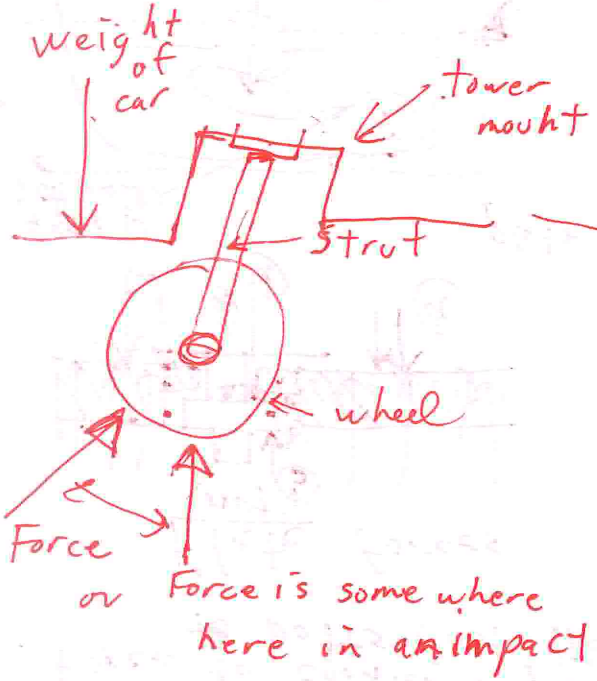
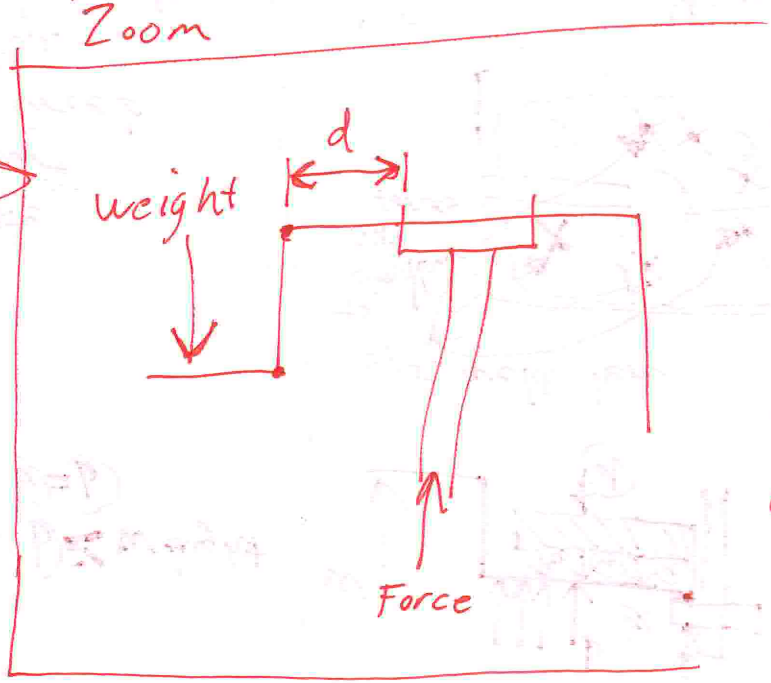
Run

Doing FBD

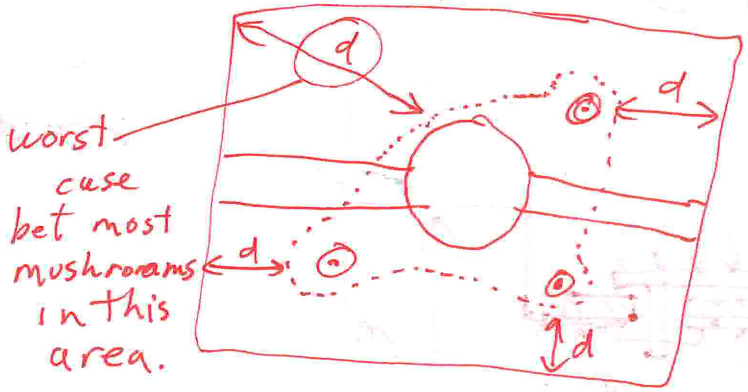




Since car will not fly weight is likely greater than force

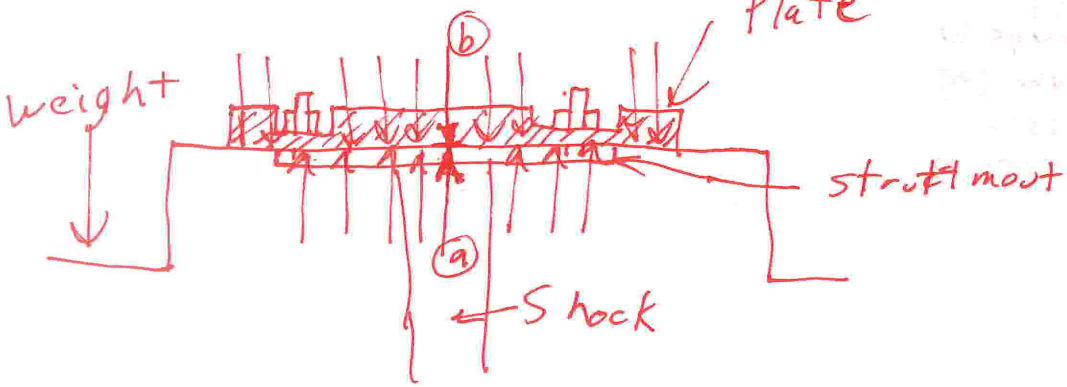
d = distance this is a lever arm (imagine a torque bar) that you add to the end of wrench to get bolt loose)

