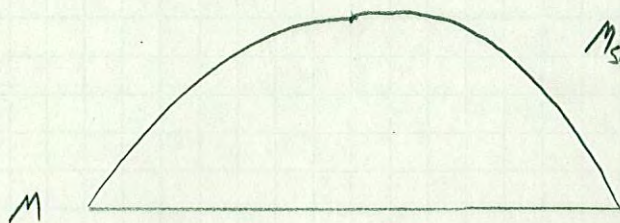
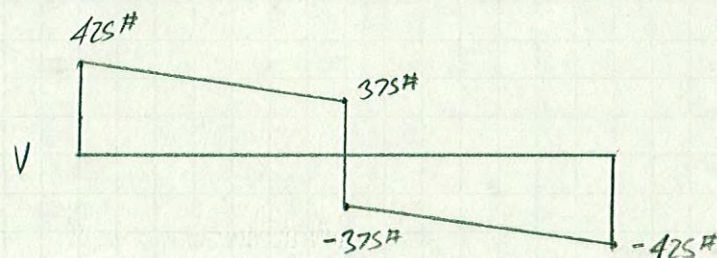
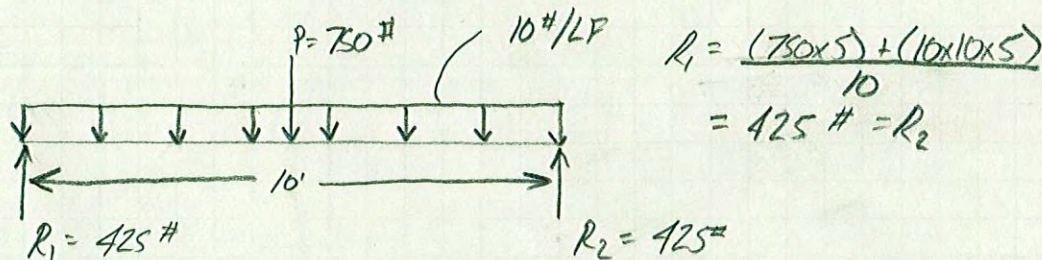


DEMISING WALL, HIGH IMPACT DOOR OPENING FRAMING

ASSUME C6x8.2 CHANNEL FOR JAMBS & HEADER, $F_y = 50 \text{ KSI}$

$$A = 2.40 \text{ IN}^2, I = 13.1 \text{ IN}^4, S_x = 4.38 \text{ IN}^3, r_x = 2.39 \text{ IN}$$

LOOK @ JAMB, $L = 10'$, $L = 120''$ ASSUME WEIGHT OF DOOR LEAF = $100\# = 10\#/\text{LF}$ ASSUME $750\#$ POINT LOAD APPLIED @ $5'-0''$ DEFLECTION = $l/240$ 

$$M_{50} = (425 \times 5) + (10 \times 5 \times 2.5) \\ = 2000 \text{ ft-lb} \\ = 2 \text{ ft-k}$$

$$F_b = 0.60 F_y = 0.60 \times 50 = 30 \text{ KSI}$$

$$\text{REQUIRED } S_x = \frac{M}{F_b} = \frac{2 \times 12}{30} = 0.8 \text{ IN}^3 < 4.38 \text{ IN}^3 \therefore \text{OK}$$

$$\Delta = \frac{l}{240} = \frac{120}{240} = 0.5''$$

$$P = \frac{4M}{l} = \frac{4 \times (2 \times 12)}{120} = 0.8 \text{ K}$$