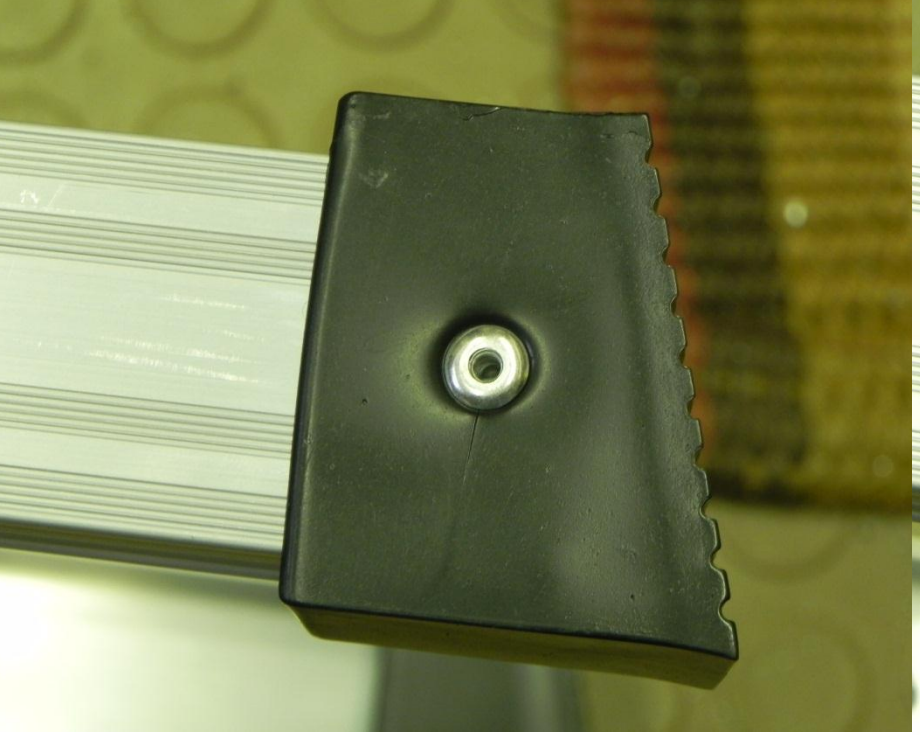
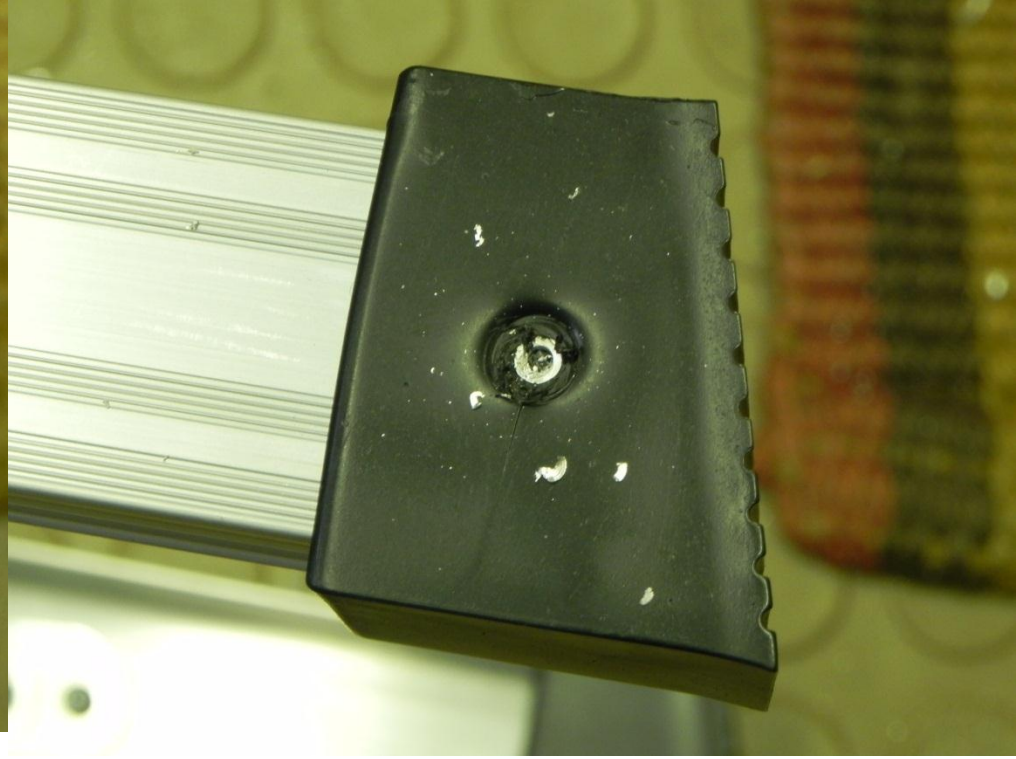
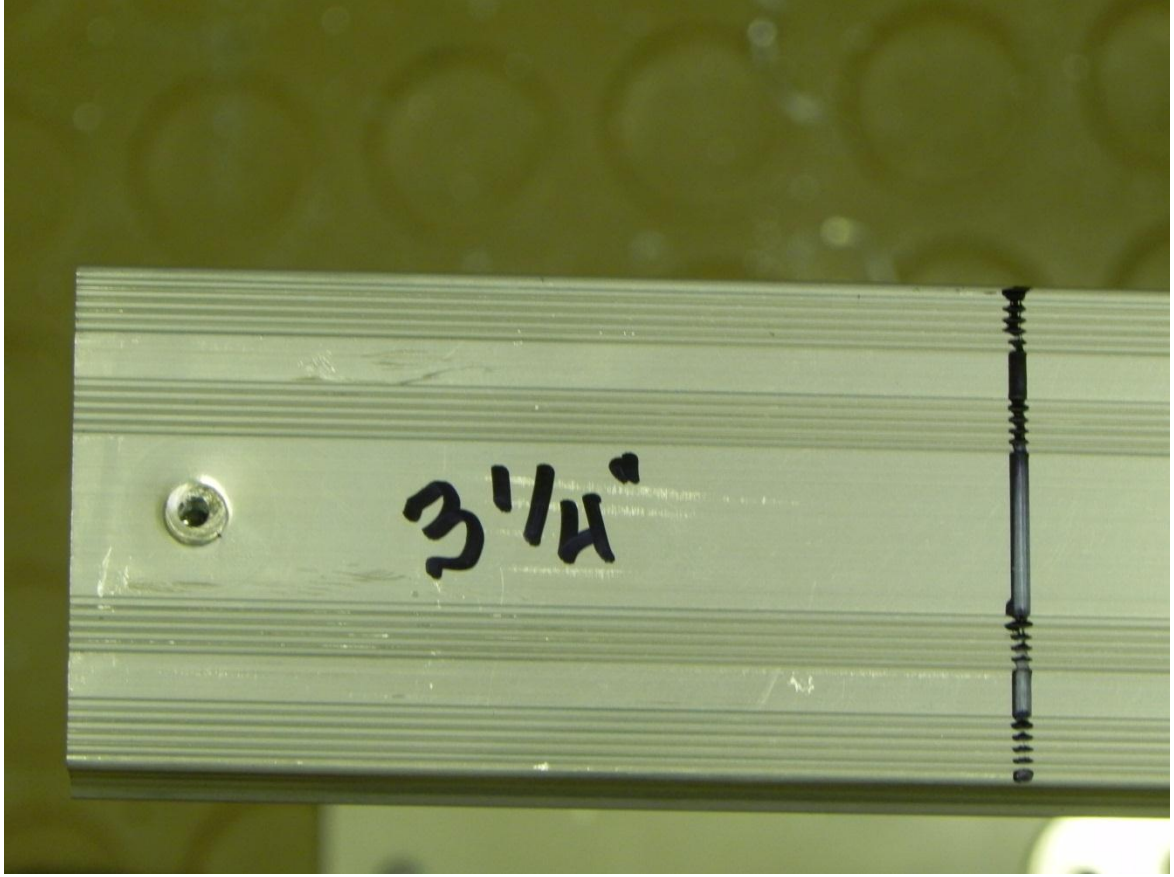
Start with Werner 20” work platforms. They are available at Lowes, Home Depot etc… Usually $40 +/- but look for sales or ask if they would be willing to discount or donate them

