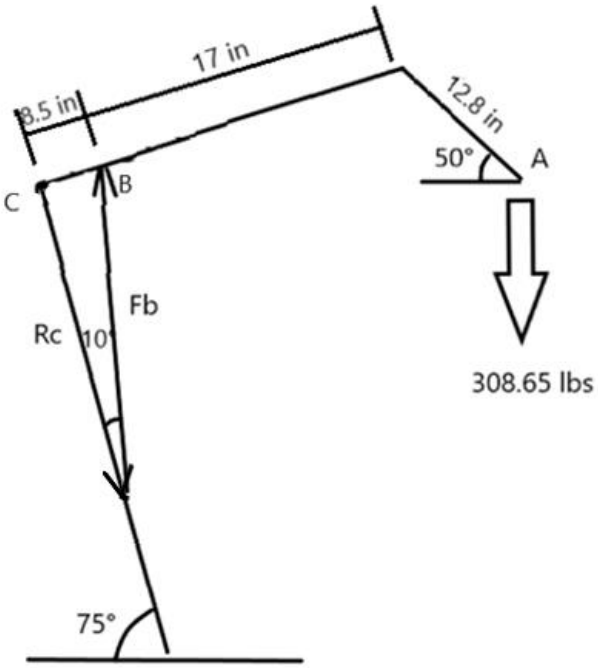

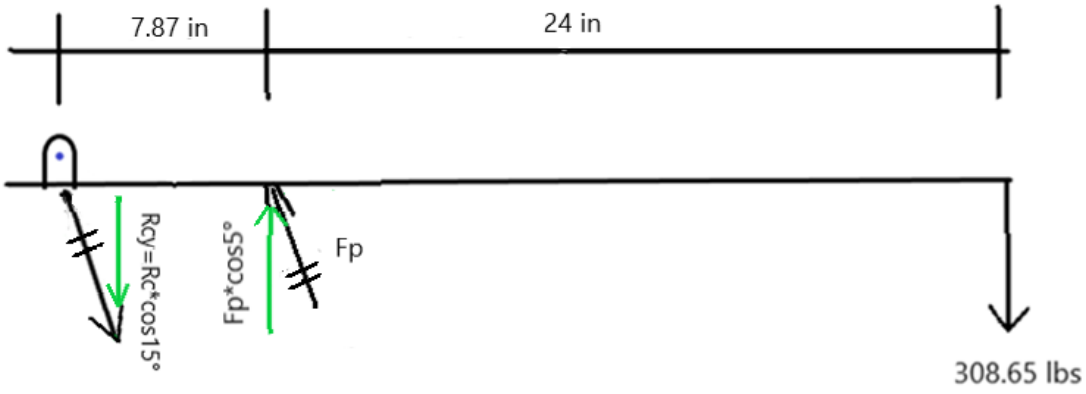

$$\sum M_c = 0$$

$$F_p * cos5° * 7.87 - 308.65 * 31.87 = 0$$

$$F_p = \frac{308.65 * 31.88}{7.87 * cos5°} = 1255\ lbs$$

$$\sum F_y = 0$$

$$F_p * cos5° - R_c * cos15° - 308.65 = 0$$

$$R_c = 974.44\ lbs$$

Considerando un factor de dos calculo el módulo de sección

$$\sigma_{b_{allow}} = \frac{Sy}{FS} = \frac{77\ ksi}{2} = 38.5\ ksi$$

$$M_{máx} = 308.65 * 24 = 7407.6\ lb * in$$

$$\sigma_{b_{allow}} = \frac{M_{máx}}{S}$$

$$S = \frac{M_{máx}}{\sigma_{b_{allow}}} = \frac{7407.6\ lb * in}{38.5 * 10^3\ \frac{lb}{in^2}} = .1924\ in^3$$

$$Perfil = 1\frac{1}{4} * 1\frac{1}{4}$$