

From: The Hope Team#14
To: Dr. Oman
Date: 07/13/2018
Re: Hardware review 2

Executive Summary

The team is required to create a device that helps specific category of the society that has foot paralysis to walk normally. Essentially, the group made efficient progress on the projected device since the previous hardware review meeting. The main changes done by the team members were changing some dimensions of the three main parts of the device in order to fit together. Furthermore, we changed the design of the leg bases and changing few dimensions to fit screws which makes the device manufacturable while it was needed to have welding work. The leg bases are connected to the crutches by screws which intend to give the flexibility for the user. Additionally, we got feedback from the audience of the midpoint presentation represents a good point, which is adding outsoles to the leg base to ensure the safety of the supporter in falling conditions, so we are thinking take this advice in consideration because it will benefit the teamwork. To conclude up, the projected device is almost finished and just needed minor changes to be taken into consideration by the team members.



Figure 1: hope device

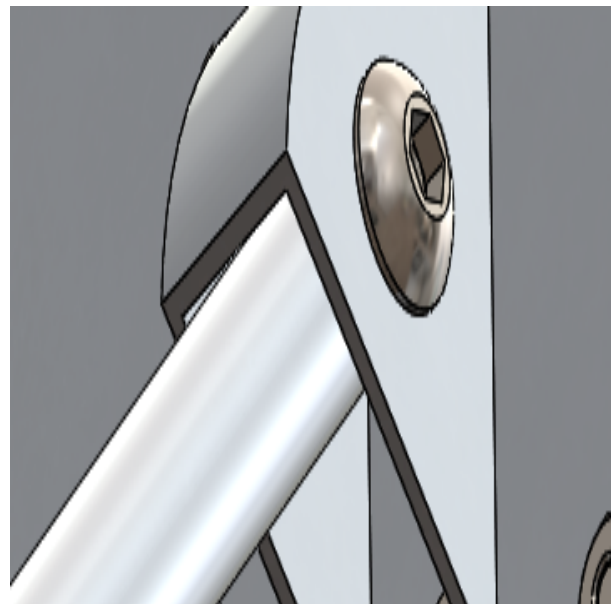


Figure 2: supporter base

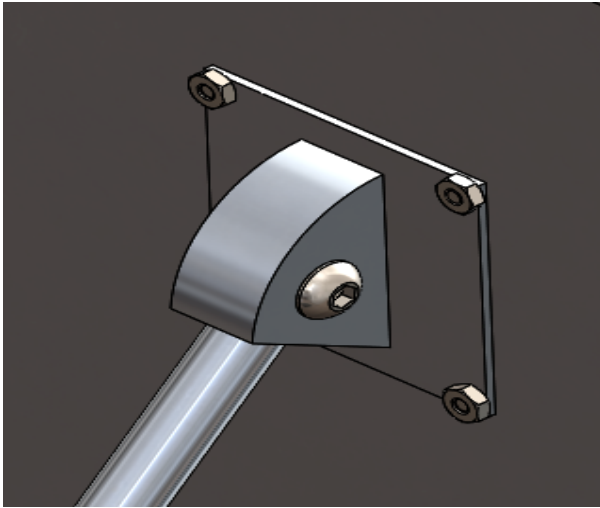


Figure 3: support base connected to harness

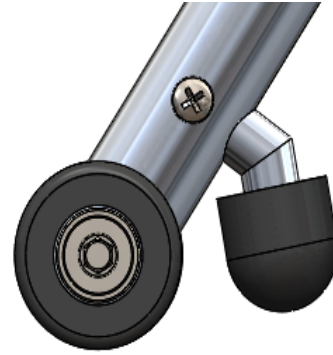


Figure4: break system

A list of actions for each member in the group have been done from hardware 1 review till hardware review 2

Sultan Alajmi:

- Have been working on the third supporter to determine the following:
- The best materials to use.(by calculating human forces on different materials)
- Best place of to add the third supporter and its angles.

Abdulrahman Almuqrin:

- Working on the calculations that will need to test the device.
- Searching the best material for the harness.
- Finding the total budget of the device.
- Cooperation with the team to finish the presentation.
- Update the website by adding all the team meeting missing since last update.

Ali Alquraishi:

- Essentially contributed to the midpoint report and presentation slides.
- Added boards to both sides of the leg bases to ensure its safety.
- Fixed some dimensions of the device to fit together.
- Came up with dimensioned screws that makes the design manufacturable.
- Conducted research to connect support base to the harness safely.
- Came up with a good idea which is doubling the harness and insert the support base between the two layers of the harness.

Mohammad Hesham:

- Have done my part on the presentation which consists of three slides; what is left in manufacturing, manufacturing plan and testing plan.
- Working on the analytical analysis feedback and comments.
- Conducting research to connect the third supporter base to the harness safely.
- Developing the testing procedure to ensure meeting the engineering requirements.
- Fixed the grammar mistakes and making my required additionally make some changes on the midpoint report parts.
- Have done the peer evaluation.

A list of actions for each member in the group will be done from hardware review 2 till final product testing proof.**Sultan Alajmi:**

- Keep working on the third supporter to see if there are any better ideas.
- Contacting the client to keep them up to date to where the project stands.
- Schedule group meetings to discuss and work on upcoming assignments.
- Start working on my parts in the final report and other assignments to stay ahead of schedule.

Abdulrahman Almuqrin:

- Fixing the calculations errors for device weight.
- Doing my part for final poster.
- Contribute towards the final report.
- Chceek the calculations with Dr.Oman once fixed.
- Prepare for the final presentaion.
- Updating the content of the website check.
- Meet with TA and instructor for final report and poster.

Ali Alquraishi:

- Take the feedback for the analytical analysis into consideration by Fixing the strength calculations.
- Update the CAD package by applying the minor changes towards the device.
- Conducting research to connect the third support base to the harness base safely.
- Contribute to the final report and final poster.
- Double check the calculations with Dr.Oman.
- Working on the final poster.

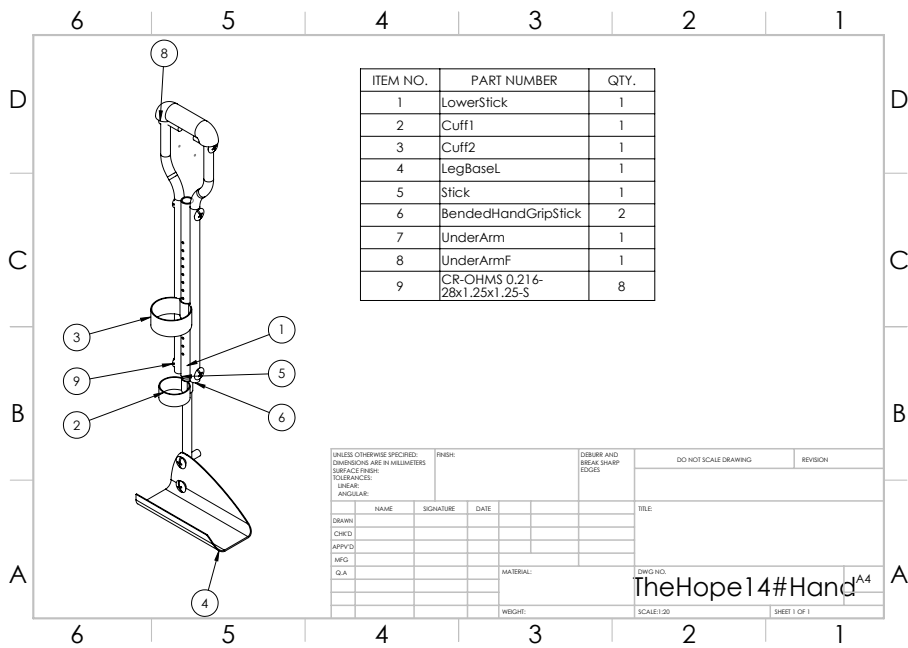
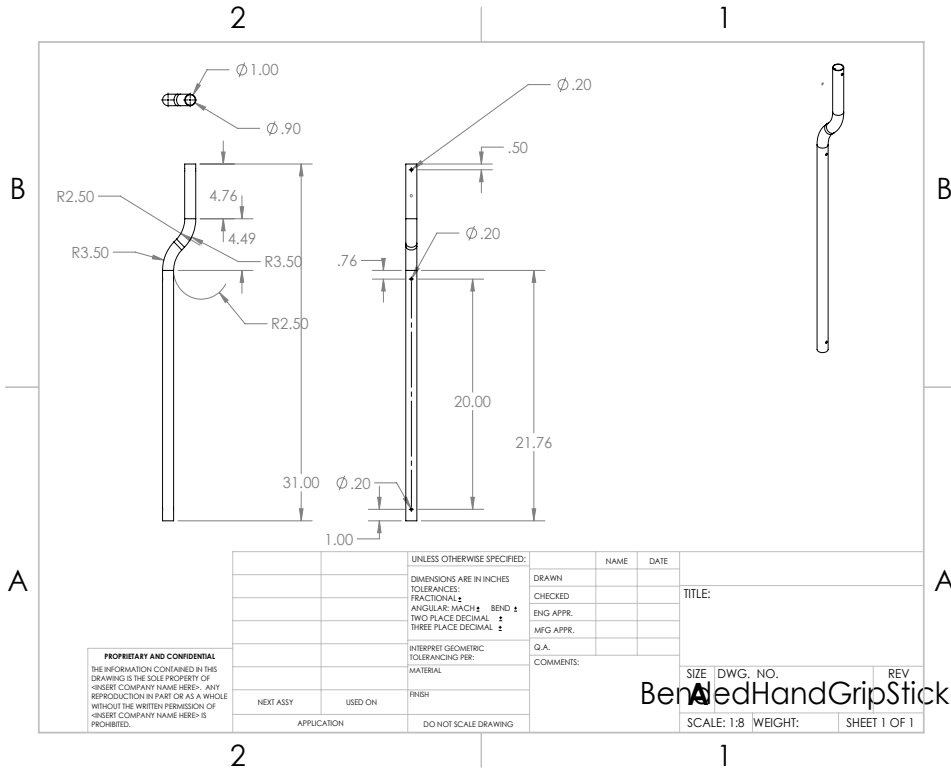
Mohammad Hesham:

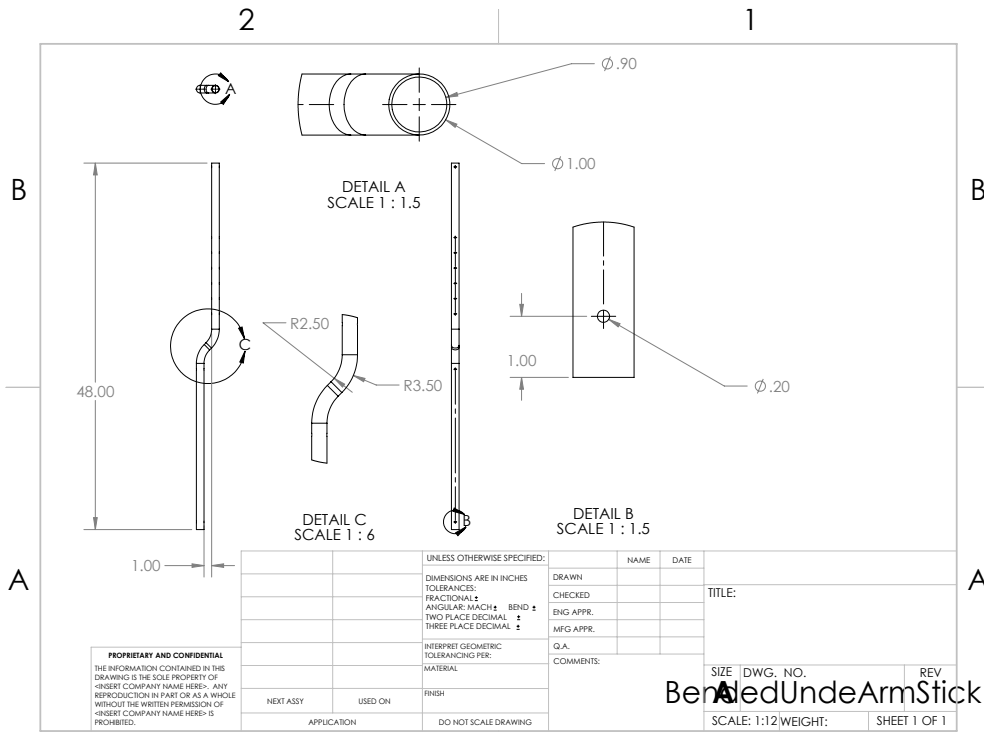
- Check the calculations for the analytical analysis.
- Working on the final report.
- Preparing the poster work.
- Create the UGRADS presentation.
- Ensure the safety of device.
- Meet with Amy and Dr.Oman for the final report.
- Check safety calculations with Dr.Oman to ensure the device safety.

CAD Model Updated:

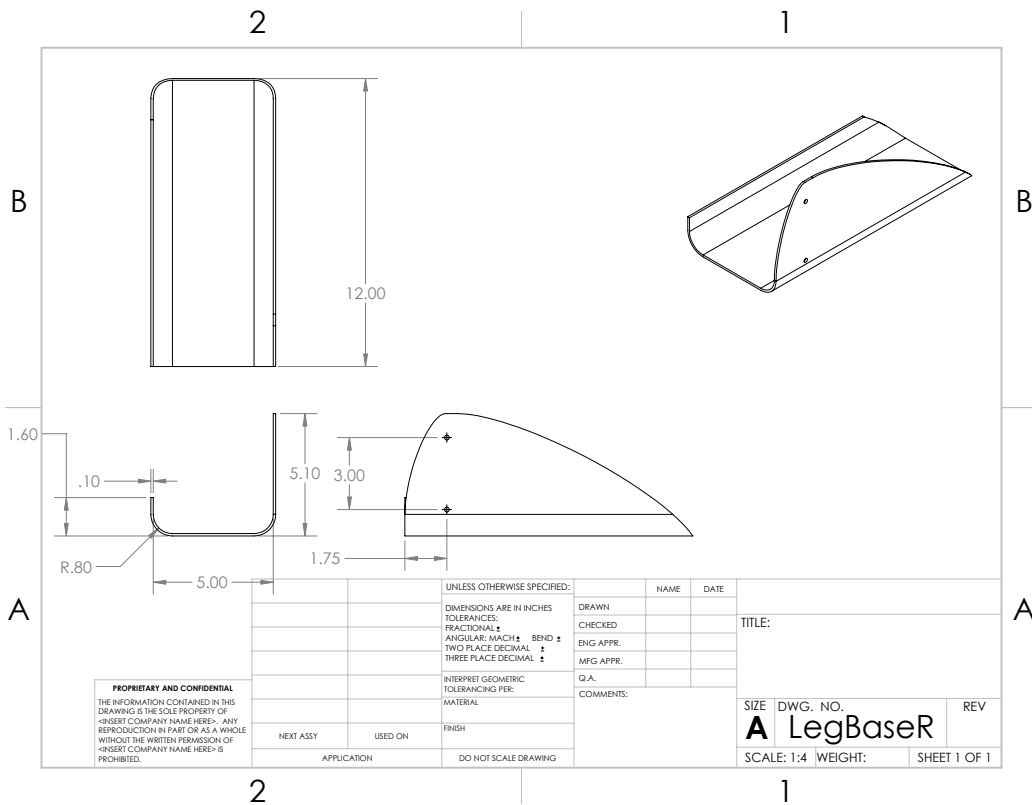
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3	Cuff2	1
4	Cuff3	1
5	Cuff4	1
6	BendedUndeArmStick	2
7	Stick	1
8	HandGrip	1
9	UnderArm	1
10	HandGripFoam	1
11	UnderArmF	1
12	CR-OHMS 0.216-28x1.25x1.25-S	8
13	1.25x0.25,Wing Screw,Type B,Style 2,Cup Point-S	2
14	LegBaseR	1

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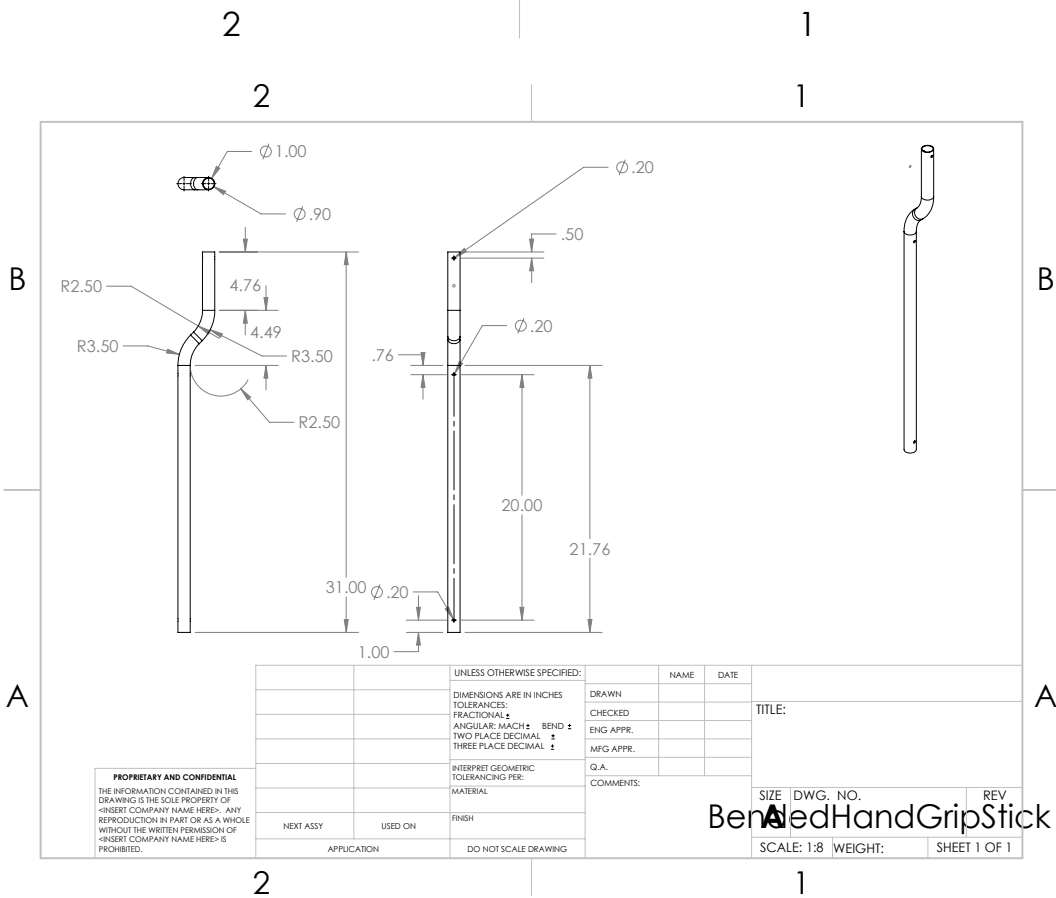
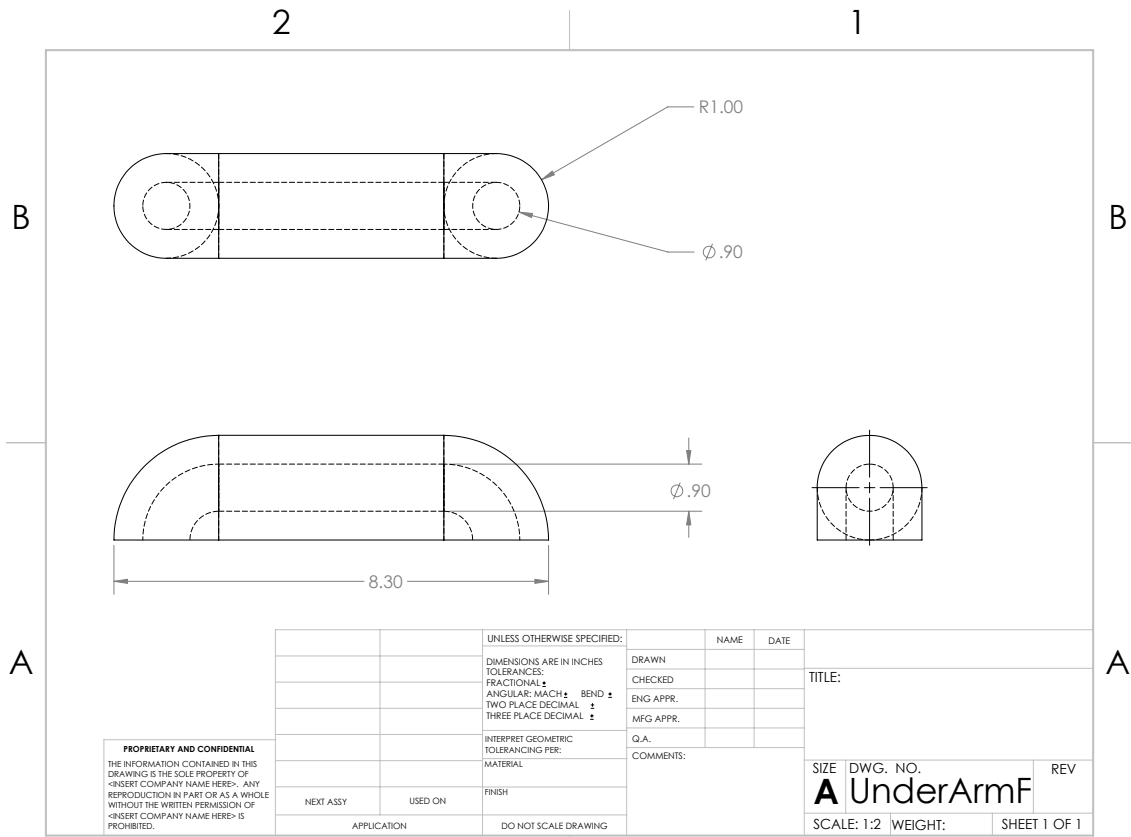