Top view



Top Plates

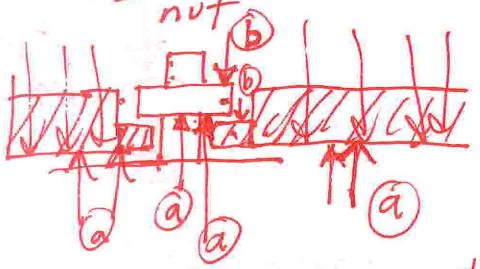
Forces



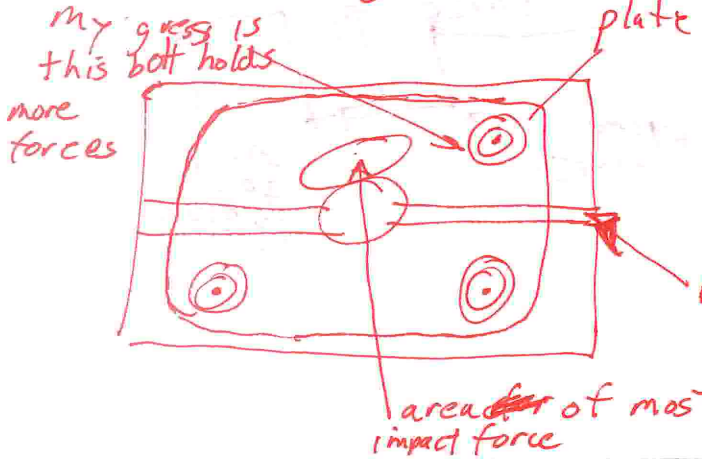
(a) Force of impact

(b) Force to counter impact distributed to bolts (not likely equally) = (b) < weight
(a) = (b)

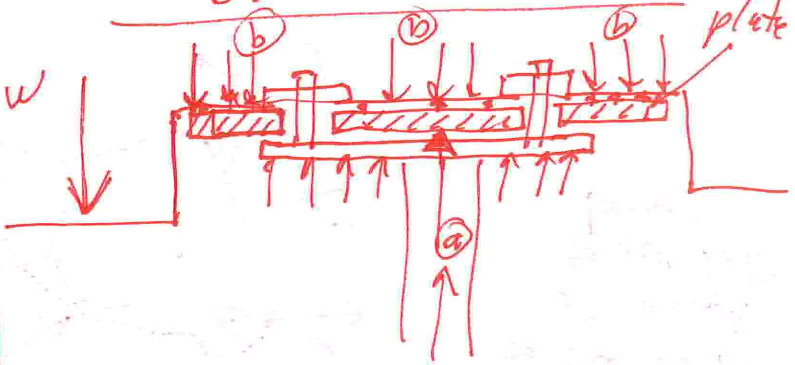
Plate forces



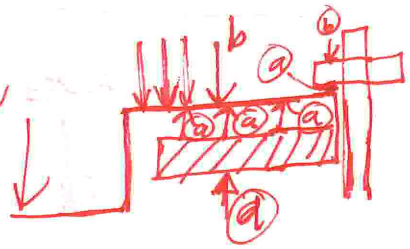
force (a) goes thru plate into lower part of nut & force b is at top. puts all force into stud.



Bottom plates

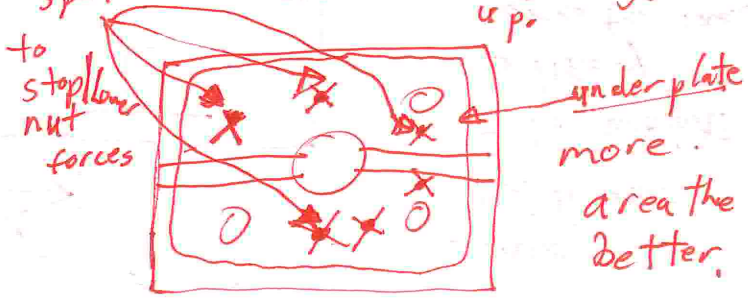


~~since~~ So where do a+b meet



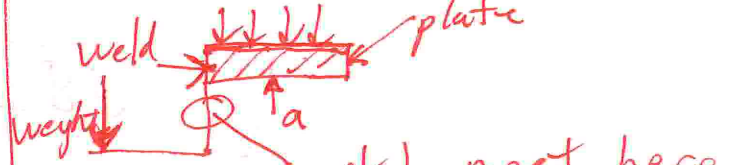
a+b meet at tower steel.

so some force is pushing nut up.



more area the better.

if you could weld



a+b meet here if welded together