

Homework Problem H30.B

Given: Consider the frame shown below that is made up of a rigid, L-shaped bracket AH, with AH being supported by a rod AB at end A. Rod AB has a diameter of d and is made up of a material with a Young's modulus of E .

Find: For this problem:

- a) Determine the load carried by rod AB.
- b) Determine the axial stress and strain in rod AB.

For this problem, use the following parameters: $b = 8$ in, $c = 6$ in, $L = 20$ in, $d = 2$ in, $P = 15$ kips, $F = 20$ kips and $E = 10 \times 10^6$ psi.

