

INTERMEDIATE RIGGING FORMULAS

MULTI CRANE LIFTS

① 2 CRANE LIFT

$$\text{LOAD SHARE} \times 1.2 = \text{CRANES MIN CAP}$$

② 3 CRANE LIFT

$$\text{LOAD SHARE} \times 1.33 = \text{CRANES MIN CAP}$$

③ 4 OR MORE CRANE LIFT

$$\text{LOAD SHARE} \times 1.5 = \text{CRANES MIN CAP}$$

SAFETY FACTORS

$$2 \text{ CRANES} = 20\%$$

$$3 \text{ CRANES} = 33\%$$

$$4 + \text{ CRANES} = 50\%$$

EQUALIZING BEAM

① POSITION OF LOAD ON BEAM

$$\text{BEAM WIDTH} - \left(\frac{\text{CRANE 1 CAP} \times \text{BEAM WIDTH}}{(W1 + W2) \times 1.2} \right)$$



$$\text{BEAM WIDTH} - \text{ANSWER OF ABOVE} \leftarrow \text{(MUST BE ROUNDED DOWN)}$$



$$\text{BEAM WIDTH} - \text{ROUNDED ANSWER TO WHOLE NUMBER} = \text{ANSWER IN M}$$

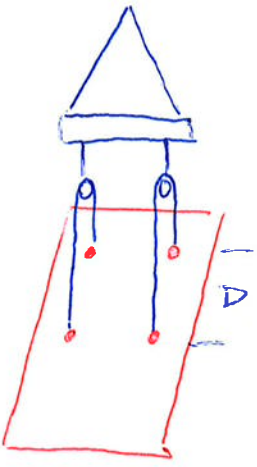
② MINIMUM CAPACITY OF CRANE 2 REQUIRED.

$$\left(\begin{array}{l} \text{LOAD DISTANCE} \\ \text{(ANSWER FROM LAST} \\ \text{QUESTION)} \end{array} \right) \times \left(\frac{(W1 + W2 \times 1.2)}{\text{BEAM WIDTH}} \right)$$

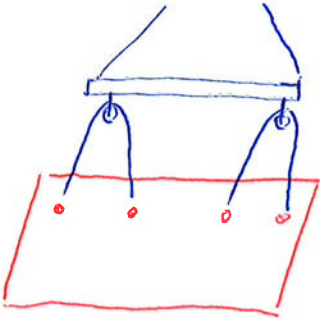


$$\text{LOAD DISTANCE} \times \text{ANSWER OF ABOVE} = \text{CRANE 2 CAPACITY MINIMUM}$$

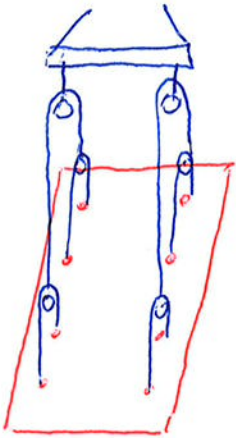
PRE CAST RIGGING



$$2 \times D$$



$$(3 \times C) + D$$



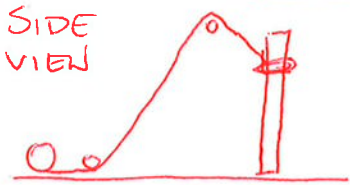
SHORT SLING

$$3 \times D$$

LONG SLING

$$4.5 \times D \text{ OR } E \leftarrow (\text{WHICH EVER IS LARGER})$$

DEMOLITION



① WEIGHT OF COLUMN

$$(L \times W \times \text{HEIGHT}) \times \text{UNIT WEIGHT}$$

(MUST ALL BE IN METERS) (I.E. CONCRETE = 2400 m³)

② HOIST & RIGGING MIN CAPACITY

$$\text{COLUMN WEIGHT} \times \text{SAFETY FACTOR (1.5)}$$

③ HORIZONTAL SAFE DISTANCE (WINCH TO COLUMN)

$$\text{COLUMN HEIGHT} \times \text{SAFETY FACTOR (1.5)}$$

④ SIDEWAYS SAFE DISTANCE

$$\text{HORIZONTAL SAFE DISTANCE} \times \text{SAFETY FACTOR (0.75)}$$

