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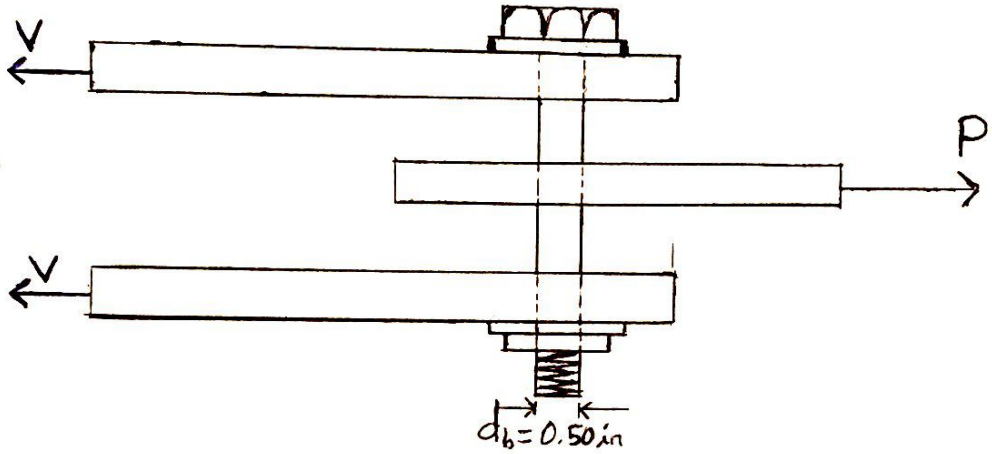
Double Shear Example 1

Given:

$\tau_{allow} = 23\ ksi$



$$A_b = \frac{\pi}{4}(d_b)^2 = \frac{\pi}{4}(0.50\ in)^2 = \frac{\pi}{16}\ in^2$$

$$\pm \rightarrow \sum F_x = 0 \Rightarrow P - V - V = 0 \Rightarrow V = P/2$$

$$\tau_{allow} = \frac{V}{A_b} \Rightarrow 23\ \frac{kips}{in^2} = \frac{(P_{allow}/2)}{\left(\frac{\pi}{16}\ in^2\right)}$$

$$\Downarrow$$

$$P_{allow} = 9.032\ kips$$