

## 3S Trailer Suspension

### Meeting # 18

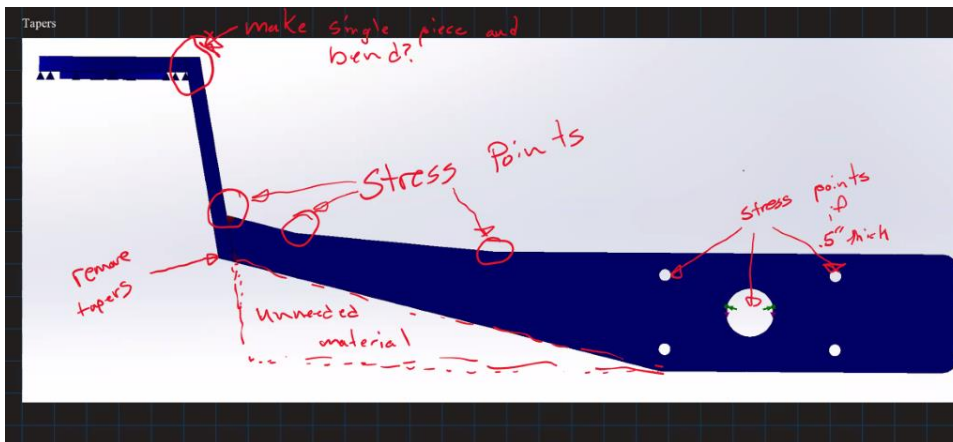
**Start Date & Time:** 7/23/2020, Thursday, 10:00am

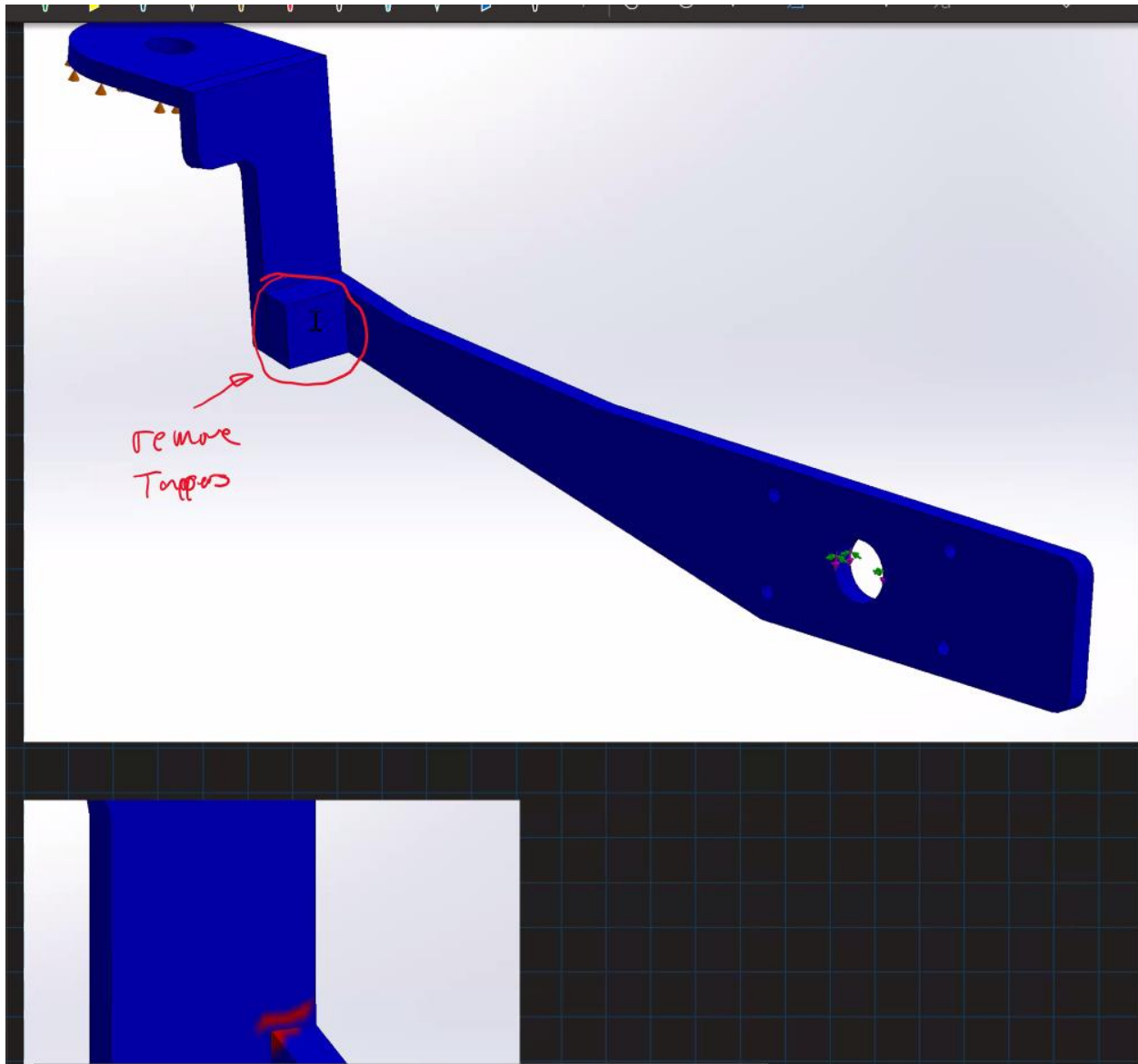
**Members Present:** Caitlin, Robert, Kirk, Anson

