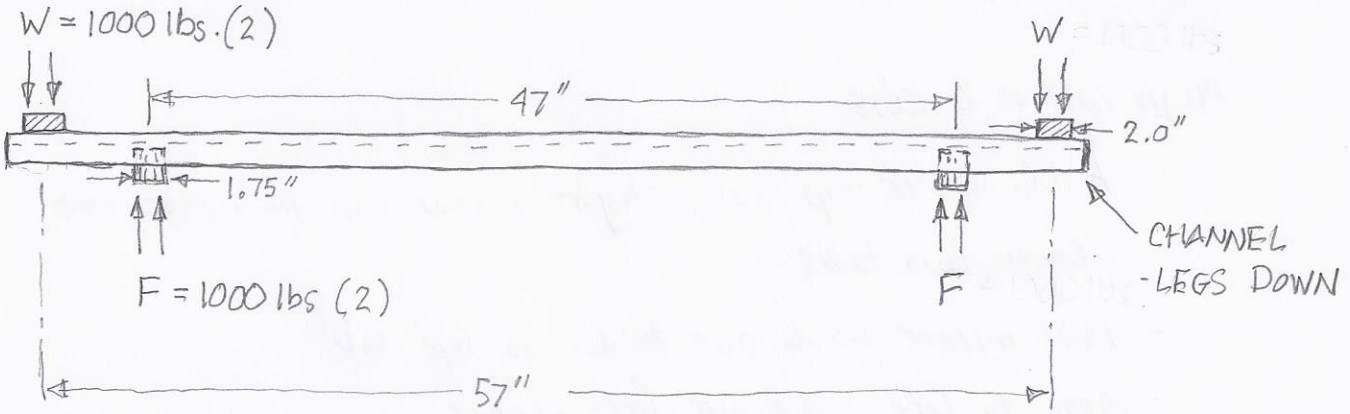
- DIAGRAM -



ALUMINUM CHANNEL (CS4x2.33)-6061

STRESS CALC.

$$S = \frac{W}{Z}(c-u) = \frac{1000\ \text{lbs.}}{.692\ \text{in}^3}(5\ \text{in} - 47\ \text{in.})$$

$$= -60{,}693\ \text{lbs/in}^2$$

* max. bending stress AL = 35,000 lbs/in²

DEFLECTION CALC.

$$y = \frac{Wu}{6EI}\left[3c(\ell+u) - u^2\right]$$

$$= \frac{1000(47)}{(6)(10{,}000)(1.02)}\left[3(5)(57+47) - (47)^2\right]$$

$$= -499$$

STEEL CHANNEL (C4x5.4)

$$\frac{1000\ \text{lbs}}{.565\ \text{in}^3}(5-47\ \text{in})$$

$$= -74{,}336\ \text{lbs/in}^2$$

* Steel max. 27,000 lbs/in²

$$= \frac{1000(47)}{(6)(29{,}000)(.32)}\left[3(5)(57+47) - (47)^2\right]$$

$$.844 \quad [-649]$$

$$= -547$$

STEEL BOX TUBE 2x3x¼"

$$(\text{DEFLECTION}) = \frac{1000(47)}{(6)(29{,}000)(1.15)}\left[3(5)(57+47) - (47)^2\right.$$

$$= 152\ ??$$