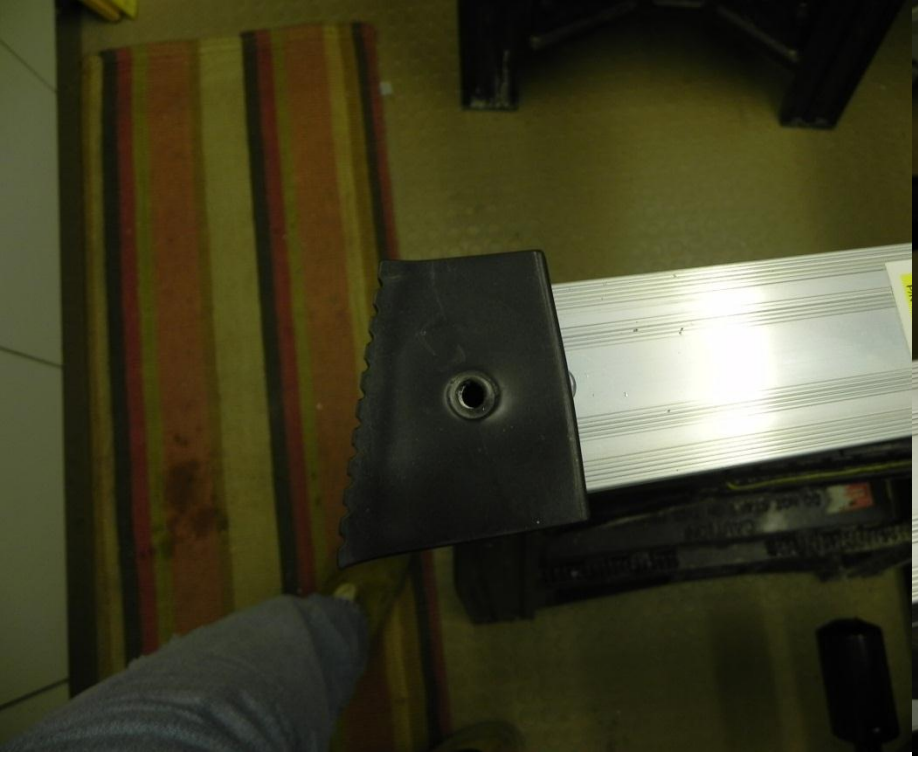


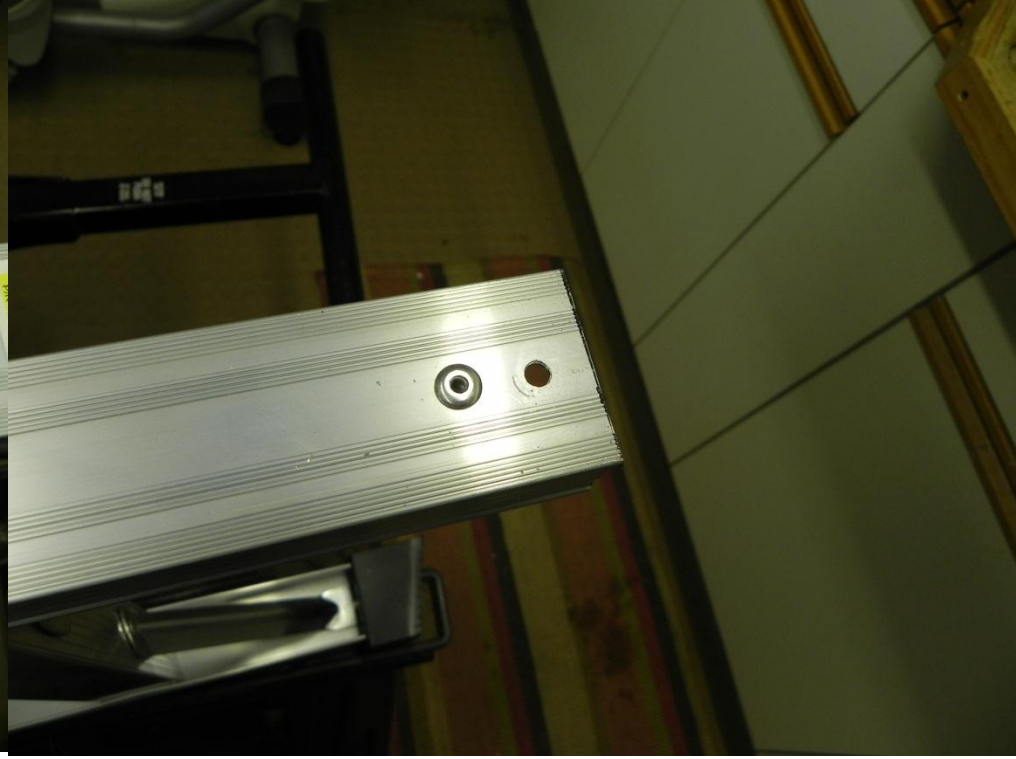


The rubber feet need to be removed. Drill out the head of the rivet and remove foot. You may need to pry a little around rivet.

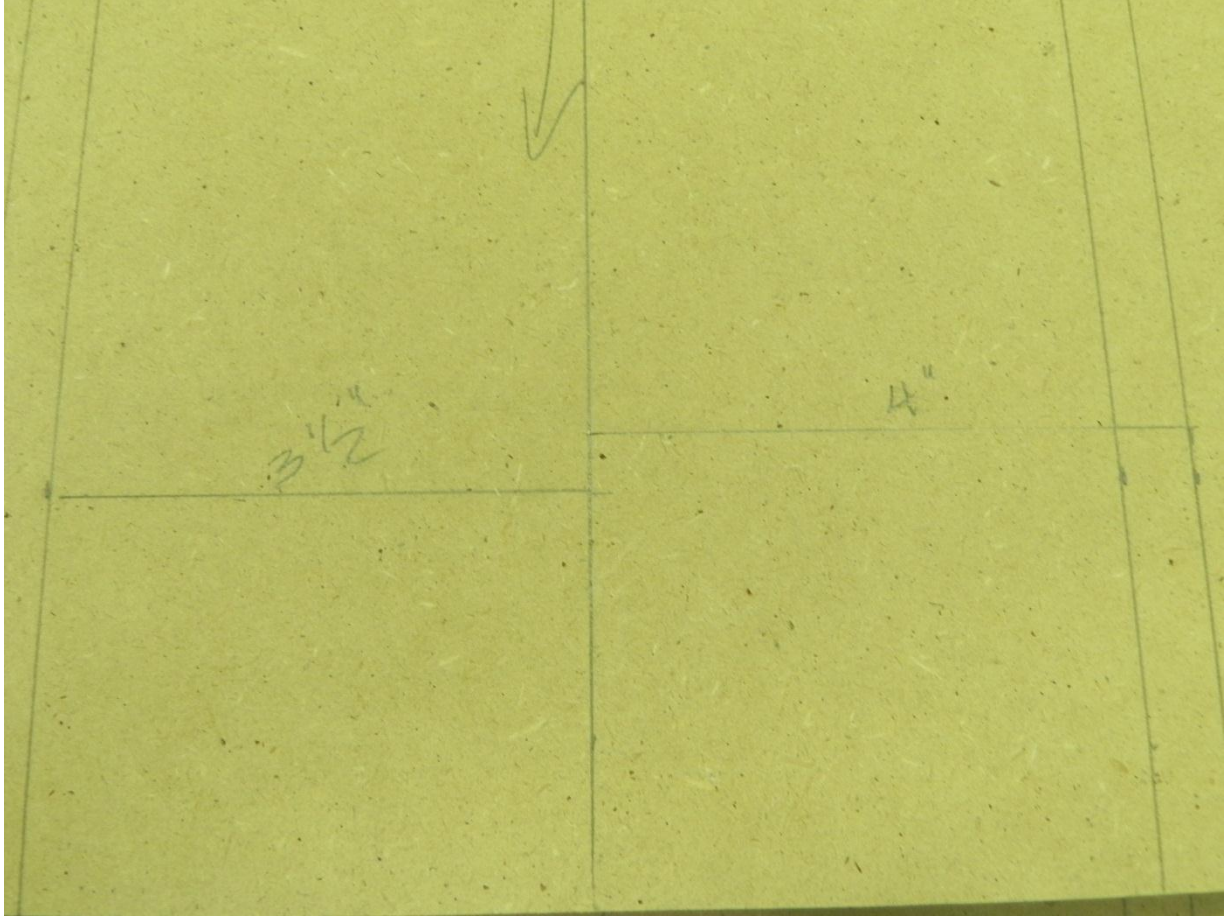


Remove 3 ¼” from the end of each leg. Save these leg pieces for use later.

