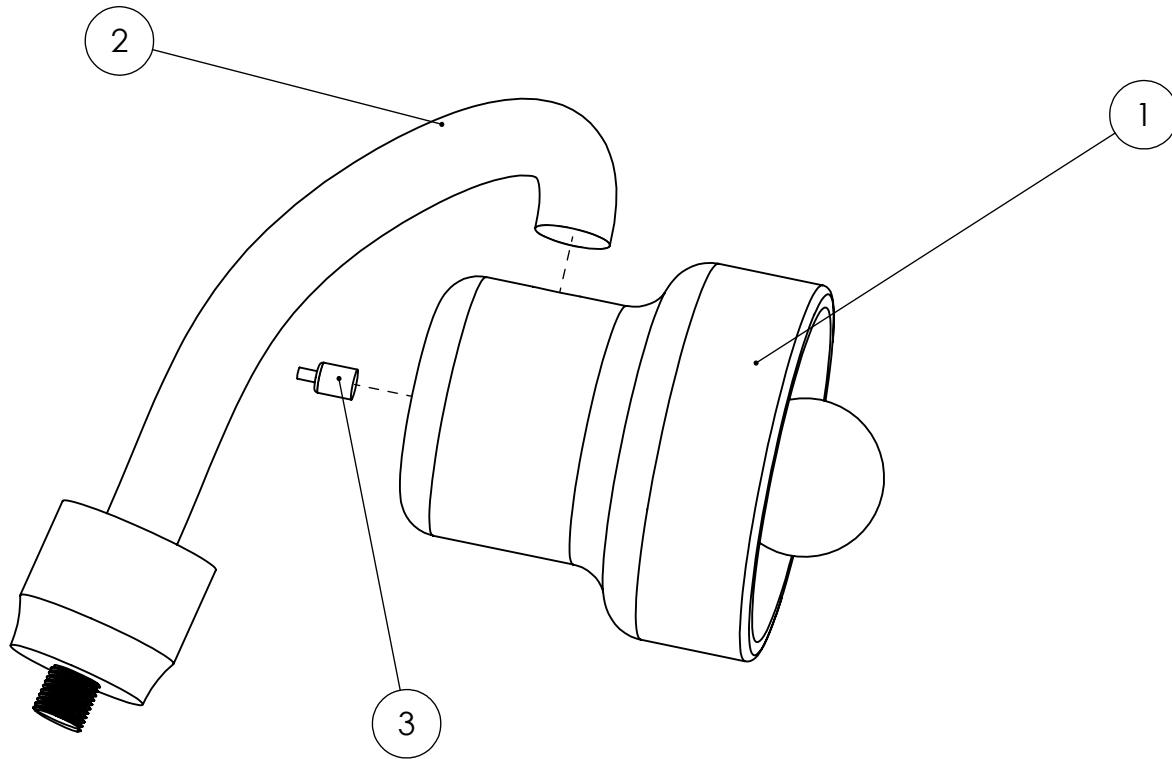
DIMENSIONS ARE IN INCHES  
ANGLES ARE IN DEGREES

SIZE  
**A**

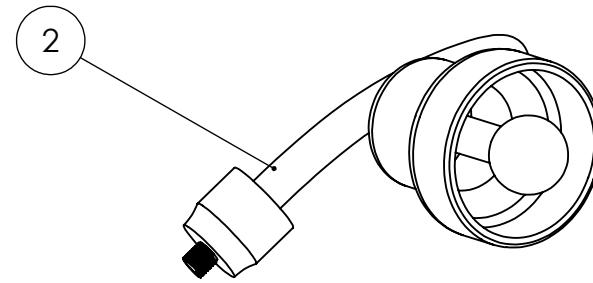
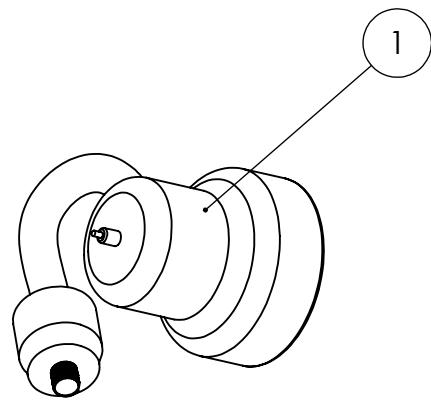
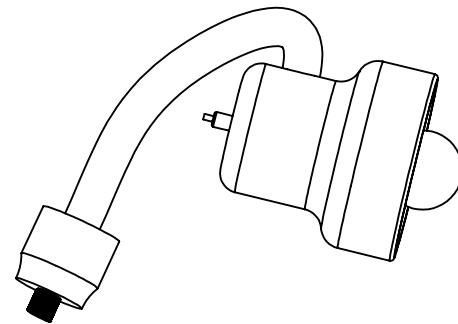
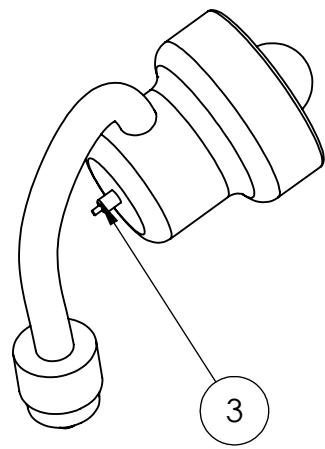
SCALE 1:1

SHEET 1 OF 1

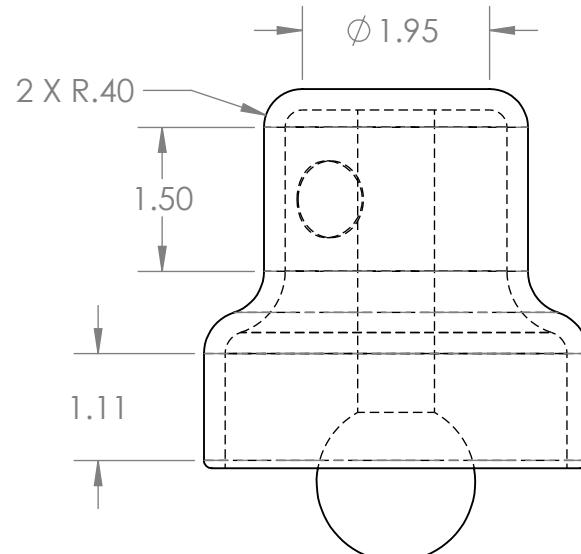
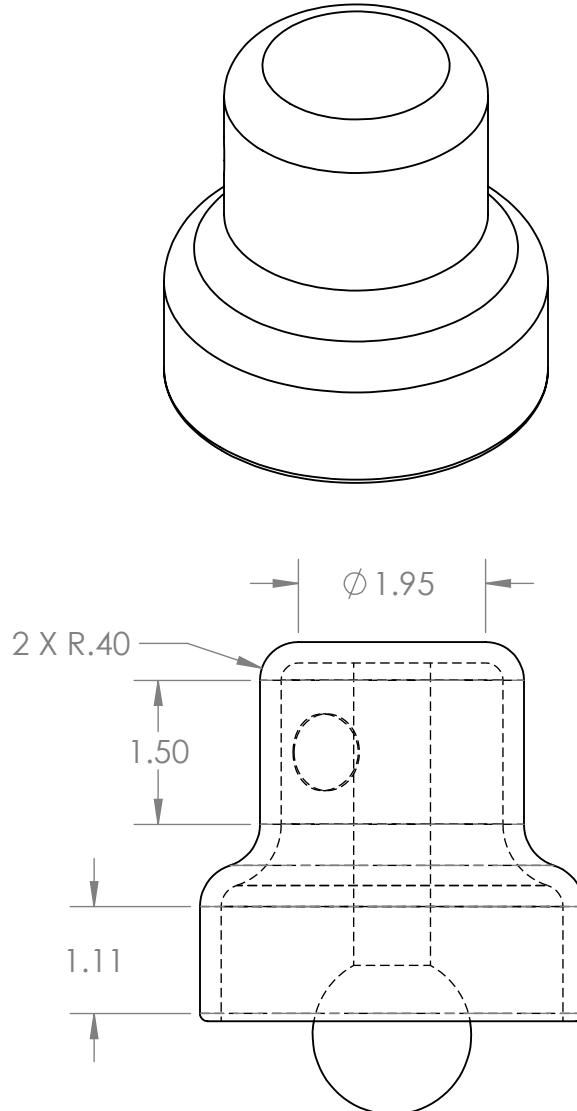
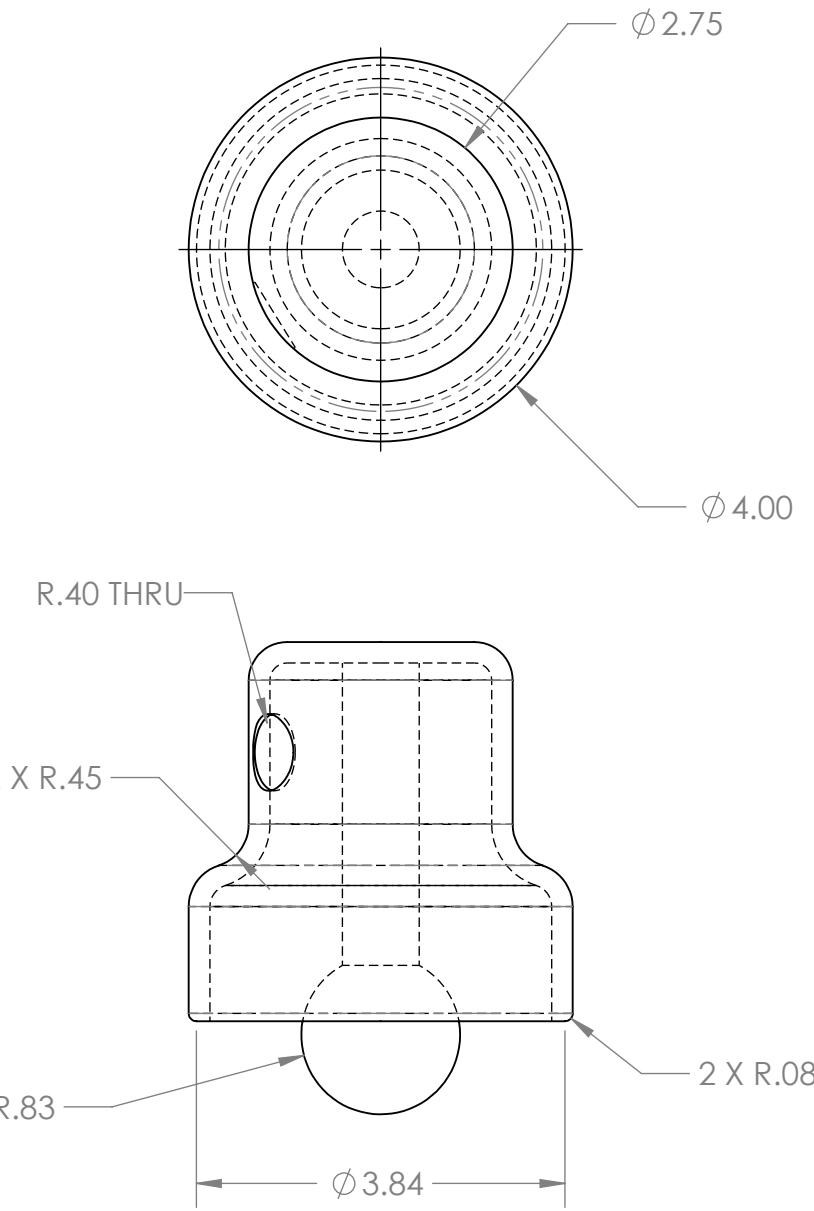
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Lamp Head	Holds the light bulb	1
2	Lamp Neck	Allows rotation of the light	1
3	Lamp Switch	Turns on and off the light bulb	1