**End Time:** 12:45pm

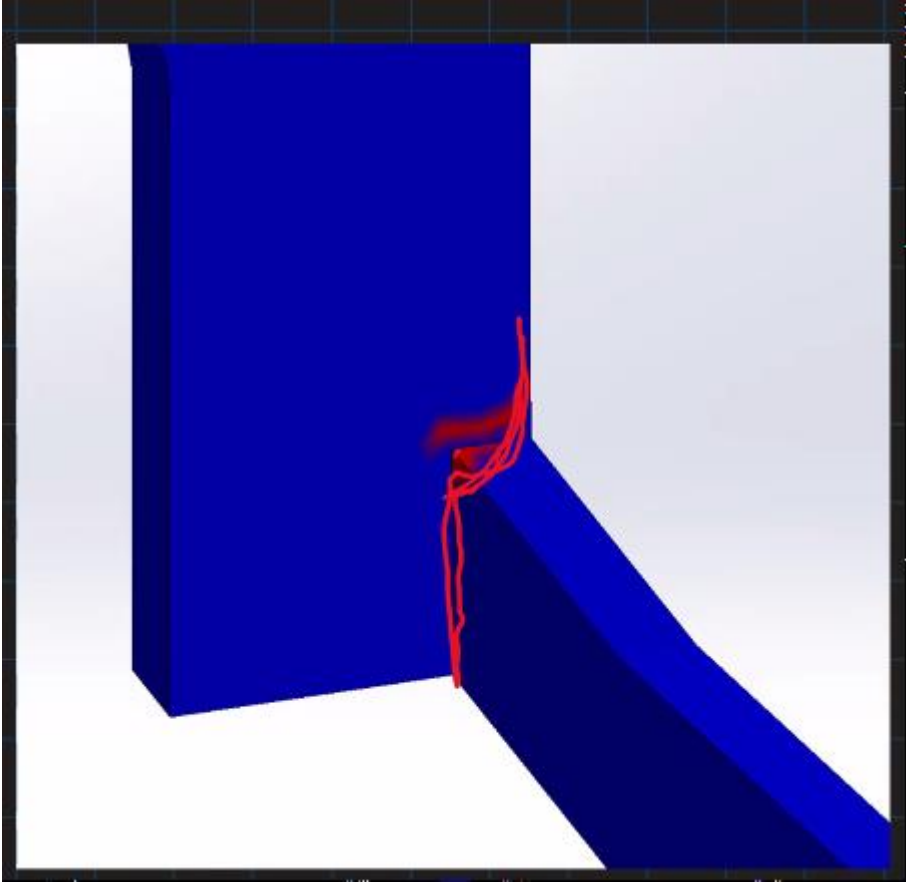
### Last Meeting:

- We are going to pick the one we like the best
- Swenson - Doesn't like the straight weld to the axle on the one side of the rocker arm, don't need the spring-loaded pin on the other side
- How to document weldments - "go back to ME325"



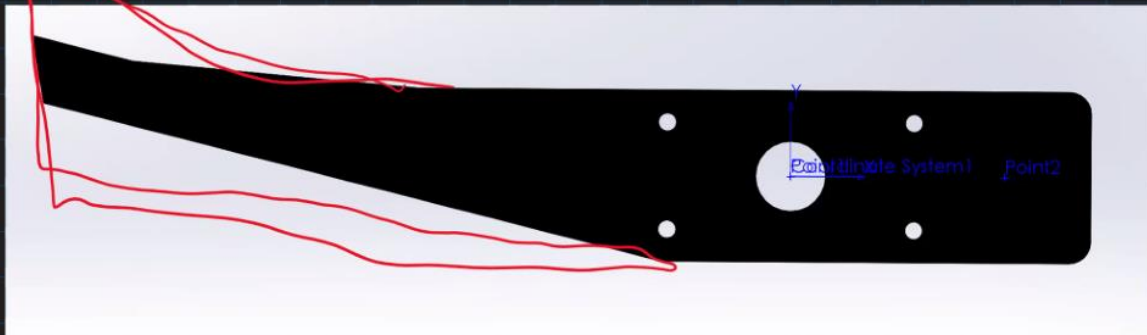


- Extra piece - not needed - still doesn't want it
- How do you model a weld that's not straight
- Just make it thicker



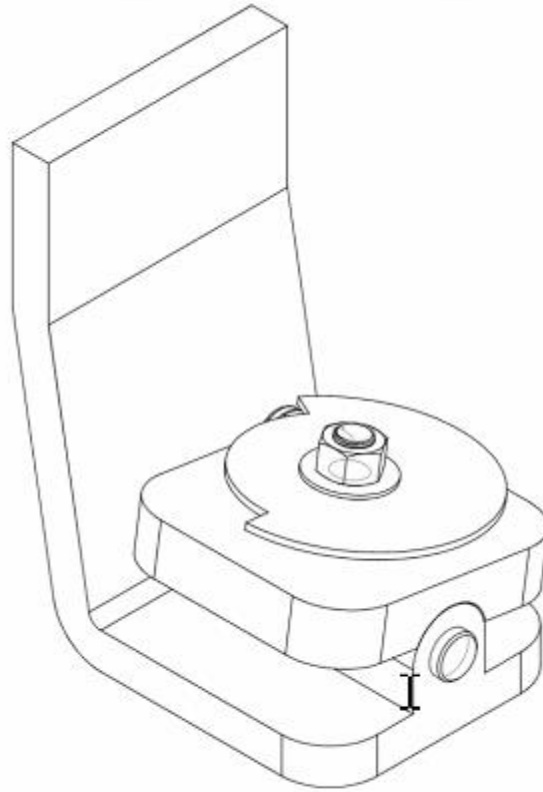
Slide: 17-20 (Redundant)

