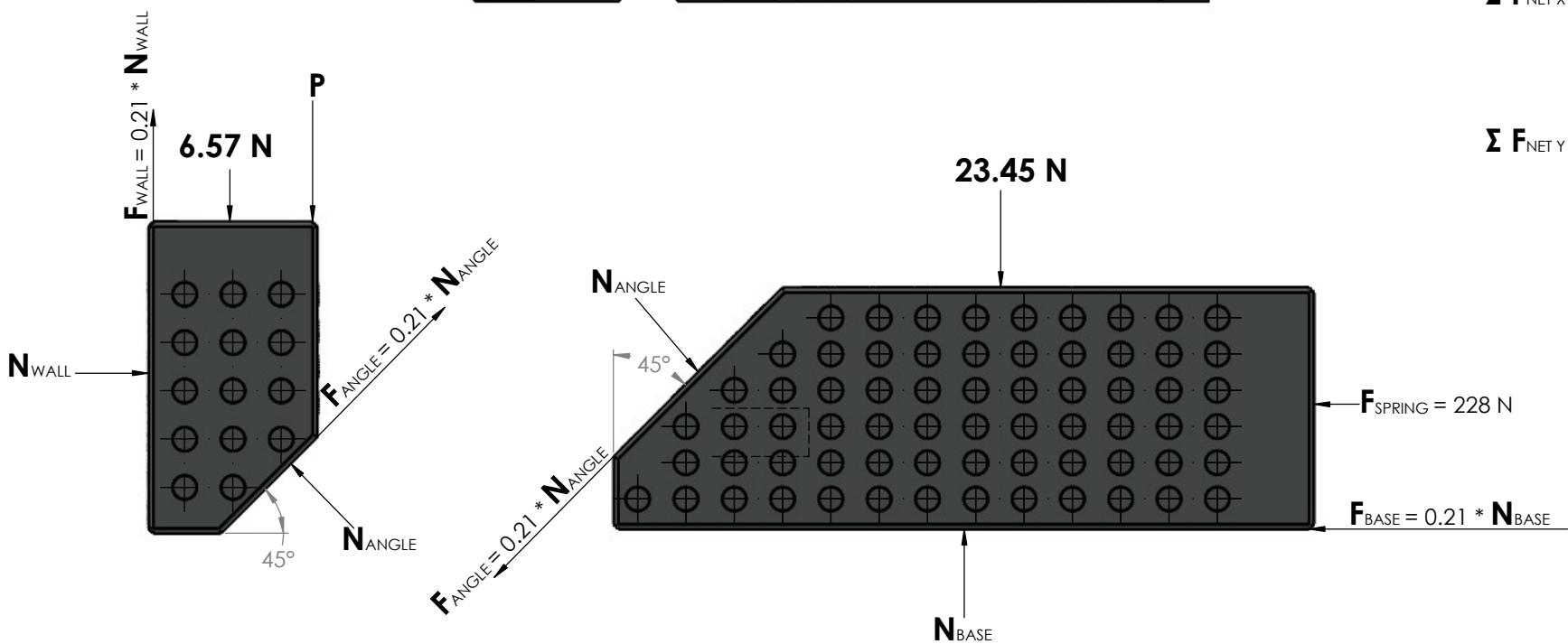
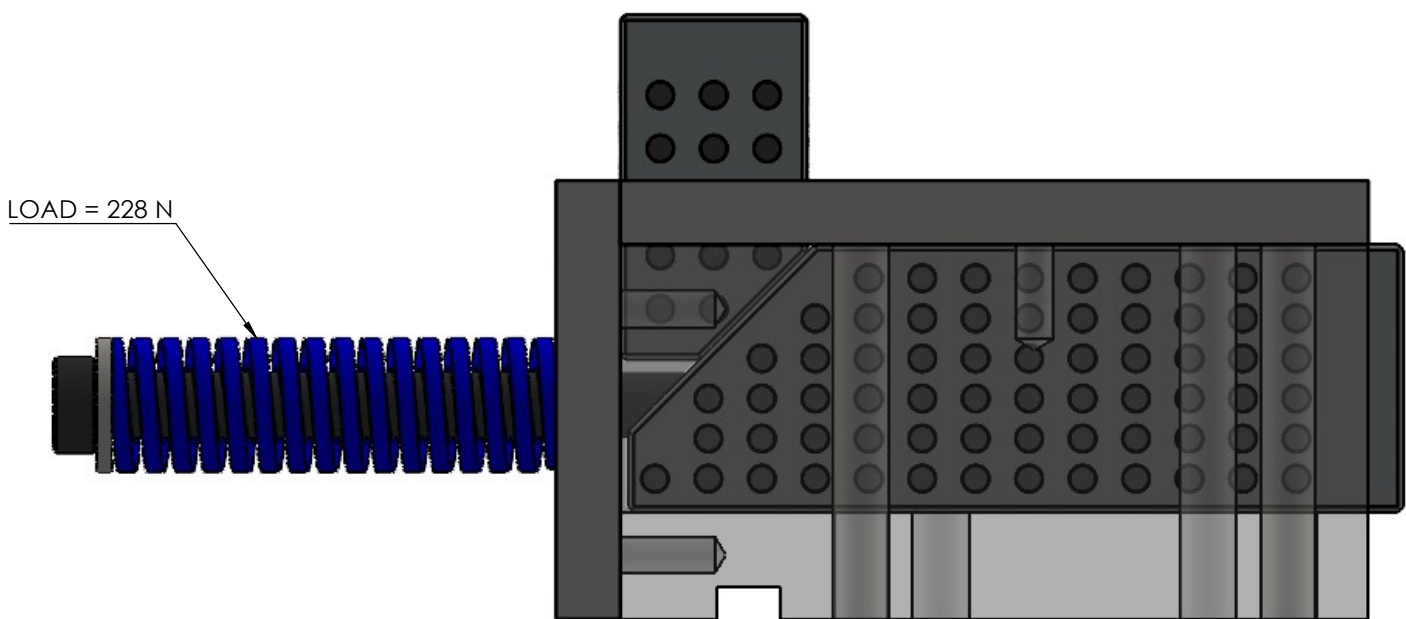


