

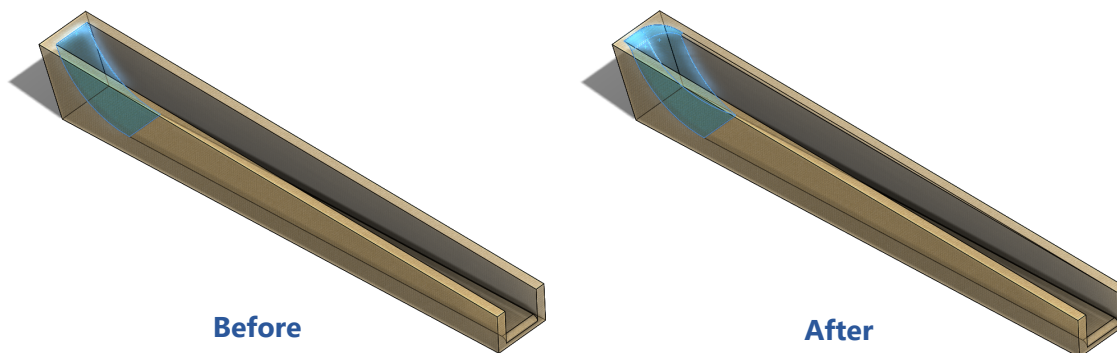
Daily Journal - zhi

Every day, we make some minor improvements

09-23 Fillet Improvement

For the first track which will catch balls falling from upper section, the initial design for fillet feature is too flat. Sometimes, those balls will hit the inner edge, causing a significant speed reduce, or jump out.

In order to solve this problem, I made a bi-directional Variable-Size-Fillet on the left wall and back wall to make them even smoother.



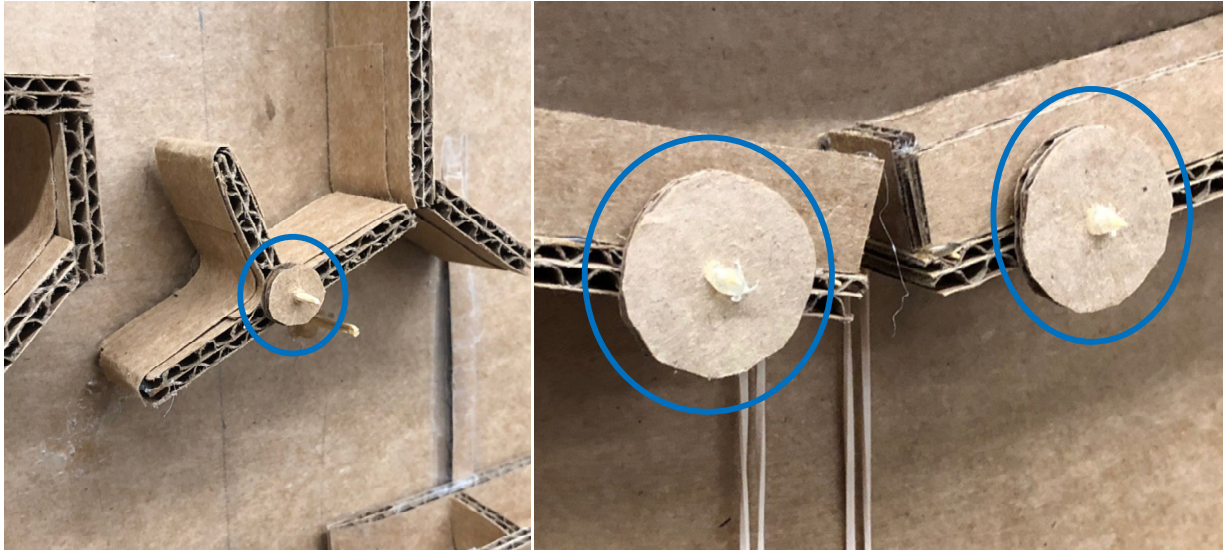
When it comes to the real job, it works perfectly.

I used the cardboard cover to complete this modification, more integrated and more stable.

09-25 Washers Added

For many rotation parts, it is necessary to add washers, not only because of can they reduce the area of contact between each parts, but also help keep in position.

By adding washers, the friction between parts is vastly reduced.