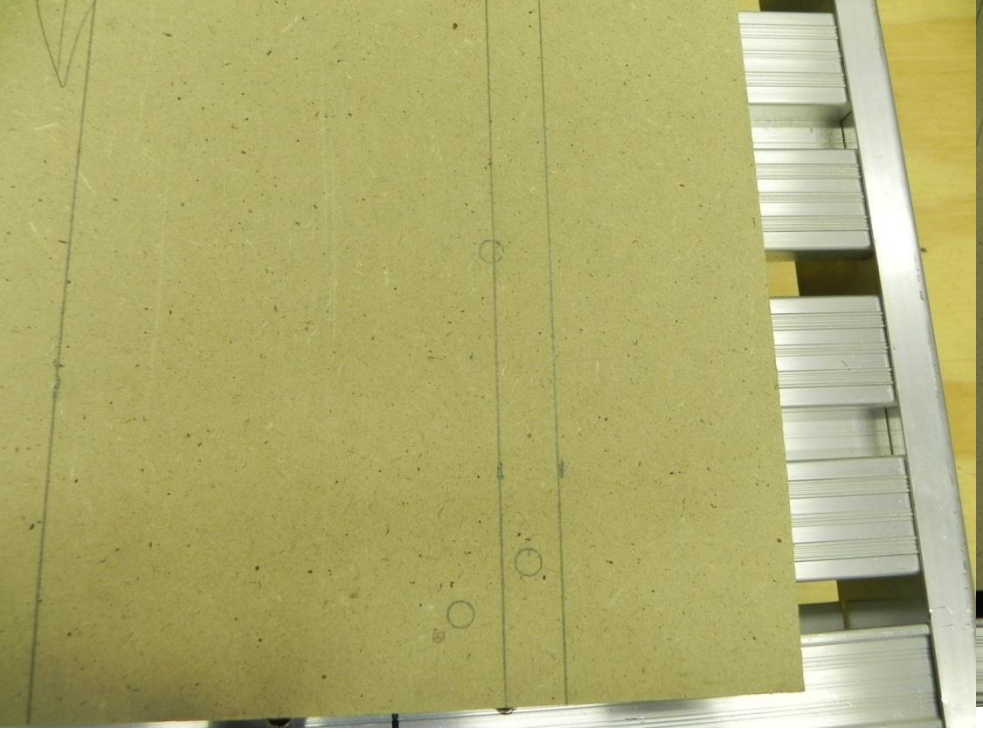


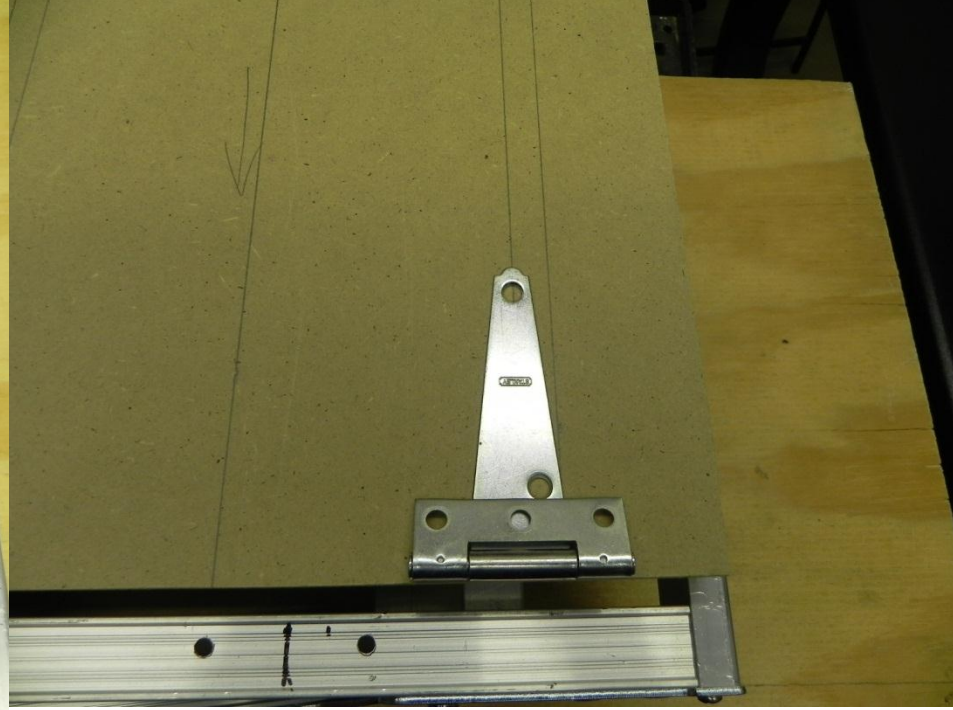


Reinstall foot removed earlier and use as guide to drill new mounting hole. Remove foot, drill hole , reinstall foot and rivet in place.

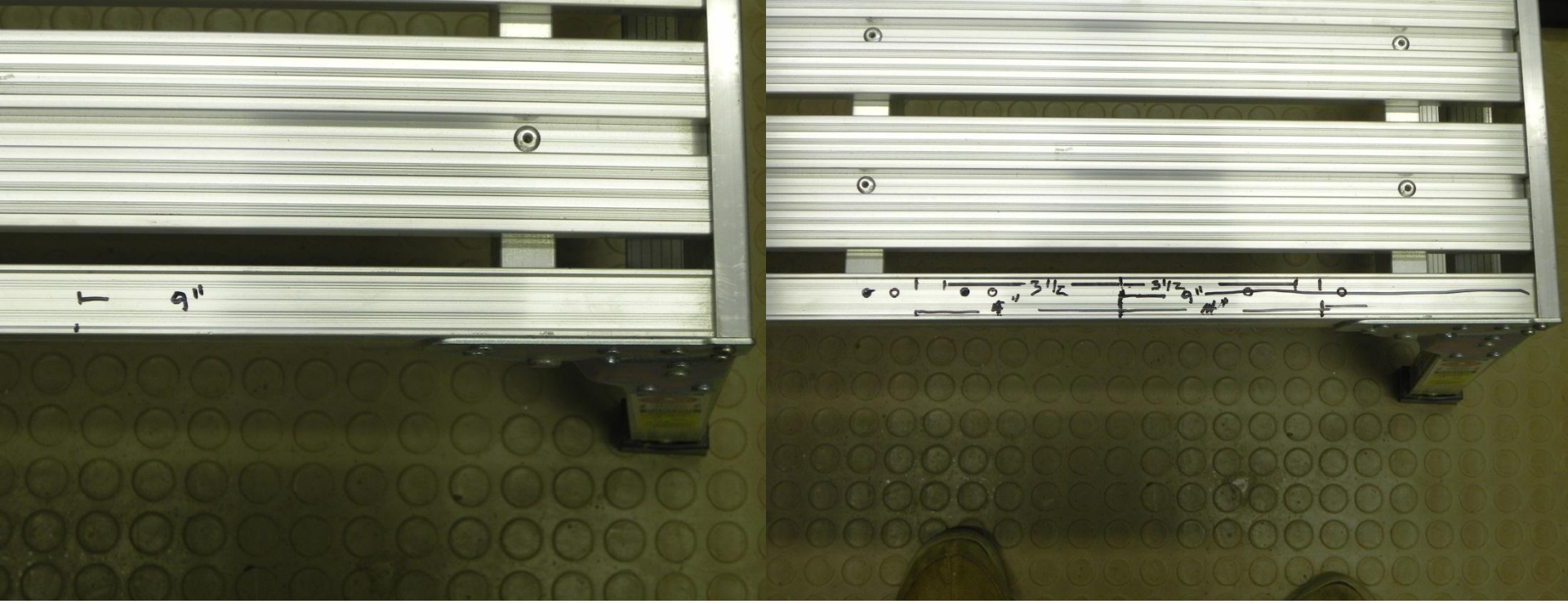


Cut seats app 12” X 12”. Mark the centerline of the seat and then two line2 3 ½” and 4” on either side of the centerline. The 3 ½” line will be the center of the hinge and the 4” line will be the mounting bolt location. (these are the dimensions I used you can adjust as necessary based on hinge type/size.

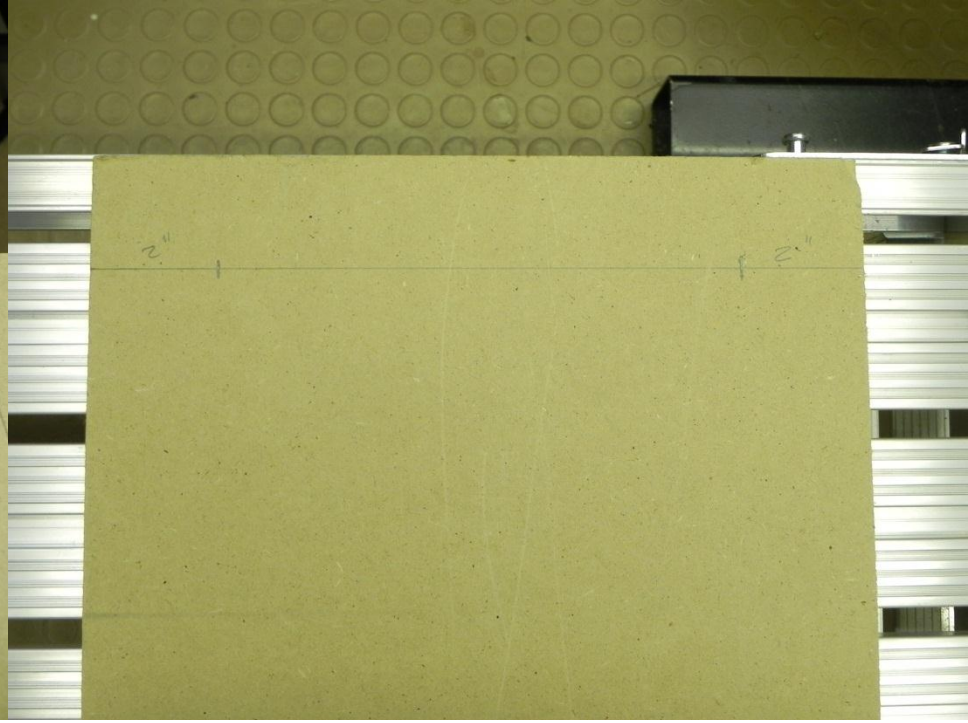




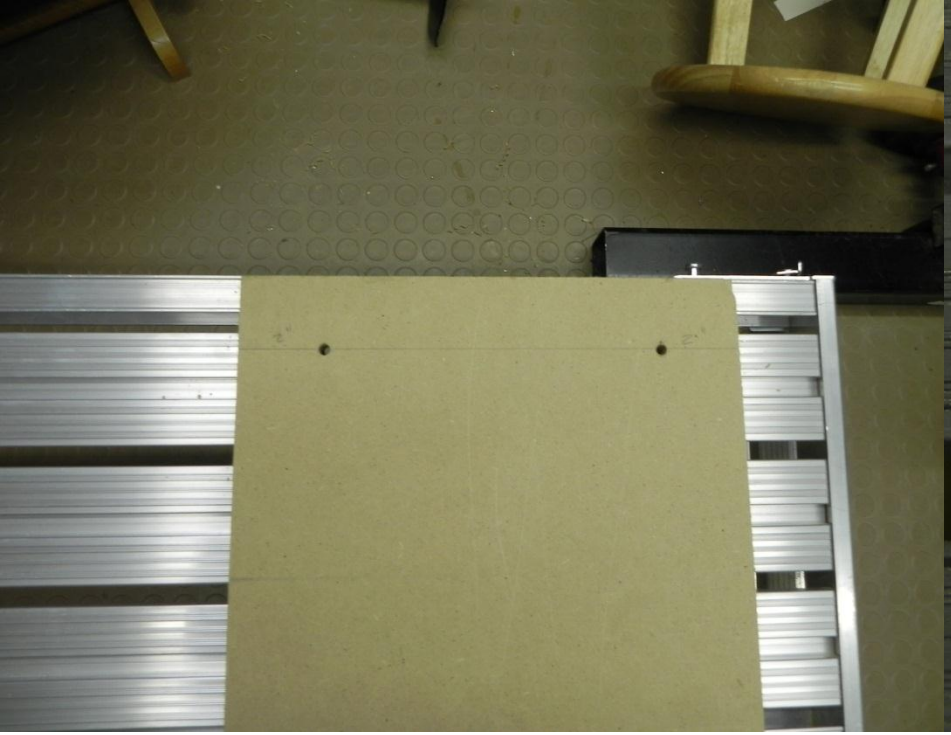
Place hinges on the backside of the seat and mark mounting locations. Drill holes and attach hinges to seats.