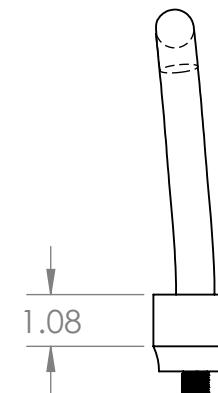
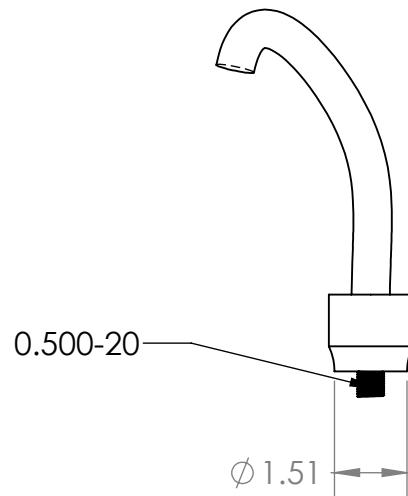
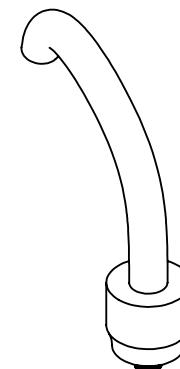
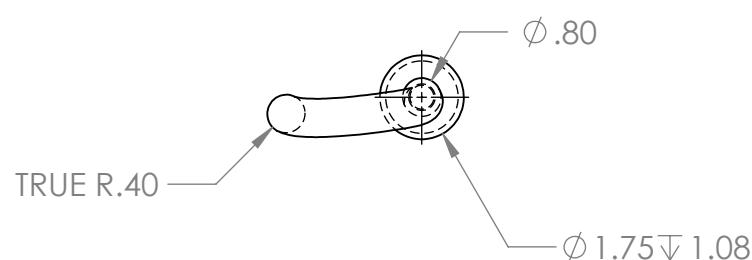
TITLE <b>Lamp Exploded Assembly</b>		DATE <b>12/2/2023</b>		NAME <b>Siddharth Nachaloor</b>		
COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES	
					SCALE 1:2	SIZE <b>A</b> SHEET 1 OF 1



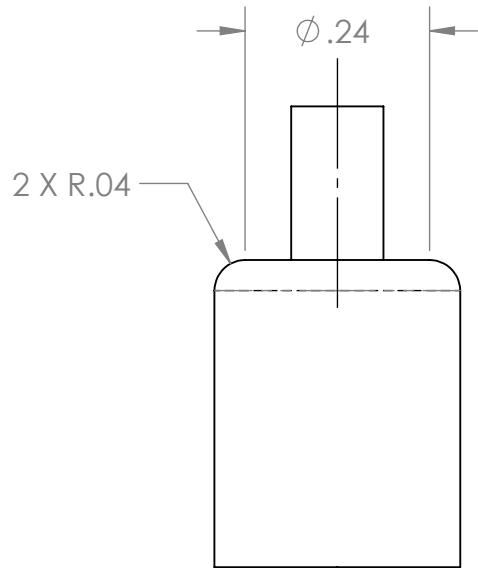
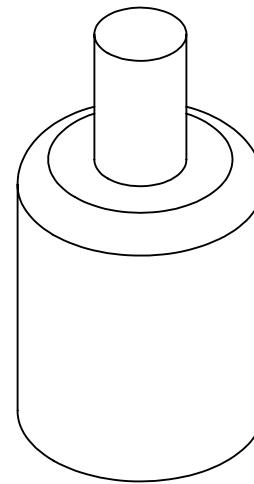
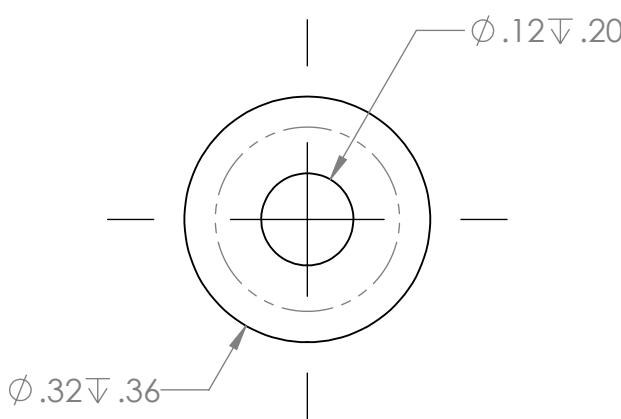
TITLE <b>Lamp Outline Assembly</b>	DATE <b>12/2/2023</b>		NAME <b>Siddharth Nachaloor</b>		
	COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY
DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES					SIZE <b>A</b>
SCALE 1:4					SHEET 1 of 1



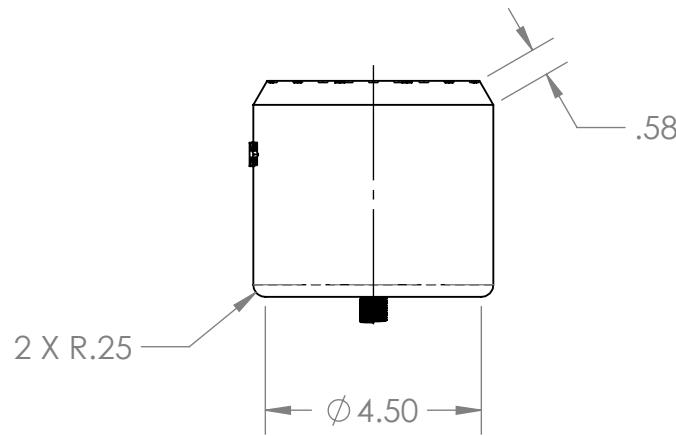
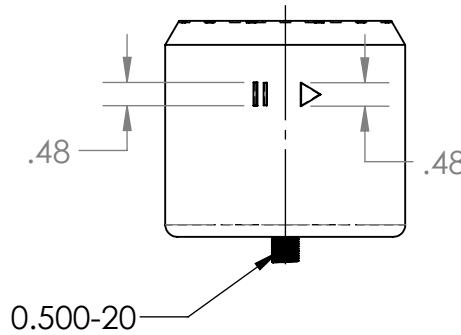
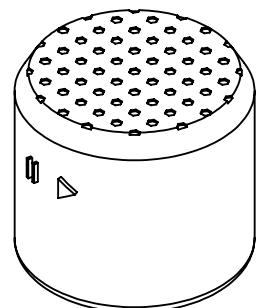
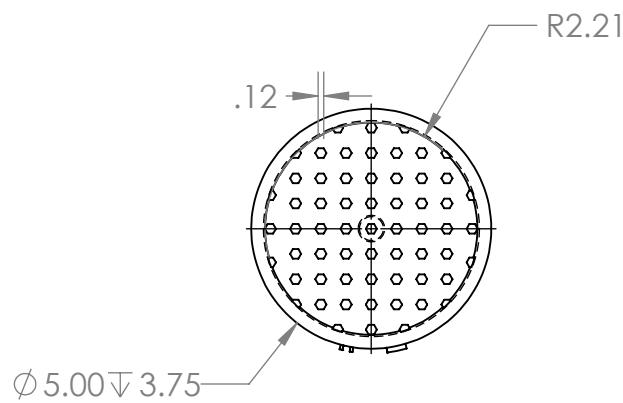
TITLE <b>Lamp Head</b>	DATE <b>12/2/2023</b>		NAME <b>Siddharth Nachaloor</b>		
	COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY
			DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES		
			SCALE 1:2	SHEET 1 OF 1	