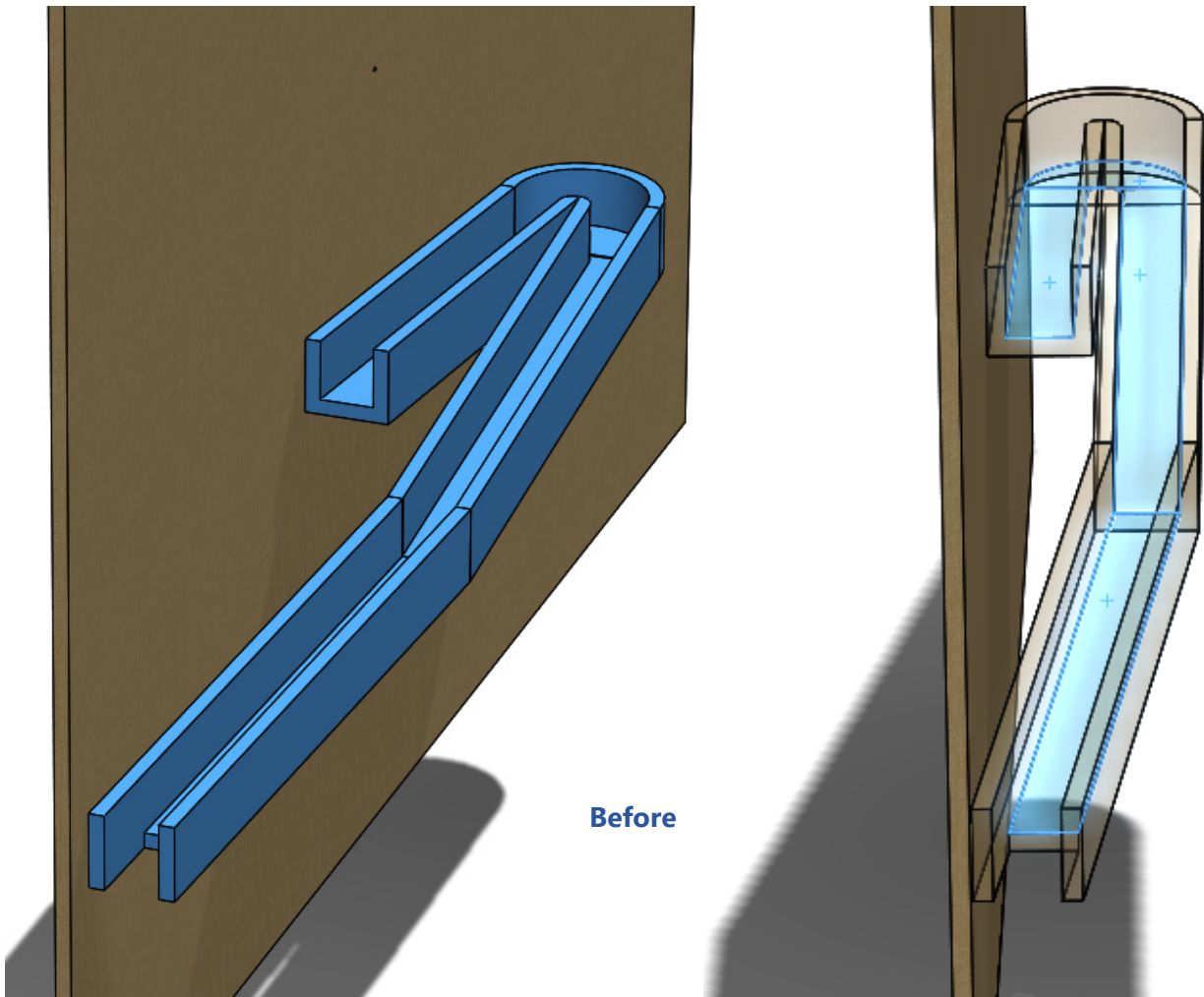


In addition, I put Scotch tape on inner side of each washer, to make them even more slippery to rotate.

09-26 Track Supporter Added

While making these two inclined joints, I found it very difficult to fix them in position, because there is not enough area on the contacting surface to stick onto the main board (the back wall).

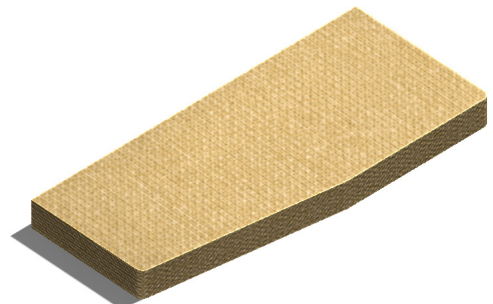
The original design is as shown below. The lower part is kind of like suspended in the air.



