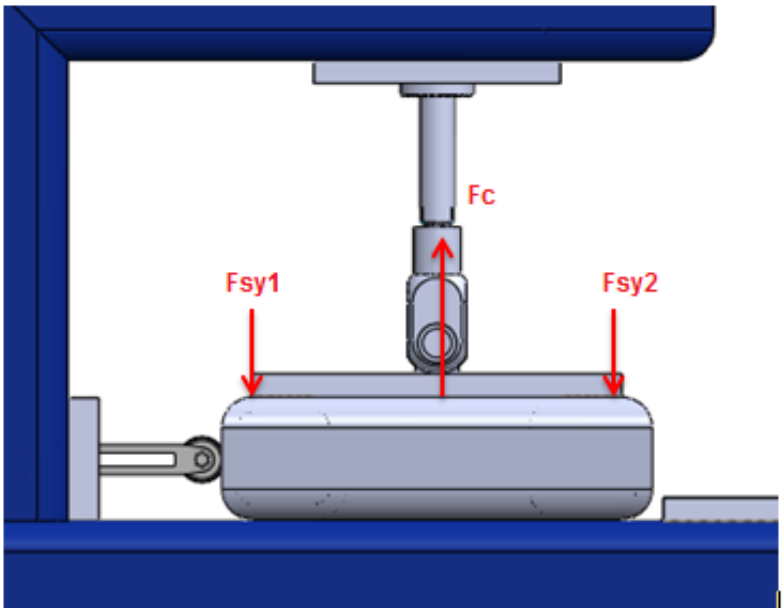
# ANÁLISIS DE FUERZAS PARA PLATINA DE SISTEMA DE PRENSADO




$$\sum_i F_Y = 0$$

$F_c := 24.1045 \text{ lb}$

$-F_{sy1} - F_{sy2} + F_c := 0$

$F_{sy1} := F_{sy2}$

$F_{sy1} := -12.0522 \text{ lb} \quad F_{sy2} := -12.0522 \text{ lb}$

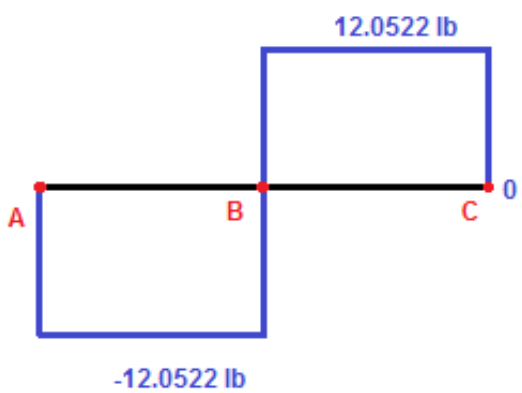
**Fuerza cortante presente en el eje Y**

$Fcory1 := F_{sy1}$

$Fcory2 := F_{sy1} + F_c \rightarrow 12.0523$

$Fcory3 := Fcory2 + F_{sy2} \rightarrow 0.0001$

Diagrama de fuerzas cortantes en eje Y



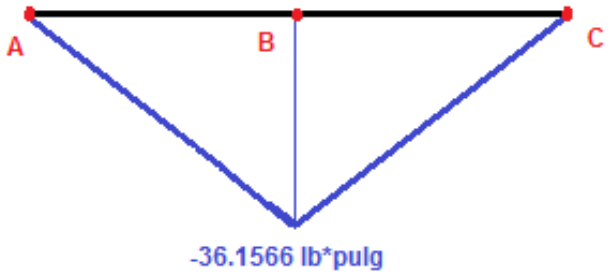
**Momento flexionante en eje Y**

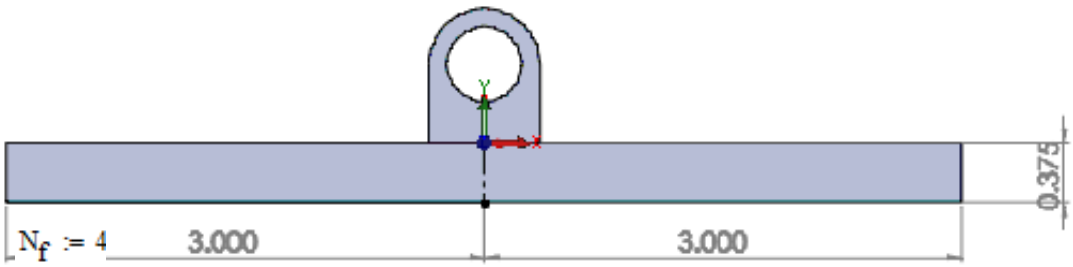
$M_A := 0$

$M_B := M_A + Fcory1 \cdot 3 \rightarrow -36.1566$

$M_c := M_B + Fcory2 \cdot 3 \rightarrow 0.0003$

Diagrama de momento flexionante en eje Y




Propiedades el material ASTM A36

$S_y := 36259.425 \quad psi$

$S_u := 58015.08 \quad psi$

Esfuerzo de diseño

$N_f := 4$ $\qquad b := 2 \ pulg$

$M_{max} := 36.1566 \ lb \cdot pulg$

$\sigma_d := \frac{S_y}{N_f} \rightarrow 9064.85625$

$S_1 := \frac{M_{max}}{\sigma_d} \rightarrow 0.0039886567423504371622$

$S_1 := \frac{I}{C}$

$S_1 := \frac{b \cdot h^2}{12 \cdot \frac{h}{2}}$

$$h := \sqrt{\frac{6 \cdot S_1}{b}} \rightarrow 0.10938907727488751189955$$