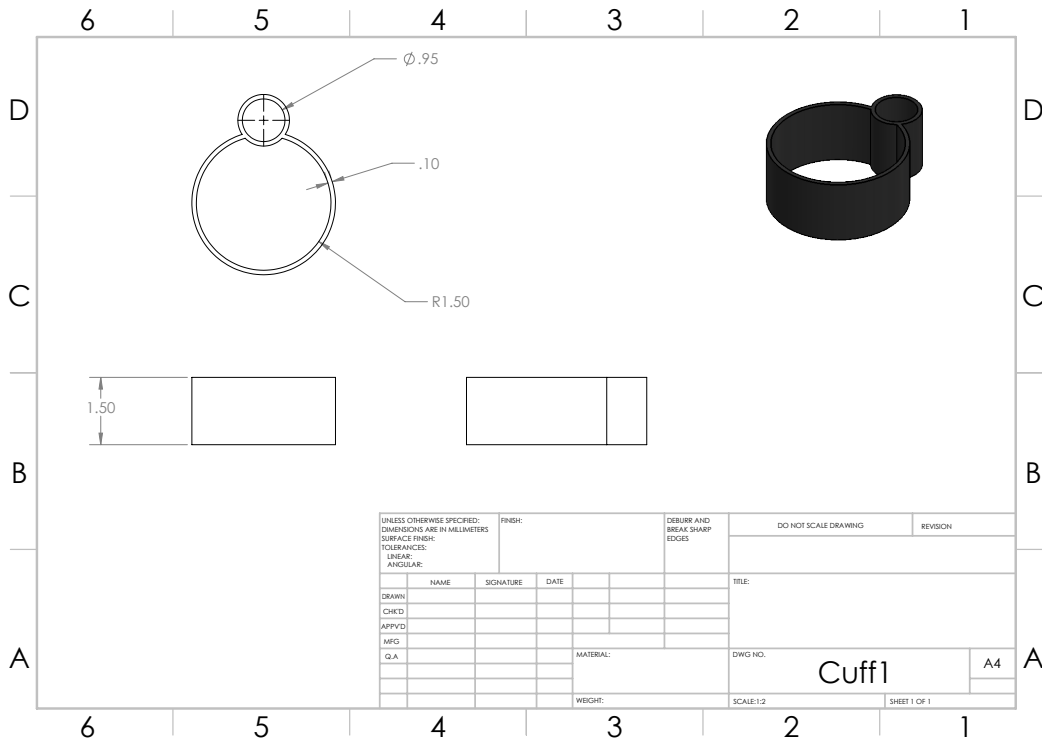
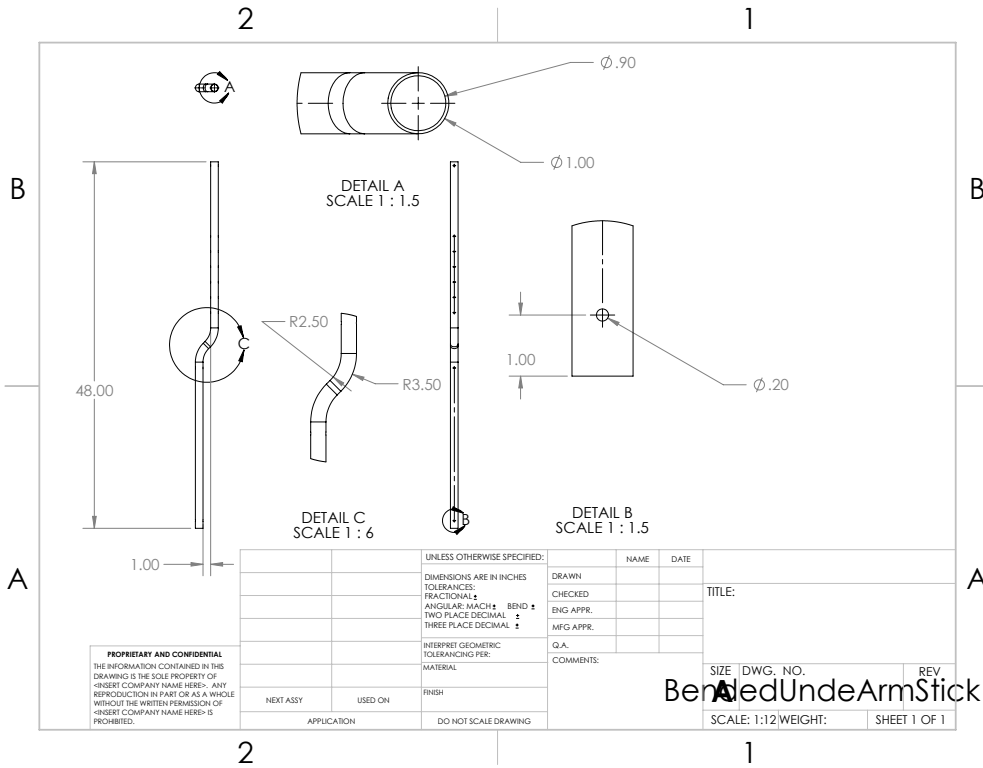


