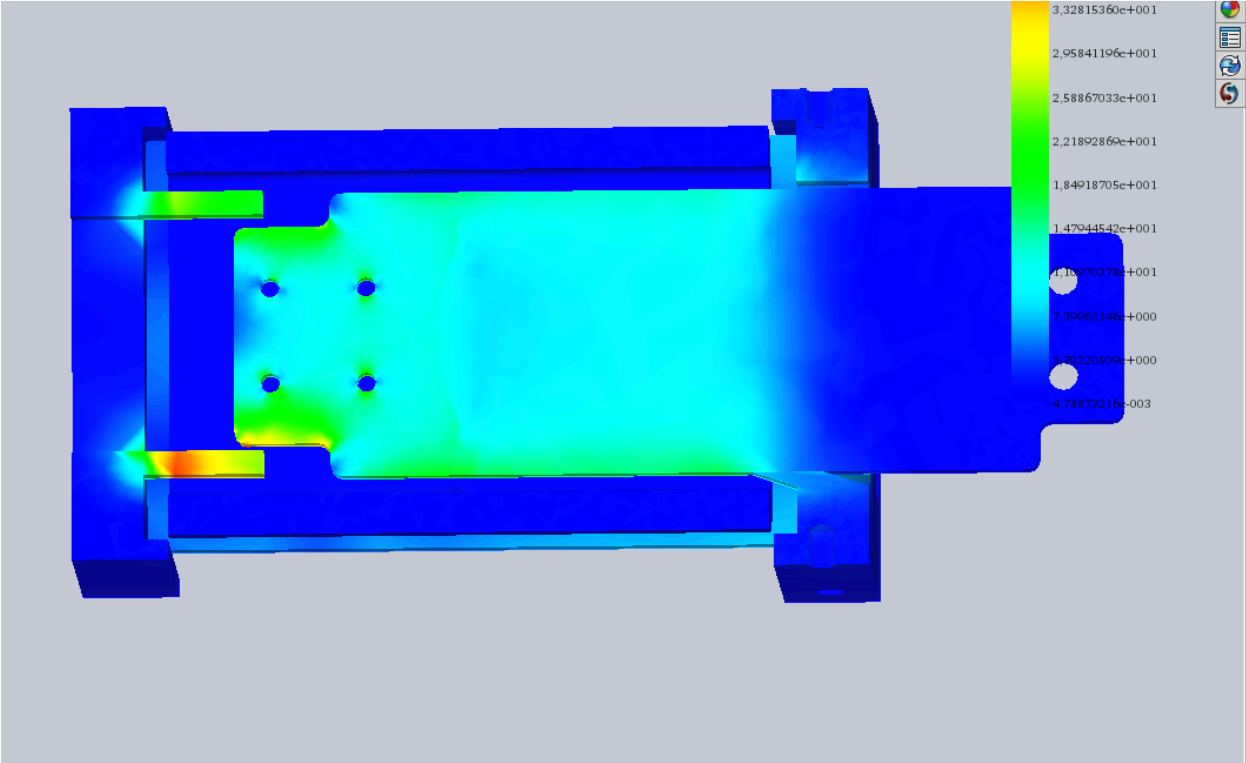


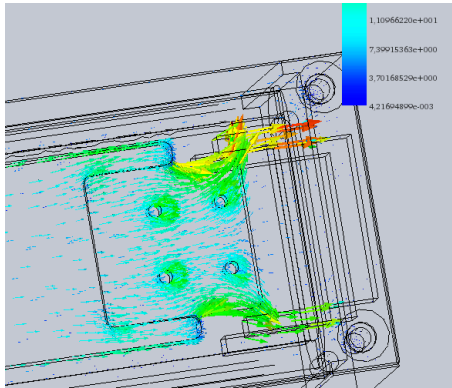
Design improvements:

Disclaimer: Not all the tests are directly comparable, the test stopped when the plunger hit the end, so look at the time.

First test:
Coil 600 turns, 200v dc



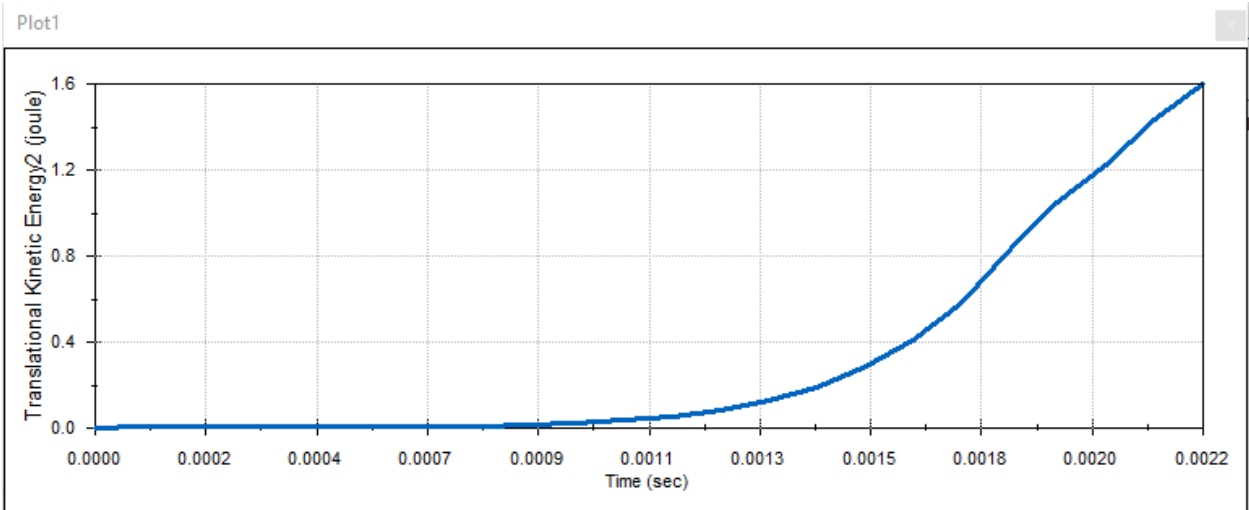
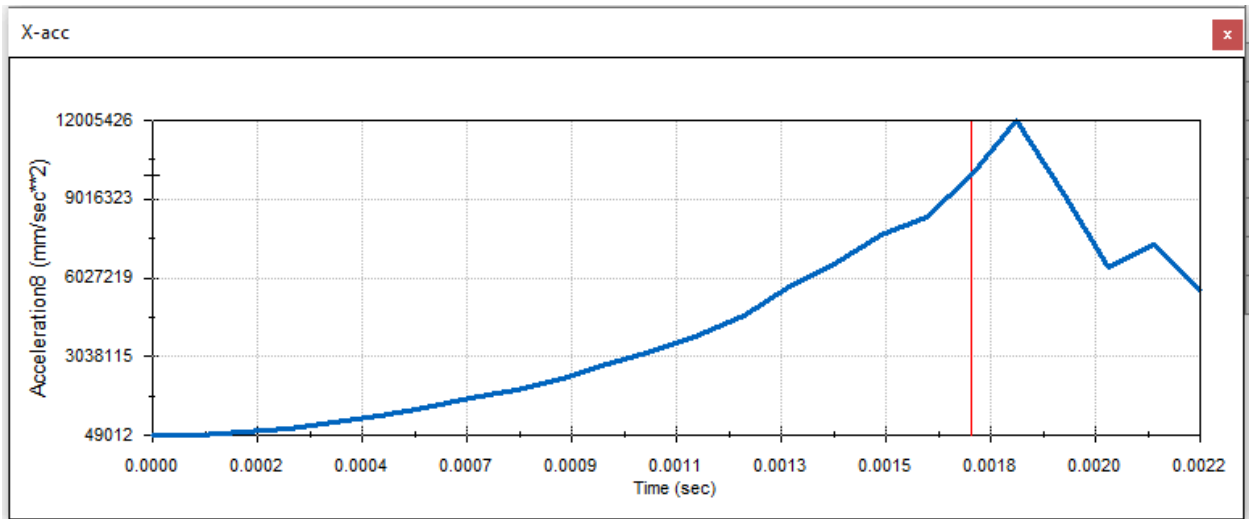
This is from when the force decreases