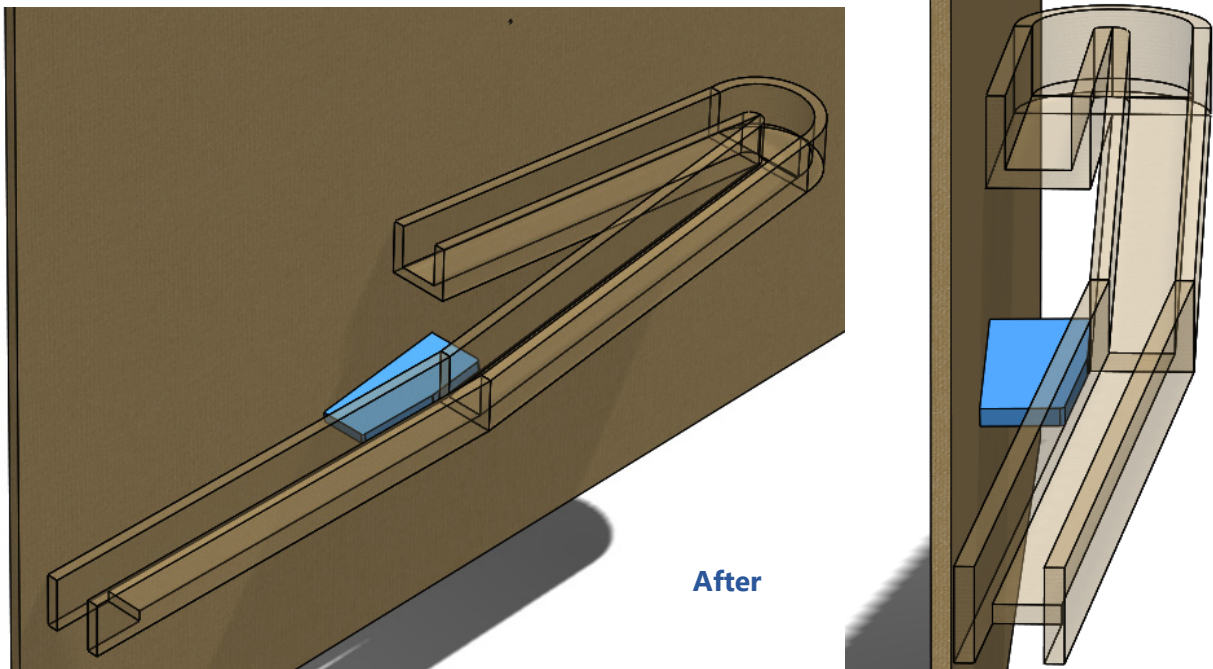
Then I have to make a supporter to stick to the lower track.

The difficulty is that the two tracks have both bi-directional inclined surfaces on them.

A lot of modifications (angles, fillets, size) are applied for this supporter part.



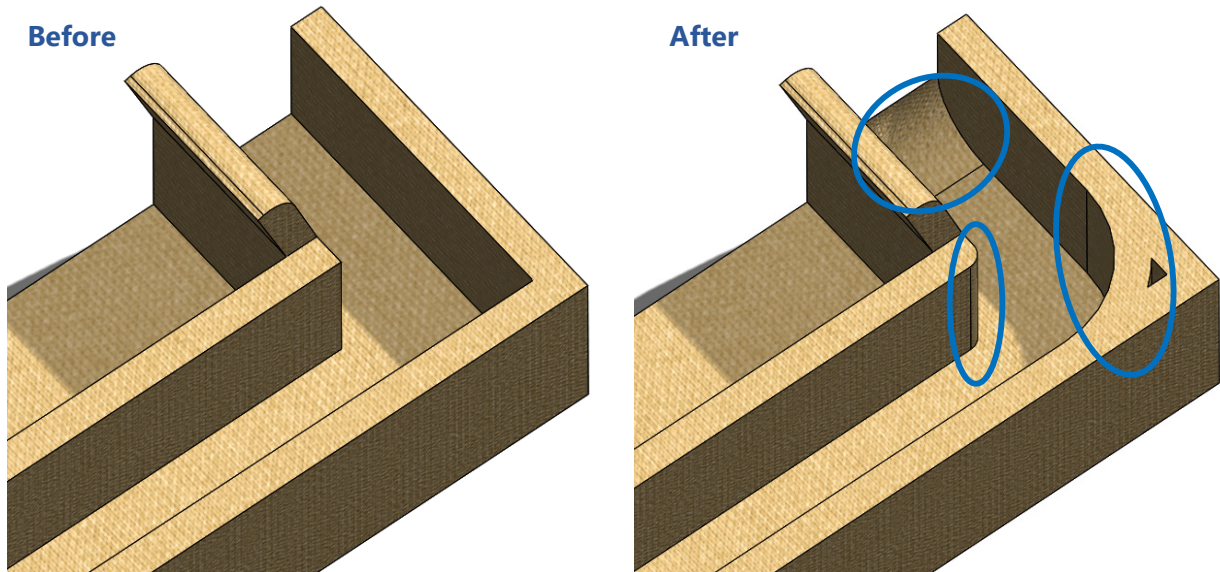
This is what I got at last. The supporter.



09-30 Fillet Adjustment

While running the real test, I found the balls will always stuck in on section, that's because of lack of fillet. (Failed video shown in 1st Try)

I then add three fillet on three different direction to make the whole track smoother.



I used the same material – cardboard to achieve this modification.

(Thinner single layer, easier to bent)



10-01 Friction Reducer Belts

I added four Friction Reducer Belt by fixing it with Scotch tape.

By doing so, the four levers will now re-bounce to its original positions much easier.

Also, the thickness of the Friction Reducer Belts are the same of the Washer I added before, therefore, the orientation of the four levers are now perfectly parallel to the main board (the back wall).