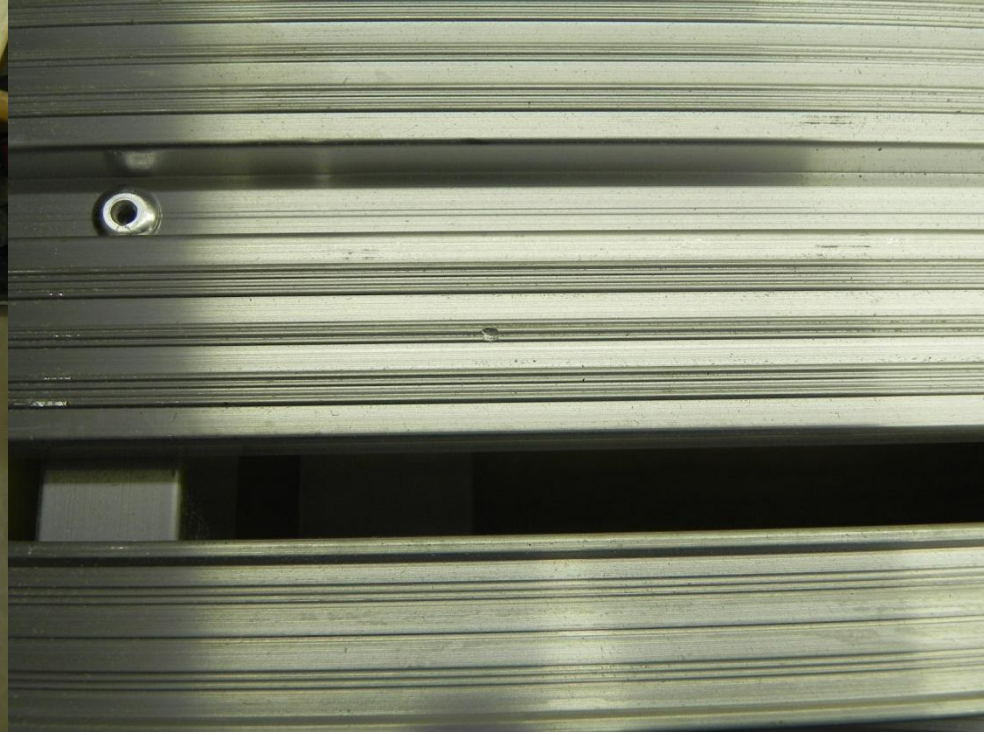


Mark centerline of seat 9” from edge of bench. Use seat with hinges attached. Align centerlines and mark mounting locations for hinges on bench. Drill holes in bench and attach hinges. (I used rivets to attach hinges. It was easier to remove hinges from seat, rivet them them to the bench and then reattach the seats.

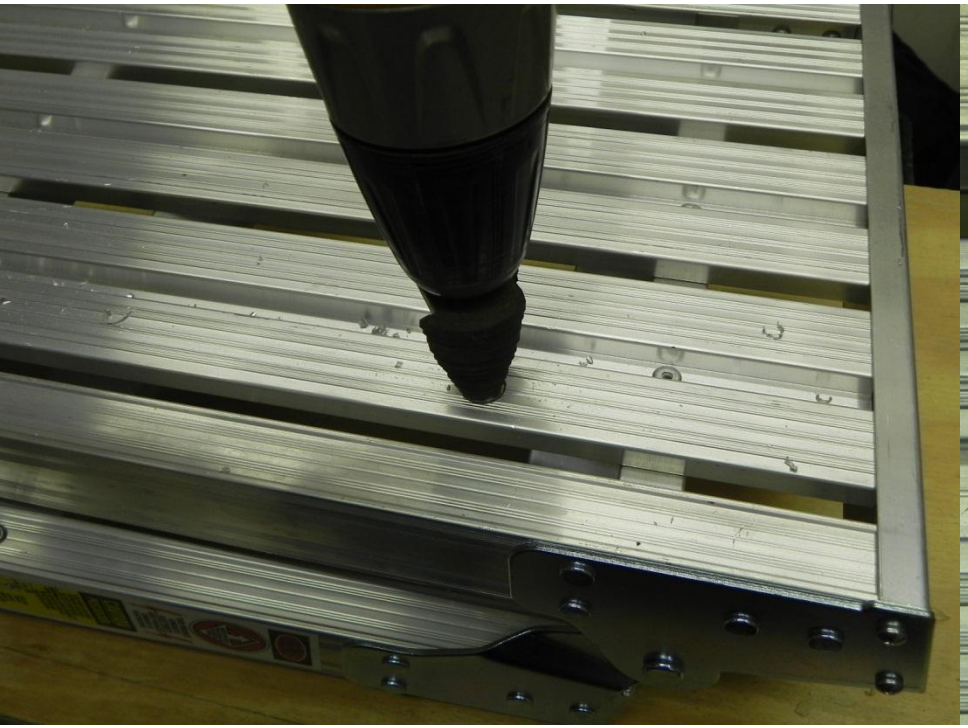


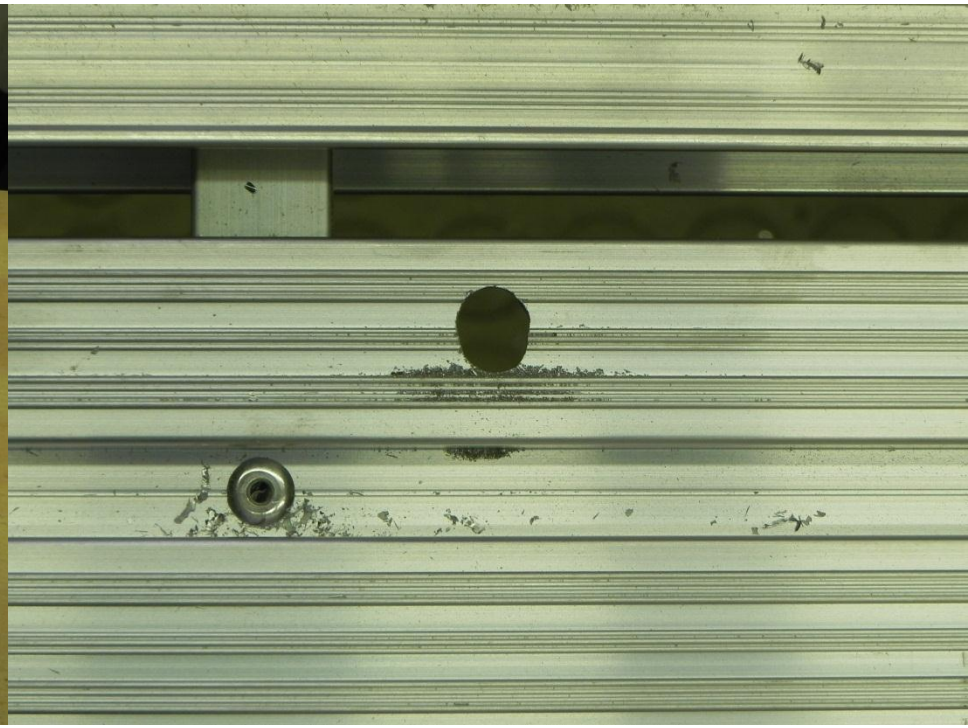
Mark holes for hold down/spring bolts at rear edge of seat. These holes are app 1 ¾” from edge on the 4” line marked earlier. These holes will be app 2” from sides of seat when viewed from the top



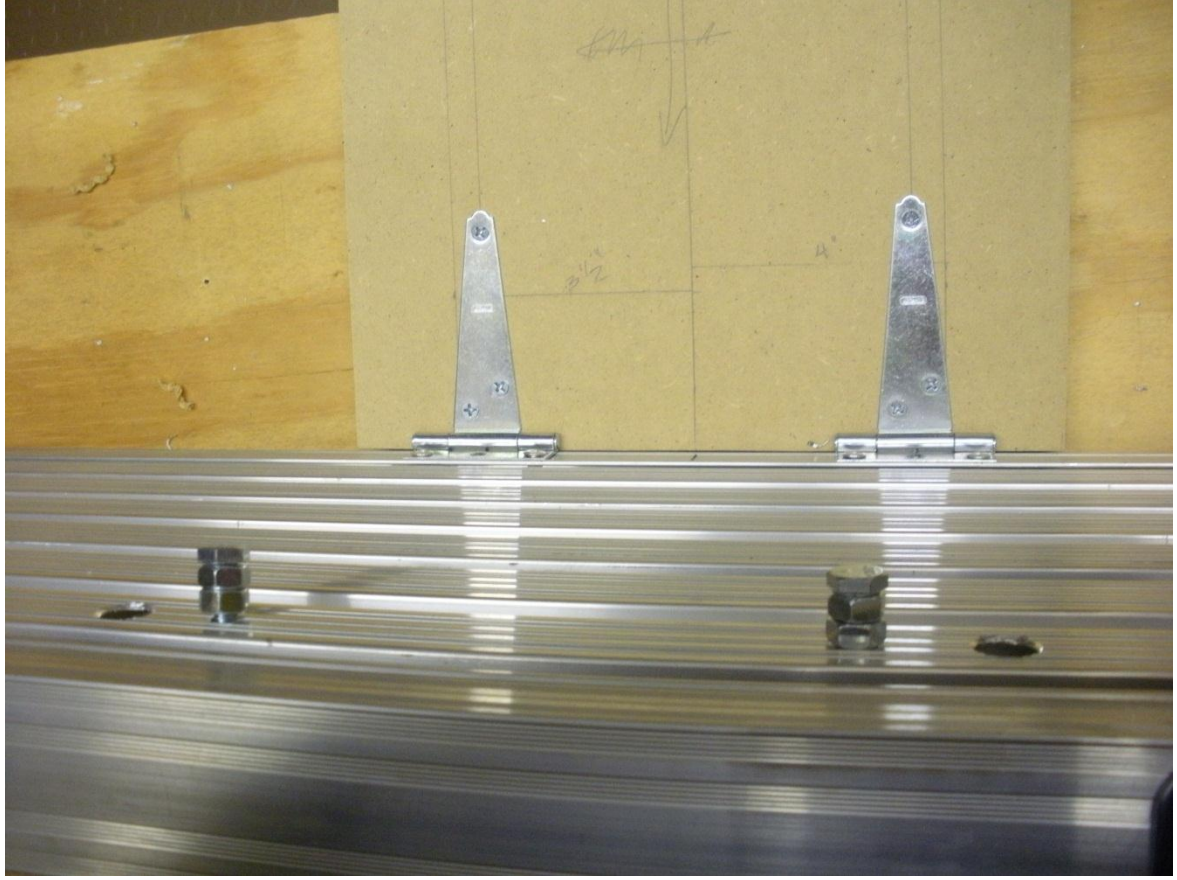


With seat attached to the bench use the 2 holes drilled in the seat to mark hole locations on the bench

