

3S Trailer Suspension

Meeting # 9

Start Date & Time: Wednesday, 7/1/2020, 9:30am

Members Present: Anson, Robert, Kirk, Caitlin

End Time: 10:40am

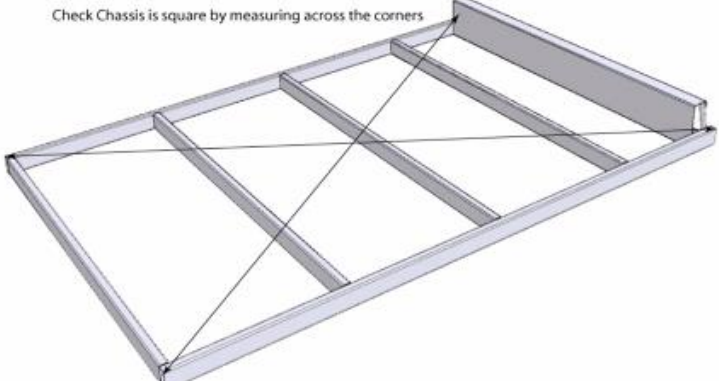
Last Meeting:

- Need to focus on mounting for our trailer
- Need to start calculations!
- Robert is getting the wiki-page all set up
- Small scale prototype is sized relative to itself appropriately

tone 2020 VLab Uldaho One Drive NCEES Quizlet doi:10.1016/j.conb... Video Conferencing... My

Tack weld all the components together with one or two welds and measure across the trailer frame diagonally for squareness. Both measurements need to be taken from the same point of the chassis as each other and the frame will be square once both measurements are exactly the same.

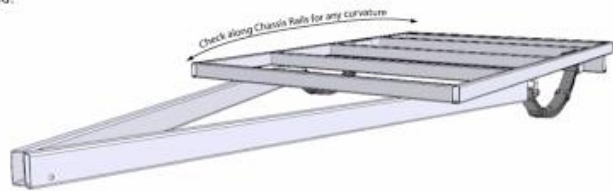
Check Chassis is square by measuring across the corners



Where one measurement is longer, divide the difference between the two measurements and gently knock the longest corner of the frame to match the shortest side plus the difference in measurement. For example – if the shortest reading is 86 1/2" and the longest is 87", the difference between the two is 1/2".

Divide this in half- 1/4" - then knock the longest corner so your tape reads 86 1/2" plus 1/4" (86 3/4") Re-measure, divide and keep adjusting the frame until both measurements are exactly the same.

Once the frame is square, you will need to clamp or sandbag the frame to prevent any movement while the frame is being welded.



Work your way around the frame welding all the components together. If you have welded the frame on the floor of the workshop, lay a couple of good welds on all the components and lift the frame up onto your trestles or stands, recheck the frame squareness and finish welding of the frame.

- We aren't just changing the concept – the lever arm can be more efficiently designed
- We are using separate spring mounts

COIL SPRING TOWER PAIR

Part Number: **B4WK1104**



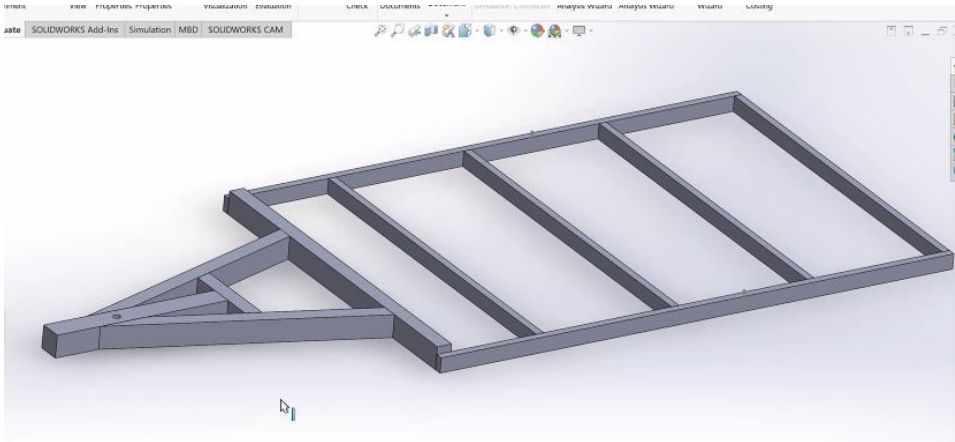
- This is how we are going to mount the springs
- We may add rubber plastic coverings because of the Pinch point issue
- We are just going to use steel for all the attachment points
- Caitlin And Anson are sizing springs, bearings, and spring mounts for 2000lb axle
- Robert and Kirk are starting the 2000lb axle 3D model
- Break out rooms to work on our tasks separately

Today's Objectives:

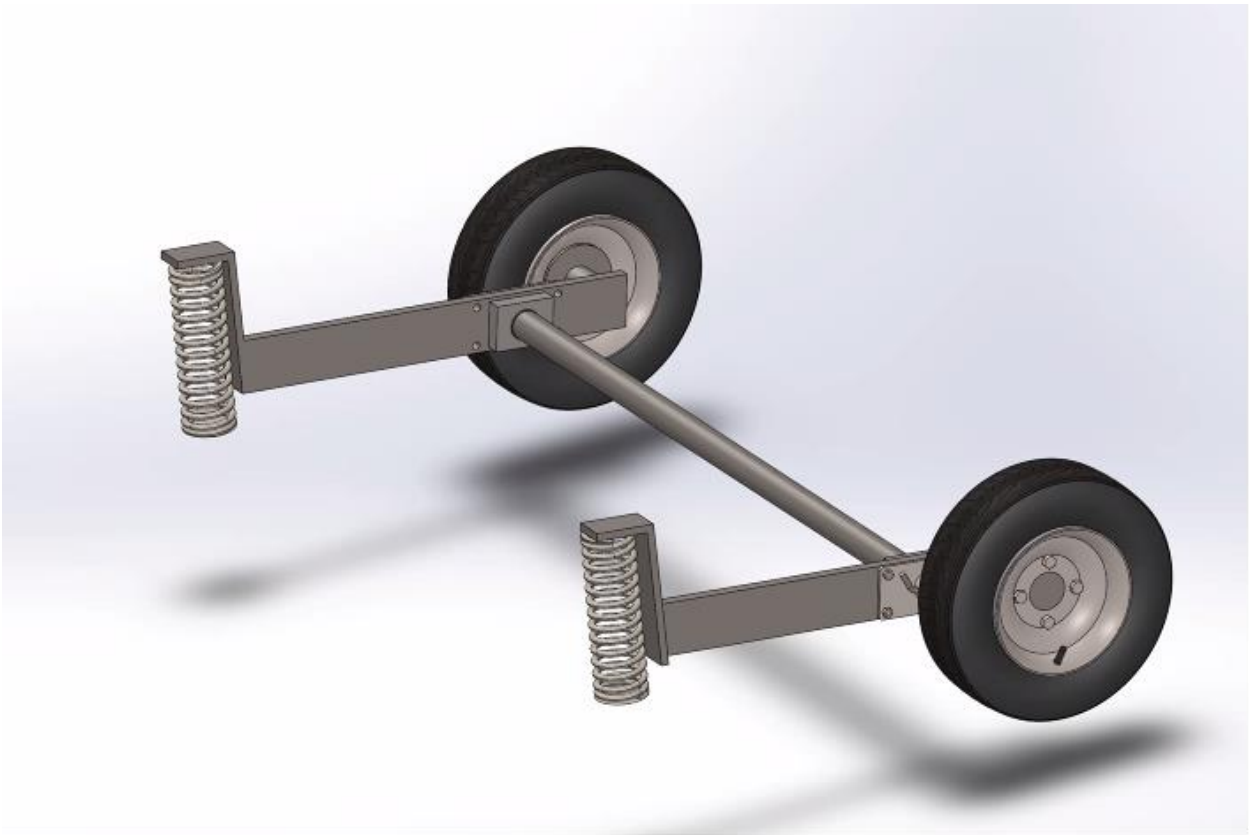
- Discuss findings from Sizing group/Calculations and 3D modeling group
- Fix anything if need be for the 2000lbs axle load

Notes:

- These are the spring mounts that are looking good for the 2000lb axle
- These are the Bearings for the 2000lb axle
- Should people send us the measurements – we press fit everything for them?
- Or we just mark all the things on the axle
- Assuming that all trailers are square steel material
- Assuming 1X2 1/8" square bar
- 3D modeled a basic trailer bed and basic trailer tongue
- How do we attach 3D printing parts to it? the axle?



- We were trying to save money and 3D printing time
- We are not actually designing the trailer - just the suspension
- Robert is going to send the 3D model to Swenson
- For the OneDrive page – Upload – Sync button – so that we can all look at the solid works models





- Updating the budget
- Idea of mounting brackets
- Order the PLA, springs, and bearings.

For Next Time:

- Ask Swenson Questions that we have
 - Press fittings? Kit to buyer?
 - Purpose of spacer box inside the suspension
 - Where is the bushing?
 - Is the tube welded to another bearing so that it can rotate?
 - Tubing is welded to the sleeve bearing and where is the sleeve bearing connected to?
- Send revised budget to Swenson
- Discuss with Swenson about our 3D representation
- Find Spring scaled to 3D model for 2000lb axle

Comments/Concerns/Reflections from Today:

- Making good time we just need to clarify a couple things with our client before we fully proceed.

Next Meeting Time & Date: **Thursday, 7/2/2020 @ 12:00pm**