decreases past this point

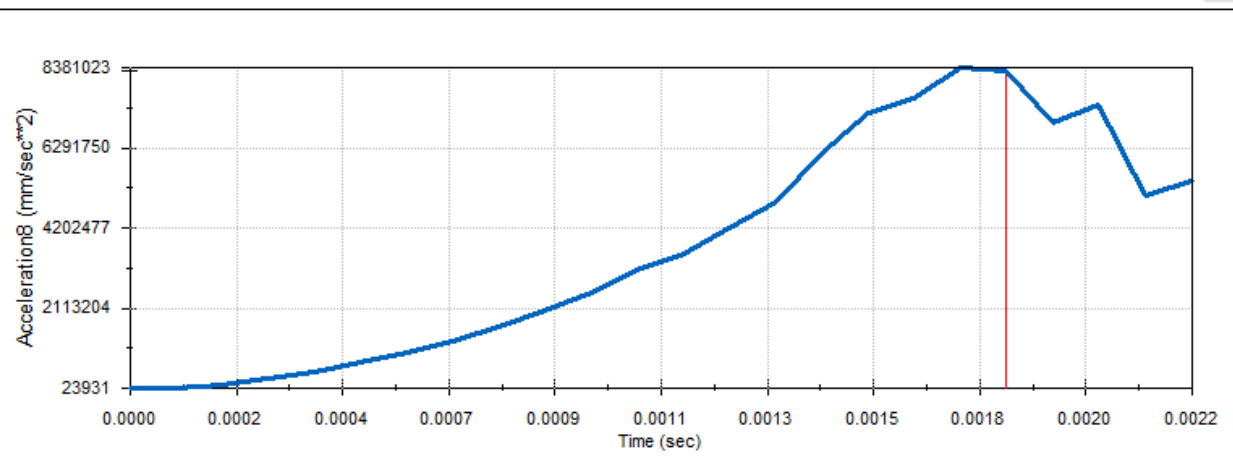
The force is pointing to the side and not forward, so force

Metal: Iron,V: 200v dc, 600turns 0.5mm wire

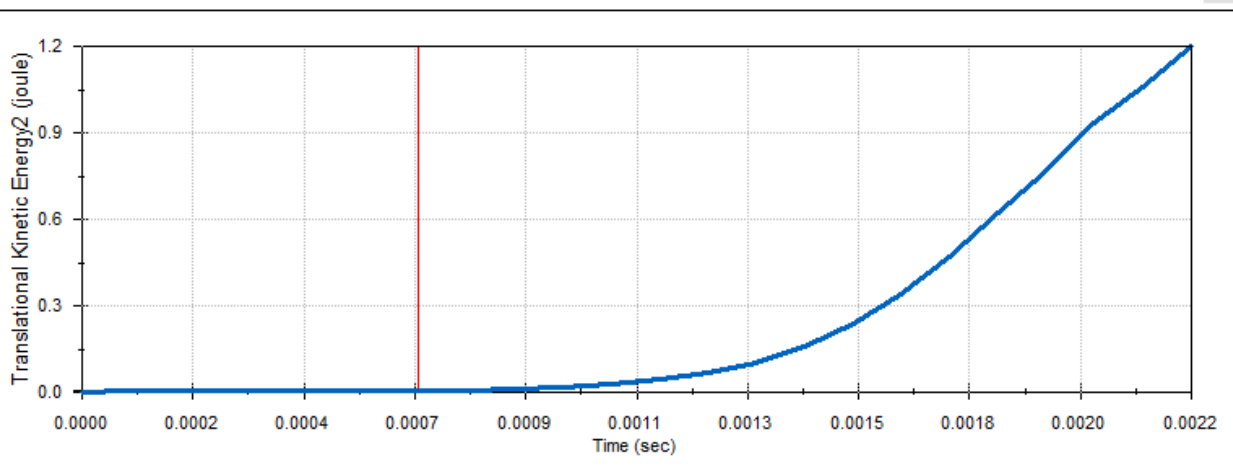


Test without top and bottom metal plate:

X-acc

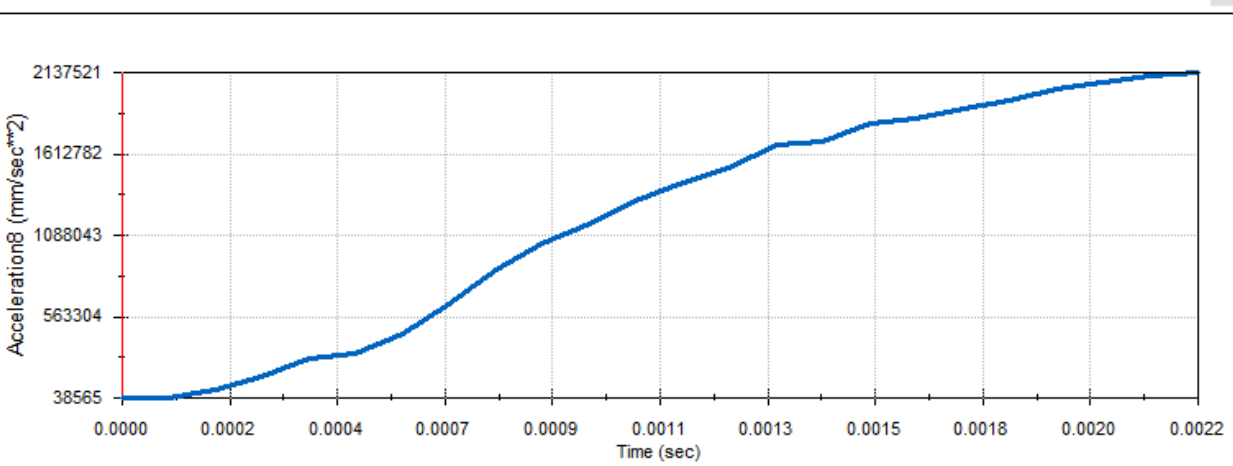


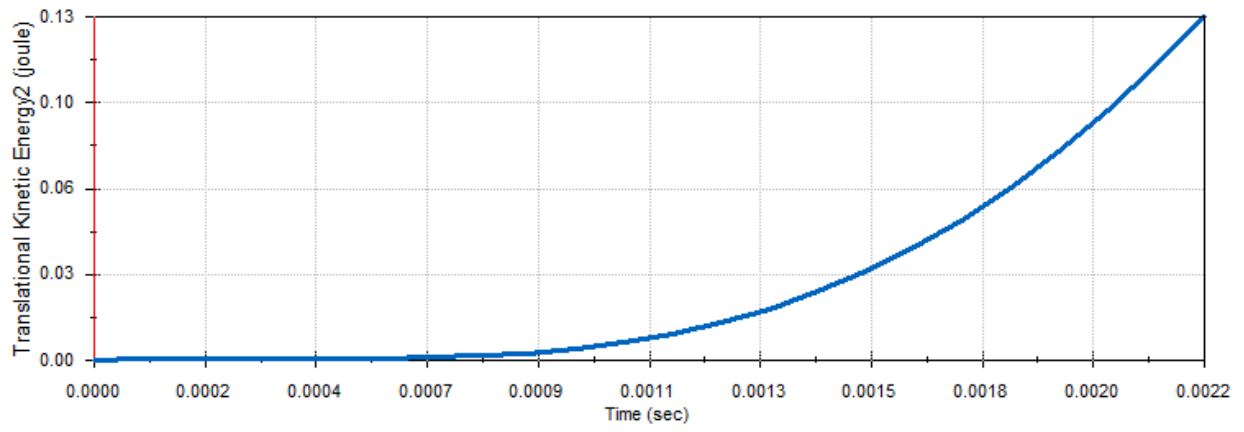
Kinetic



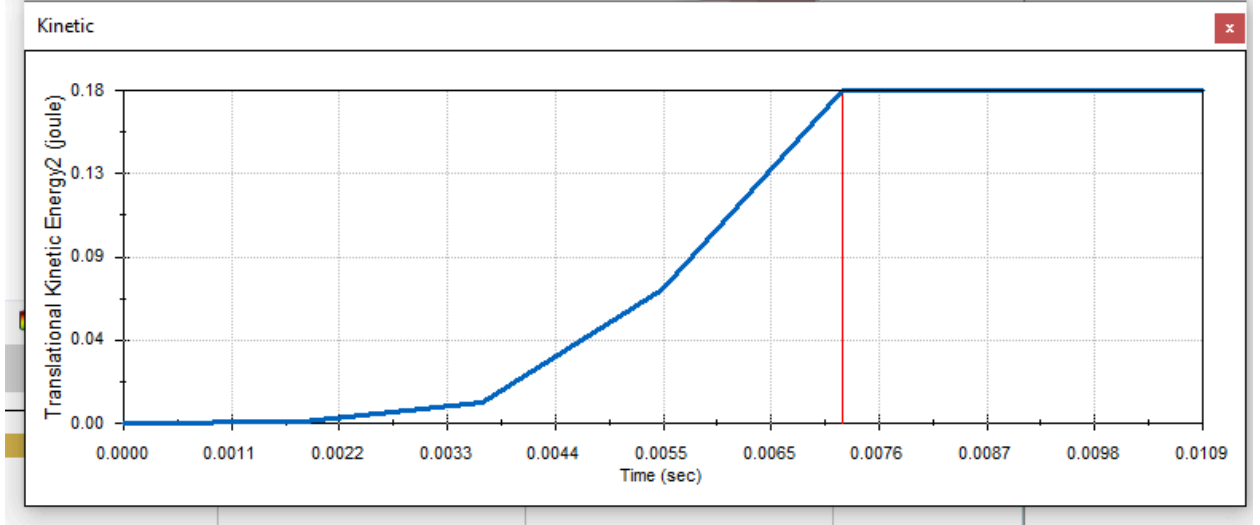
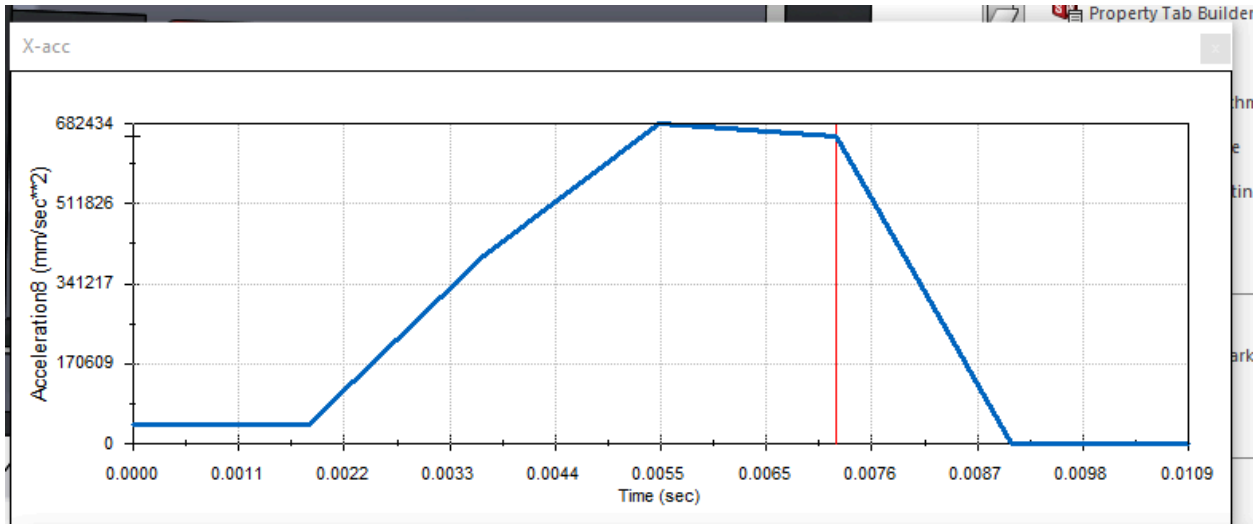
Test with everything but aisi430 metal for everything.

X-acc



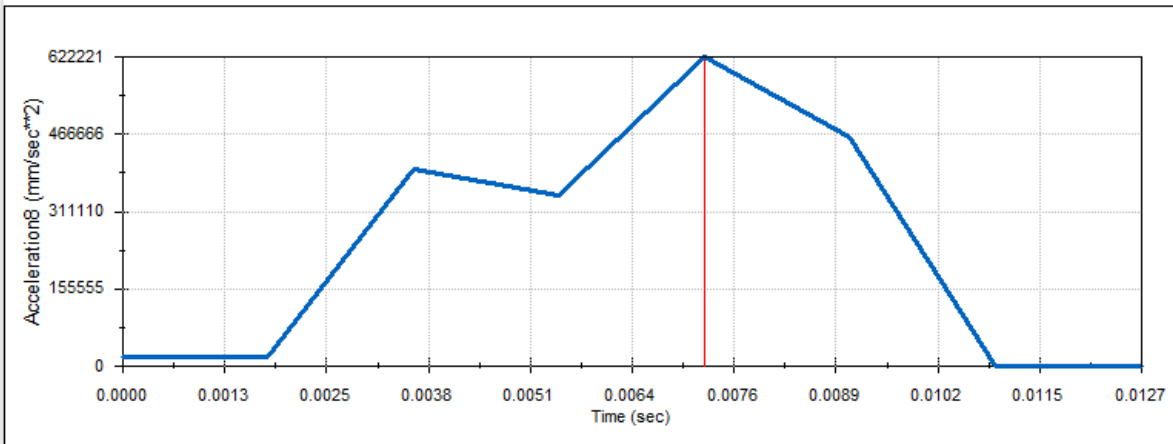


Aisi430 metal, 200v capacitor

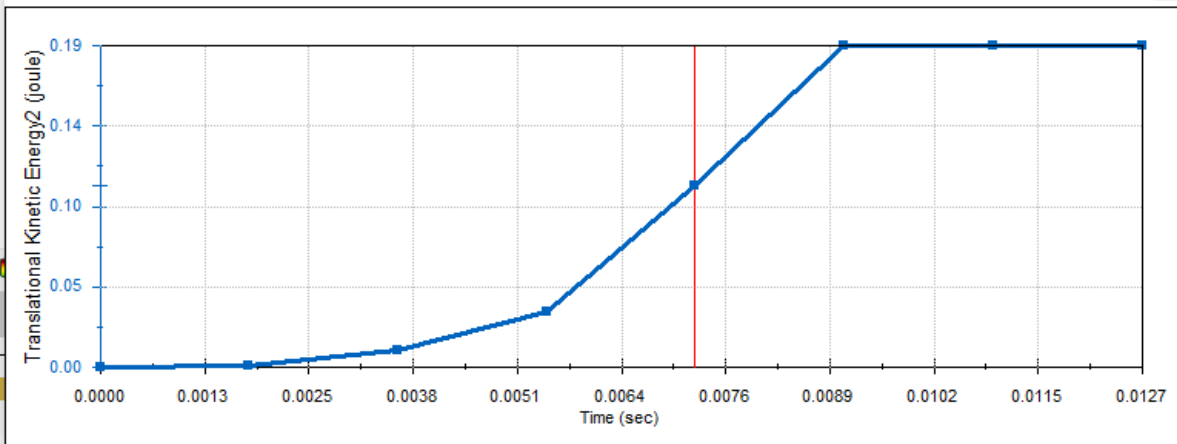


Now removed pegs:

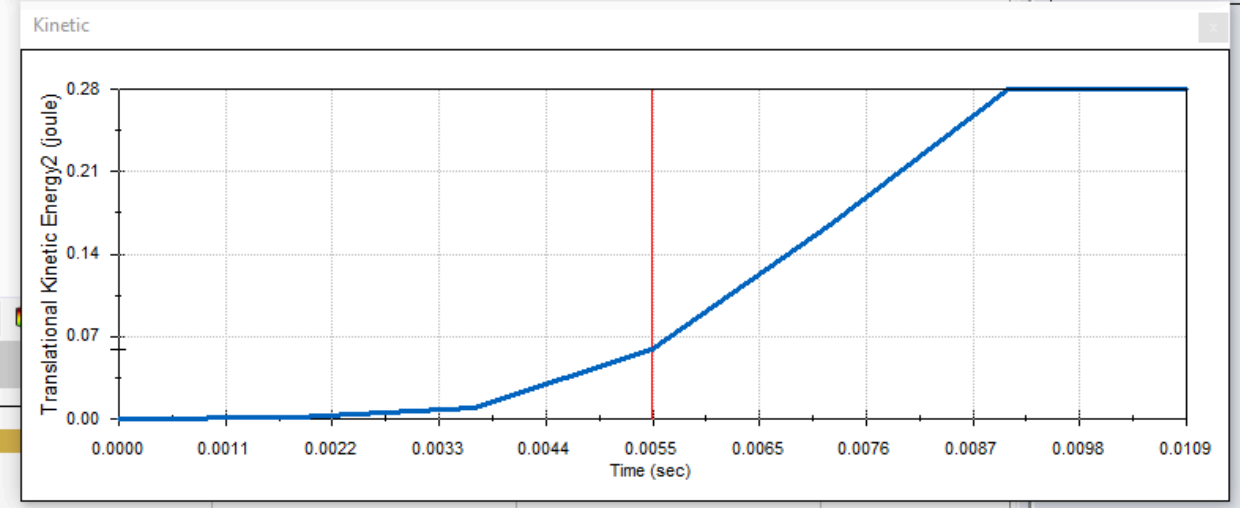
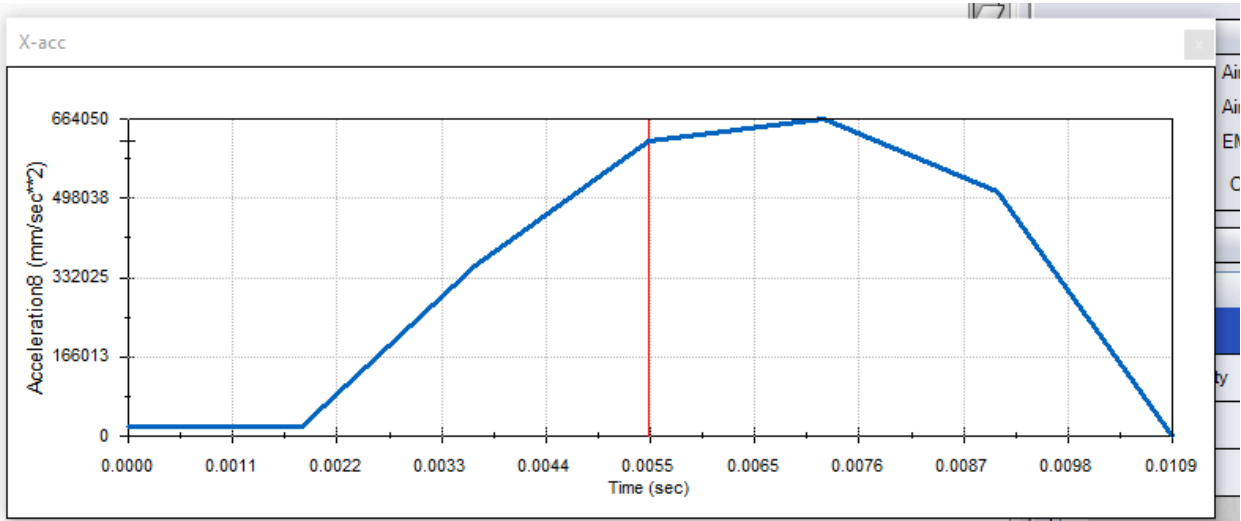
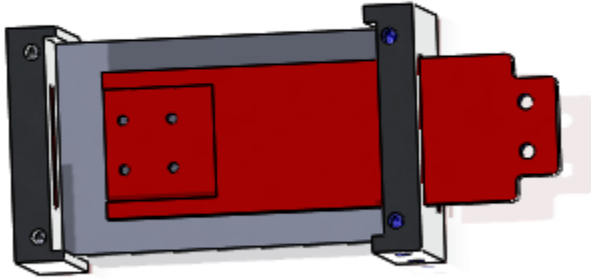
X-acc



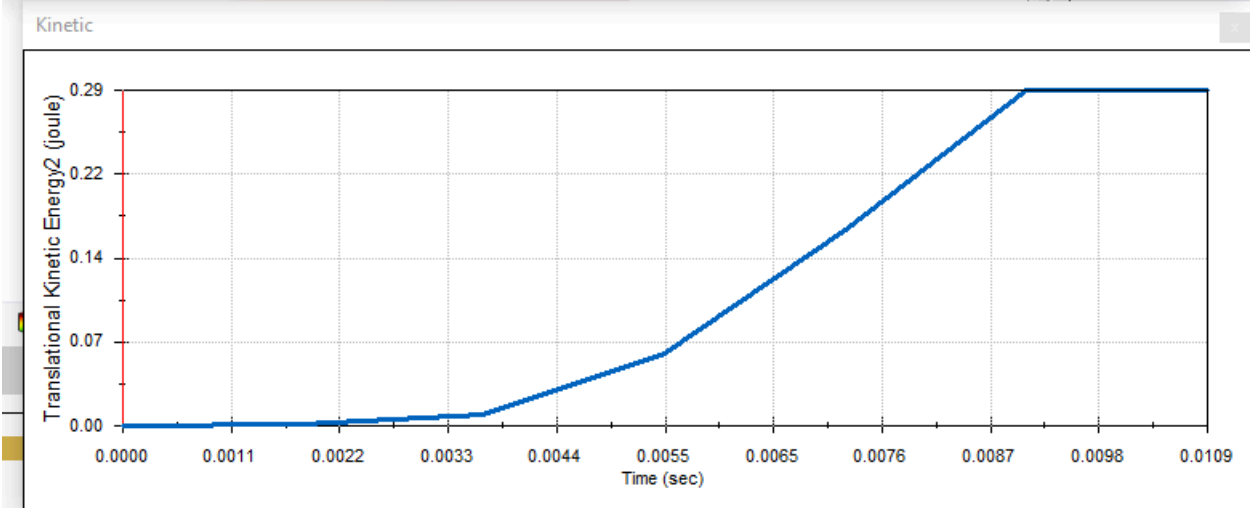
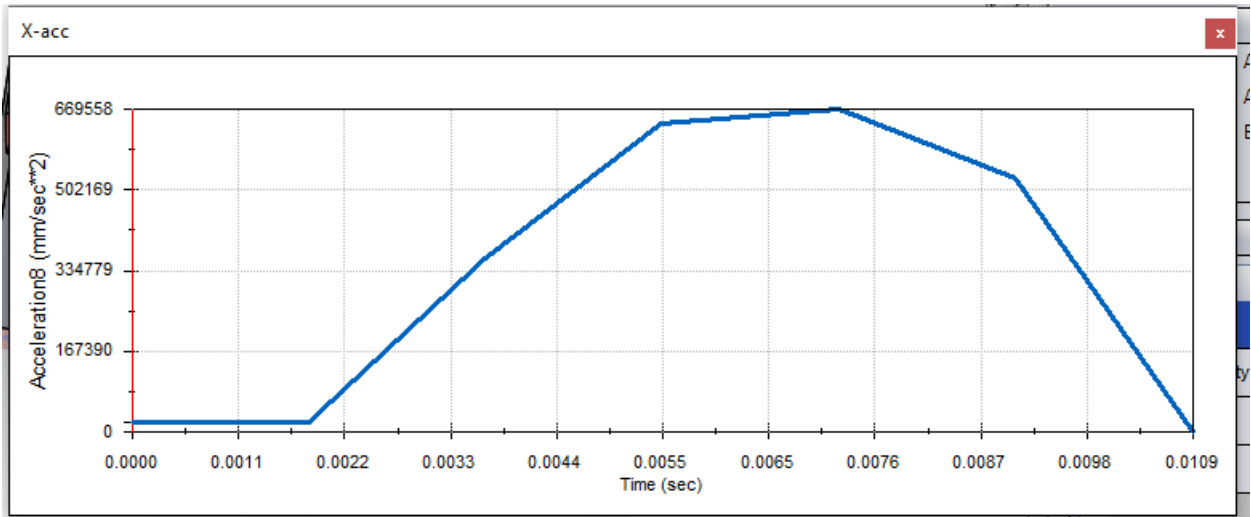
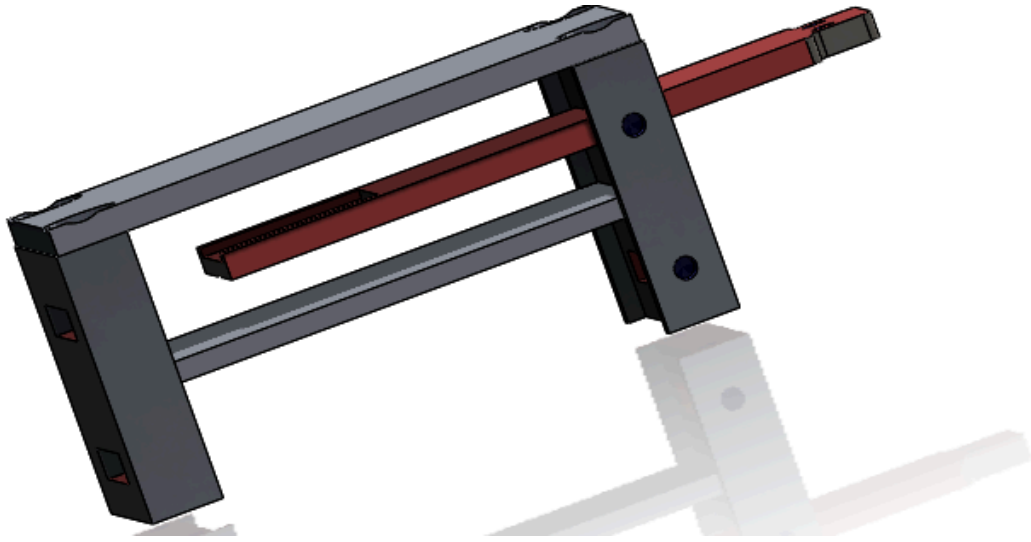
Kinetic



