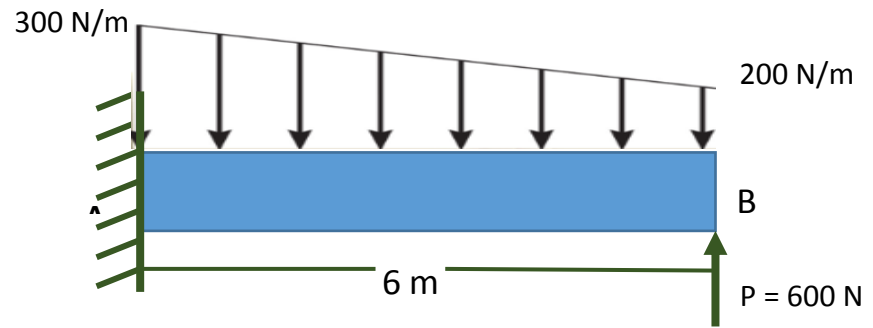


Chapter 1 Lecture Problems

Example 1

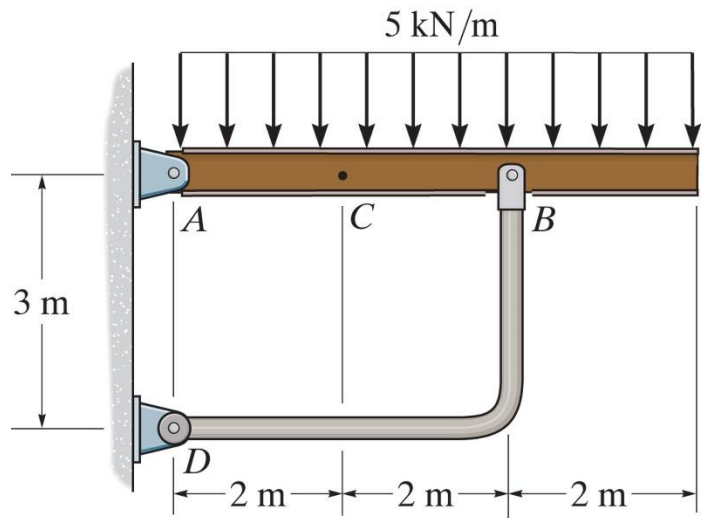
Determine the reaction at point A.



Chapter 1 Lecture Problems

Problem F1-6

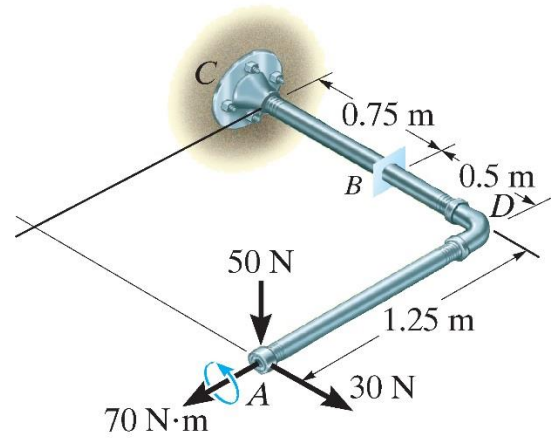
Determine the reactions at point A.



Chapter 1 Lecture Problems

Example 3:

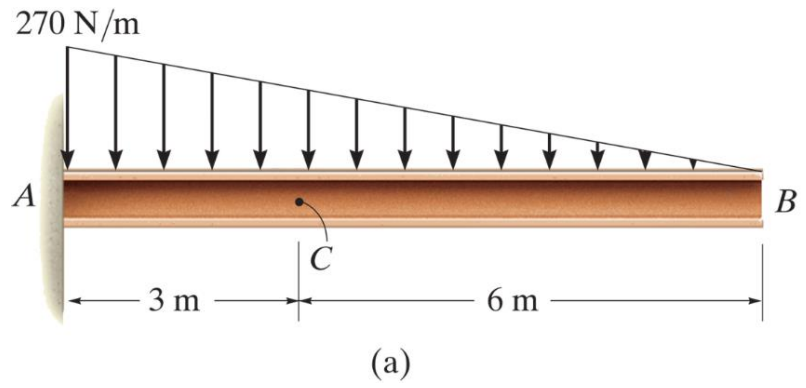
Determine the reactions at point C.