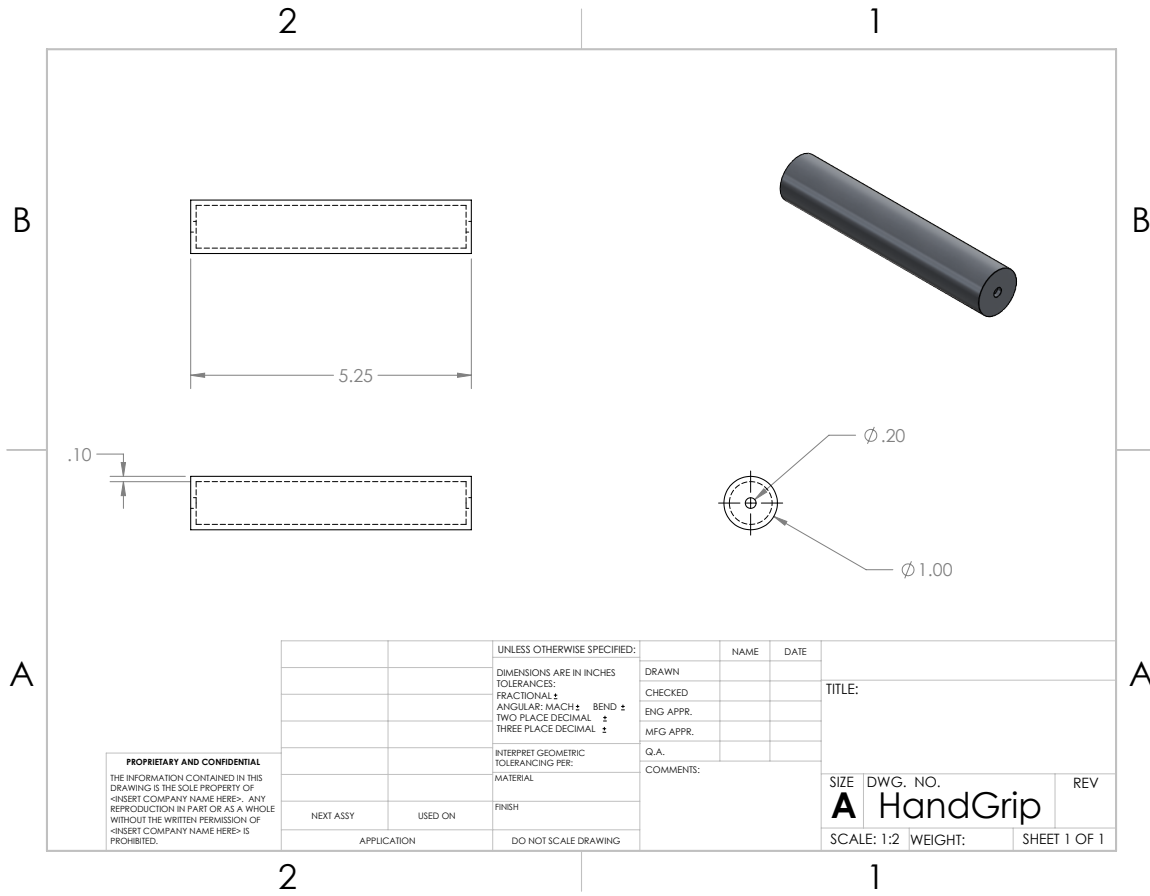
Banded Under Arm Stick



A LegBaser

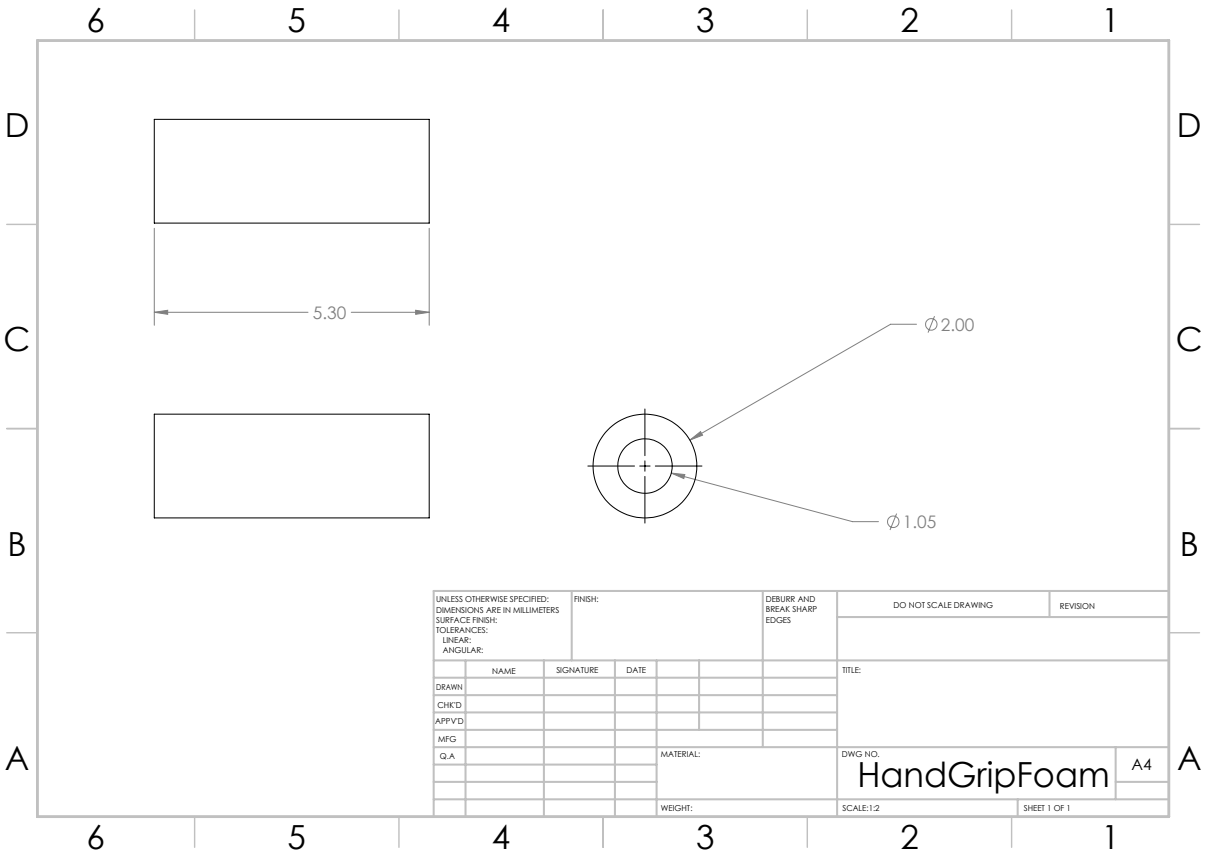




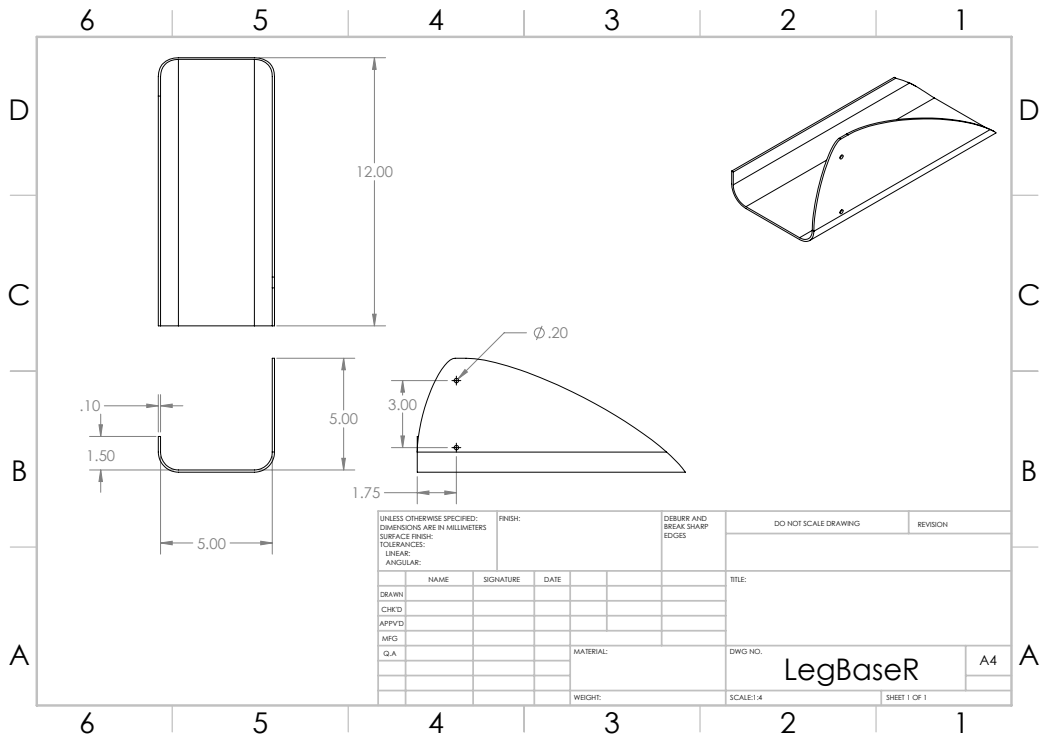
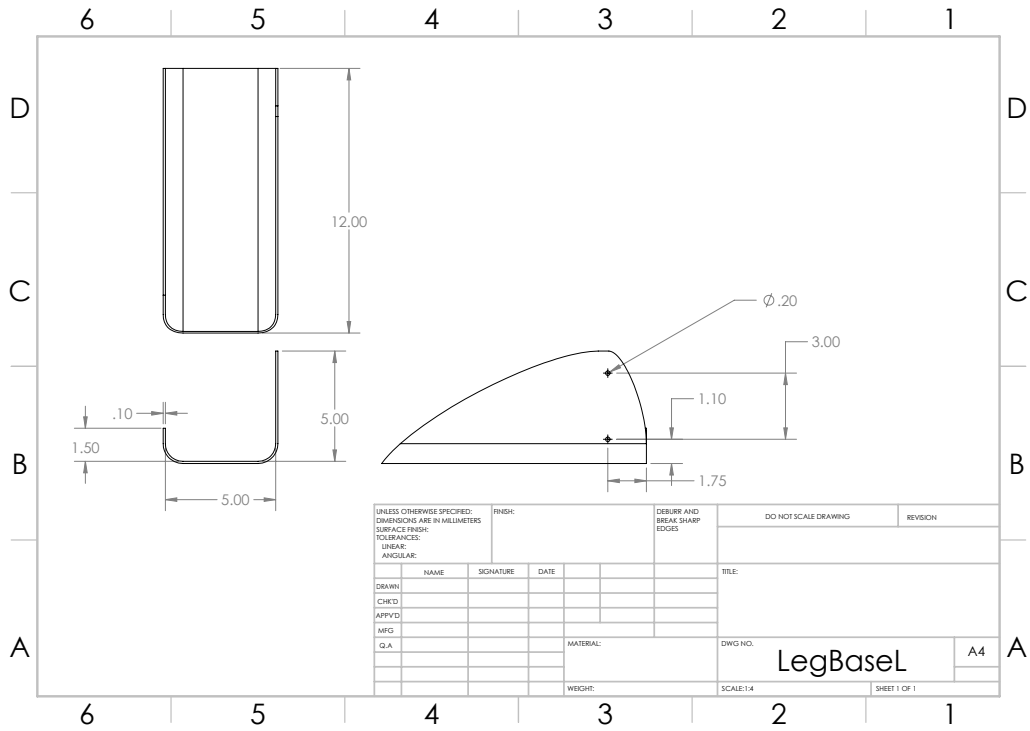