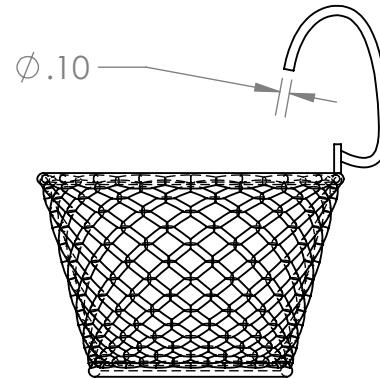
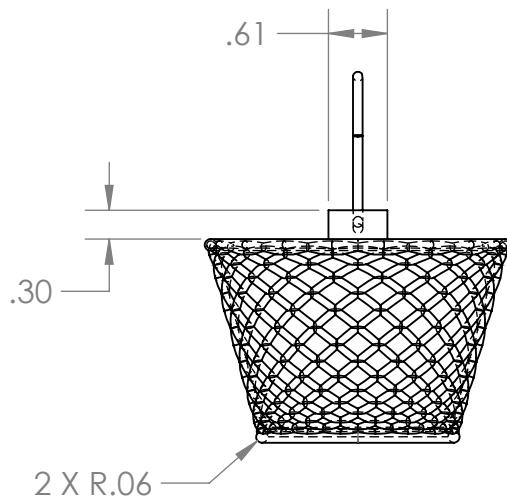
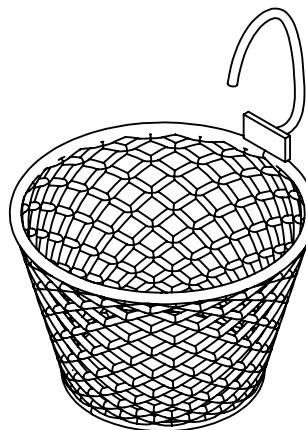
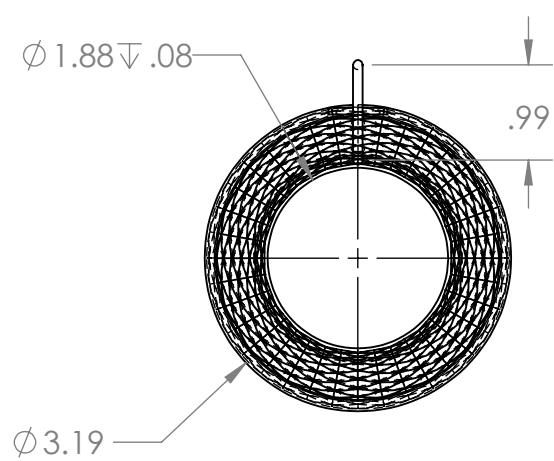
TITLE <b>Lamp Neck</b>	DATE <b>12/2/2023</b>	NAME <b>Siddharth Nachaloor</b>			
			COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>
LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES			SIZE <b>A</b>
		SCALE 1:4	SHEET 1 OF 1		



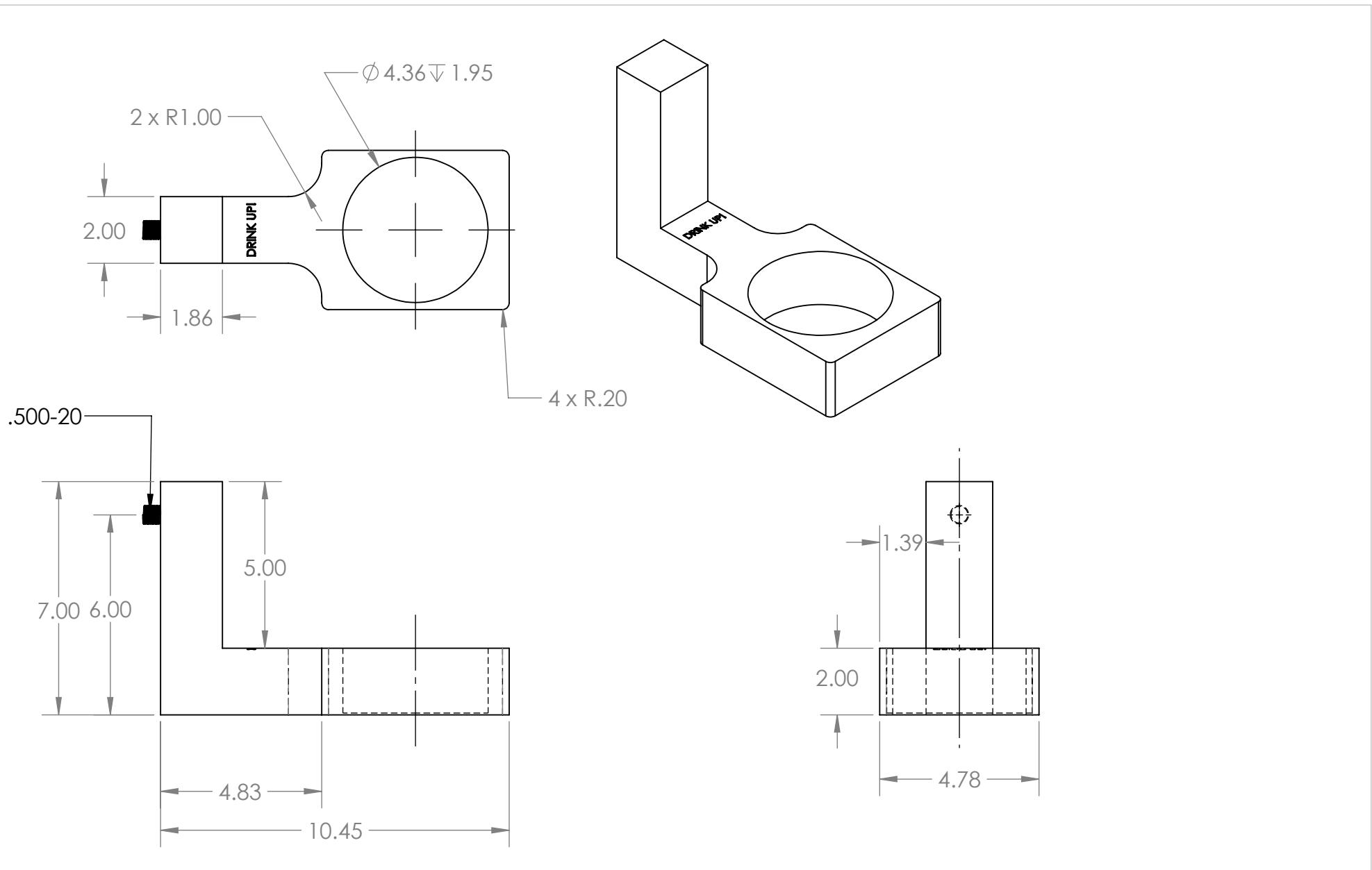
TITLE <b>Lamp Switch</b>		DATE <b>12/2/2023</b>		NAME <b>Siddharth Nachaloor</b>	
COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES SCALE 4:1 SHEET 1 OF 1



TITLE <b>Speaker</b>	DATE <b>12/2/2023</b>	NAME <b>Siddharth Nachaloor</b>			
			COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>
			DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES		
			SCALE 1:4	SHEET 1 OF 1	<b>A</b>



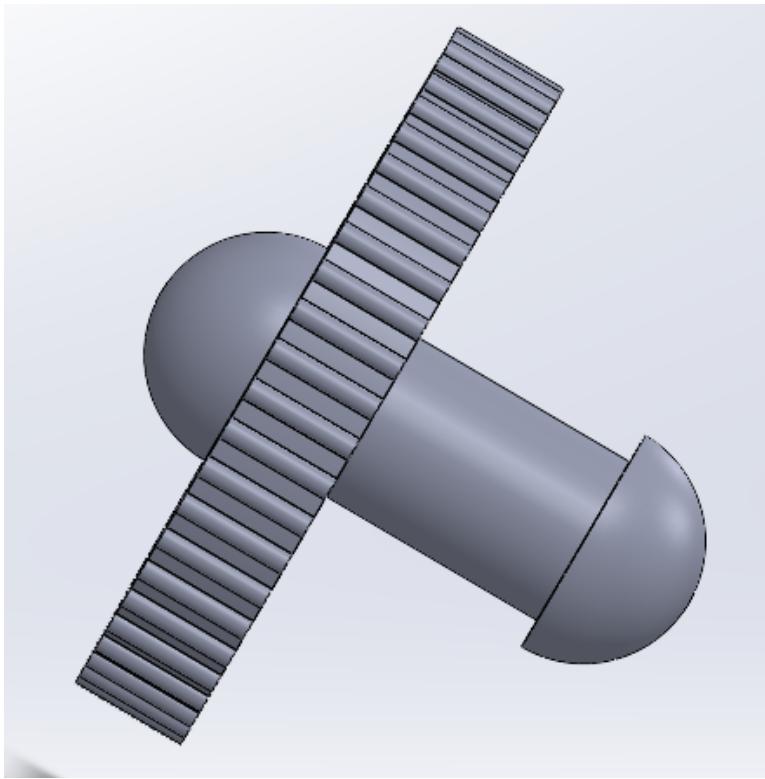
TITLE <b>Trash Can</b>	DATE <b>12/2/2023</b>		NAME <b>Siddharth Nachaloor</b>		SIZE <b>A</b>	
	COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	LAB	ACTIVITY	
DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES					SCALE 1:2	SHEET 1 OF 1