Driver Side



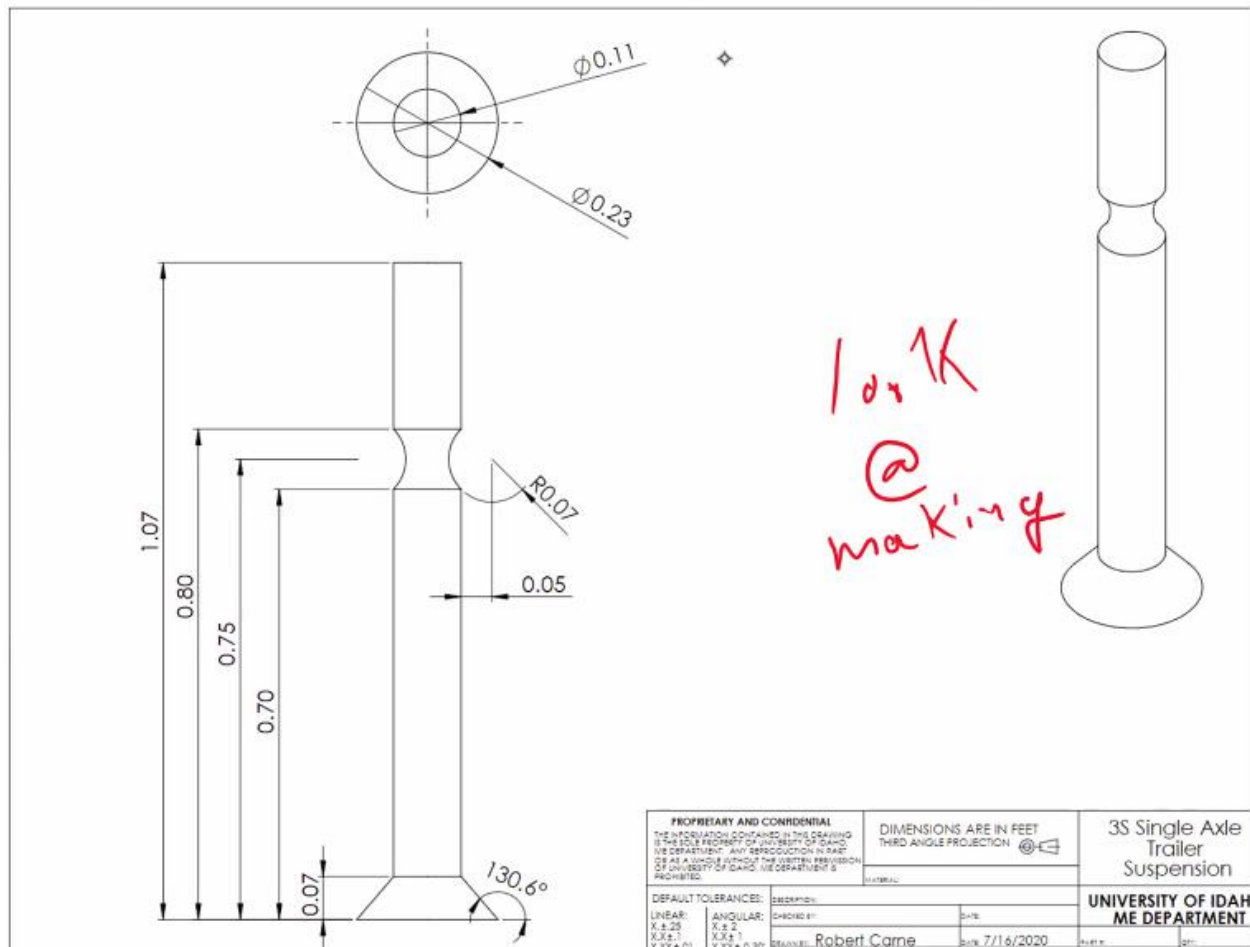
