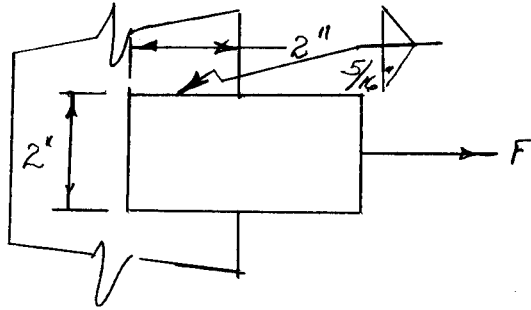


Given:



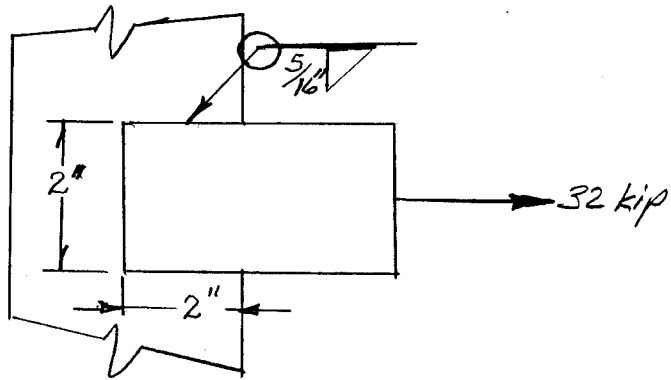
Find: Load  $F$  that will cause a shear stress in the weld of 20 kpsi.

Solution:

$$\tau = \frac{F}{0.7071 \left(\frac{5}{16}\right) (4\text{ in})} = \frac{F}{0.884 \text{ in}^2} = 20,000 \text{ lb/in}^2$$

$$\Rightarrow \boxed{F = 22.6 \text{ kip}}$$

Given:



Find: Shear stress in welds.

$$\tau = \frac{32,000 \text{ lb}}{(0.7071)(5/16 \text{ in})(6 \text{ in})}$$

$$\tau = 24.1 \text{ ksi}$$