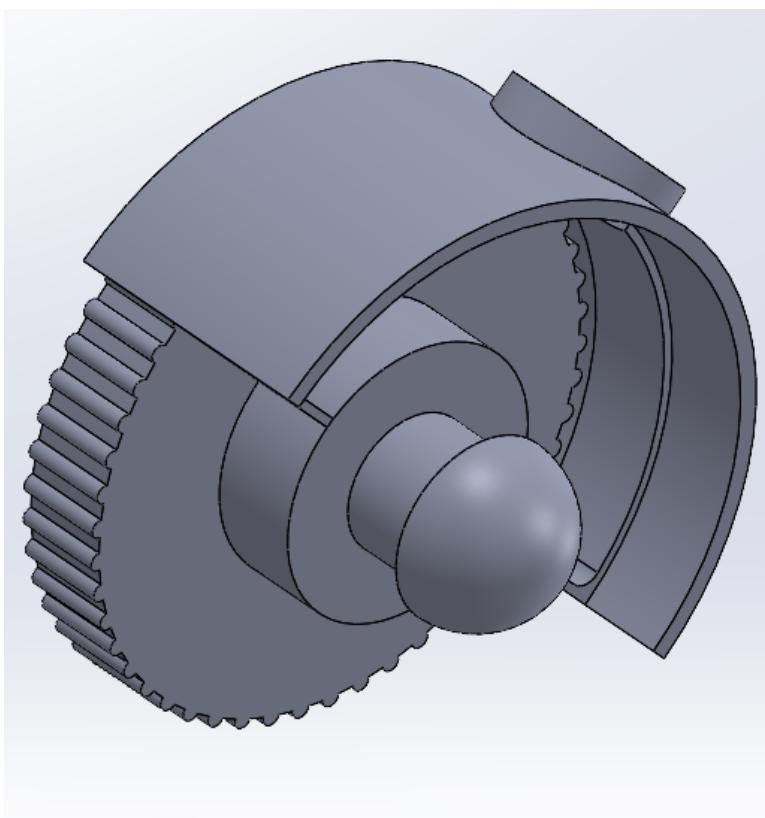
TITLE <b>Cup Holder</b>	DATE <b>12/2/2023</b>		NAME <b>Siddharth Nachaloor</b>	
	COURSE <b>ME 1670</b>	SEMESTER <b>FALL 2023</b>	SECTION <b>A</b>	ACTIVITY
DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES				SIZE <b>A</b>
SCALE 1:4				SHEET 1 OF 1

# Assembly Instructions

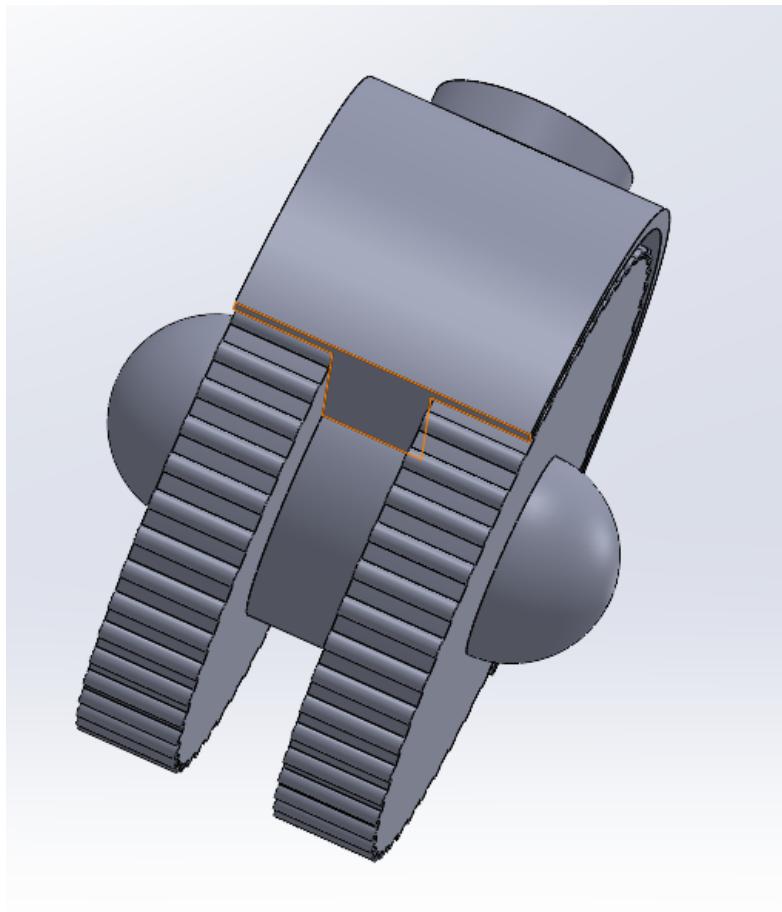
# Leg Assembly Instructions



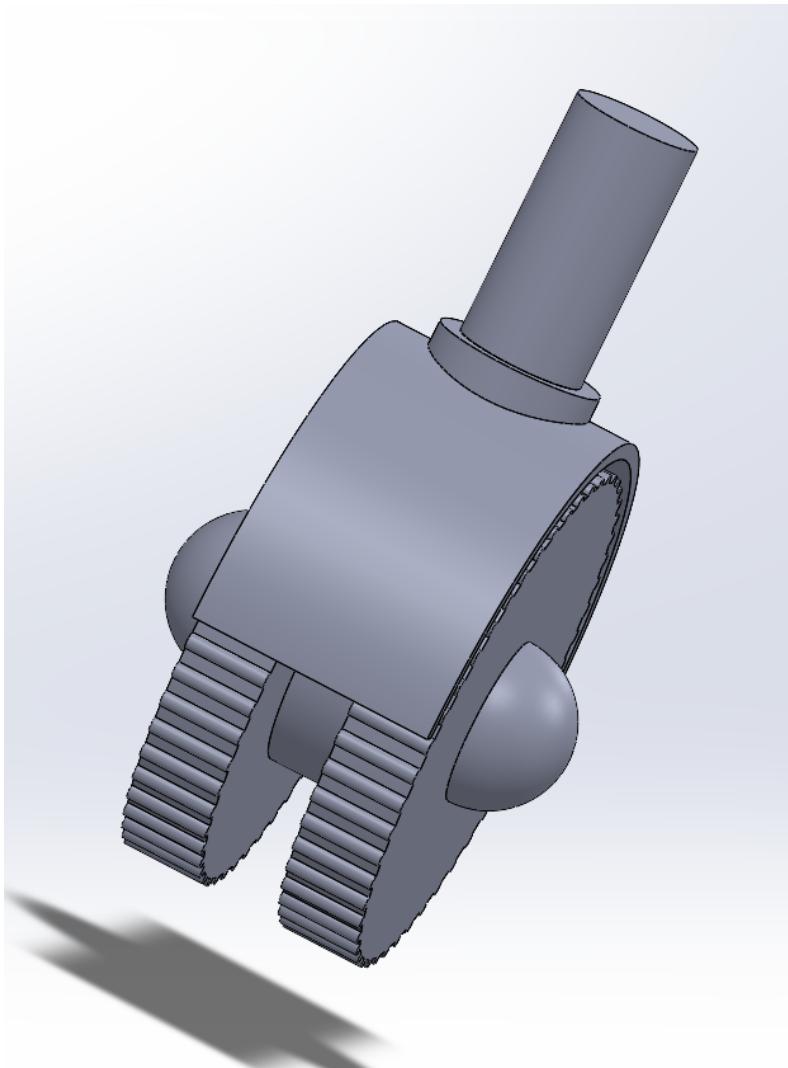
1) Push the first wheel into the far left of the wheel axle



