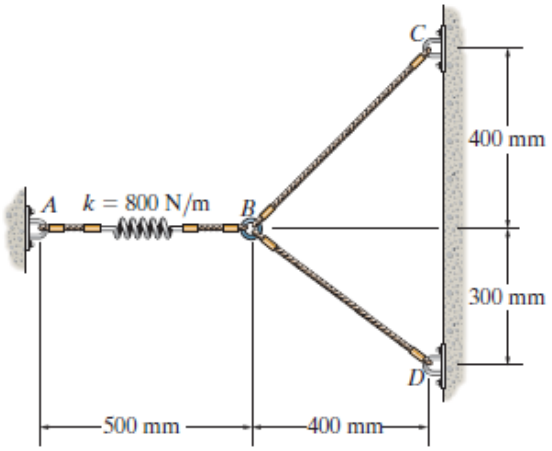
TOBB UNIVERSITY OF ECONOMICS AND TECHNOLOGY

MAK104 STATICS

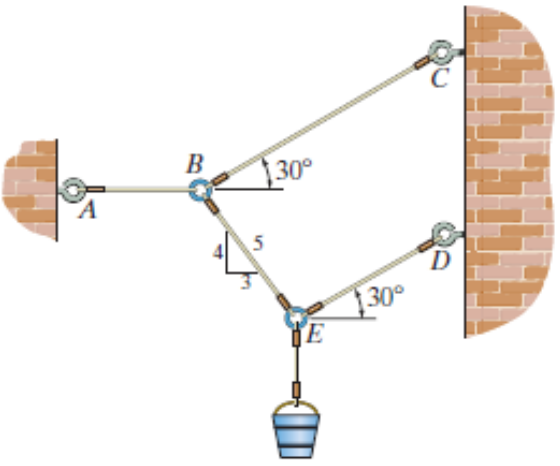
2017-2018 SUMMER

WORKING PROBLEMS – 3

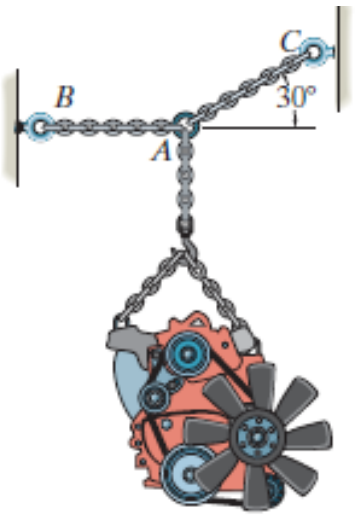
1. The spring has a stiffness of k = 800 N>m and an unstretched length of 200 mm. Determine the force in cables *BC* and *BD* when the spring is held in the position shown.



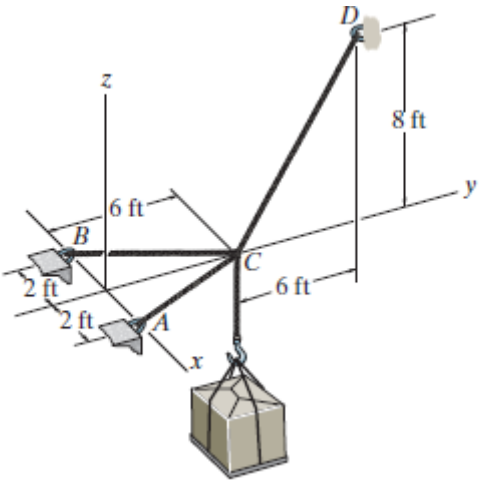
2. Determine the maximum weight of the bucket that the wire system can support so that no single wire develops a tension exceeding 100 lb.



3. Determine the maximum weight of the engine that can be supported without exceeding a tension of 450 lb in chain *AB* and 480 lb in chain *AC* .



4. Determine the force in each cable needed to support the 500-lb load.



5. Determine the magnitudes of forces $\mathbf{F}_1$, $\mathbf{F}_2$, and $\mathbf{F}_3$ necessary to hold the force $\mathbf{F} = \{-9\,\mathbf{i} - 8\,\mathbf{j} - 5\mathbf{k}\}$ kN in equilibrium.