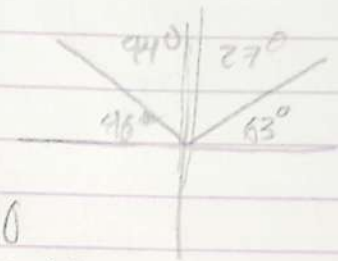
Se pretende utilizar 2 cables que tienen una resistencia de 2000 lbf, para sostener en el aire a una armadura de 1.5 Ton. Dichos cuerdas forman Ángulos de, 27° y 44°.

$F = m \cdot g$ 1000 Kg 1.102308 Ton

1.5 Ton

$F = (1360.781\ kg)(9.81\ m/s)$

$F = 13349.281\ N$



$\Sigma F_x = 0$

$T_{x1} - T_{x2} = 0$

$T_{x1} = T_{x2}$

1 4.440

x 13 349.261

30 06.590 Lbf

$T_1 \cos 63° = T_2 \cos 46°$

$T_1\ 0.453 = T_2\ 0.694$

$T_1 = \frac{T_2 0.694}{0.453}$

$T_1 = T_2\ 1.532$

$\Sigma F_y = 0$

$T_1 \operatorname{Se} 63° + T_2 \operatorname{Sen} 46° = 3006.590$ Lbf

$T_1 0.891 + T_2\ 0.719 = 3006.590$ Lbf

$(T_2\ 1.532)\ 0.891 + T_2\ 0.719 = 3006.590$ Lbf

$T_2 1.365 + T_2 0.719 = 3006.590$ Lbf

$T_2\ 2.084 = 3006.590$ Lbf

$T_2 = \frac{3006.590\ Lbf}{2.084}$

$T_2 = 1.442.701 + 20\%$

$+ 288.540$

$T_2 = 1731.241$ Lbf

$T_1 = 2210.217 + 20\%$

$+ 442.043$

$T_1 = 2652.260$ Lbf

No aguanta

Si aguanta