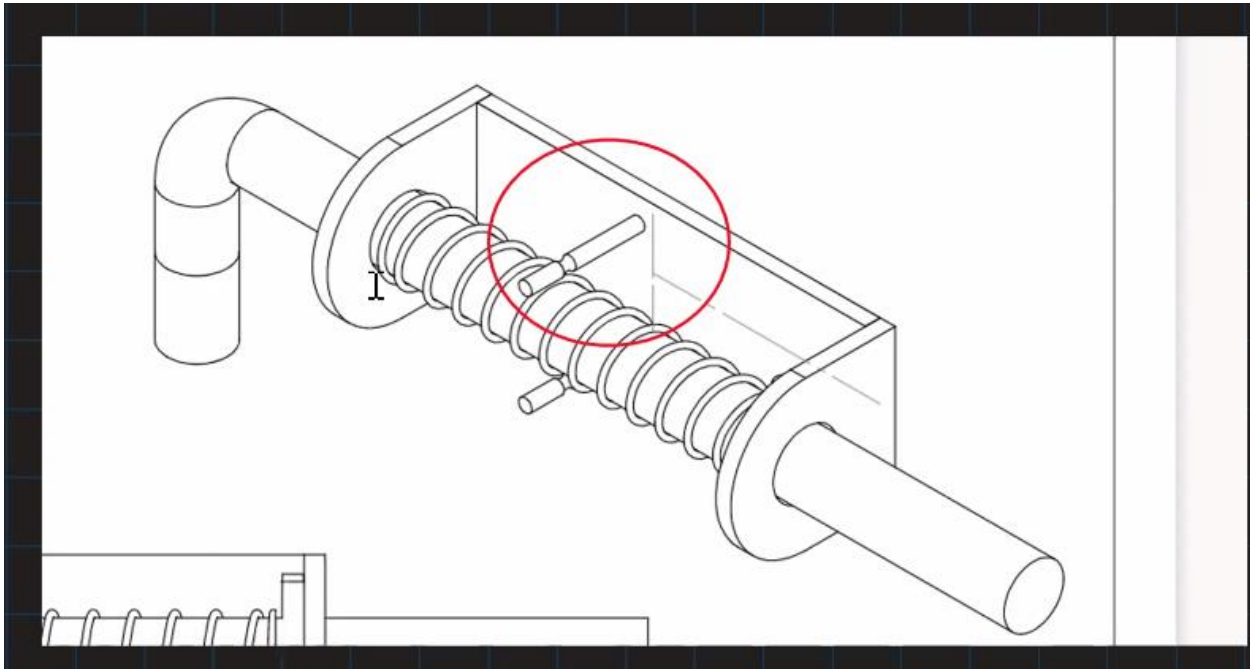
Passenger Side - Also welded different