Chapter 1 Lecture Problems

Example 1-1

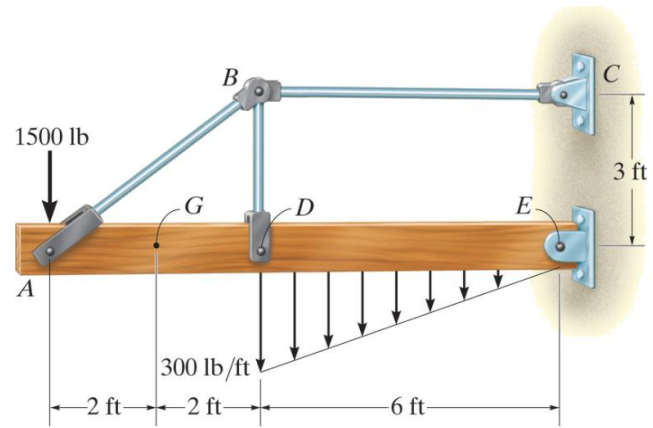
Determine the resultant internal loadings acting on the cross section at C of the cantilevered beam.



Chapter 1 Lecture Problems

Example 1-3

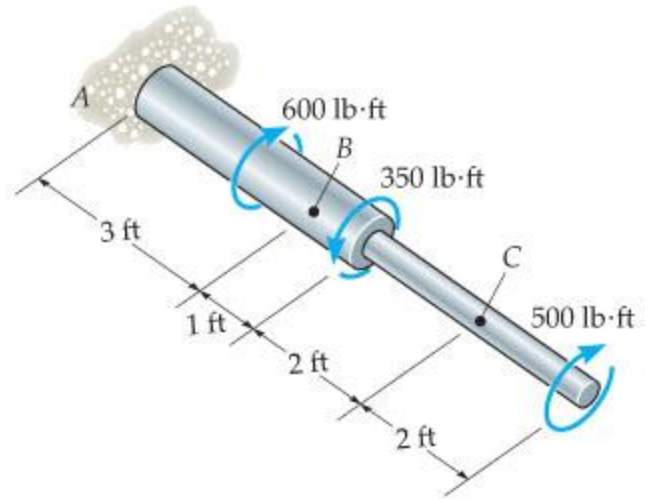
Determine the resultant internal loadings acting on the cross section at G of the beam shown below. Each joint is a pin connection.



Chapter 1 Lecture Problems

Problem 1-3 (8th ed)

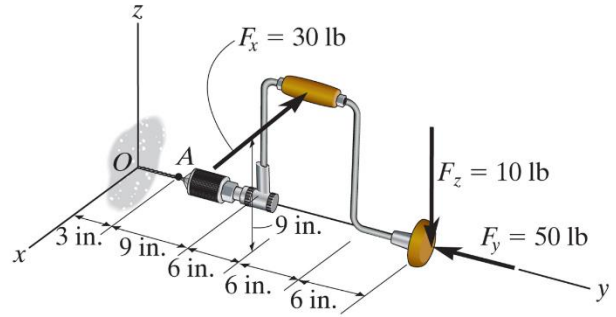
Determine the resultant internal torque acting on the cross section through points B and C.



Chapter 1 Lecture Problems

Problem 1-28

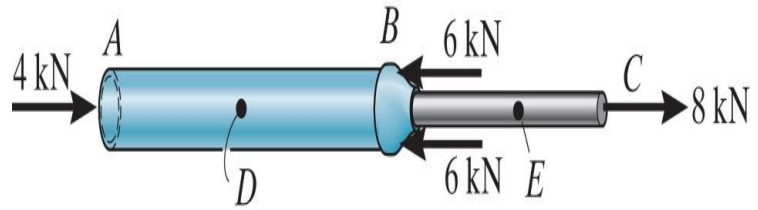
The brace and drill bit is used to drill a hole at O . If the drill bit jams when the brace is subjected to the forces shown, determine the resultant internal loadings acting on the cross section of the drill bit at A .



