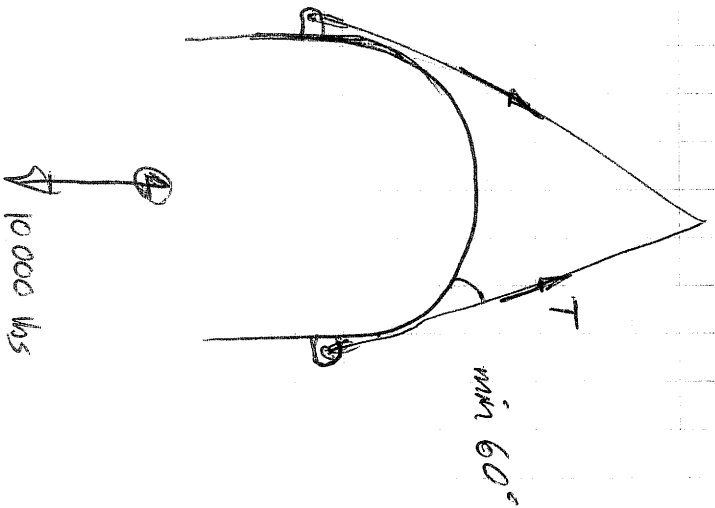


$$T = \frac{P/2}{\sin 60} = \frac{5000}{.866} = 5774 \text{ lbs.}$$



$$A = 3/4 \times 3 = 2.25 \text{ in}^2$$

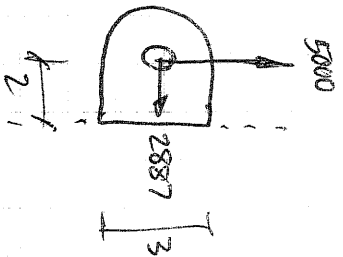
$$L_{ug} S = \frac{1}{6} (1.75)(3)^2$$

$$I_x = \frac{1}{12} (1.75)(3)^3$$

$$I_x = 1.688$$

$$S = 1.125$$

$$\sigma_b = \frac{5000(2)}{1.125} = 8900 \text{ psi OK.}$$



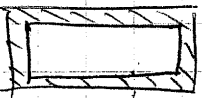
$$1/4" \text{ Fillet, } t = \frac{.25}{\sqrt{2}} = .178$$

$$A = 1.453$$

$$I_x = 1.78$$

$$I_y = 0.2707$$

$$S_x = \frac{1.78}{1.677} = 1.065 \text{ in}^3 < \text{lug plate}$$



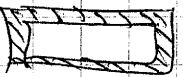
$$5/16" \text{ Fillet } t = \frac{.3125}{\sqrt{2}} = .221$$

$$A = 1.85$$

$$I_x = 2.36$$

$$I_y = 0.38$$

$$S_x = \frac{2.36}{1.771} = 1.33 > \text{lug plate}$$



Also sees shear & potential lateral loads.
 $\therefore$ Choose $3/8"$ fillet