2) Push the wheel guard into the middle of the wheel axle



- 3) Push the second wheel onto the far right of the wheel axle



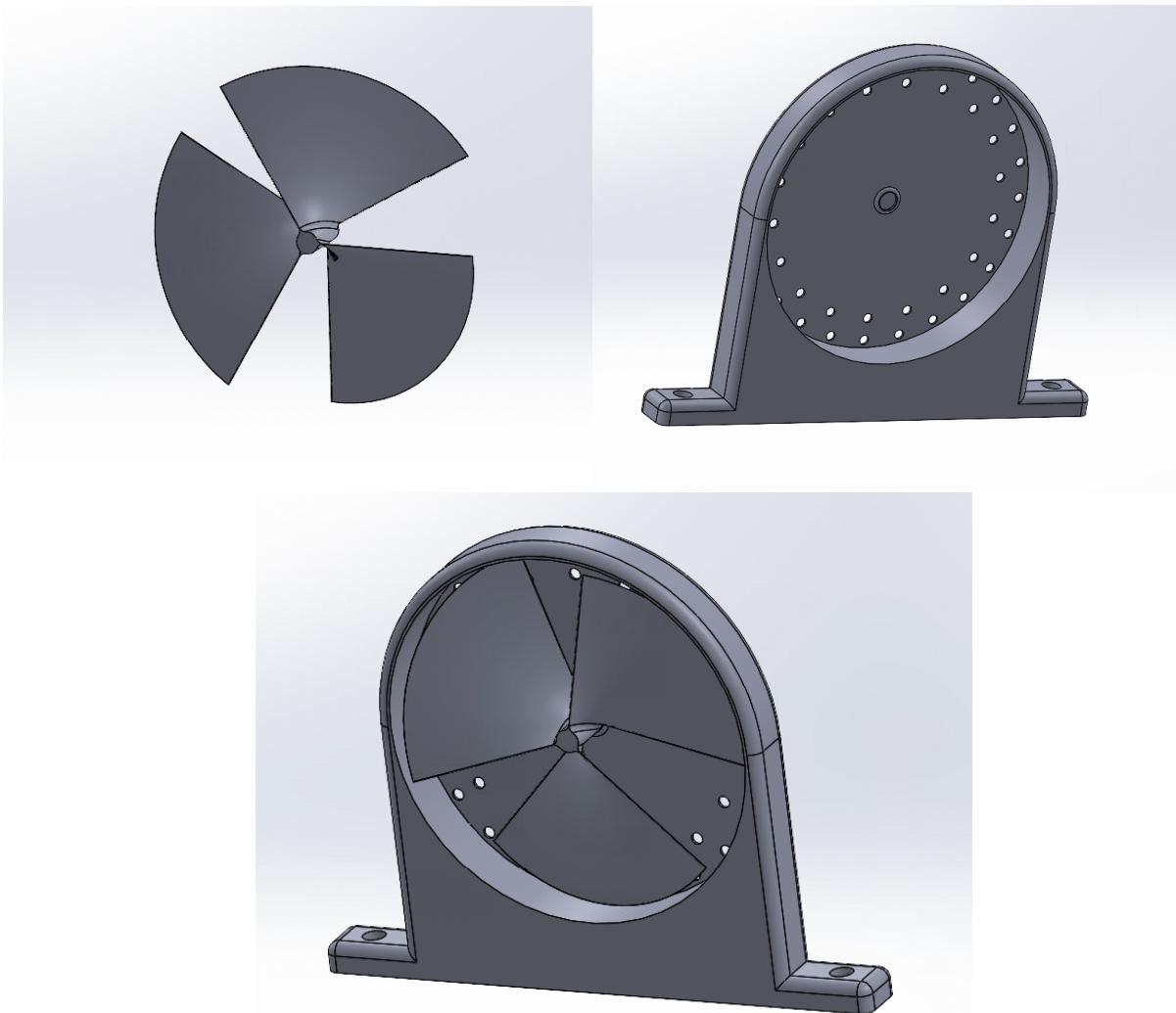
4) Insert the leg axle into the hole at the top of the wheel guard



- 5) Insert the leg axle into the hole at the bottom of the leg to fully connect the wheels and the legs.

# Fan Assembly Instructions

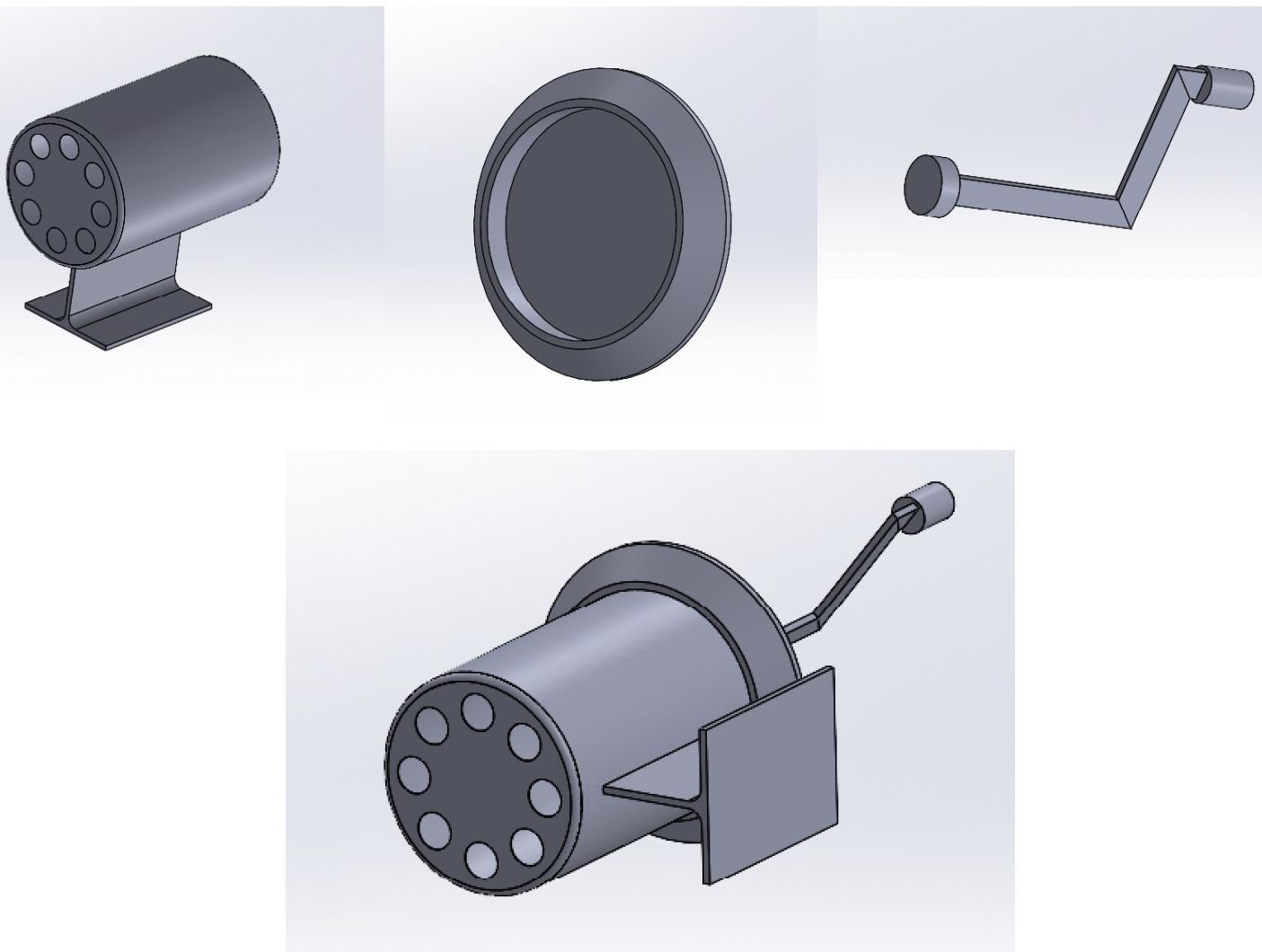
## **Table Fan**



- 1) Carefully attach fan blade into fan case opening and push until firm in place**

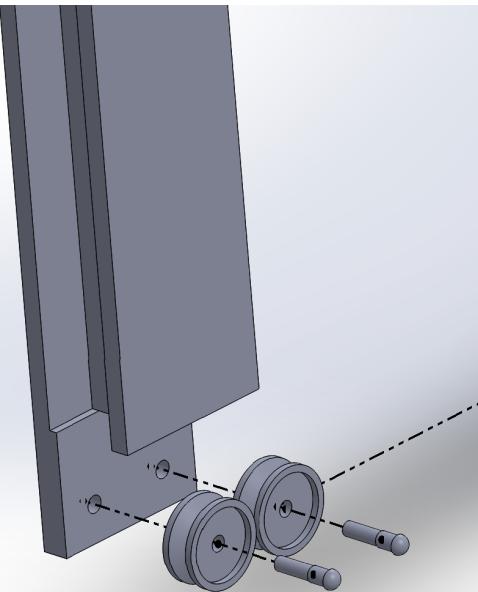
# Pencil Sharpener Assembly Instructions

## Pencil Sharpener

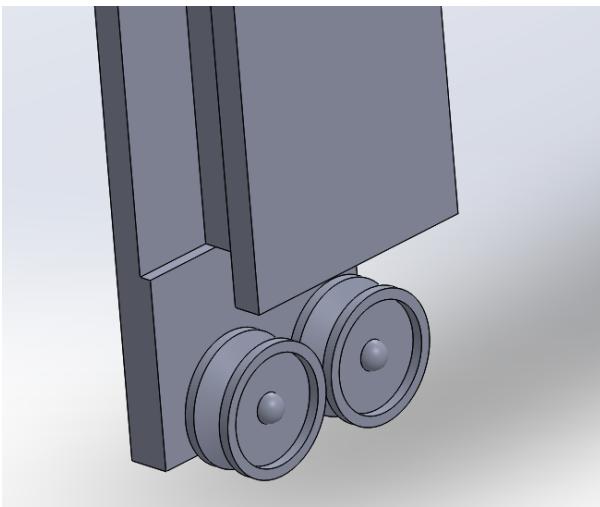


- 1) Attach sharpener case to sharpener base. Push till firm.
- 2) Insert sharpener handle to back of sharpener base. Push till firm.