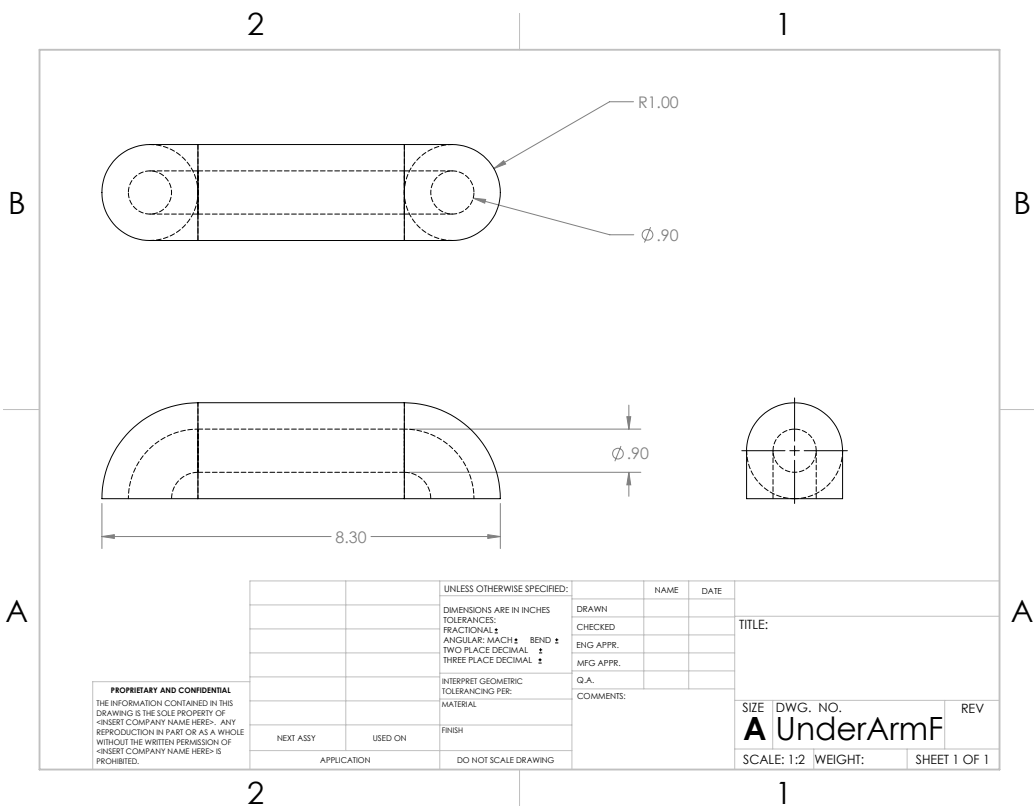
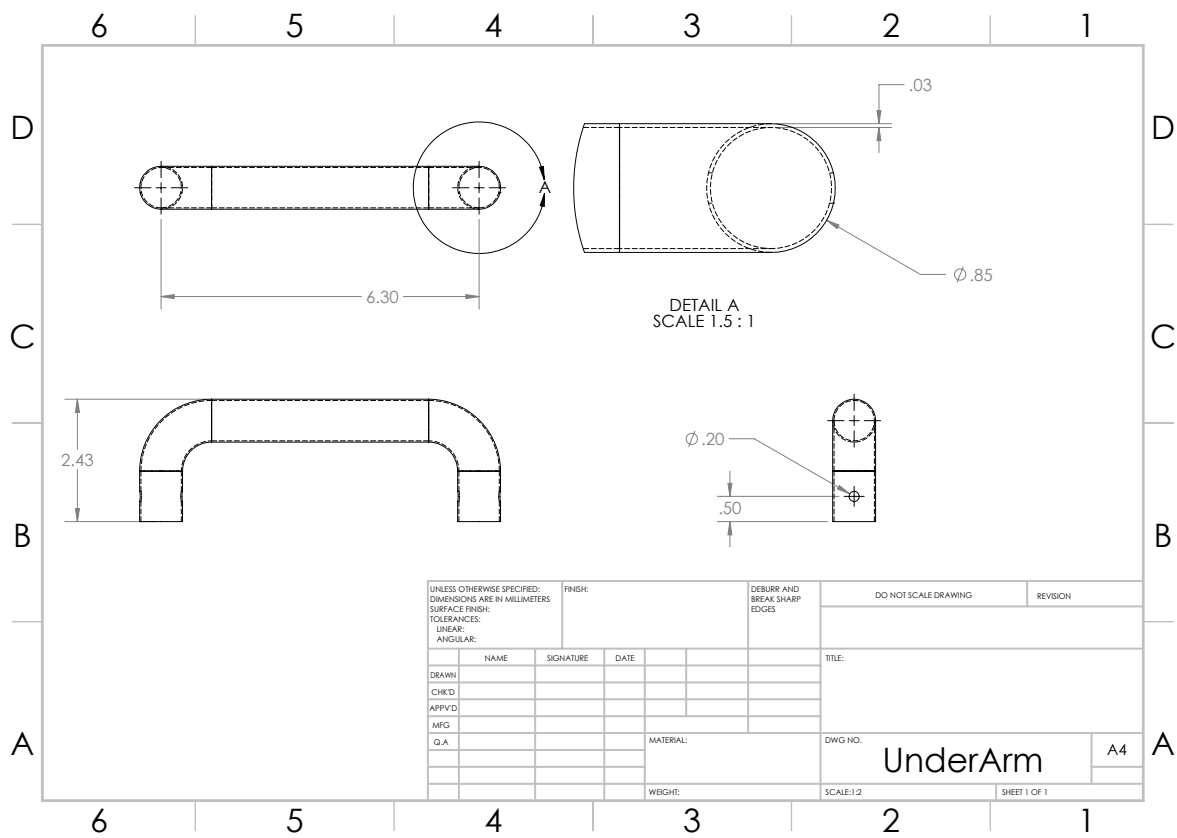
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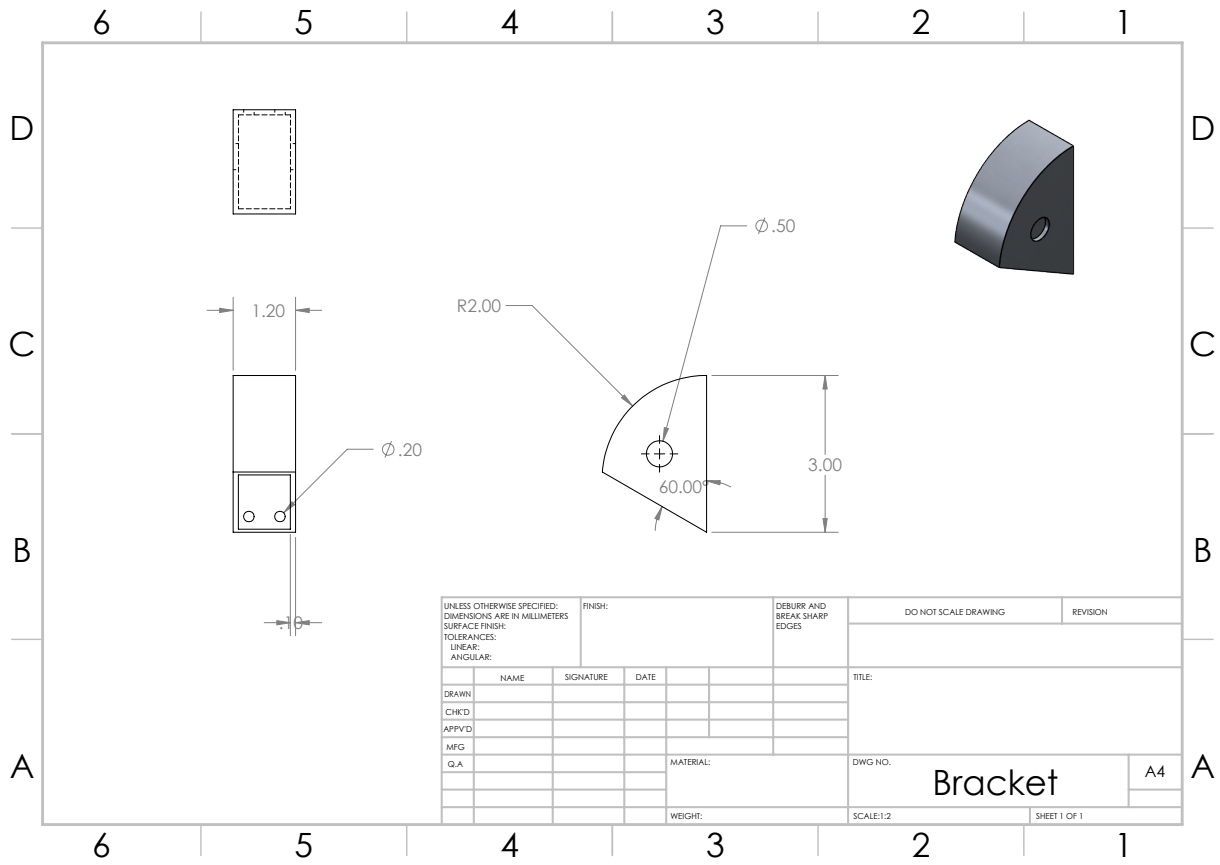
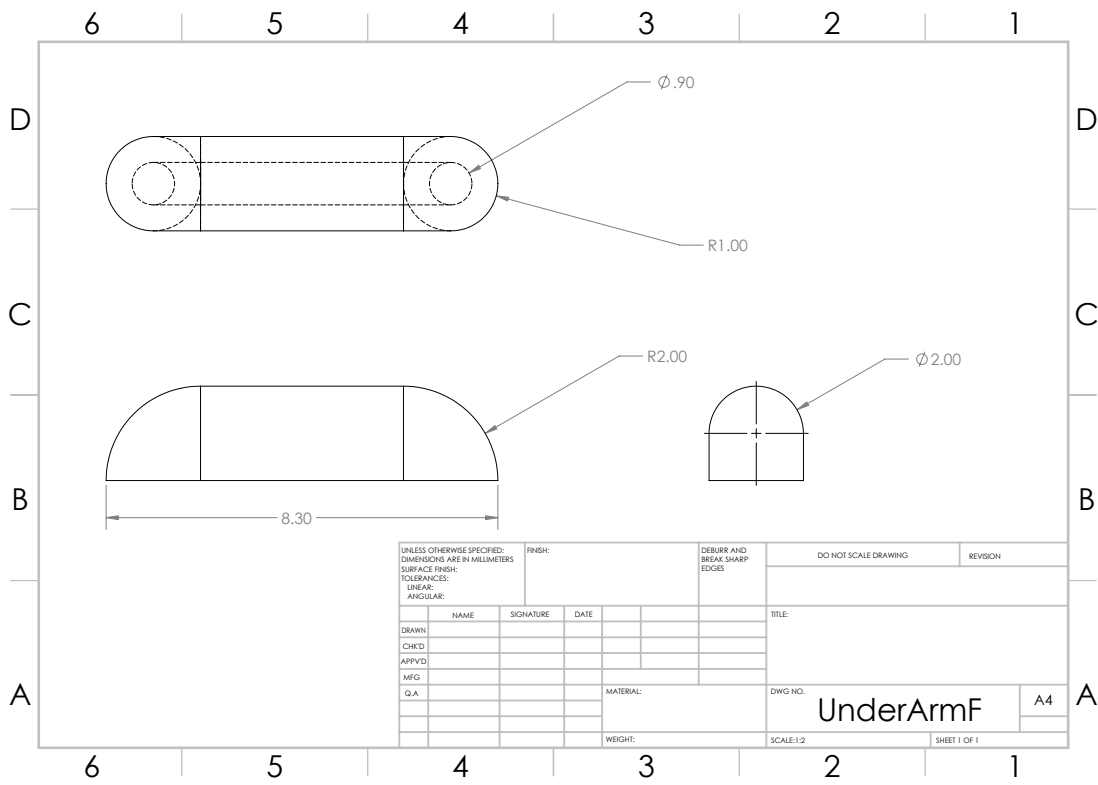
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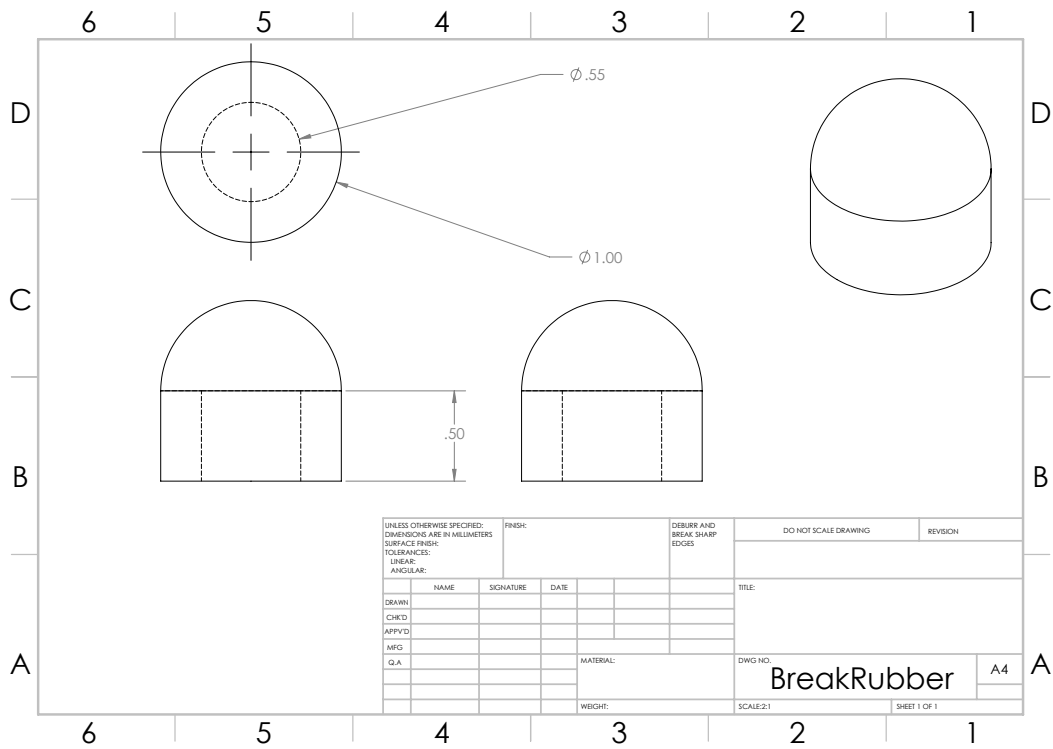
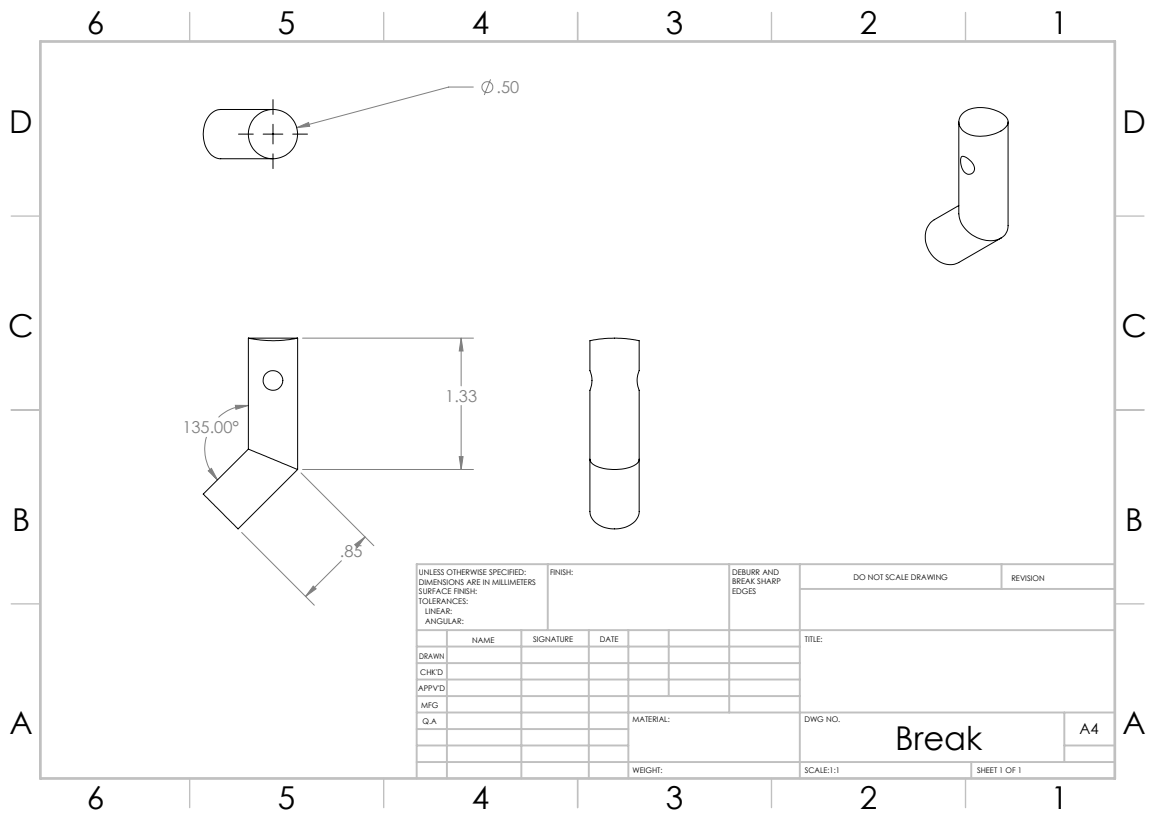


