5.87

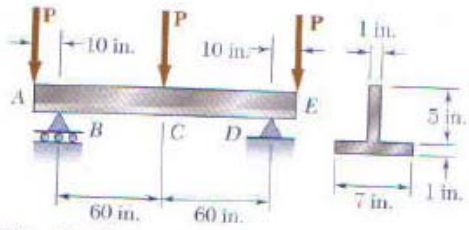


Fig. P5.87

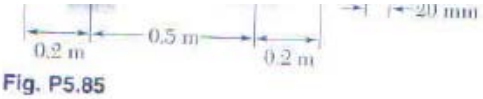


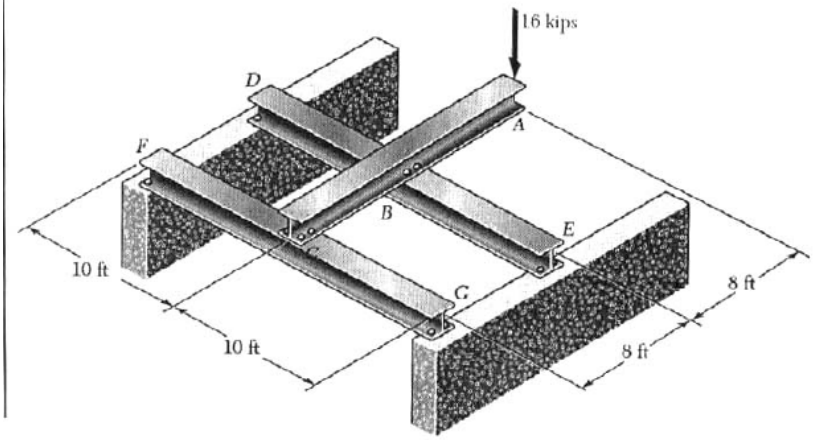
Fig. P5.85

5.86 Solve Prob. 5.85, assuming that the cross section of the beam is reversed, with the flange of the beam resting on the supports at *B* and *C*.

5.87 Determine the allowable value of **P** for the loading shown, knowing that the allowable normal stress is +8 ksi in tension and −18 ksi in compression.

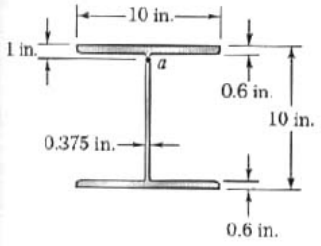
5.92

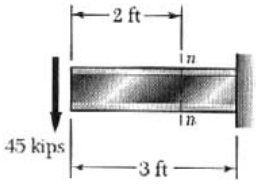
5.89 Beam *ABC* is bolted to beams *DBE* and *FCG*. Knowing that the allowable normal stress is 24 ksi, select the most economical wide-flange shape that can be used (*a*) for beam *ABC*, (*b*) for beam *DBE* (*c*) for beam *FCG*.



6.11

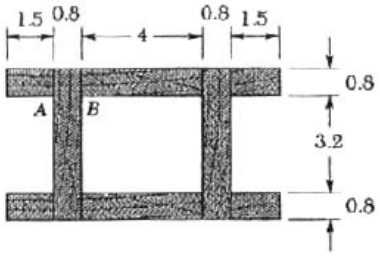
6.9 through 6.12 For the beam and loading shown, consider section *n-n* and determine (*a*) the largest shearing stress in that section, (*b*) the shearing stress at point *a*.





6.33

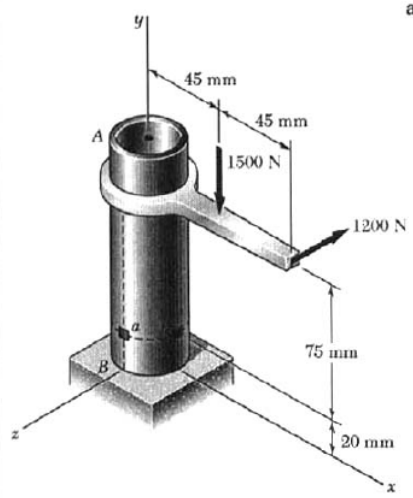
6.32 The built-up beam was made by gluing together several wooden planks. Knowing that the beam is subjected to a 1200-lb shear, determine the average shearing stress in the glued joint (*a*) at *A*, (*b*) at *B*.



Dimensions in inches

8.40

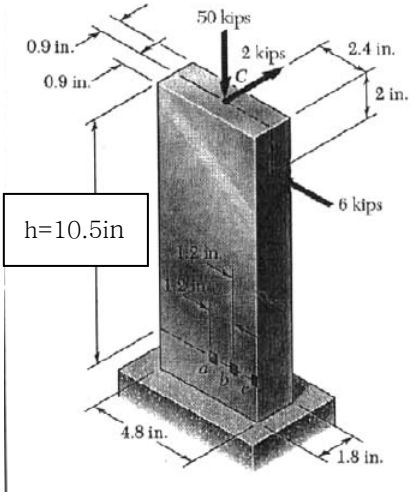
8.39 Two forces are applied to the pipe AB as shown. Knowing that the pipe has inner and outer diameters equal to 35 and 42 mm, respectively, determine the normal and shearing stresses at (*a*) point *a*, (*b*) point *b*.



8.45 h = 10.5 in

8.48 Solve Prob. 8.47, assuming that $h = 12$ in.

8.47 Three forces are applied to the bar shown. Determine the normal and shearing stresses at (*a*) point *a*, (*b*) point *b*, (*c*) point *c*.



8.53

8.53 Three steel plates, each 13 mm thick, are welded together to form a cantilever beam. For the loading shown, determine the normal and shearing stresses at points *a* and *b*.