

CALC REACTIONS
TAKE MOMENTS
ABOUT R2

SHEET 1

$$\therefore 40 \text{ lbf} \times 15" = R_1 \times 10$$

$$\therefore R_1 = 60 \text{ lbf}$$

$$R_2 = 20 \text{ lbf}$$

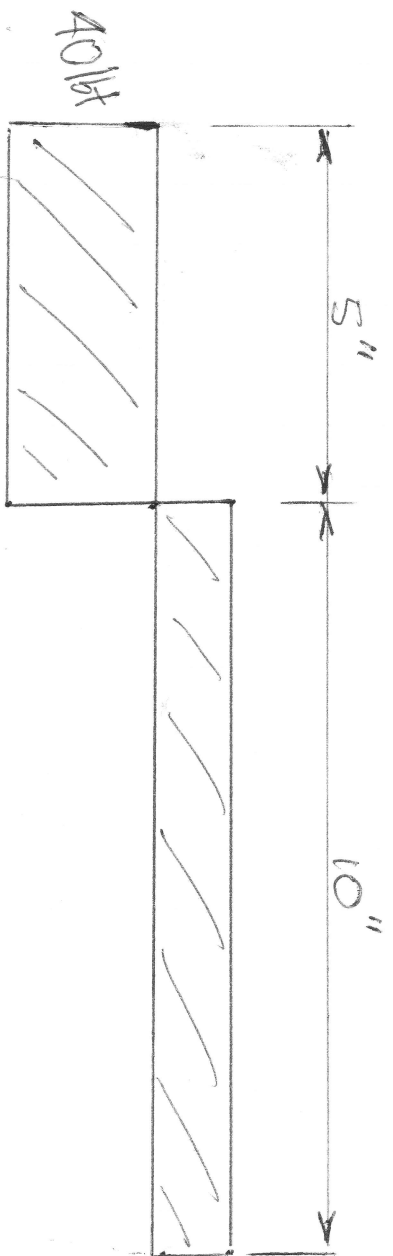
* MAX STRESS *

OCCURS AT
THIS POINT

NOW FOR A .05" RAD
BETWEEN A 2" & 4" DIA
SHAFT STRESS
CONCENTRATION FACTOR
IS APPROX = 2.8.

$$\text{ie: } \frac{659.568 \text{ lb}}{\text{in}^2}$$

SEE SHEET 2.



201bf
DIAGRAM.

SHEAR FORCE

$$\Delta_{2''} = \frac{M_y}{I} = \frac{185 \times 1}{\frac{\pi \times 2^4}{64}} = \underline{\underline{235.56 \text{ lb/in}^2}}$$

$$\Delta_{4''} = \frac{M_y}{I} = \frac{185 \times 2}{\frac{\pi \times 4^4}{64}} = \underline{\underline{29.44 \text{ lb/in}^2}}$$

STRESS AT FILLET (NORMAL)
AT 2" DIA :- STRESS C. FACTOR.

$$\Delta_{2 \text{ DIA}} \times 2.8 = 235.56 \times 2.8$$

$$\underline{\underline{\text{MAX STRESS} = 659.568.}}$$

SHEET 2