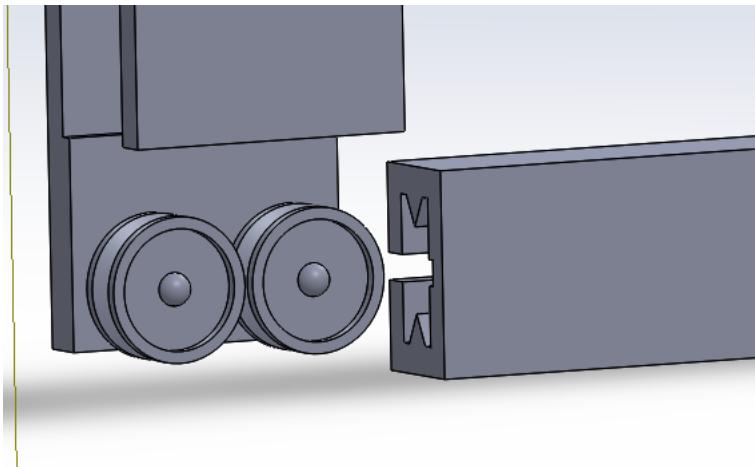
# Horizontal Assembly Instructions



- 1) Align the two horizontal wheel pegs with the two horizontal wheel holes and the vertical track wheel slots.

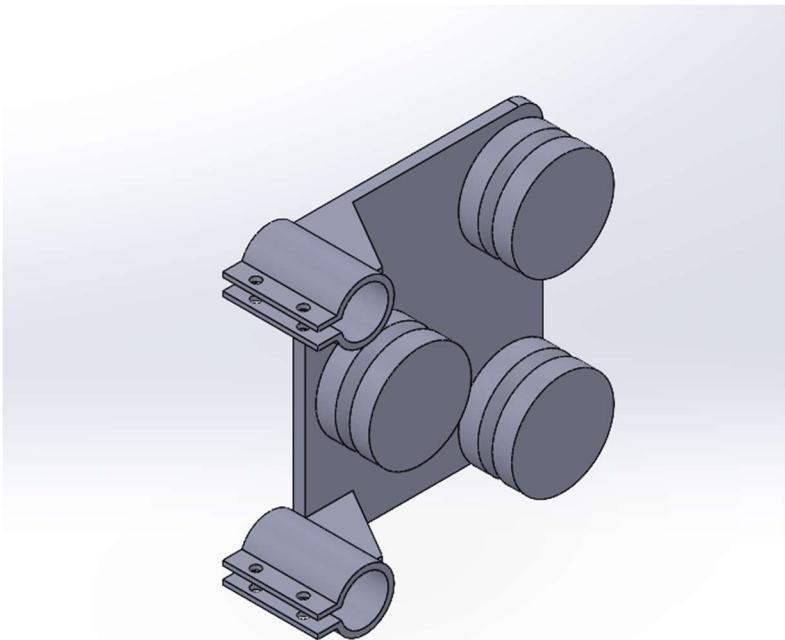


- 2) Insert horizontal wheel pegs through horizontal wheels and into the vertical track wheel slots.

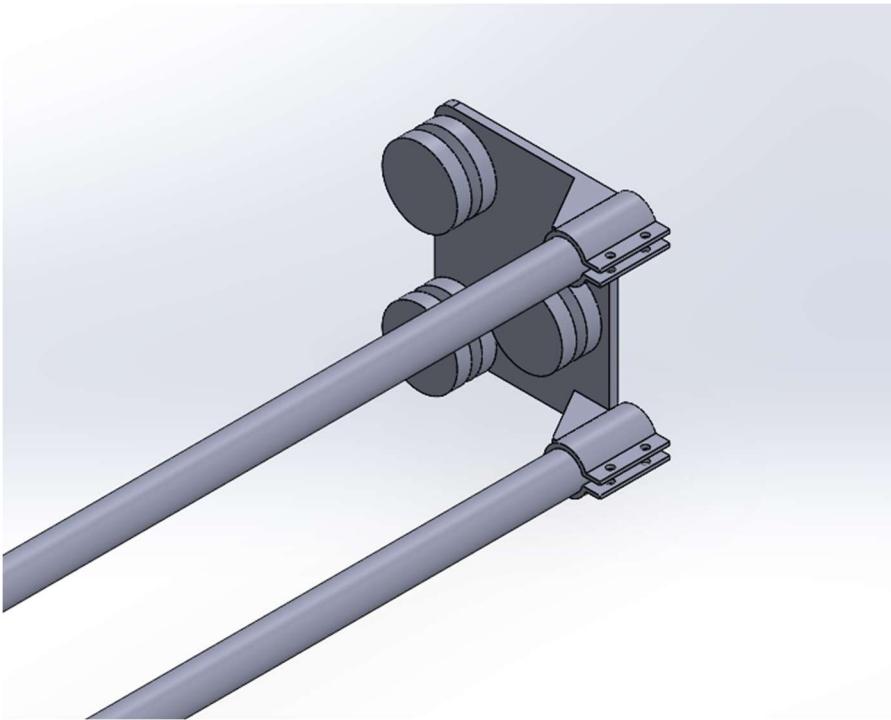


- 3) Slide the vertical track by fitting the horizontal wheels into the horizontal track profile.

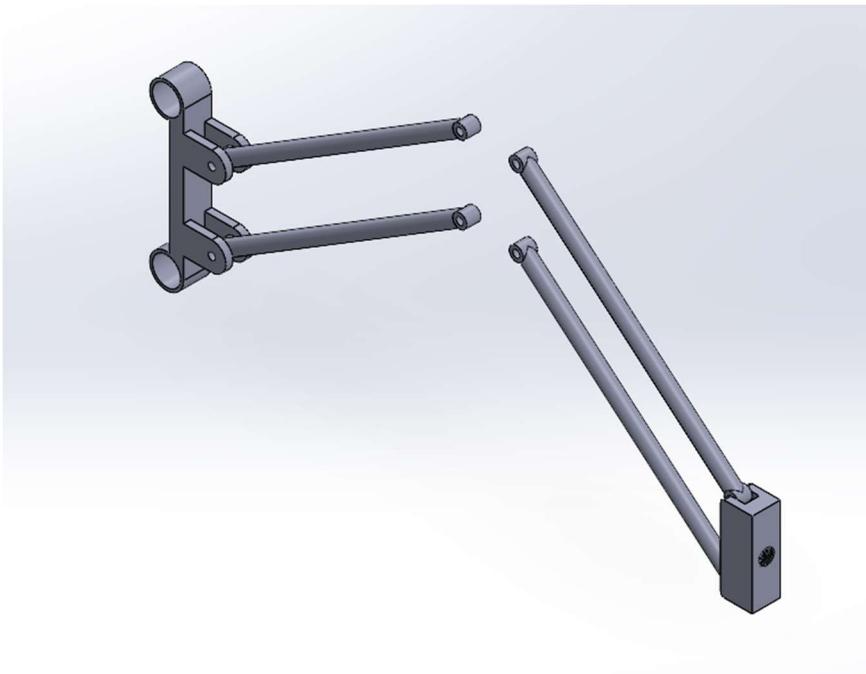
# Overhead Assembly Instructions



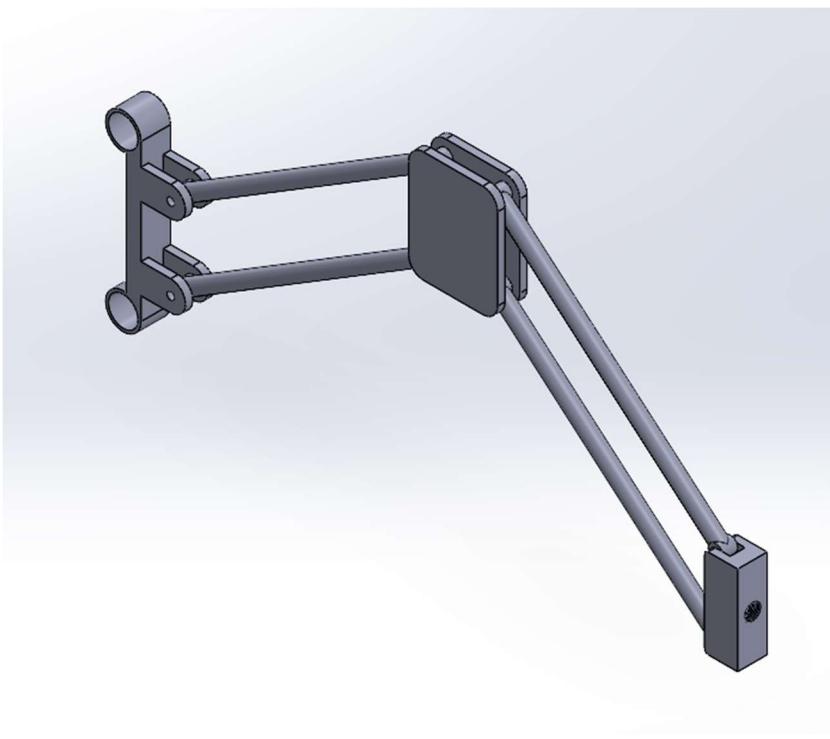
- 1) Bolt 3 Wheels into the horizontal plate holes like so. Assemble 2 of these.



- 2) Insert the 2 horizontal tubes into the split clamp on one of the assembled horizontal plates like so.



3) Attach 2 arm rods to the clamp on the carriage and 2 arm rods onto the end connector like so.



4) Connect the 4 remaining arm rod holes with 2 middle plates, one on either side like this.



- 5) Slide the 2 large holes on the carriage onto the 2 horizontal tubes like this.

