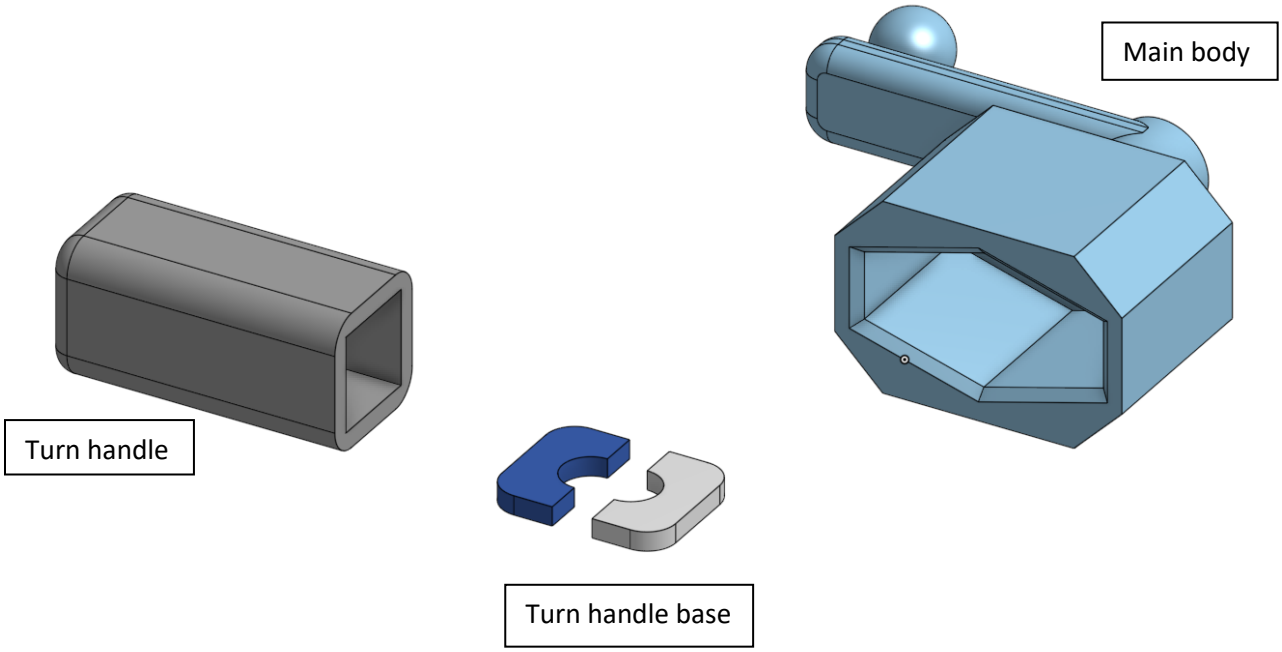
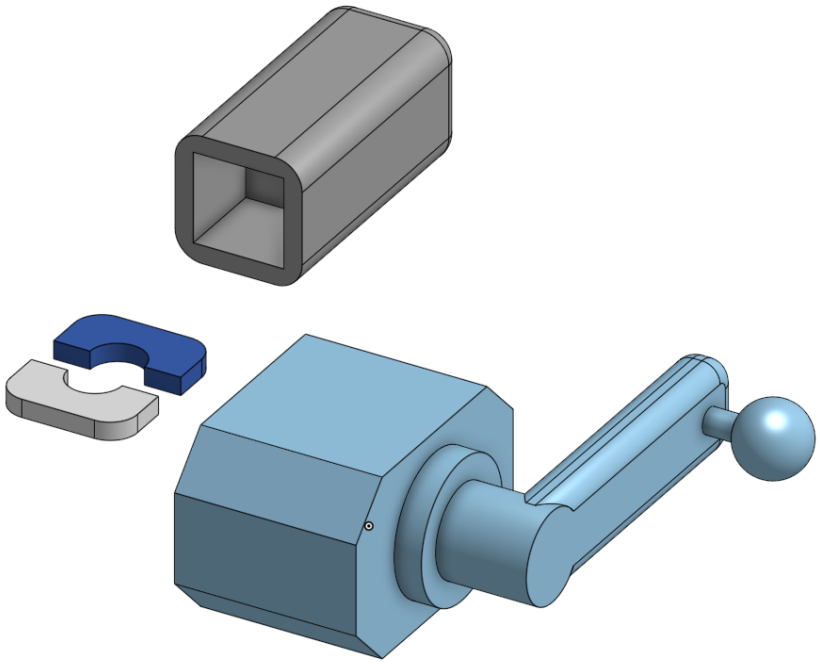
Lam Tran

L1tran@ucsd.edu





Guitar Tuner Handle

I have a guitar without this specific device so I would have to manually turn a flat plastic piece to tune my guitar. I have seen this device but never really thought about buying it so I finally decided to make my own. It latches onto the plastic tuning piece using the slot in the main body. The user can attach the handle to the ball bearing to rotate the device, tightening or loosening the guitar's string in the process.

OnShape features used: extrude(create 3D object by extruding 2d sketch upward), fillet(make it look nicer and more ergonomic), revolve(create the ball joint), remove extrude(create the slot and box in the handle).

The biggest challenge was but since I have only seen pictures of these devices a long time ago, without even know its name, I initially had the wrong mechanism which I had to completely overhaul to get the function correct. Another challenge I had was that I attempted to a single piece printing, having the handle directly on the ball joint with the idea that once printed the user can just twist to remove the shell inside to have a functional joint. However, since I have only used OnShape for a day, I wasn't able to find the correct way to create a shell of a box on top of the ball joint. Because of this, I decided to make them separate pieces. It is not possible to create only 2 parts as it would be impossible to put the handle onto the main body. That is why I created 2 handle base so that they could be glued onto the turn handle over the ball joint to lock the handle onto the joint.