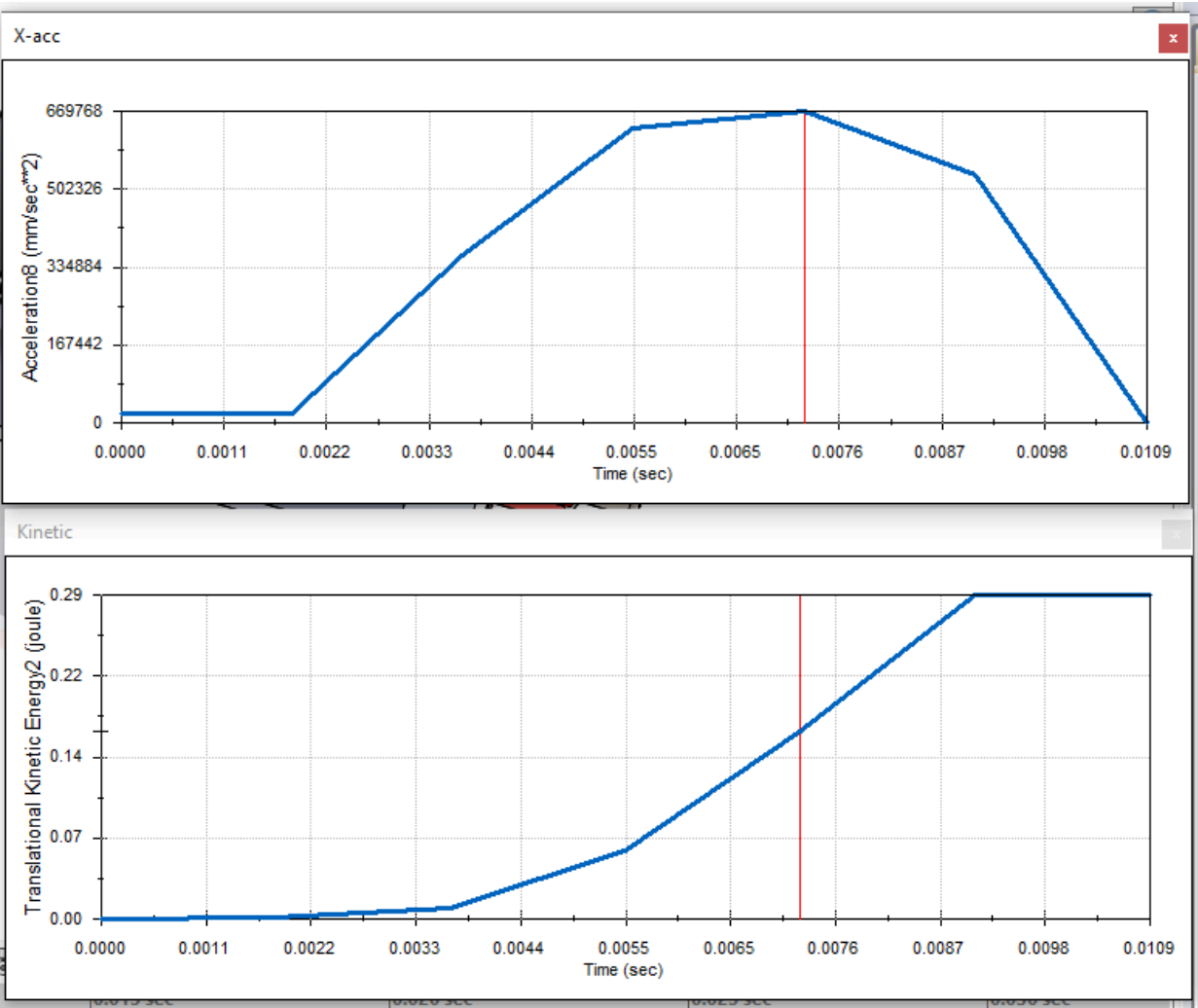
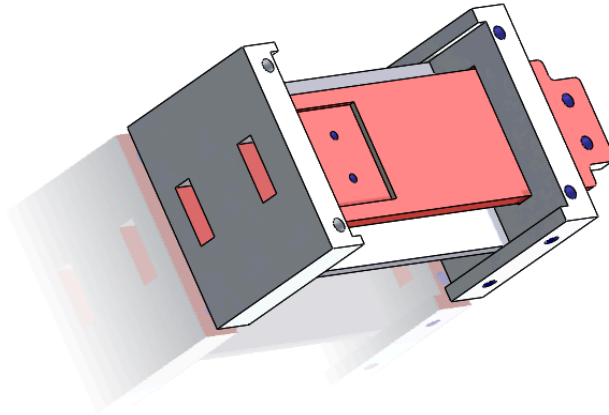
Now made end of plunger wider(better):



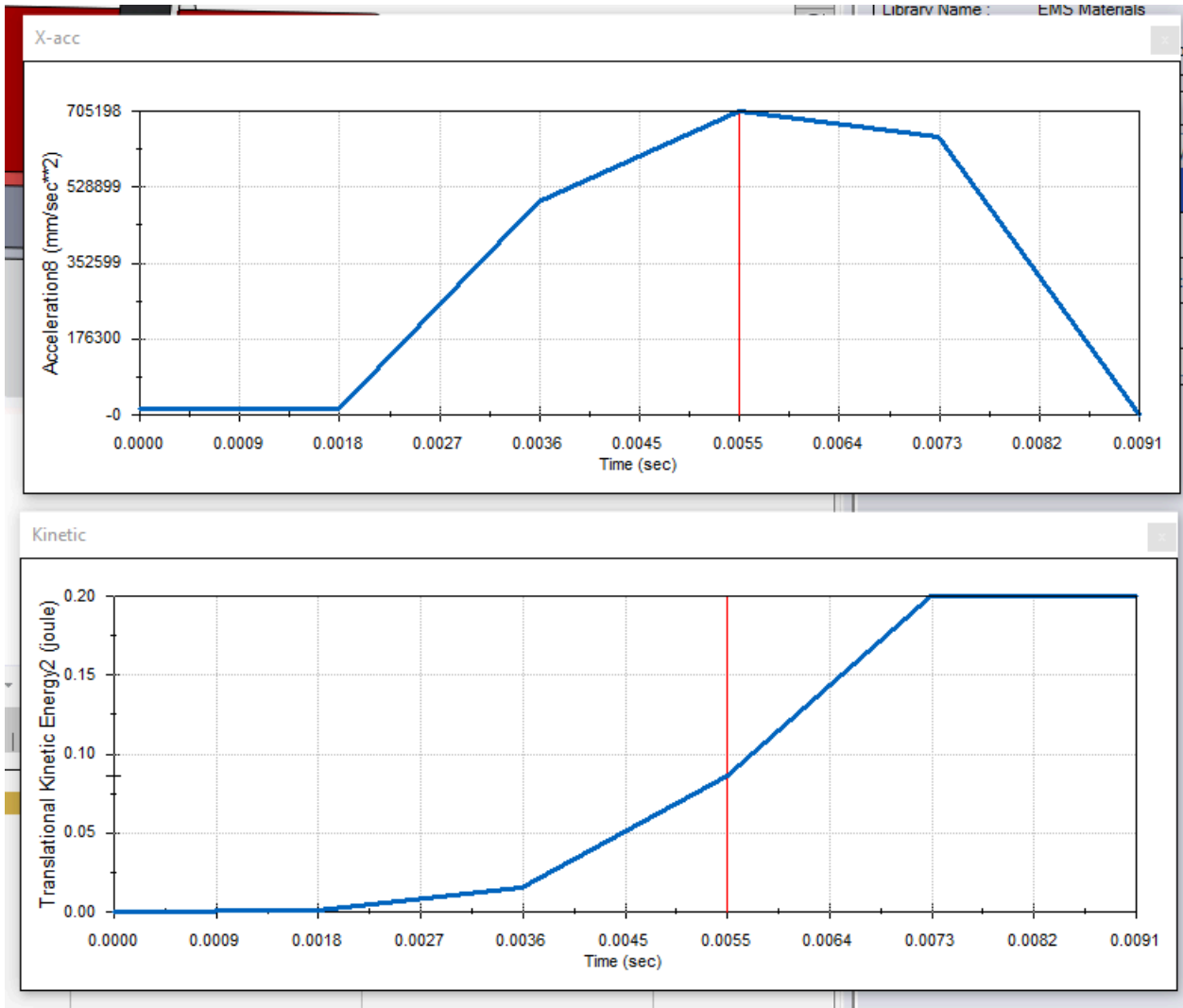
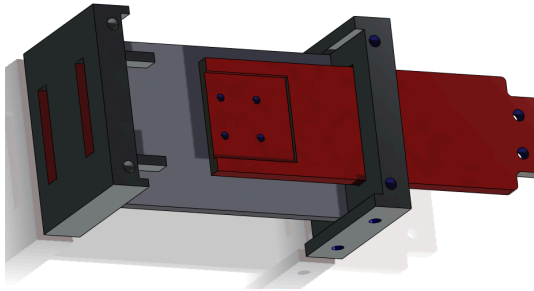
Making top and bottom plates thicker(not very effective):