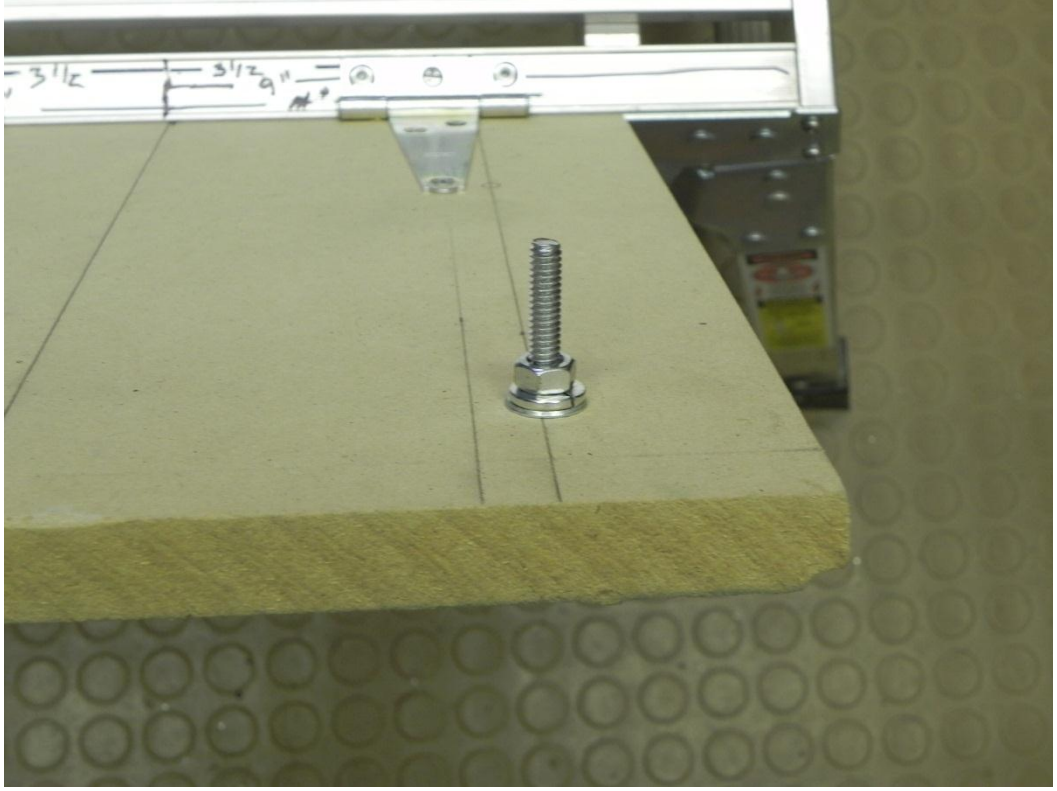




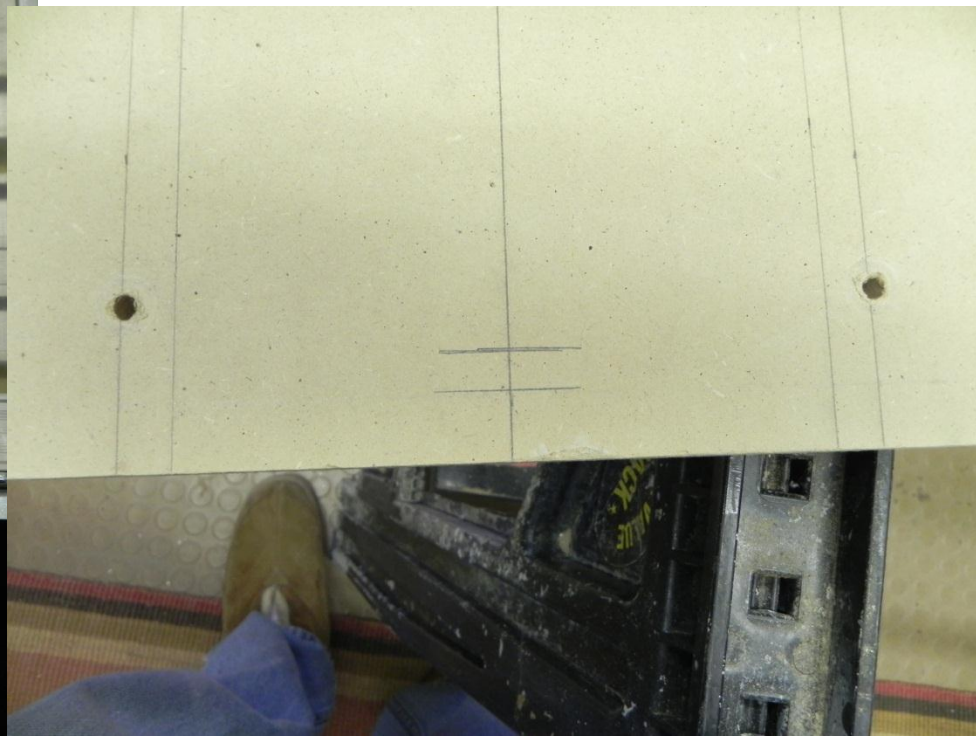
Drill holes for hold down bolts to pass through. These holes will need to be oversized and oval to allow bolt to pass through. I used a file to lengthen them fore/aft until the bolt would swing through and have clearance



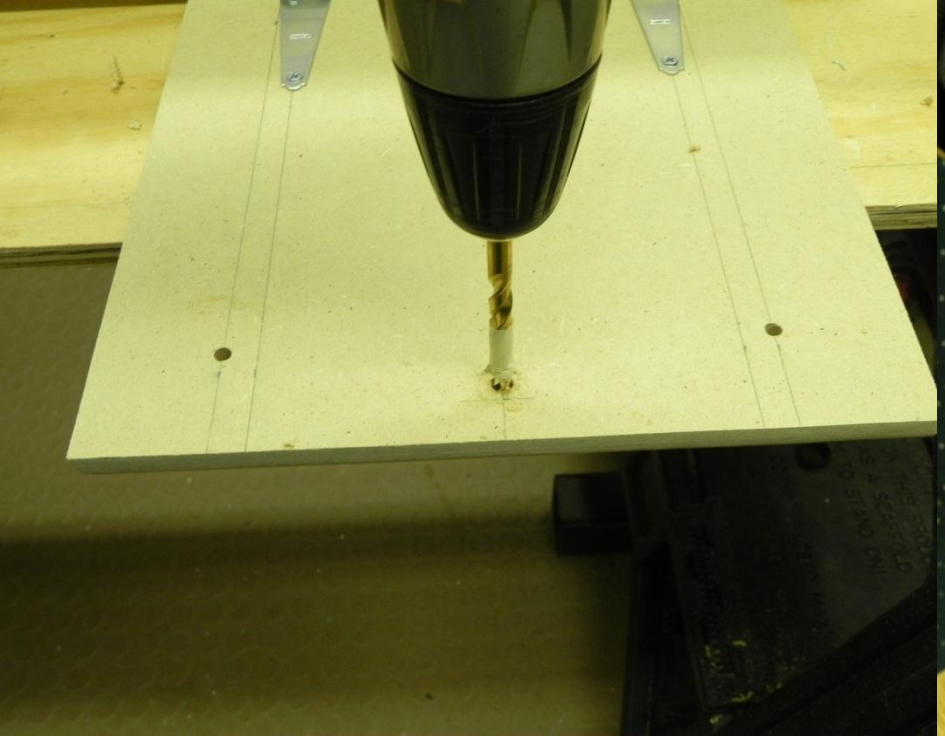
I used bolts with spacers (2 nuts) as rests for the seat. This supports the seat and prevents the switch from being over traveled.

