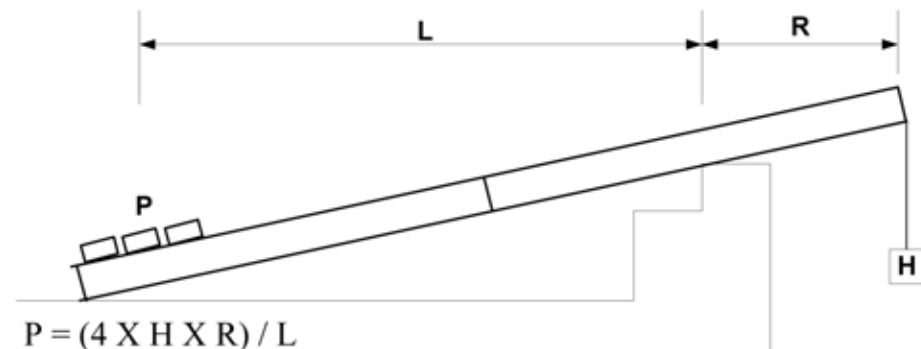


2.2. Outrigger Beam: Counterweight Calculation

This section describes the procedure for the selection of counterweights



$$P = (4 \times H \times R) / L$$

Where;

H = Hoist lifting capacity (not intended load)

P = Counterweight needed (must have 4:1 safety ratio)

L = Length from fulcrum to location of counterweight attachment point

R = Reach

Figure 6. Counterweight Calculation

For example:

A hoist lifts 1000 lbs. We multiply this by 4 to include the required safety ratio. Therefore, a standard 16 foot beam with 16" (1.33 feet) overhang would need a counterweight of :

$$P = \frac{(4 \times H \times R)}{L} = \frac{(4 \times 1000 \times 1.33)}{14} = 380 \text{ lbs. / beam}$$

In addition to the above mentioned calculation, counterweights can be selected from the counterweight chart.

Table 1. Counterweight Chart for Sectional Outrigger

Reach (inch)	Counterweight						
	12	18	24	30	36	42	46
2 piece 16' 1000 lb load	280 lb	450 lb	600 lb	800 lb	1000 lb	1220 lb	1450 lb
2 piece 16' 1500 lb load	420 lb	700 lb	900 lb	NA	NA	NA	NA
3 piece 24' 1000 lb load	180 lb	280 lb	380 lb	490 lb	600 lb	720 lb	850 lb
3 piece 24' 1500 lb load	270 lb	450 lb	570 lb	NA	NA	NA	NA
3 piece 26' 1000 lb load	60" (5') Reach position only: 1100 lb						

Note:-

1. Reach is the distance from the wire rope point to the front supporting point, not to the vertical surface of the building. Reach must not exceed four feet.
2. Use sufficient weights.