MINIMUM FORCE "P" REQUIRED TO START MOVING THE SLIDER



DRIVER

SLIDER

SLIDER

$$\begin{aligned}\Sigma F_{\text{NET X}} &= 0 \\ &= -228 - 0.21 * N_{\text{BASE}} - 0.21 * N_{\text{ANGLE}} * \cos(45^\circ) + N_{\text{ANGLE}} * \cos(45^\circ) \\ &= -228 - 0.21 * N_{\text{BASE}} + 0.559 * N_{\text{ANGLE}} \\ &\Rightarrow 0.21 * N_{\text{BASE}} - 0.559 * N_{\text{ANGLE}} = -228\end{aligned}$$

$$\begin{aligned}\Sigma F_{\text{NET Y}} &= 0 \\ &= -23.45 + N_{\text{BASE}} - 0.21 * N_{\text{ANGLE}} * \sin(45^\circ) - N_{\text{ANGLE}} * \sin(45^\circ) \\ &= -23.45 + N_{\text{BASE}} - 0.856 * N_{\text{ANGLE}} \\ &\Rightarrow -N_{\text{BASE}} + 0.856 * N_{\text{ANGLE}} = -23.45\end{aligned}$$

BY Ax = b:

$$\begin{aligned}N_{\text{BASE}} &= 549.1946 \text{ N} \\ N_{\text{ANGLE}} &= 614.1876 \text{ N}\end{aligned}$$

DRIVER

$$\begin{aligned}\Sigma F_{\text{NET X}} &= 0 \\ &= N_{\text{WALL}} - N_{\text{ANGLE}} * \cos(45^\circ) + 0.21 * N_{\text{ANGLE}} * \cos(45^\circ) \\ &= N_{\text{WALL}} - 343.094 \\ &\Rightarrow N_{\text{WALL}} = 343.094 \text{ N}\end{aligned}$$

$$\begin{aligned}\Sigma F_{\text{NET Y}} &= 0 \\ &= -P - 6.57 + 0.21 * N_{\text{WALL}} + N_{\text{ANGLE}} * \sin(45^\circ) + 0.21 * N_{\text{ANGLE}} * \sin(45^\circ) \\ &= -P + 590.978 \\ &\Rightarrow P = 590.978 \text{ N}\end{aligned}$$

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| UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR: | | | | FINISH: | | DEBURR AND BREAK SHARP EDGES | | DO NOT SCALE DRAWING | | REVISION | |
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