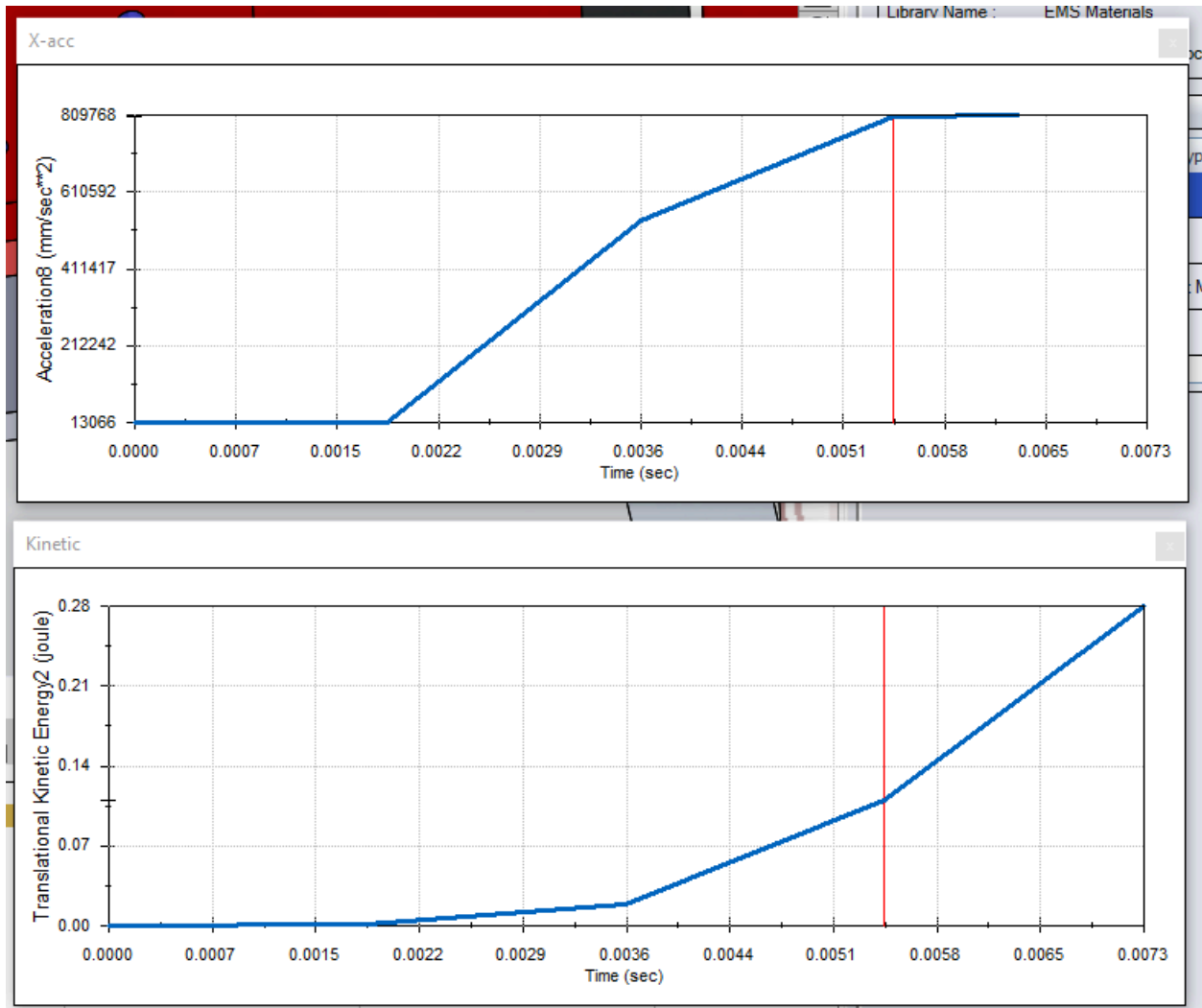
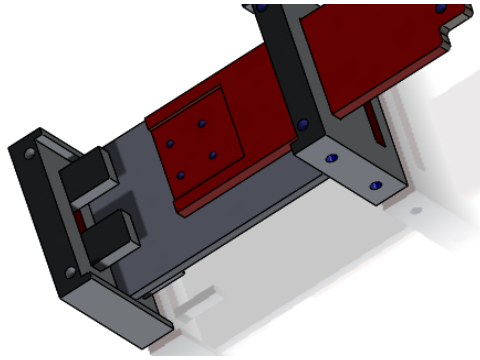
Made slot smaller(same):



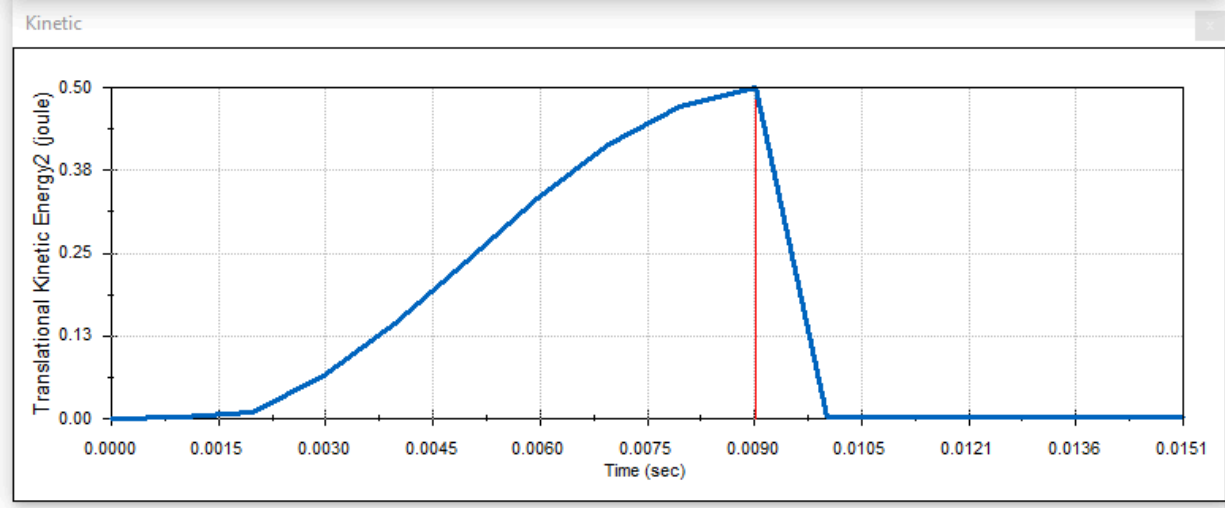
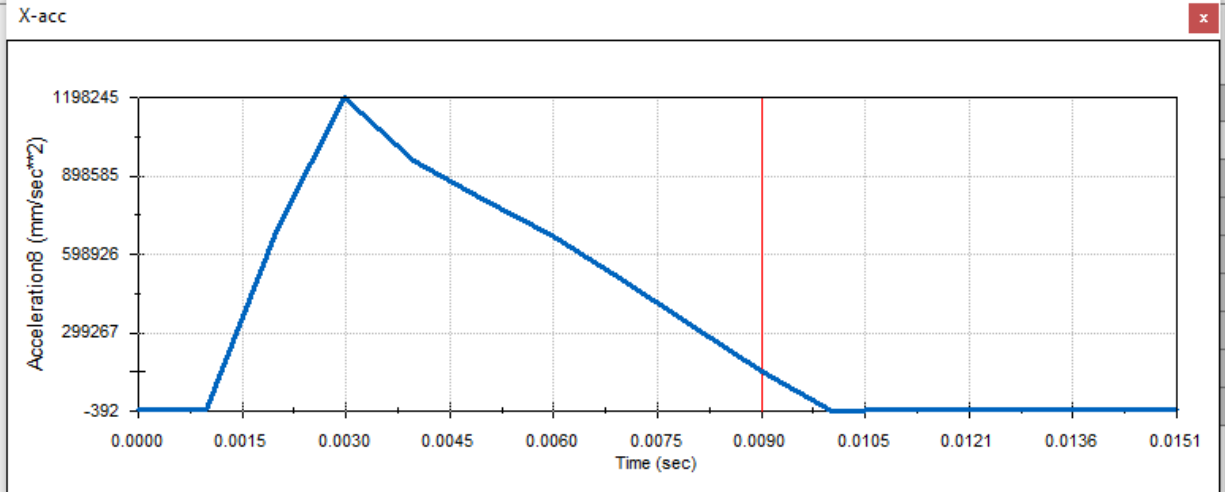
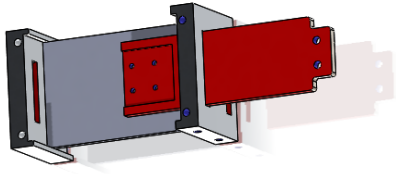
Back to normal hole size, added back pegs(same as old), and pushed the plunger further back(more force towards the end, but lower energy all in all):