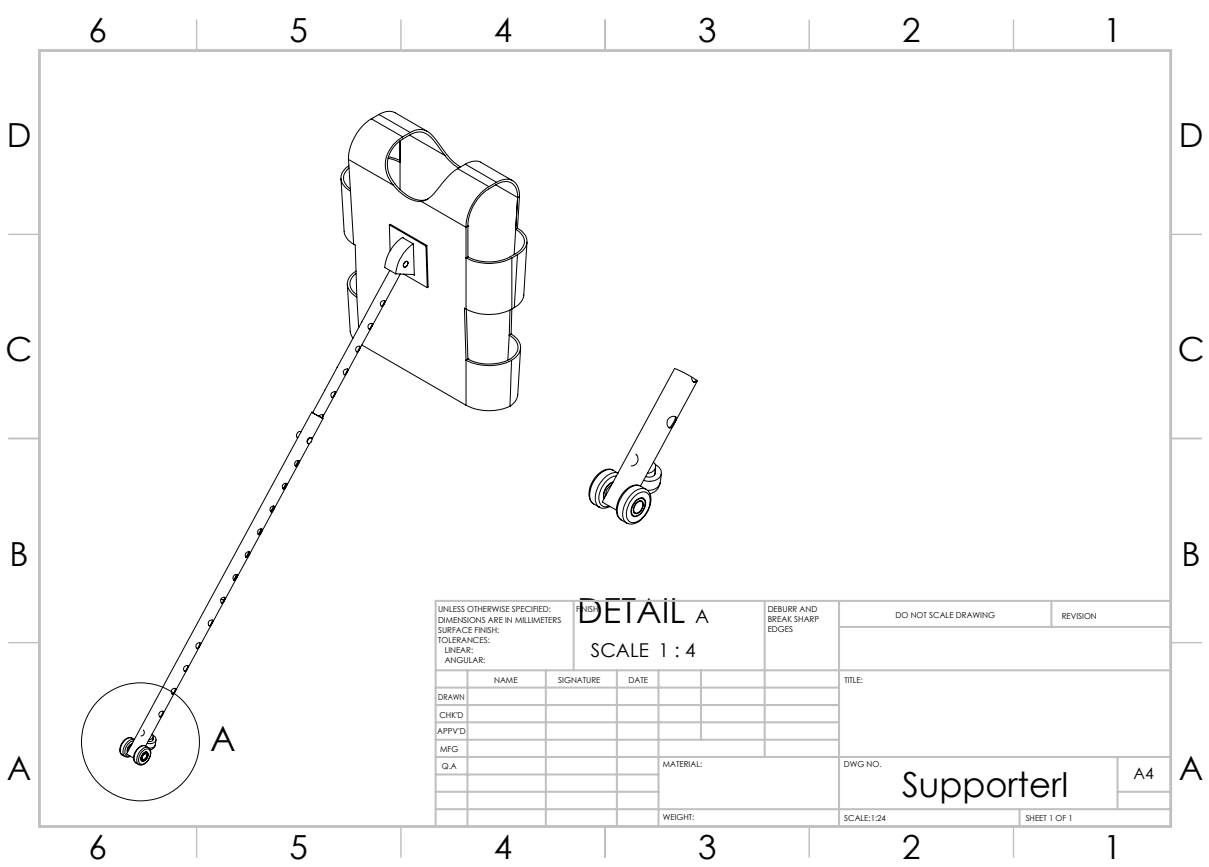
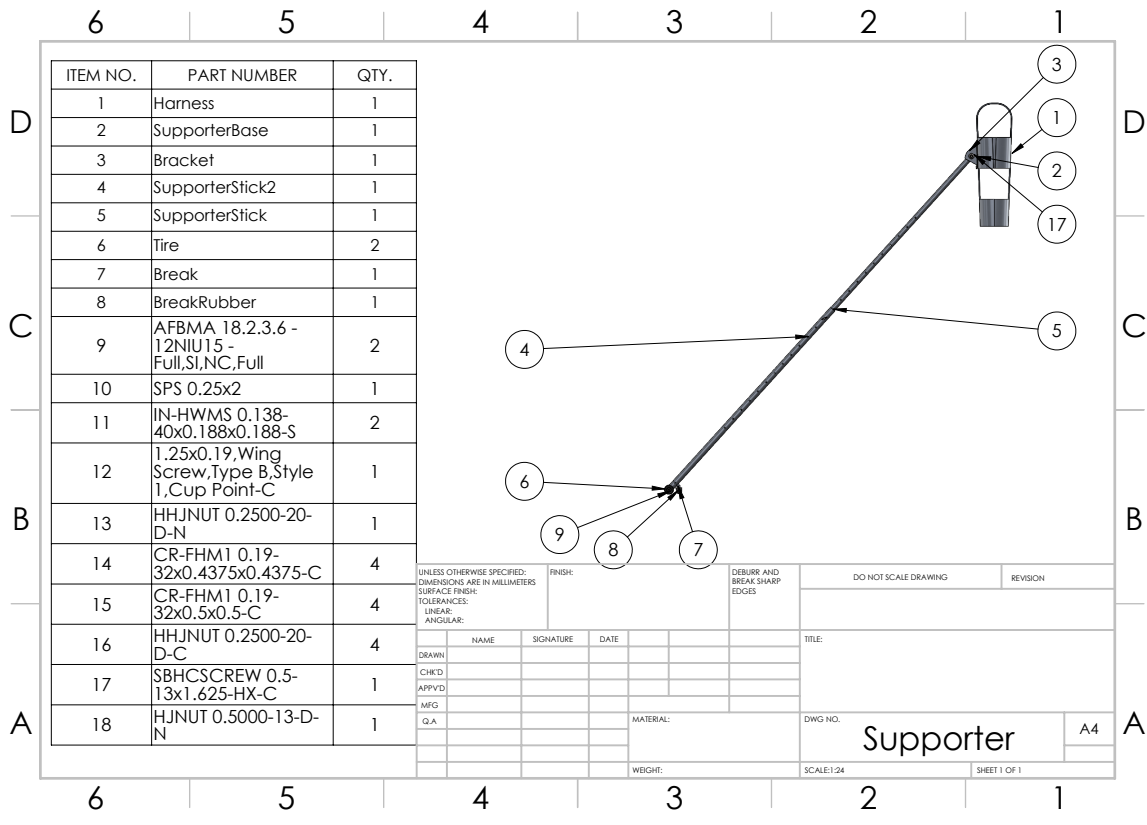
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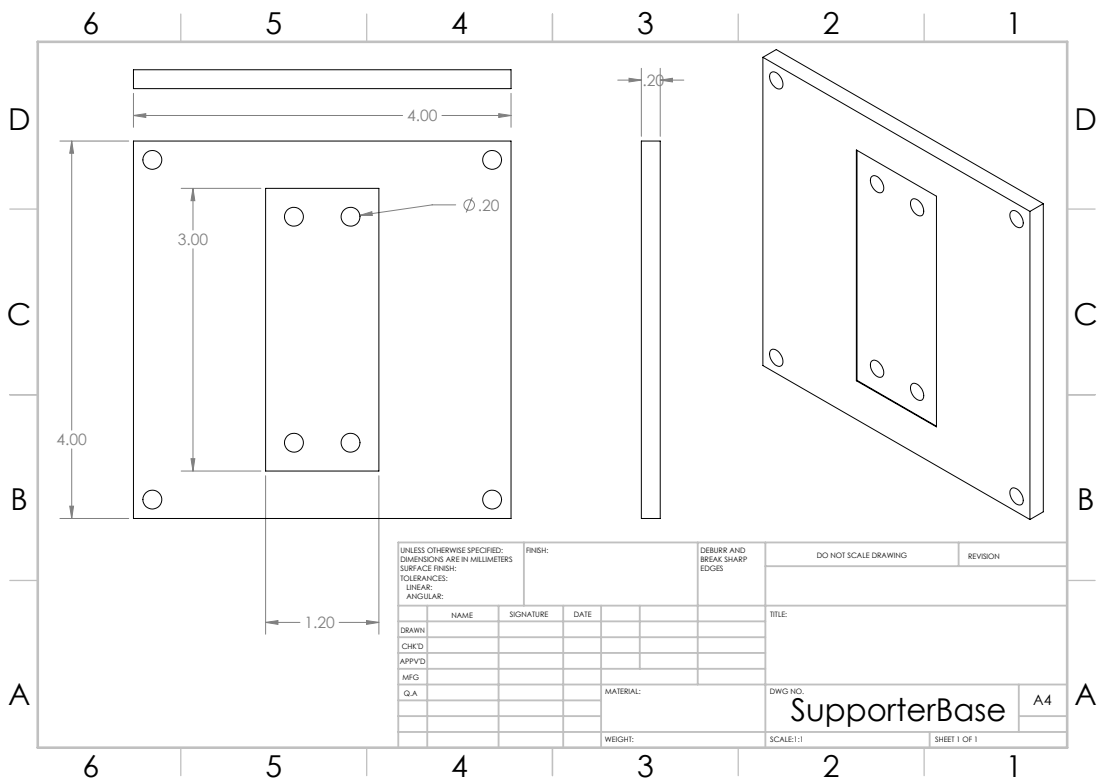
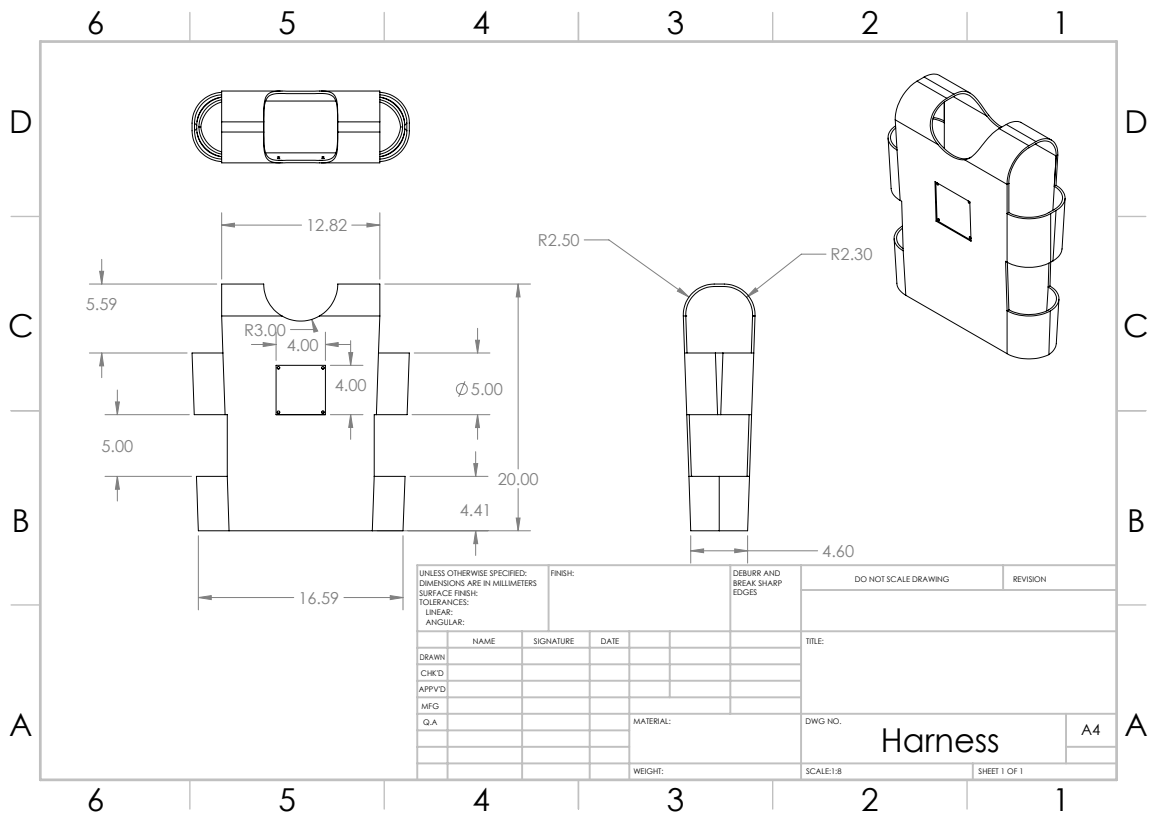