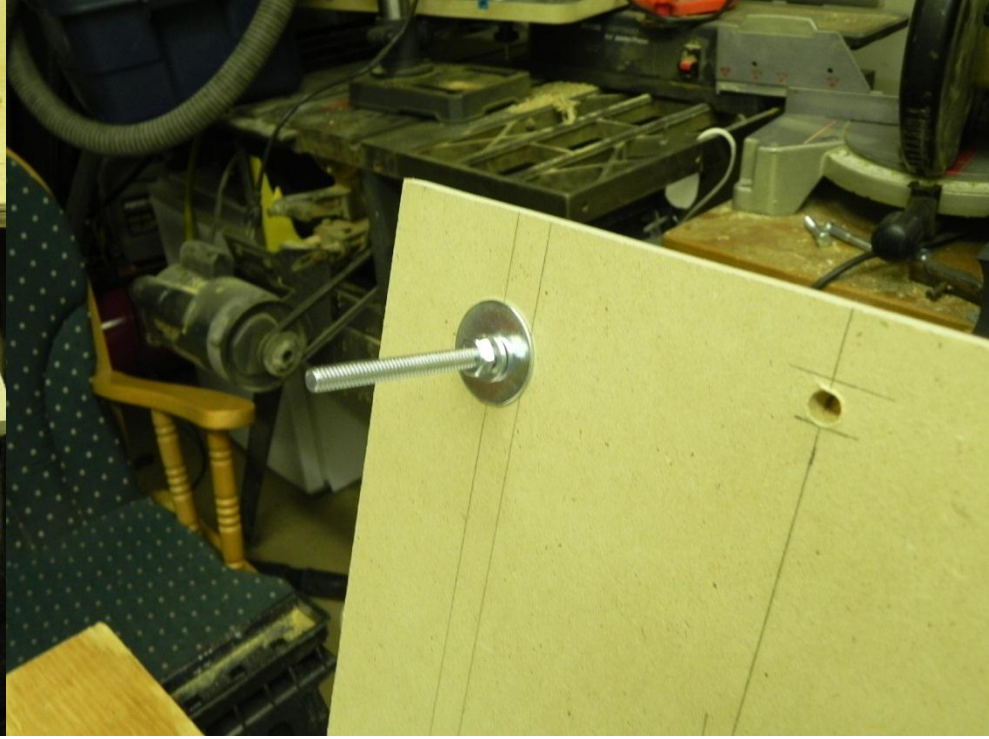


Attach carriage bolt to seat using flat washer and lock washer

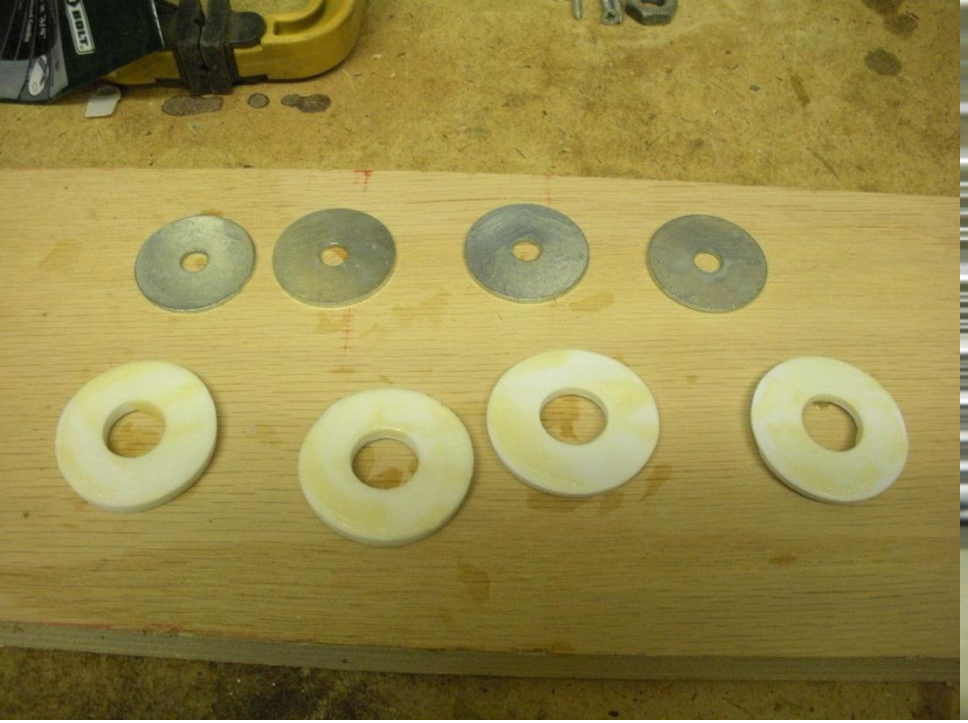


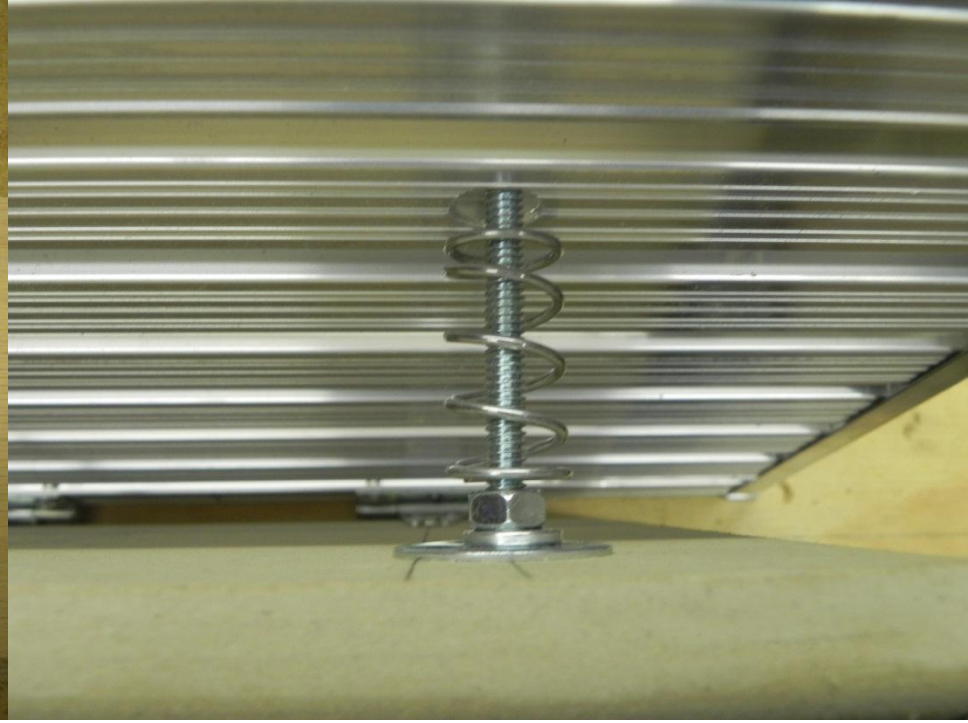
The switch will be activated with a dowel mounted in the seat passing through this space. Using the bench as a guide mark both sides of the gap on the centerline of the seat.





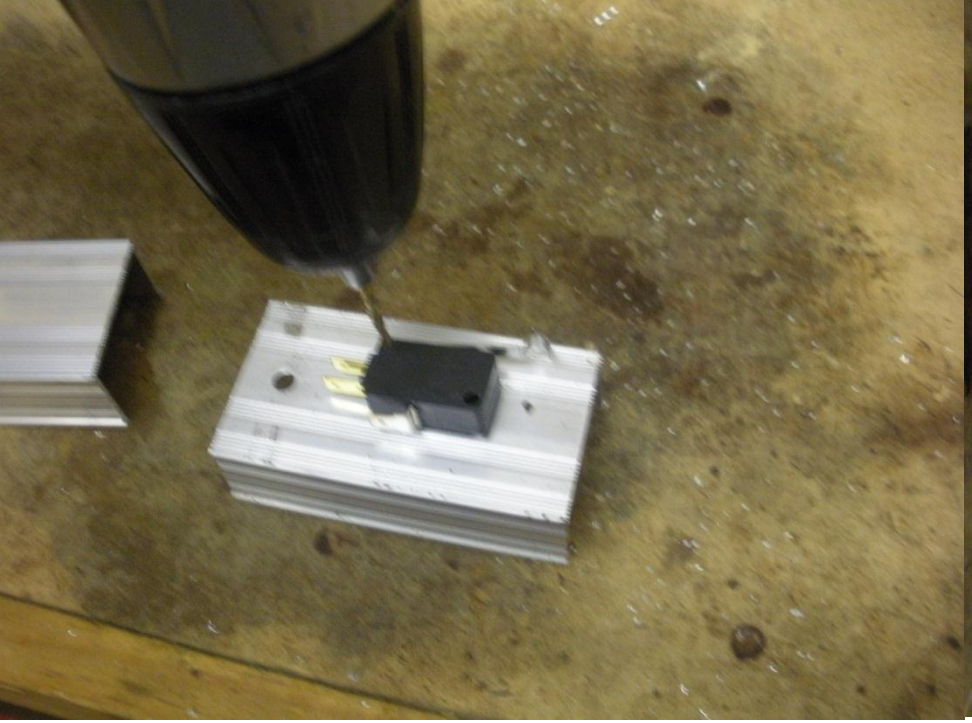
Drill a hole ½” deep taking care not to drill all the way through. A dowel will be glued in this hole later to activate switch.



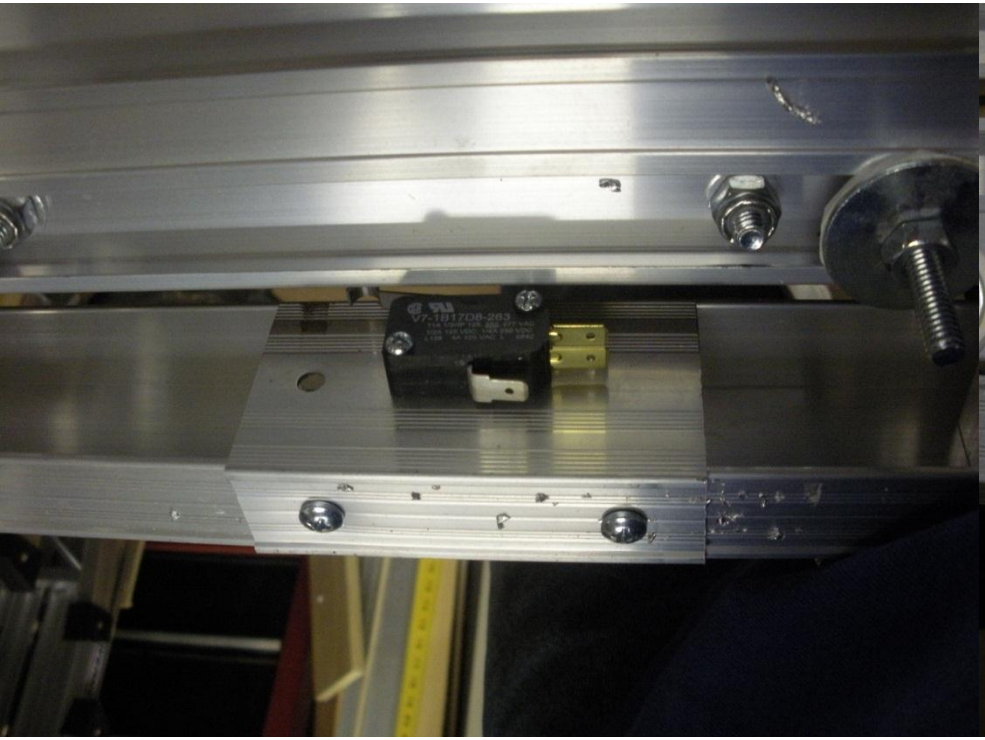


Add springs to the carriage bolts and pass through the holes in the bench. Secure on the backside using fender washer and nylon locknut. The washers will ‘bang’ on the backside of the bench so I glued foam washers to the fender washers. Felt, foam or other cushioning material can also be used.

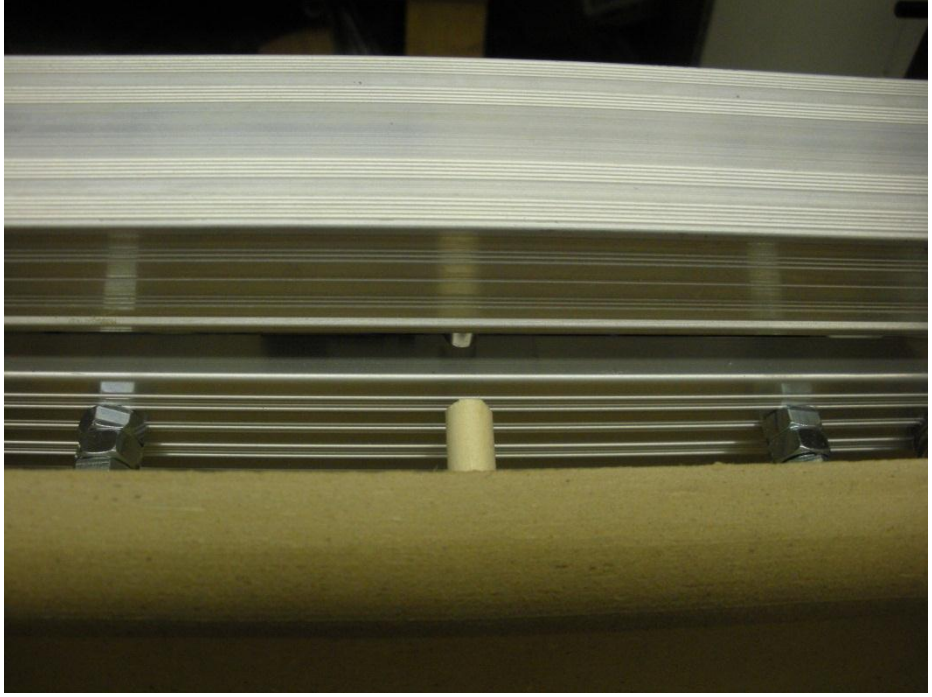
(Alternative method for spring attachment detailed at end)



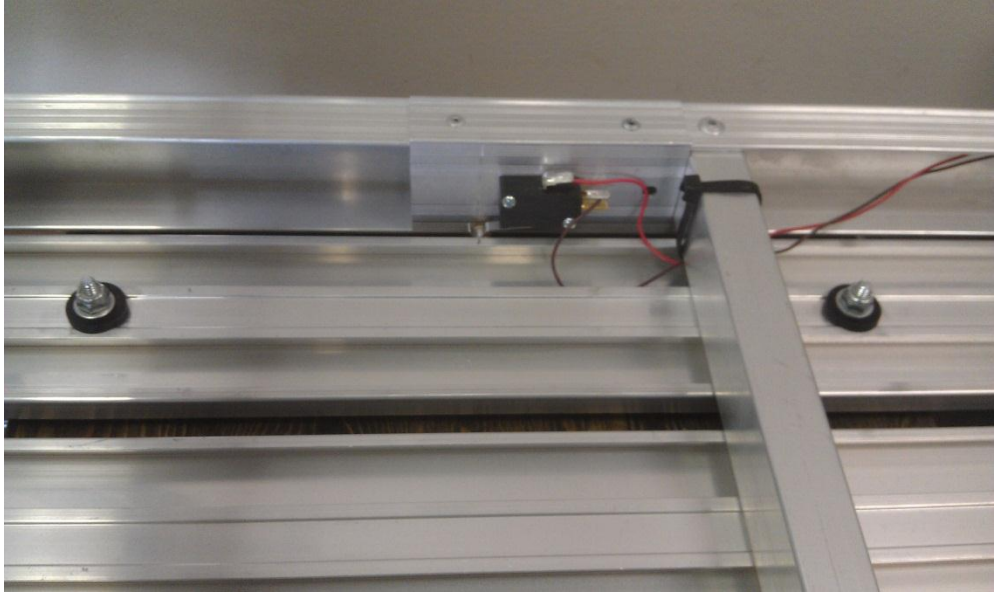
Use excess leg removed earlier for switch mounting. Place switch on leg and mark hole mounting locations. Drill holes and attach switch – rivet or small bolt/nut.



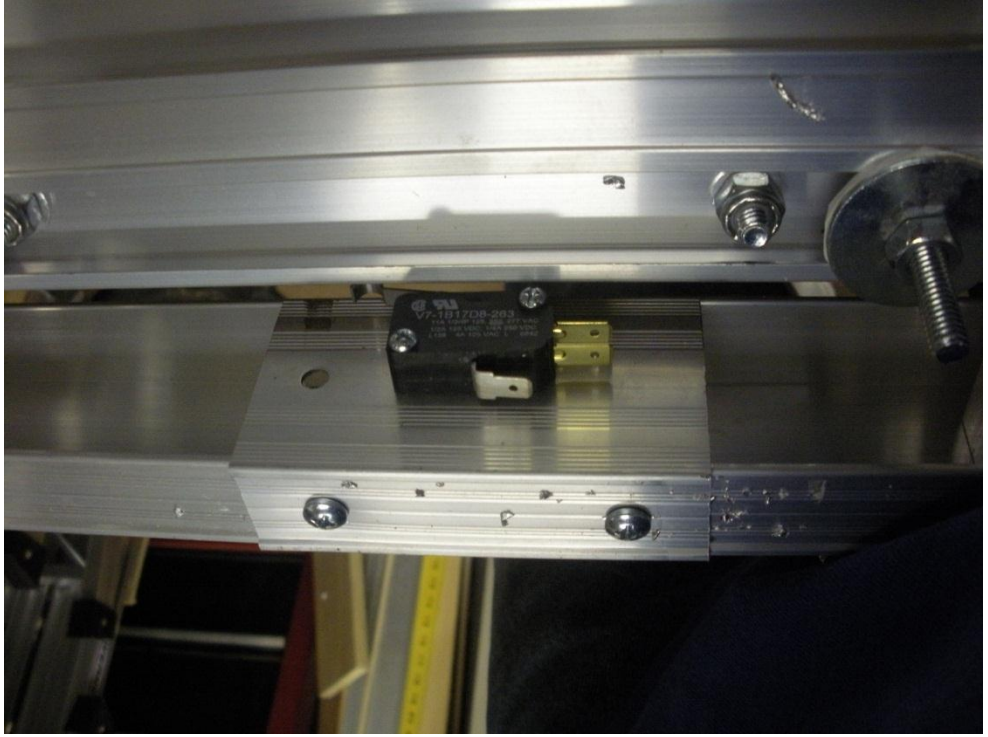
Attach leg piece with switch to bench making sure to align switch contact with hole in seat. I used self drilling screws to make repair easier later



Cut dowel to size and dry fit in mounting hole. Make sure dowel does not over travel switch when seat is fully traveled down. Adjust by sanding or filing and then glue in place.

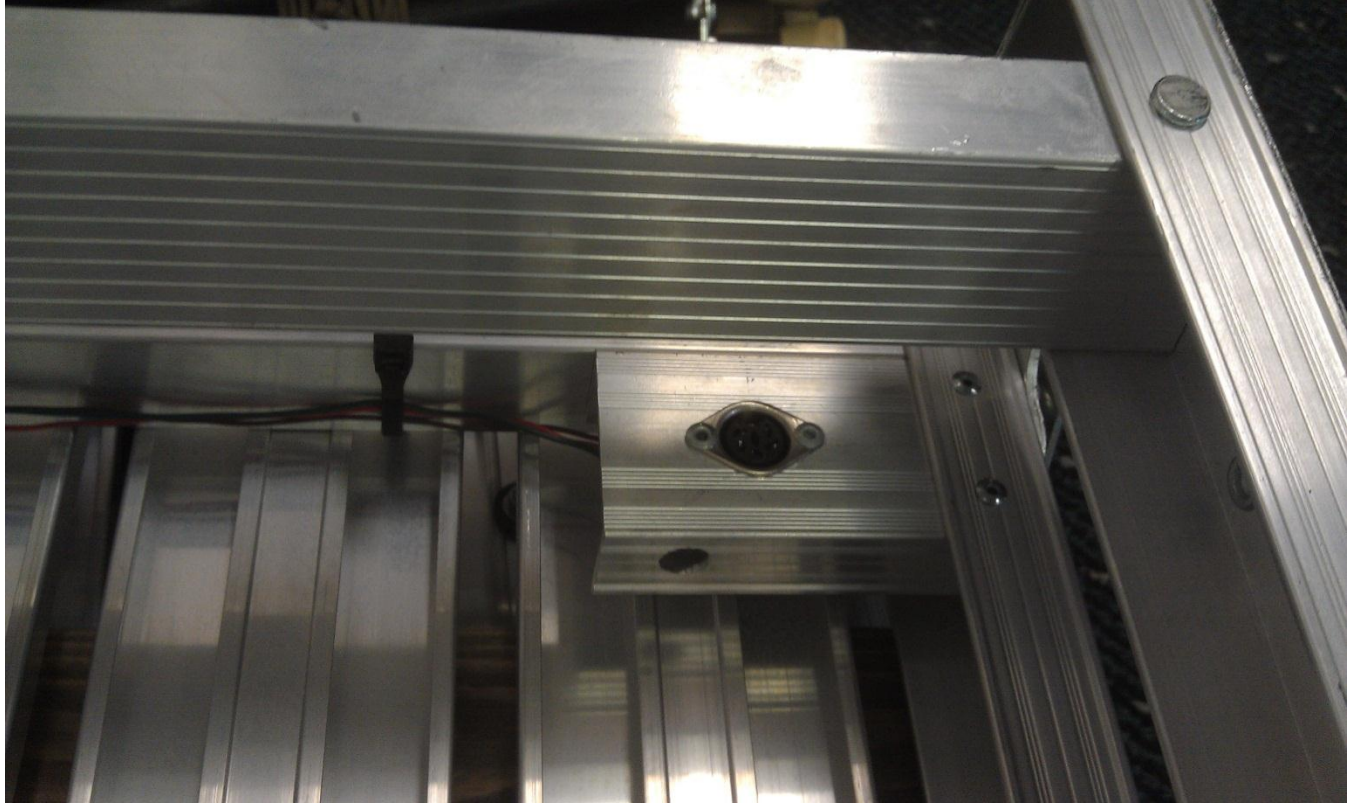


Mount connectors through bench backs and wire according to instruction included with controls, wires and switches



Tighten hold down/spring bolt bring seat down until dowel is just in contact with switch. Make sure switch is not overtraveled when seat is fully down.

