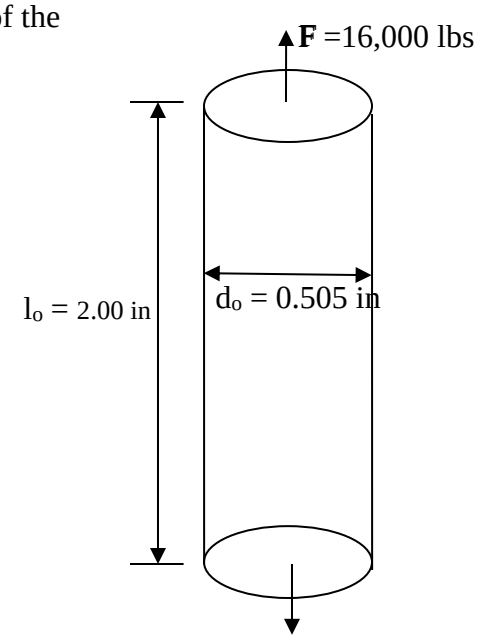
1. Given a specimen like the one shown (the yield strength of the material is 100,000 psi):



   a. Calculate the stress.

   b. If the specimen length when the load is applied is 2.00533 inches, calculate the axial strain.

   c. Calculate the elastic modulus.

   d. Does the material yield?

   e. If the transverse strain at the same load is 0.000773, what is Poisson's ratio for the material? (Hint: the answer from b. is needed here.)

2. Sketch two simple models of the atomic lattice of the material.
   a. Undeformed
   b. Deformed

3. Sketch the Stress-Strain curve for the material with the loading conditions described.