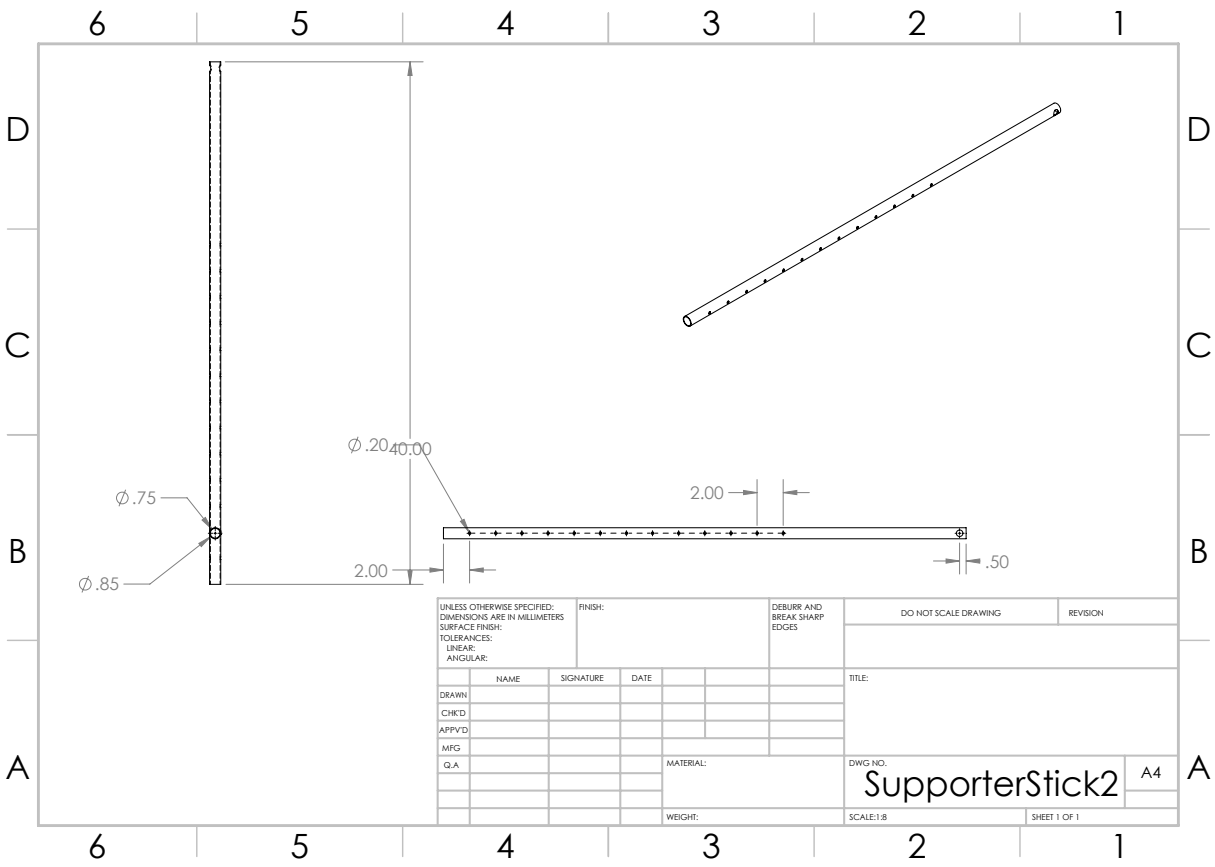
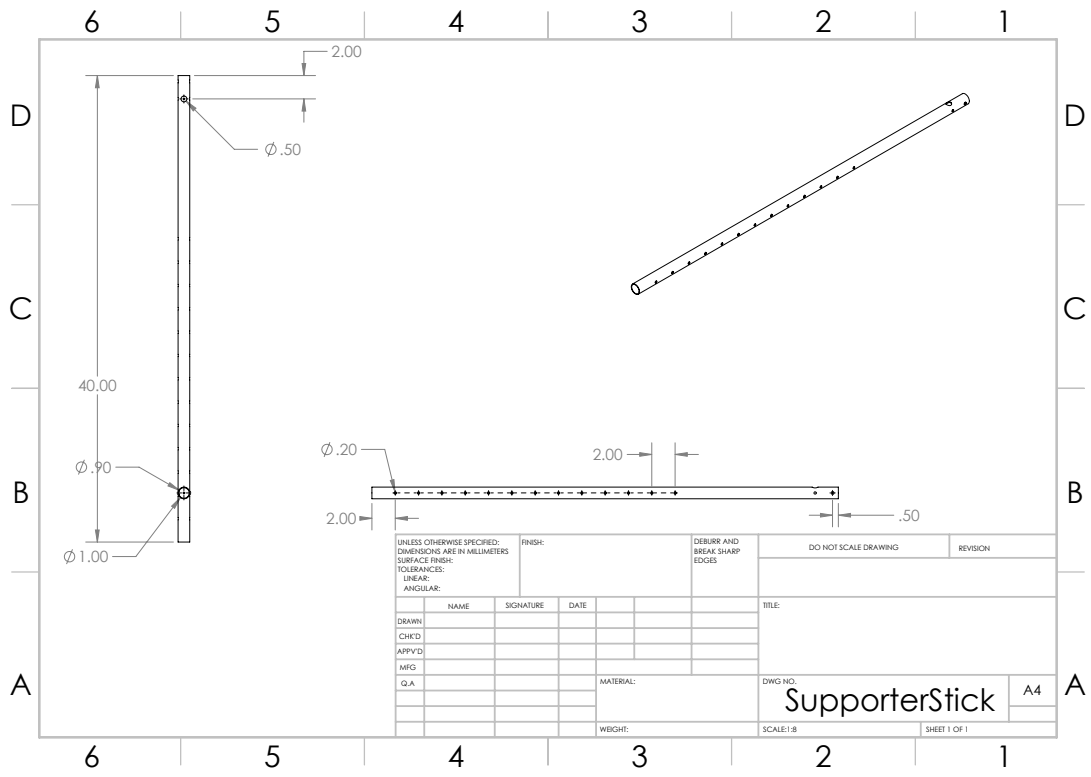