Alternative Spring Mounting – The springs can also be placed in countersunk holes in the seat. The springs can be glued into place. The advantage is that the springs cannot ‘catch’ on the bolt or nut hanging or delaying the seat coming up. The seat can then fully bottom out on the bench eliminating the need for the stops mentioned earlier. This seems to be better method. Rubber or some other material can be used where the spring meets the bench to eliminate noise.



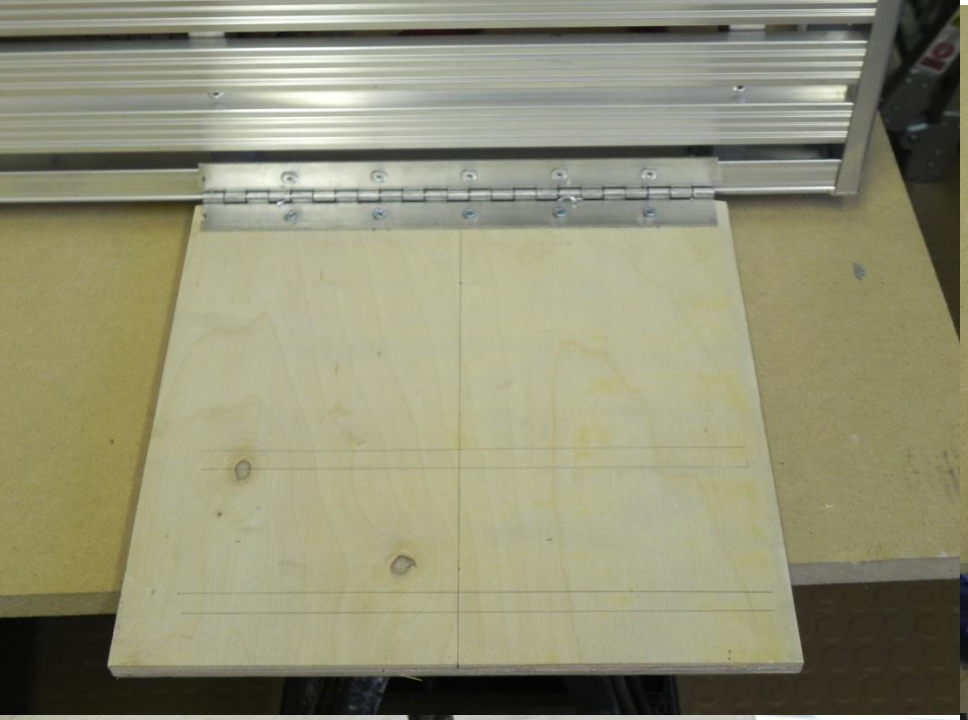
Alternative connector mounting. The extra switch legs can be used to mount the connector to the underside of the bench. This keeps the connector out of the way but makes it a little more difficult to set up and tear down

These pictures are from the last set of benches I built with some changes

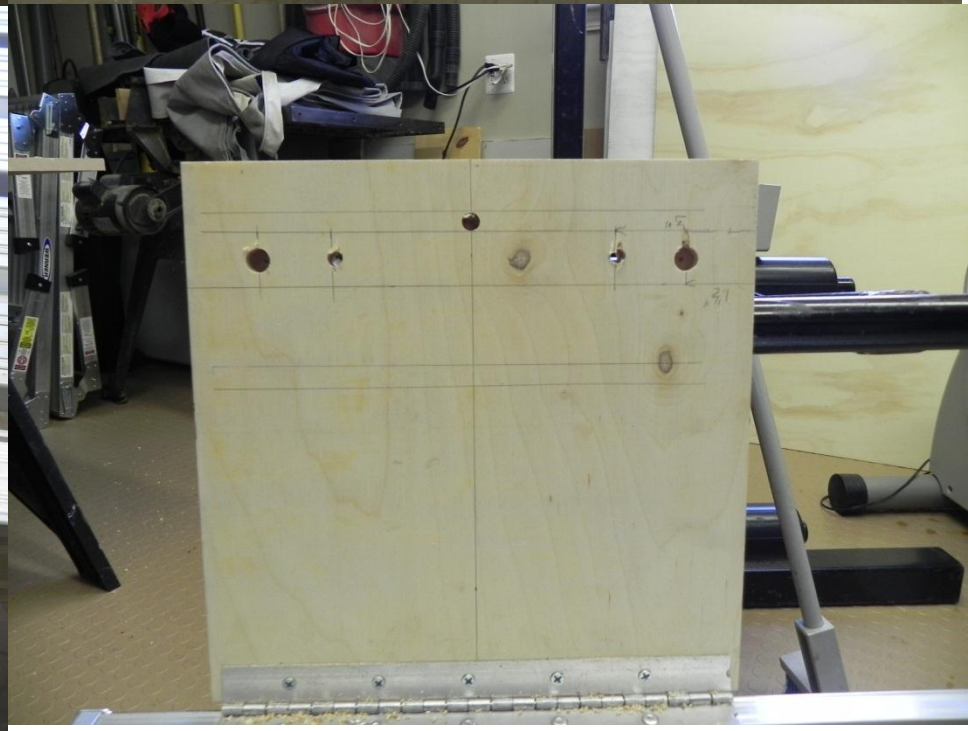
I used piano hinges so I didn't need to worry about hinge alignment and binding. I found some cheap aluminum piano hinges on line in 4' lengths

I countersunk the springs instead of placing them over the carriage bolts

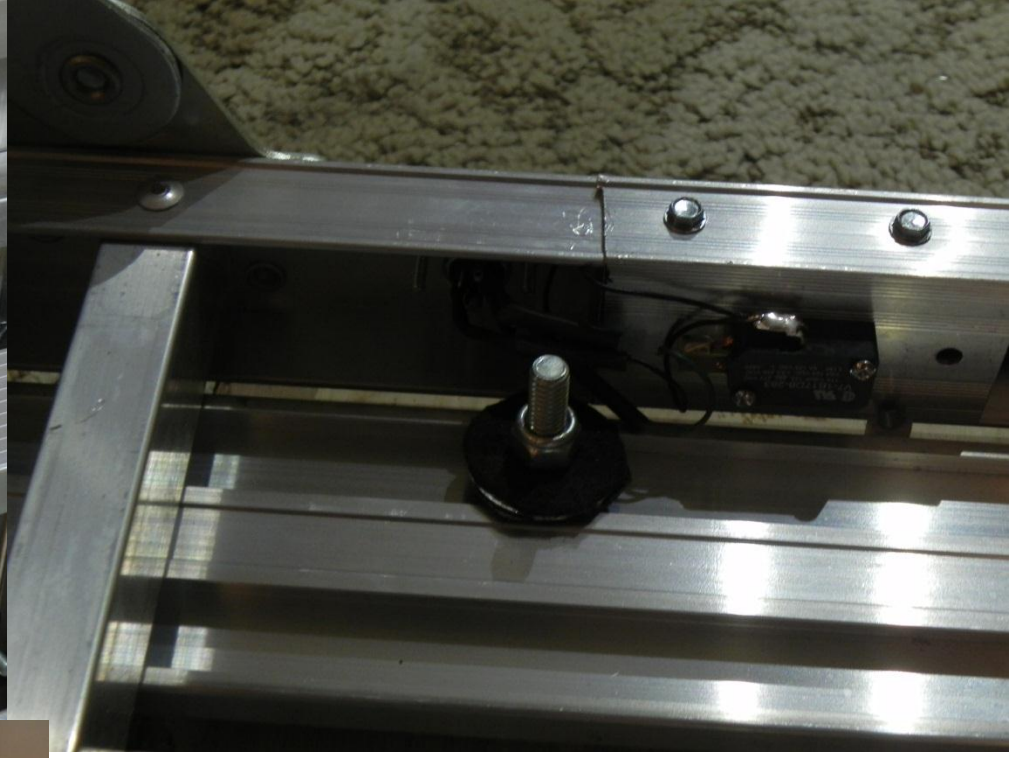
Felt was used to quiet the benches




1.½"
3"



Since the springs are countersunk in the bench I used the nut on the toggle bolt to support the seats with a washer for greater bearing surface. The seats could also have been flush with the platform but the ¾” plywood does not leave enough room to counter sink the nut and the head of the carriage bolt. The other method would be to make clearance hole in the platform for the nut pass thru but the nuts 5/16 I had would have required too large of a hole. The countersunk springs shown earlier are in 1” thick seats.



I used some peel and stick felt where the legs support the platforms. These benches tend tobe a little ‘creaky’ and I am hoping the felt quiets them down. The first experience was positive. We’ll see how it holds up over time. I also used the felt on the washers and where the springs touch the platform.