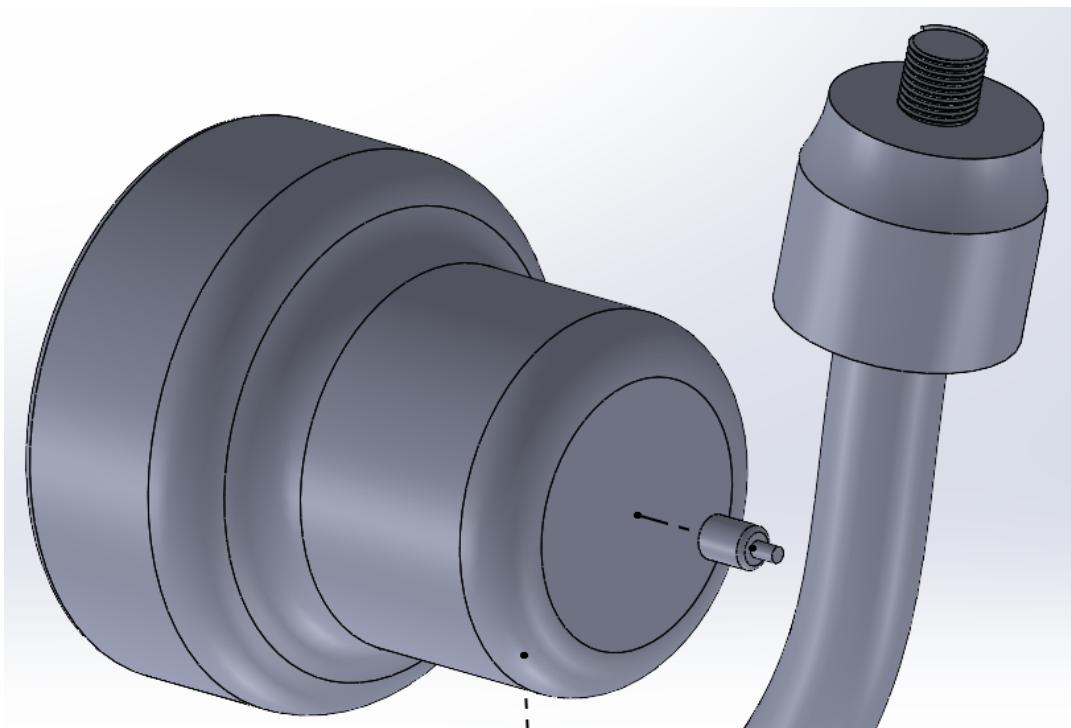


- 6) Attach the other assembled horizontal plate to the 2 horizontal tubes using the split clamp like before. This completes the horizontal subassembly.

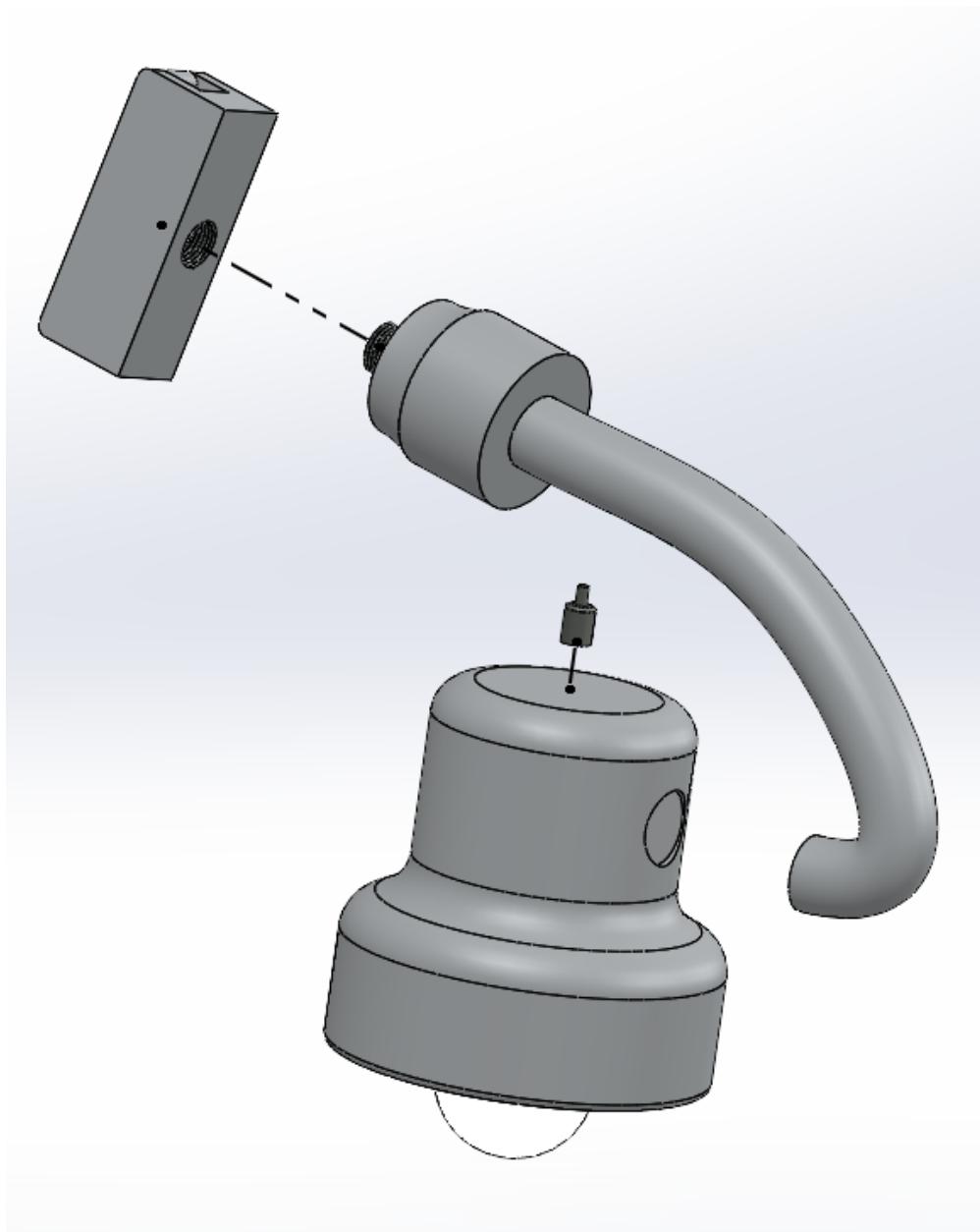
# Overhead Attachment Assembly Instructions



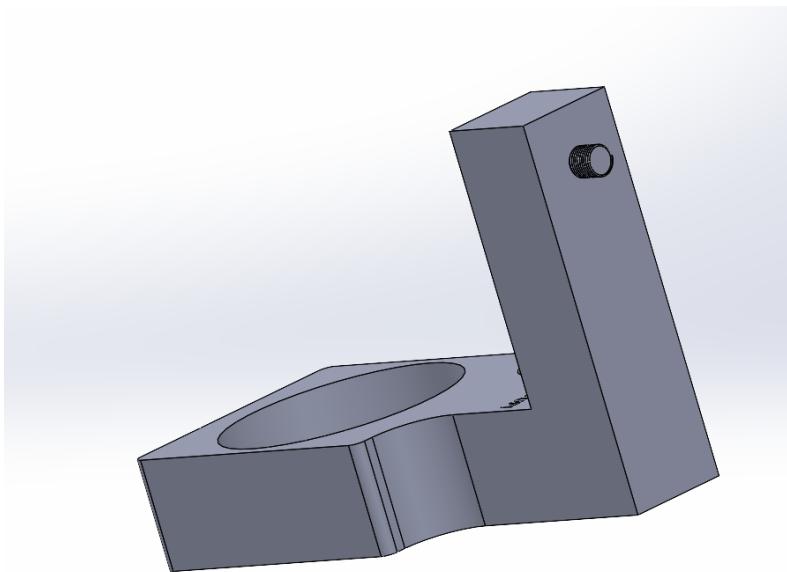
- 1) Attach the Lamp Neck to the gap on the Lamp Head. This will allow rotation of the lamp.



- 2) Attach the Lamp Switch to the Lamp Head, so you can manually turn on and off the light.



- 3) Screw the Lamp into one of the overhead connections to add to your desk.



- 4) Screw the Cup Holder into an open screw connection on the desk.



- 5) Screw the end of the speaker to another screw hole point on the desk.



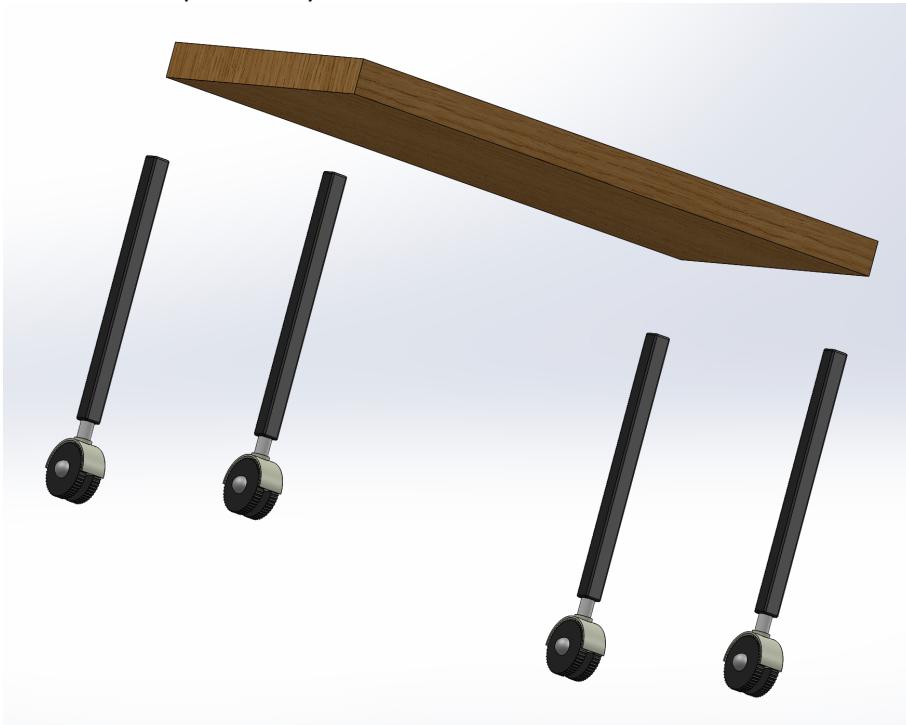
6) Hang the Trash Can on top of the overhead bar of the desk.

