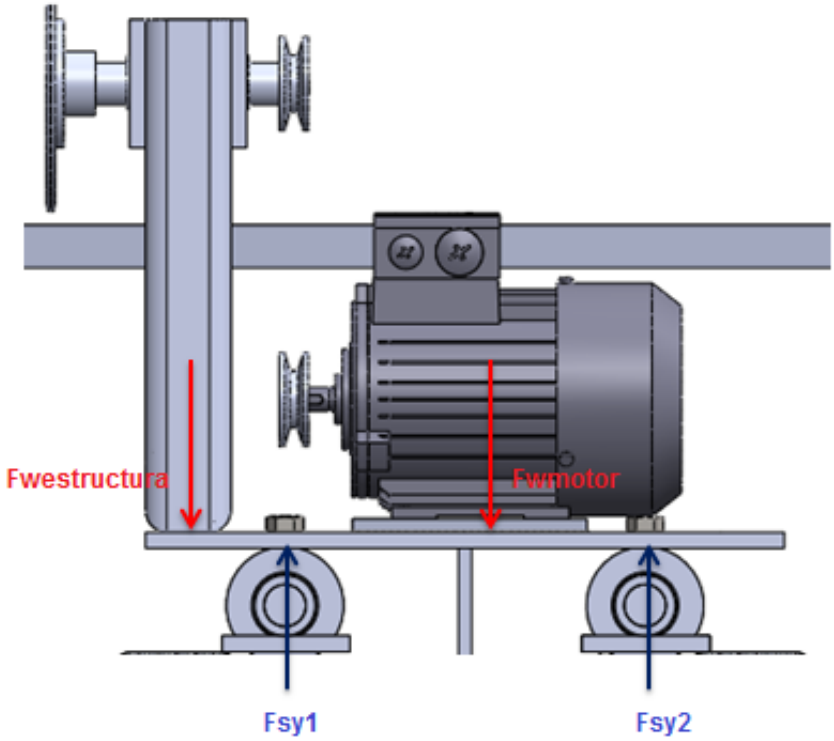
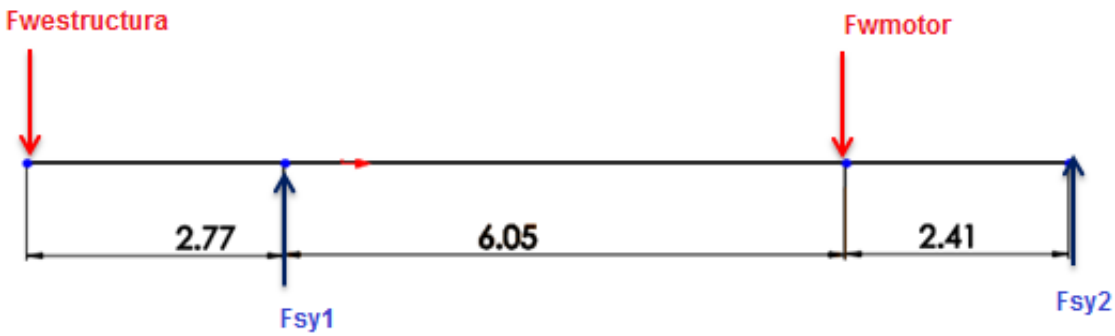
ANÁLISIS DE FUERZAS PARA PLATINA DE SISTEMA DE CORTE



$F_{westructura} := 16.1426$

$F_{wmotor} := 21.6050$



PUNTO A $F_{westructura}$

PUNTO B F_{sy1}

PUNTO C F_{wmotor}

PUNTO D F_{sy2}

$\sum_i M_D := 0$

$F_{sy1} := \frac{\left[\left(F_{wmotor} \cdot 2.41\right) + \left(F_{westructura} \cdot 11.23\right)\right]}{8.46} \rightarrow 27.582677068557919622$

$\sum_i F_y := 0$

$F_{sy2} := -\left(-F_{westructura} - F_{wmotor} + F_{sy1}\right) \rightarrow 10.164922931442080378$

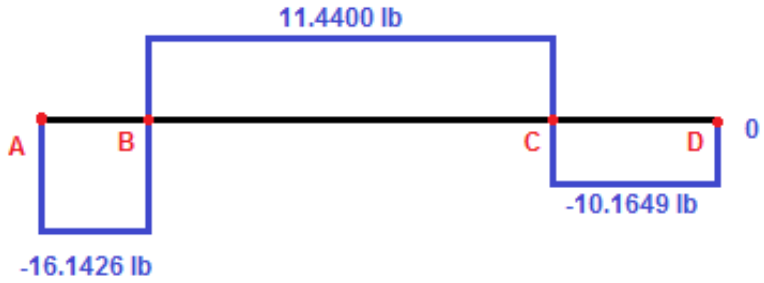
Fuerza cortante en el eje Y

$Fcory1 := -F_{westructura} \rightarrow -16.1426$

$Fcory2 := Fcory1 + F_{sy1} \rightarrow 11.440077068557919622$

$Fcory3 := Fcory2 - F_{wmotor} \rightarrow -10.164922931442080378$

$Fcory4 := Fcory3 + F_{sy2} \rightarrow 0.0$



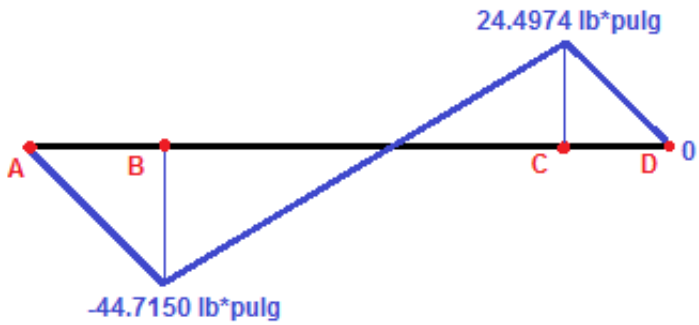
Momento flexionante en el eje Y

$M_{Ay} := 0$

$M_{By} := M_{Ay} + Fcory1 \cdot 2.77 \rightarrow -44.715002$

$M_{Cy} := M_{By} + Fcory2 \cdot 6.05 \rightarrow 24.497464264775413713$

$M_{Dy} := M_{Cy} + Fcory3 \cdot 2.41 \rightarrow 2.0200000005198408843e-18$

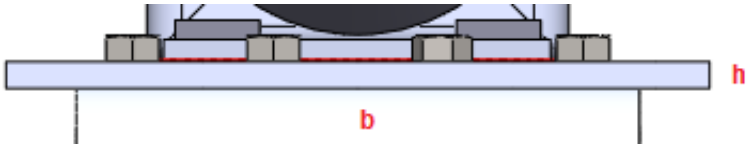


MATERIAL ASTM
A36

$S_y := 36000$ $M_{max} := 44.7150$

$N_{factor} := 4$ $b := 10$

$\sigma_d := \frac{S_y}{N_{factor}} \rightarrow 9000$



$S_1 := \frac{M_{max}}{\sigma_d} \rightarrow 0.0049683333333333333333$

$S := \frac{b \cdot h^2}{6}$

$$h := \sqrt{\frac{6 \cdot S_1}{b}} \rightarrow 0.054598534778874789873791$$