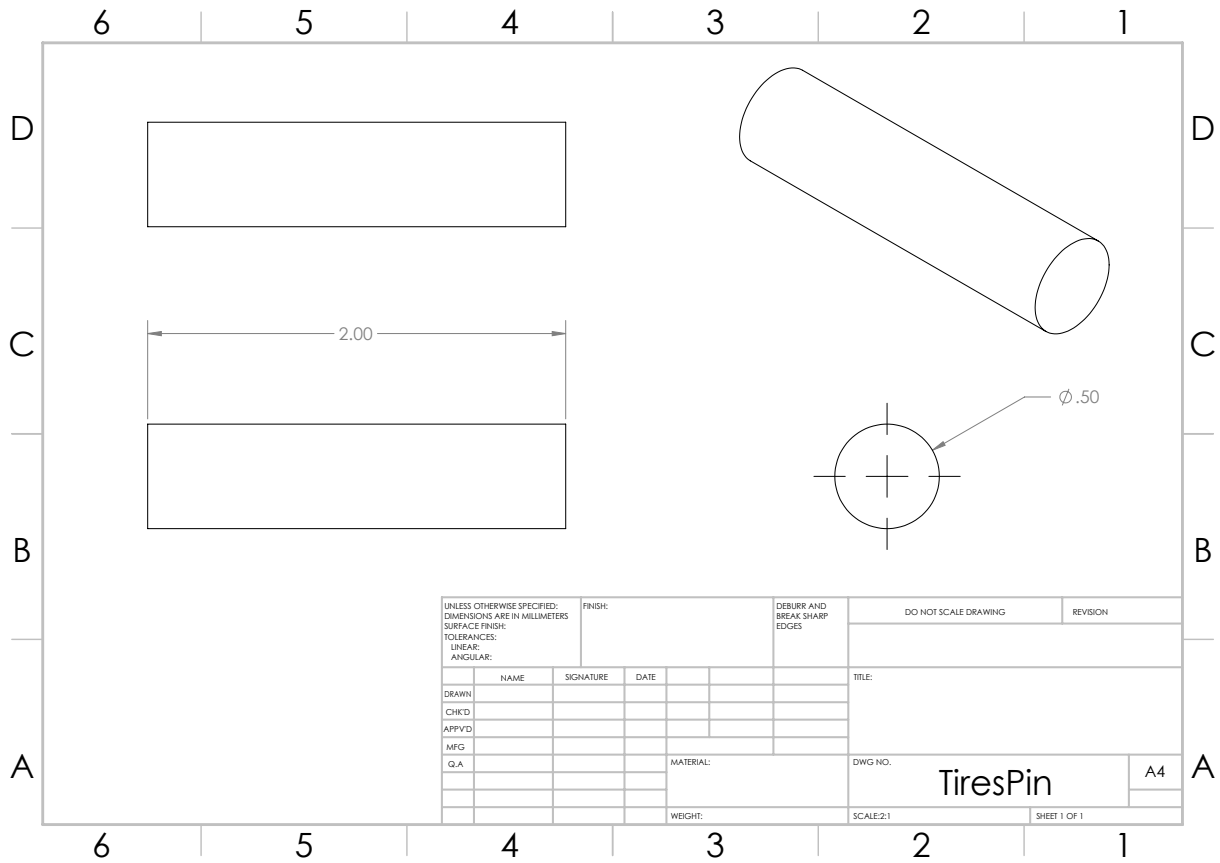
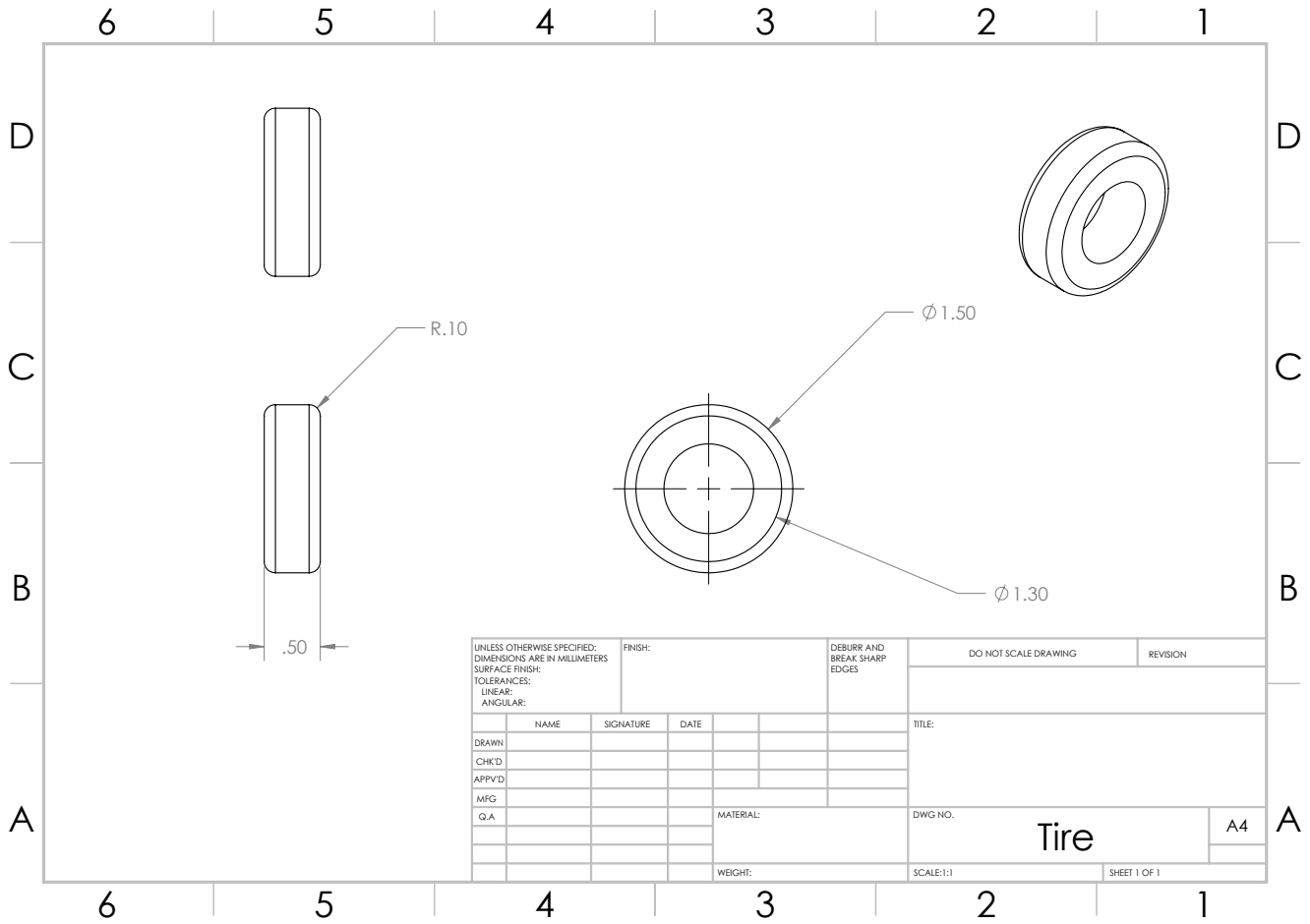






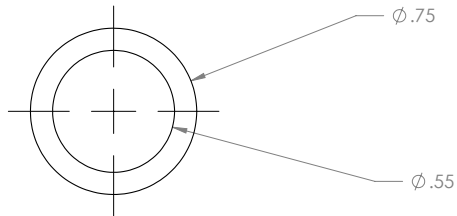
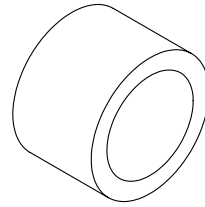
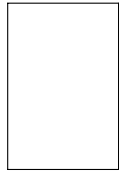
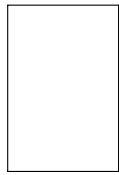






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