# Full Assembly Instructions

# Full Assembly Instructions

## Required Materials:

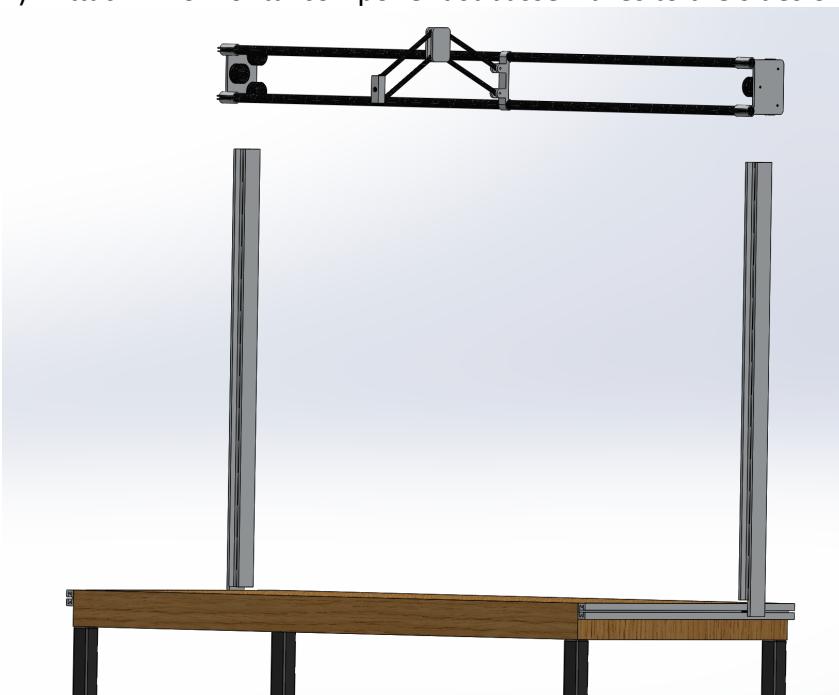
- 4x Leg Assembly
- 1x Tabletop
- 2x Horizontal Assembly
- 1x Overhead Assembly
- 1x Pencil Sharpener Assembly
- 1x Fan Assembly
- 1x Lamp Assembly



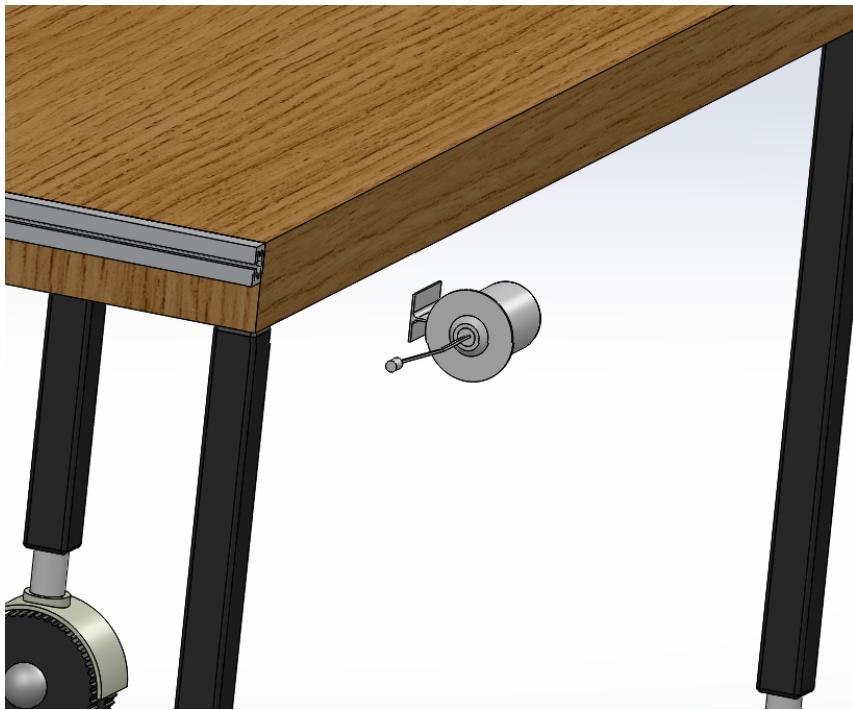
- 1) Attach 4 leg subassemblies to the corners of the tabletop.



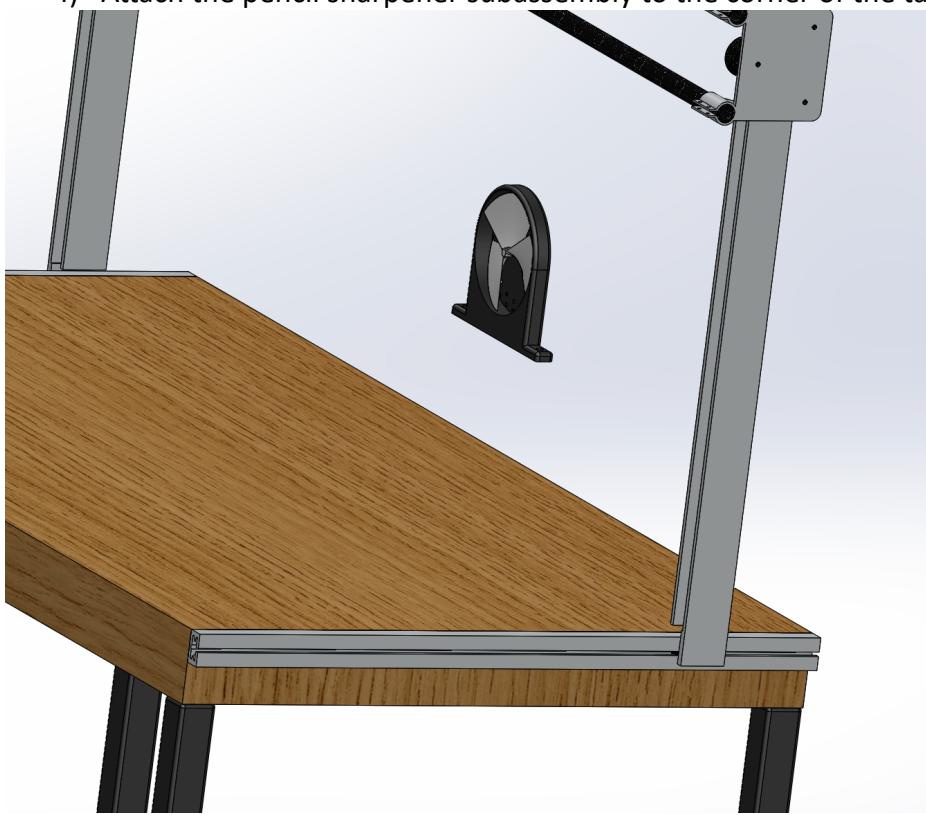
- 2) Attach 2 horizontal component subassemblies to the sides of the tabletop.



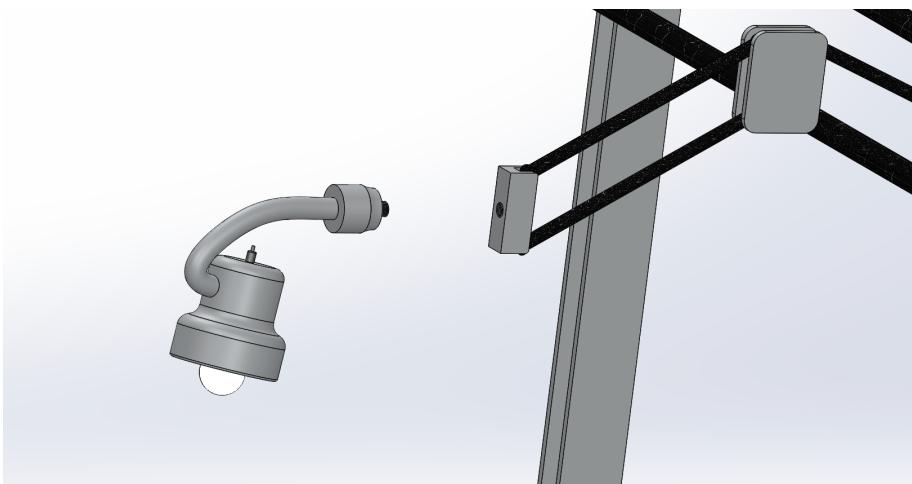
- 3) Slide the overhead subassembly onto the vertical tracks of the horizontal component subassemblies.



4) Attach the pencil sharpener subassembly to the corner of the table.



5) Attach fan subassembly to the back center of the tabletop.



- 6) Attach lamp subassembly (or subassembly of choice) to overhead subassembly attachment point.

# Renders





