

$$M = F(19.85 \text{ in})$$

table
Top

$$\text{Max } F = 225 \text{ lbf}$$

$$M_{0 \text{ max}} = 4466.25 \text{ lbf-in}$$

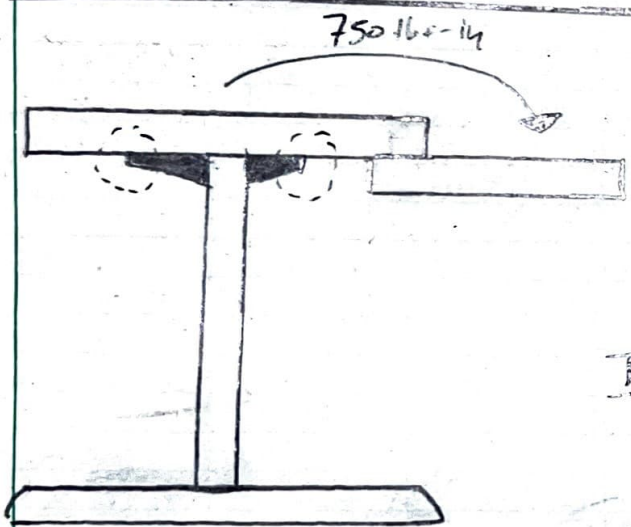
stress:

$$\sigma = \frac{my}{I} \Rightarrow I = \frac{BH^3}{12} = \frac{24 \text{ in} (1 \text{ in})^3}{12} = 2 \text{ in}^4$$

$$\sigma_{\text{Table Top}} = \frac{4466.25 \text{ lbf-in} \cdot \frac{1}{2} \text{ in}}{2 \text{ in}^4}$$

So, the force on top of the table will be 225 lbf and that would create 1116.5 $\frac{\text{lbf}}{\text{in}^2}$ stress

$$\sigma = 1116.5 \frac{\text{lbf}}{\text{in}^2} \text{ compressive}$$



Bolt Diameters: $\frac{3}{8} \text{ in}$

$$M = 24 \text{ in} (150 \text{ lbf})$$

$$M_{0 \text{ max}} = 3000 \text{ lbf-in}$$

$$M_b = 750 \text{ lbf-in}$$

$$I = \frac{\pi (\frac{3}{8})^4}{4} = 0.0276 \text{ in}^4$$

$$\sigma_{\text{Bolts}} = \frac{750 \text{ lbf-in} (\frac{3}{8})}{0.0276 \text{ in}^4}$$

$$\sigma_{\text{Bolts}} = 5093.0604 \text{ lbf}$$

$\frac{3}{8}$ Bolts:
rated for
about: 7000 lbf

So, theoretically testing 750 lbf-in on the very end of the key bolt slipout holder and that will theoretically create 5093.0604 lbf stress on the bolts and they are rated for ≈ 7000 lbf.