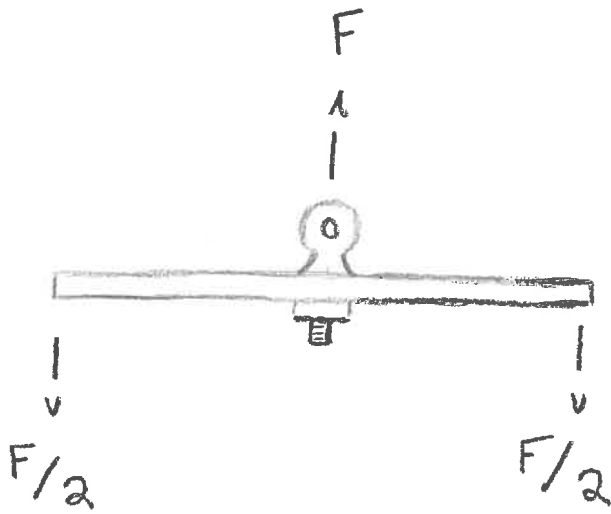


(A)



$$Motor = 400lb \quad Lifting\ Jig = 30lb \quad JF = 5$$

$$F = 5(400lb + 30lb) = 2150lb$$

$$F/2 = 1075lb$$

$$M = 1075lb(5.5in) = 5912.5lb \cdot in$$

$$J = \frac{bd^3}{6} \text{ (rectangle)} \quad J = \frac{2.5in(0.5in)^3}{6} = 0.1in^3$$

$$\sigma_b = \frac{|M|}{J} = \frac{5912.5lb \cdot in}{0.1in^3} = 59125psi$$

$$\gamma = \frac{F}{A} = \frac{2150lb}{2.5in(11in)} = 78psi$$

$$\sigma_R = \sqrt{\sigma_b^2 + \gamma^2} = \sqrt{59125^2 + 78^2} = 59125psi$$