

$$T = I \alpha \quad \alpha = \left(\frac{\omega_1 - \omega_2}{12 \text{ secs}} \right)$$

$$T = 7.367 \times \frac{345.5752}{12}$$

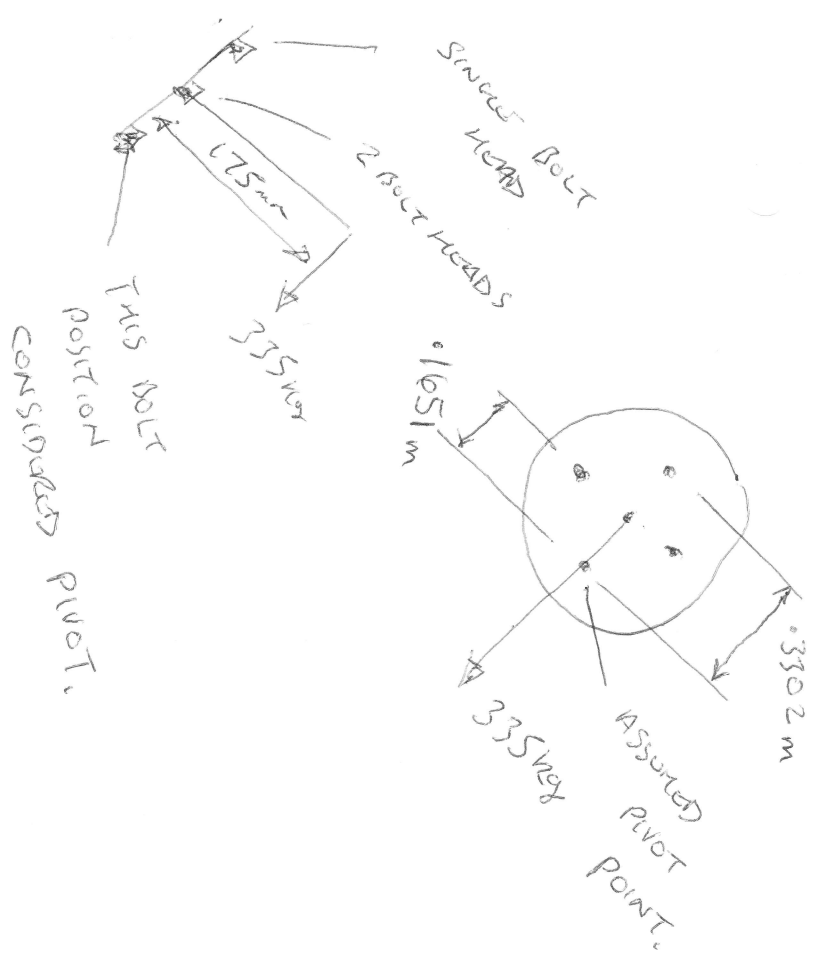
$$T = 212.154 \text{ Nm}$$

$$\text{FORCE ON BOLT} = 212.154 \text{ Nm} \times \frac{4 \times .3302}{2}$$

$$= 321 \text{ N SHEAR}$$

$$\text{SHEAR STRESS} = \frac{321 \times 4}{\pi \times 24^2} = 0.710 \text{ N/mm}^2$$

$$\text{TENSILE STRESS DUE TO OFFSET LOAD} = \frac{1161 \times 4}{24^2 \times \pi} = 2.5666 \text{ N/mm}^2$$



$$\text{ASSUME } \mu = \text{LOAD PER UNIT LENGTH}^2$$

$$335 \times 9.81 \times 175 = 2\mu(1651)^2 + \mu(3302)^2$$

$$\therefore \mu = \frac{575111}{2(1651)^2 + (3302)^2} = 3516.465$$

$$\text{MAX LOAD IN SINGLE BOLT DUE TO OFFSET} = .3302 \text{ m} \times 3516.465 \frac{\text{N}}{\text{m}} = 1161 \text{ N}$$