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- "not Manufacturable"
- Metal on metal - not good



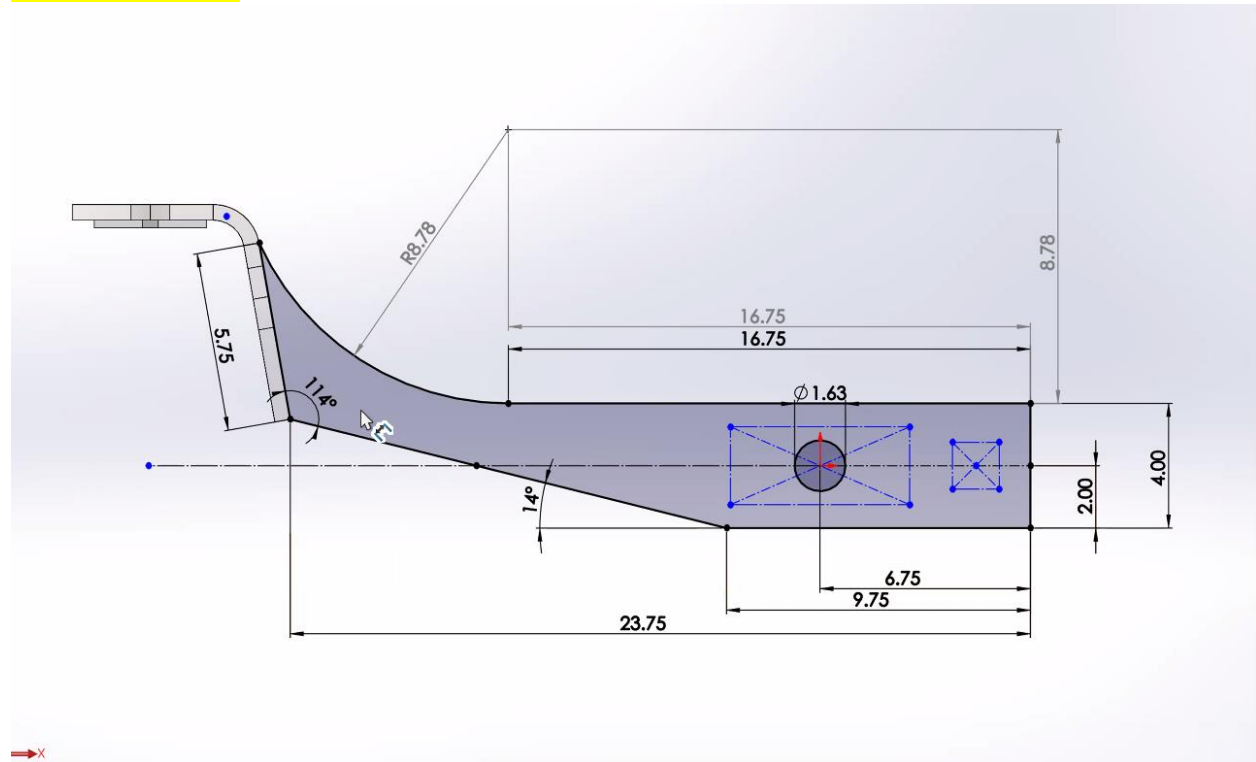
- Anson is talking about the prototype
- Make it durable
- Doesn't have to make it exactly scaled down - we need it to last
- Technical presentation
- Start looking at it
- No poster storyboards!!
- Heads down and start getting the design done
- Get the 2000lb dialed down and fix and a good set of drawings
- Then scaling up to the next capacities

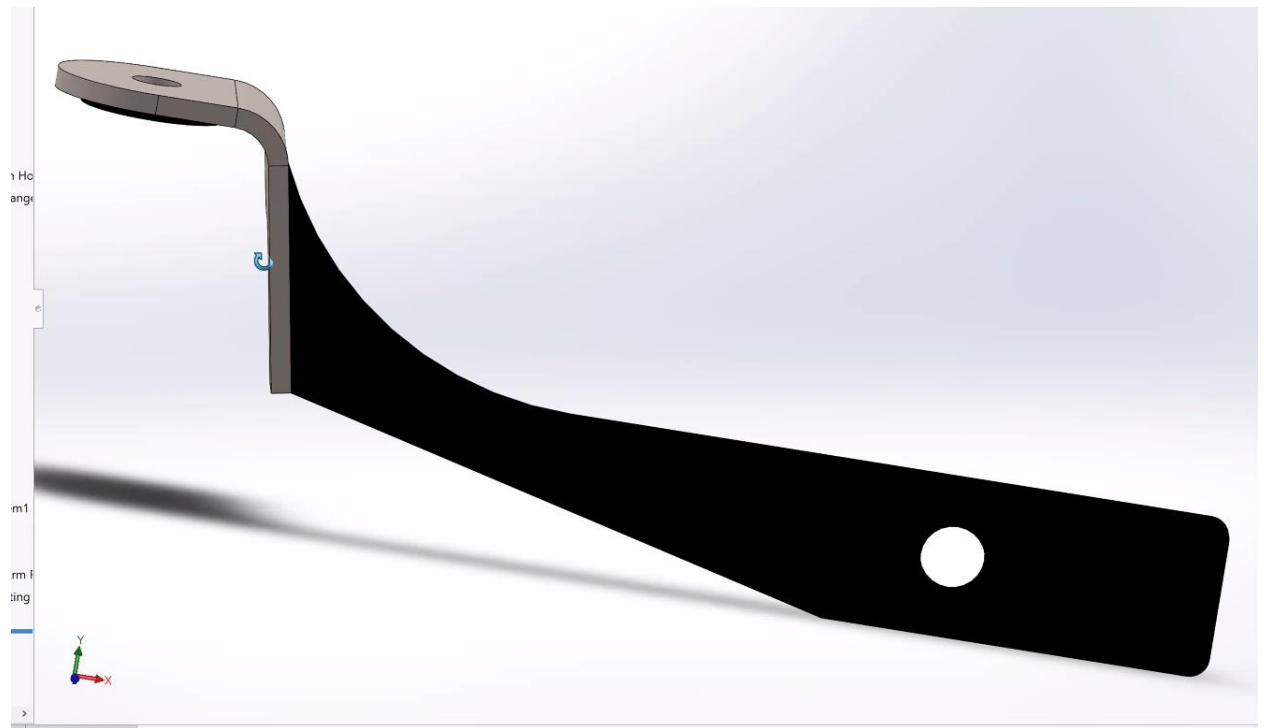
### Today's Objectives:

- Questions for Swenson
- What are we doing with the Spring mounting bracket?
- Discuss finalizing the lever arm

### Notes:

10:00am meeting





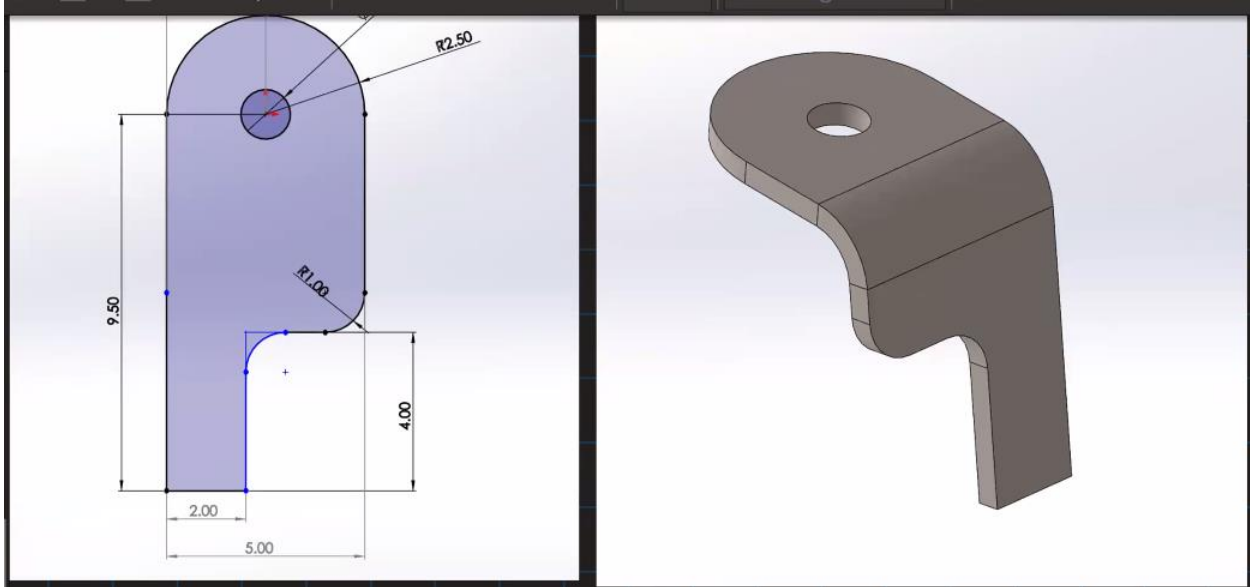




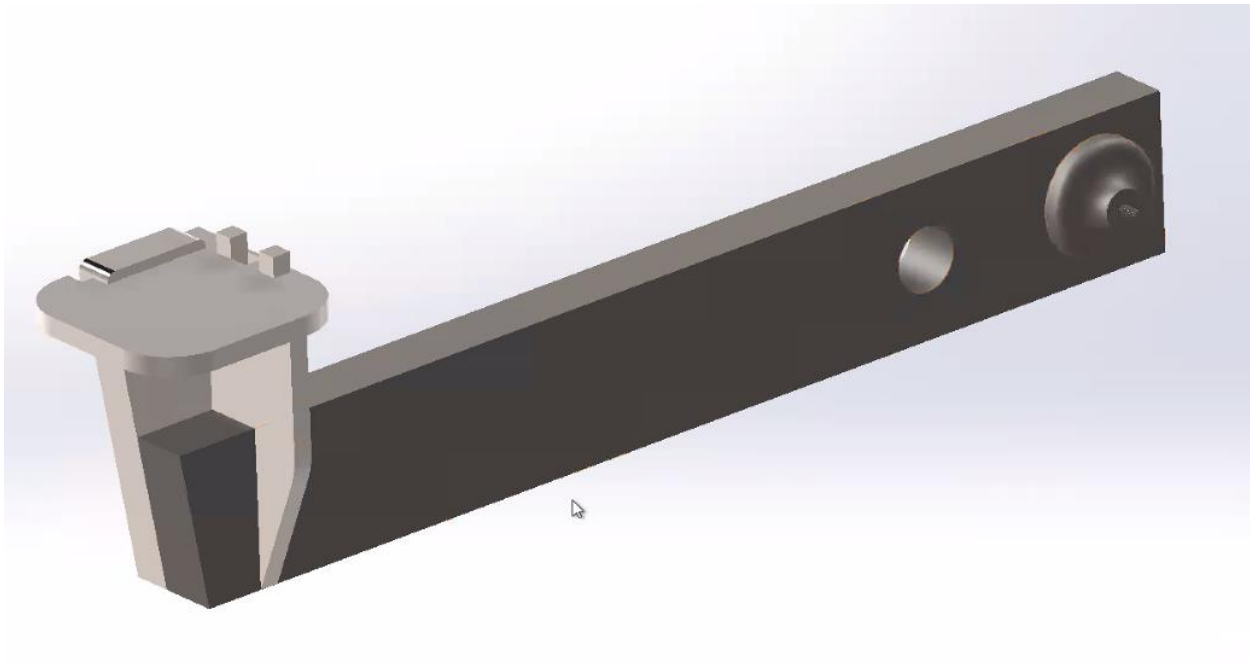
- Rob will do FEA on 3500lb and 6000lb

#### 12:00pm Meeting with Swenson

- Finalize rocker arm
- Fine adjustments/measurements
- Sweeping taper
- Rotating spring brackets
- Prototype?
- Have 3500 and 6000 FEA and BOM done by Tuesday

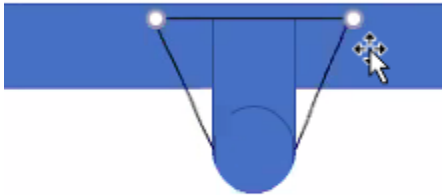


- Sweeping radius - chop the toe off - fillet weld on the top
- Double check FEA when you do that
- Can we extend the end piece inward a bit to add a fillet weld?
- Don't have it flush to the outside
- Where does the bottom part of the spring mount go?
- L bracket would give us more space
- Failure modes - more stress on the springs
- Optimize splitting the difference of an angle lever arm top and angle L bracket
- 



- This is a snapped together - we want 1-piece lever - these pieces would be too small and hard to work with

- Anson - work on 3D model prototype
- We have the filament already!!!
- We can start printing once the design is complete!
- Design consideration



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- Required displacement for spring?
  - We need it to stay in line - not buckle

#### For Next Time:

- FEA for the 3500lb and 6000lb model will be done
- Required displacement for the spring
- Start on Technical presentation
- Finish up prototype modeling

#### Comments/Concerns/Reflections from Today:

- Need to make sure the spring will not buckle

Next Meeting Time & Date: **Tuesday, 7/28/2020 @10:00am**