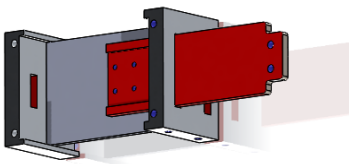
Made pegs way thicker(best until this point, highest acceleration until now);

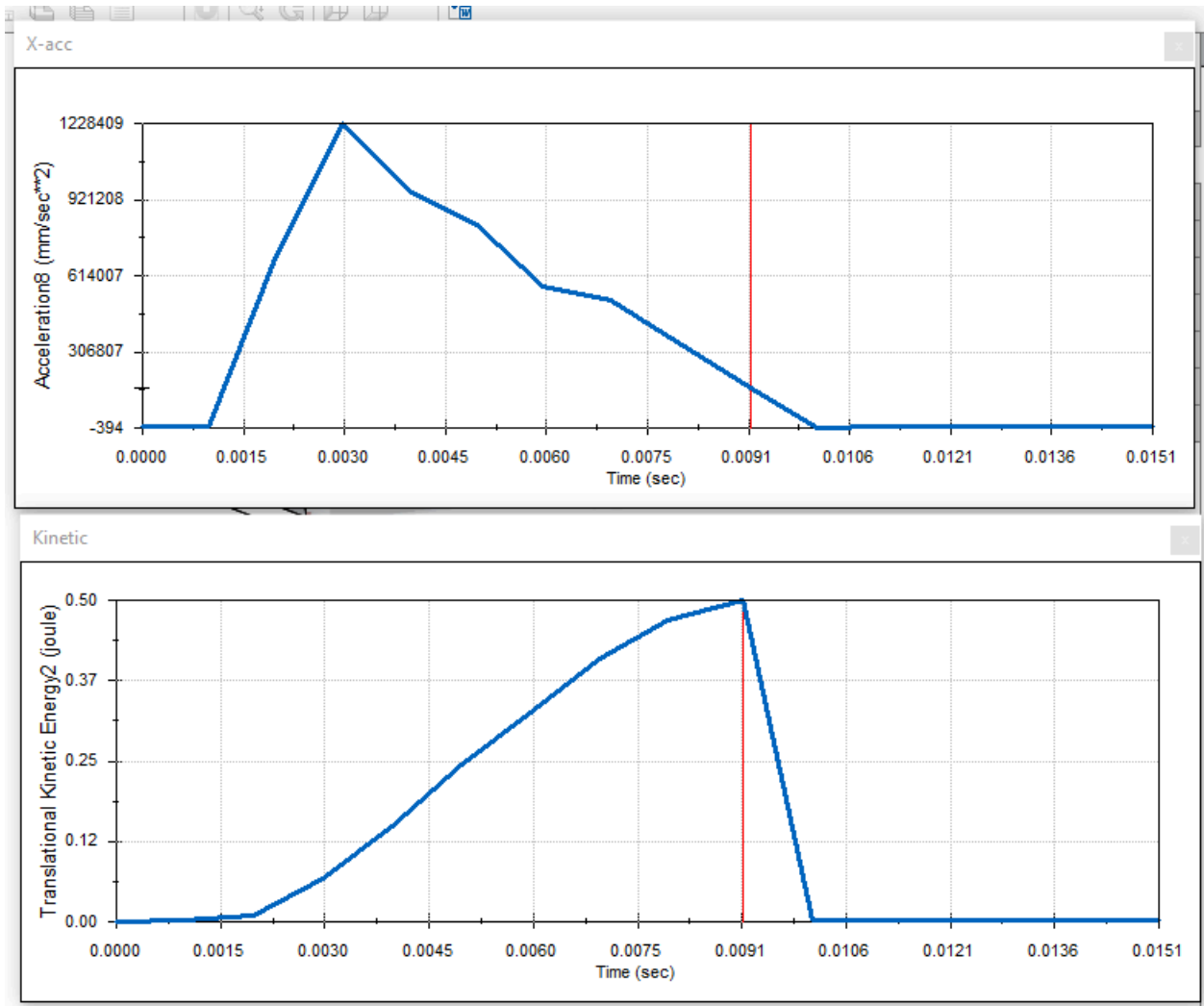


Removed pegs, but pulled back plunger more.

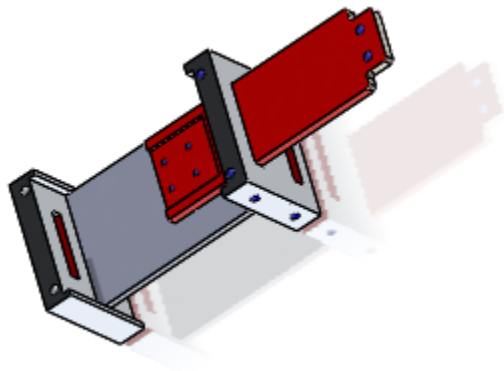


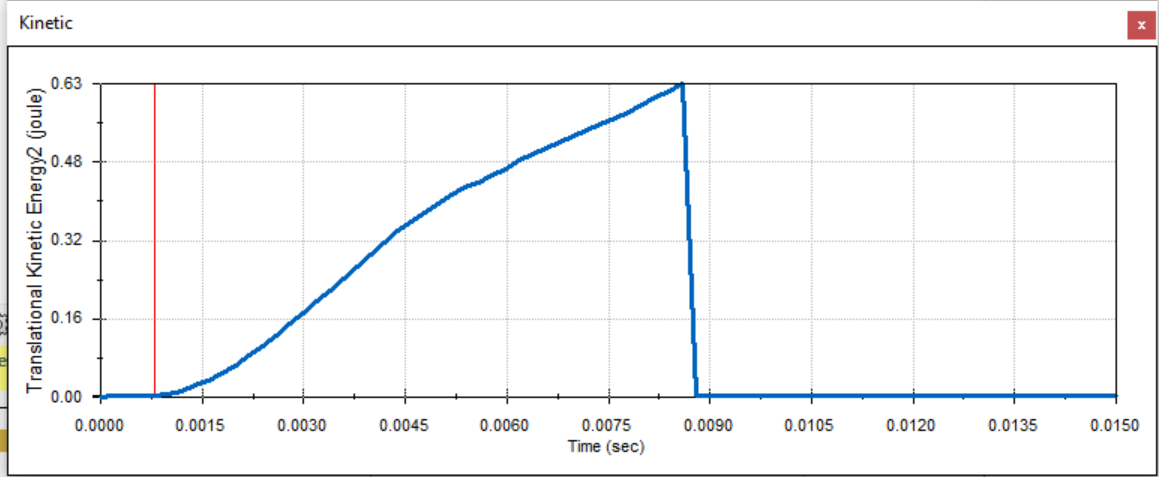
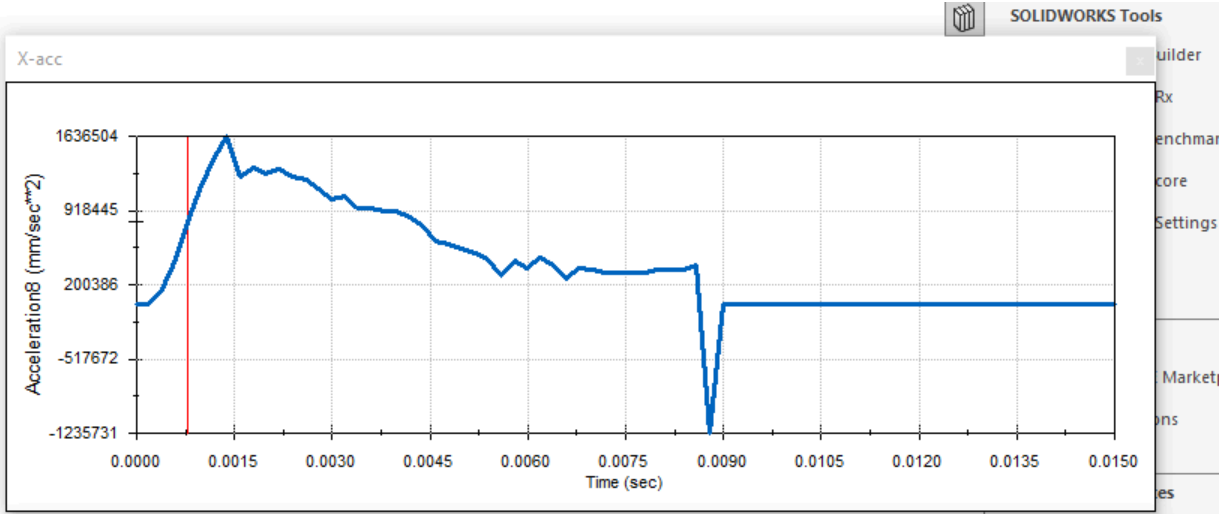
Made hole smaller:



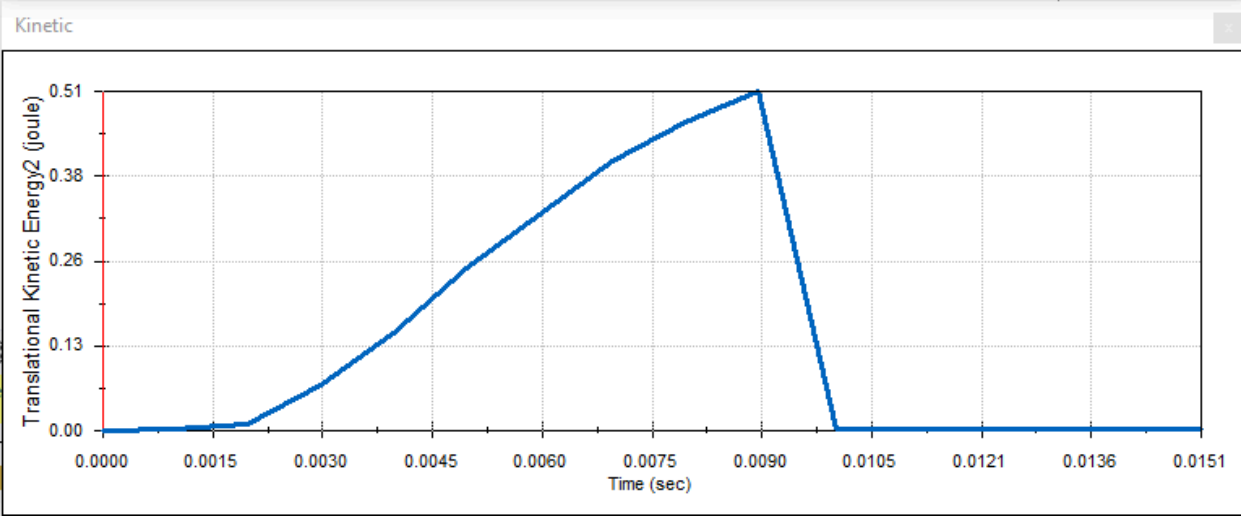
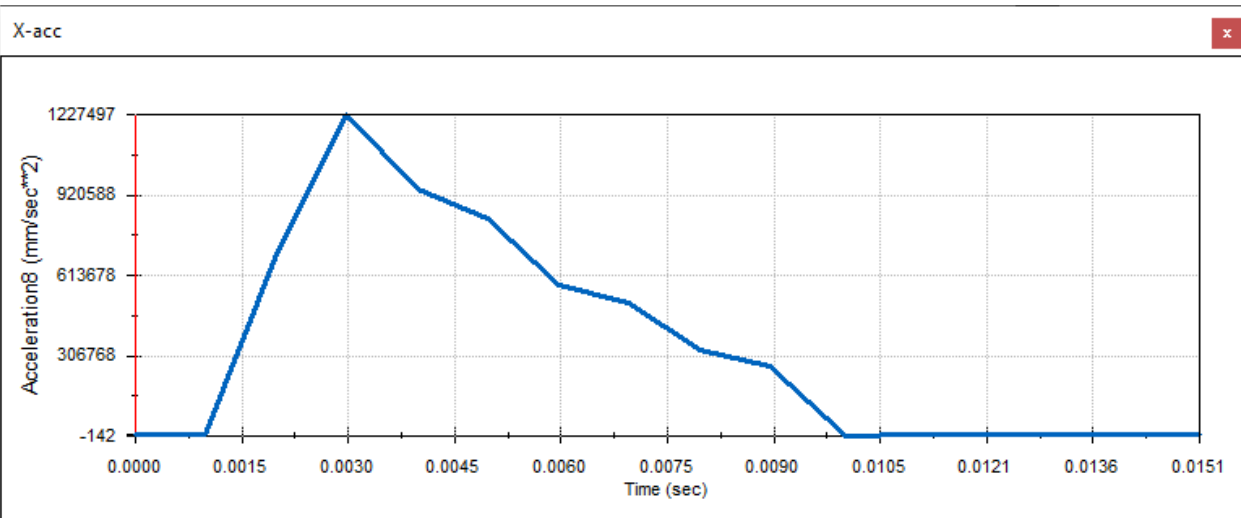


Faster simulation frequency(this took like 10 min to run):

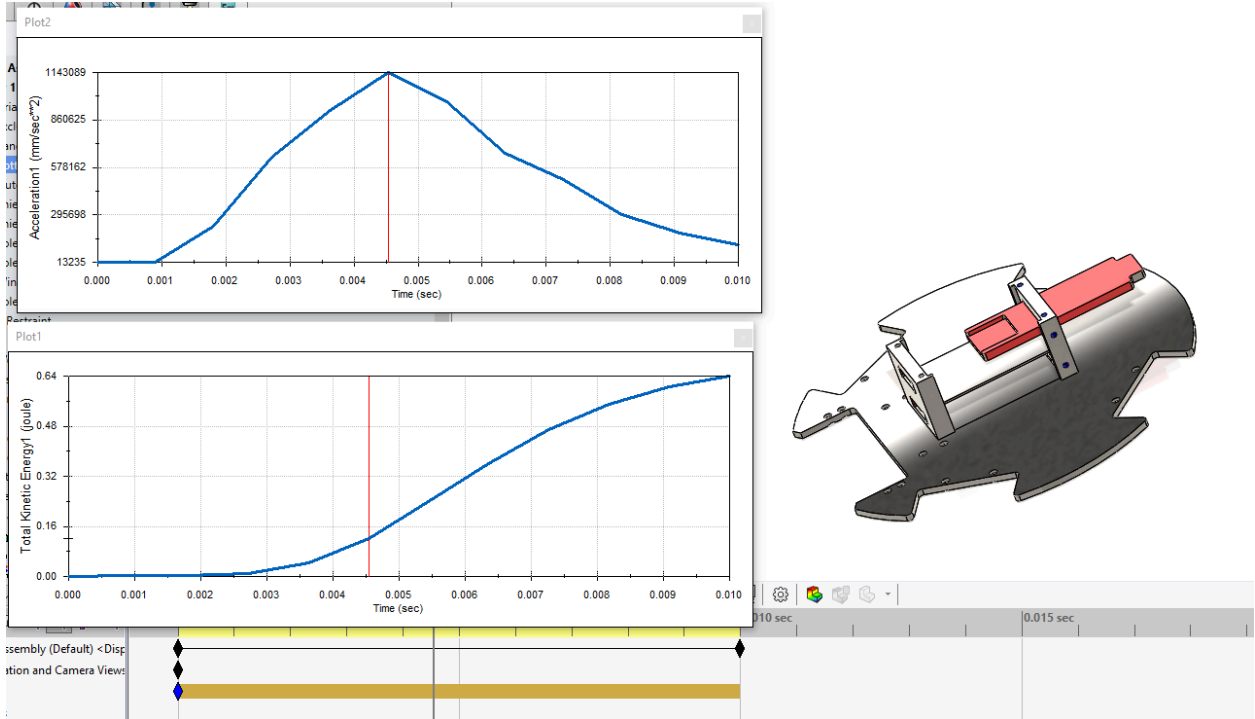




Same model, but lower freq:



New:



Now without top and bottom and middle plate:

