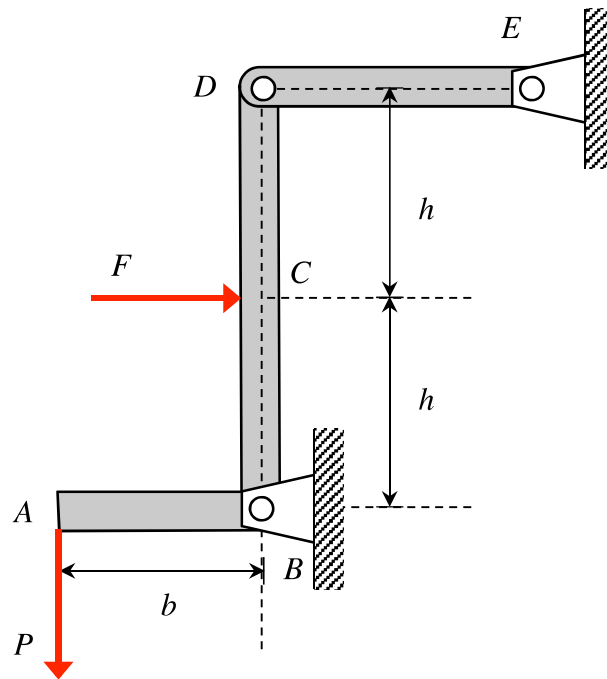


Homework Problem H32.A

Given: A frame is made up of members AD and DE that are joined with a pin joint at D, and with AD being pinned to ground at B with a double-shear pin joint. A pair of forces, F and P , act on member AD at A and C, respectively. The pin at B has a diameter of d .

Find: Determine the shear stress in the pin at B.

For this problem, use the following parameters: $b = 0.5 \text{ m}$, $h = 0.5 \text{ m}$, $d = 10 \text{ mm}$, $F = 10 \text{ kN}$ and $P = 30 \text{ kN}$.



Homework Problem H32.B

Given: Two identical rubber pads (having $h \times b$ rectangular cross sections) transmit a load P applied to a rigid plate to a fixed support. The shear modulus of the rubber material making up the pads is G .

Find: For this problem:

- Determine the average shear stress on the pads on the top/bottom surfaces of the pad resulting from the applied load P .
- Determine the average shear strain in the rubber material.

For this problem, use the following parameters: $G = 0.3 \text{ MPa}$, $b = 60 \text{ mm}$, $h = 30 \text{ mm}$, $t = 150 \text{ mm}$ and $P = 500 \text{ N}$.