Chapter 1 Lecture Problems

Problem 1-34

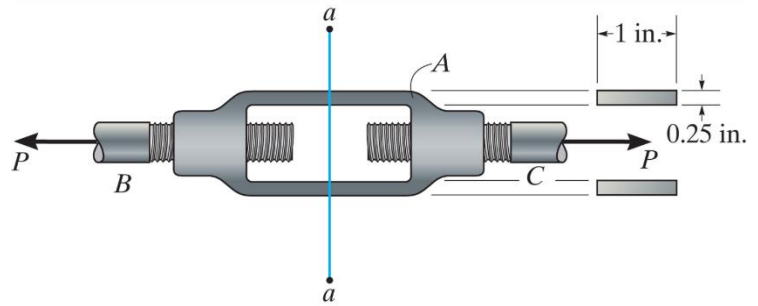
The built-up shaft consists of a pipe AB and solid rod BC. The pipe has an inner diameter of 20 mm and an outer diameter of 28 mm. The rod has a diameter of 12 mm. Determine the average normal stress at D and E and represent the stress on a volume element located at each of these points.



Chapter 1 Lecture Problems

Problem 1-35

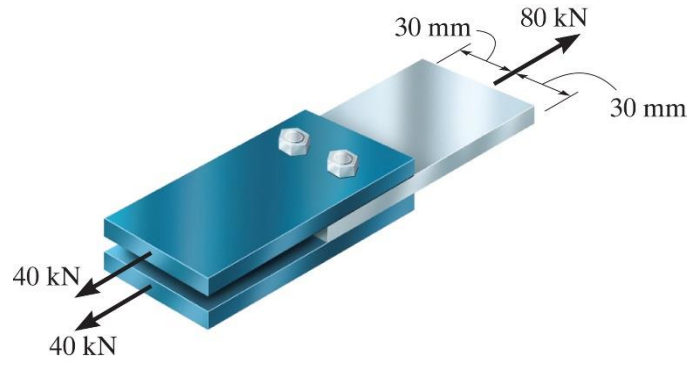
If the turnbuckle is subjected to an axial force of $P=900$ lb, determine the average normal stress developed in section $a-a$ and in each bolt shanks at B and C . Each bolt shank has a diameter of 0.5 in.



Chapter 1 Lecture Problems

Problem 1.71

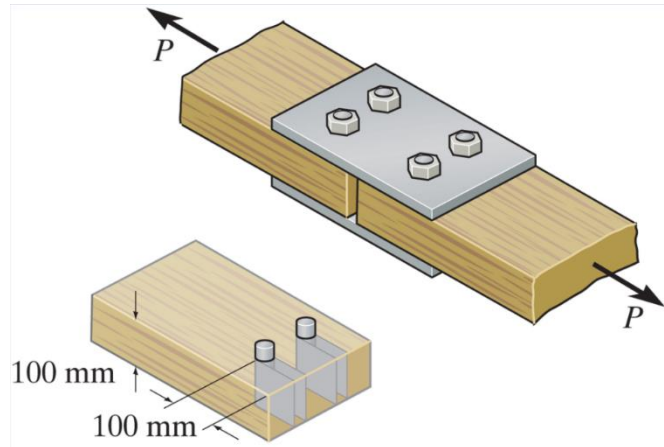
The joint is fastened together using two bolts. Determine the required diameter of the bolts if the failure shear stress for the bolts is $\tau_{fail}=350$ MPa. Use a factor of safety for shear of $FS=2.5$.



Chapter 1 Lecture Problems

Problem 1-52

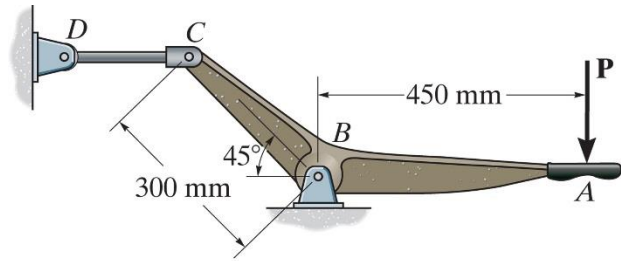
IF the joint is subjected to an axial force of $P=9$ kN, determine the average shear stress developed in each of the 6-mm diameter bolts between the plates and the members and along each of the four shaded shear planes.



Chapter 1 Lecture Problems

Problem 1.65

Determine the maximum vertical force P that can be applied to the bell crank so that the average normal stress developed in the 10 mm diameter rod, CD , and the average shear stress developed in the 6 mm diameter double sheared pin B not exceed 175 MPa and 75 MPa, respectively.



Chapter 1 Lecture Problems

Problem 1.99

To the nearest $1/16''$, determine the required thickness of member BC and the diameter of the pins at A and B if the allowable normal stress for member BC is $\sigma_{\text{Allow}}=29$ ksi and the allowable shear stress for the pins is $\tau_{\text{Allow}}=10$ ksi.

