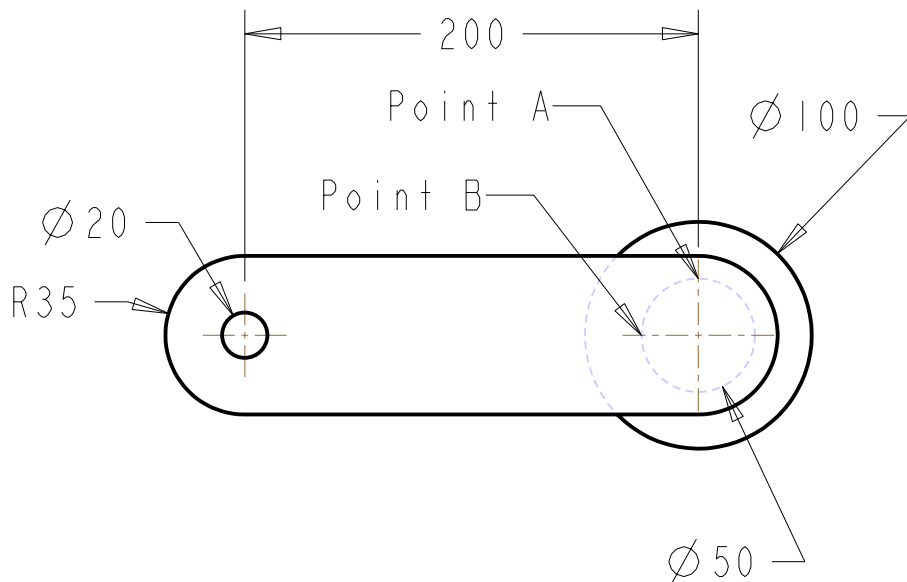
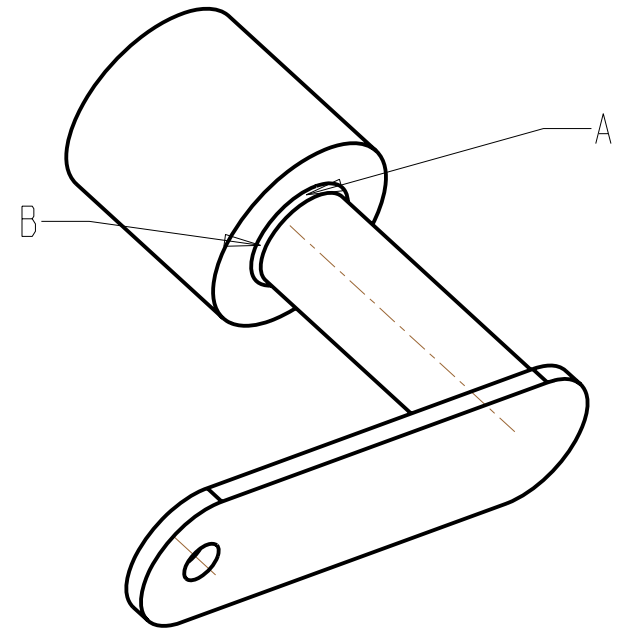
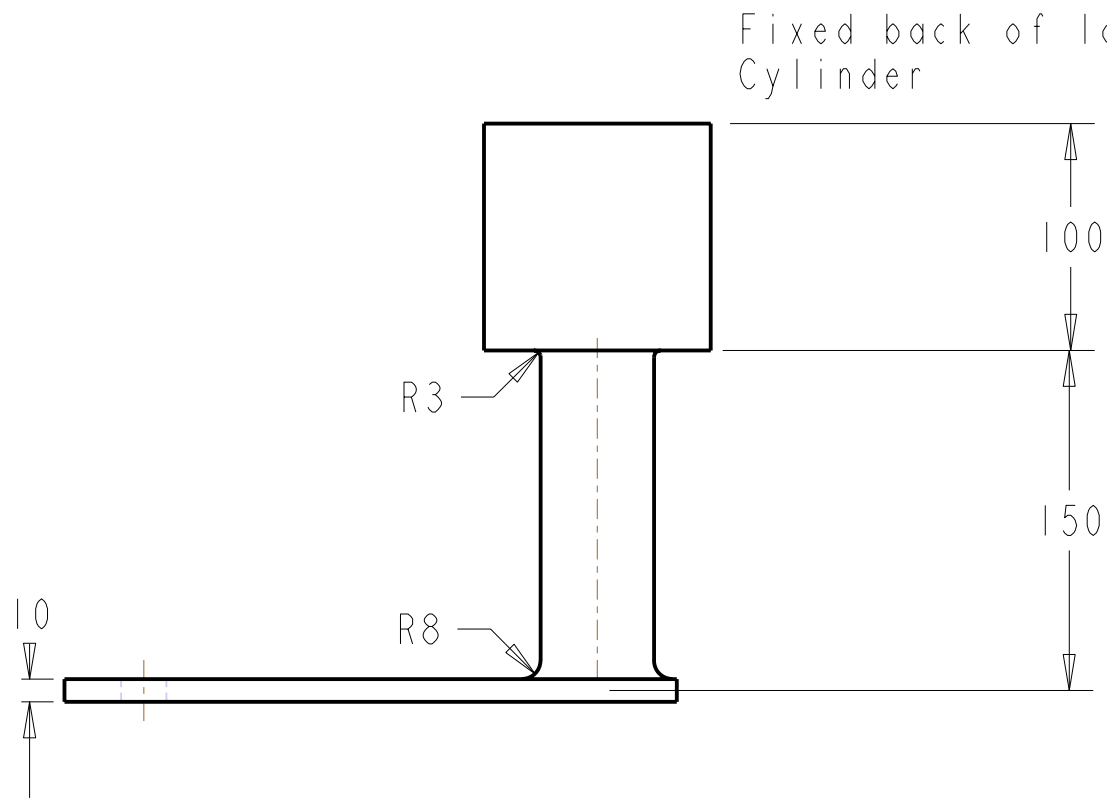


Homework

1. Using the tables from my website write routines for:
 - a. Step stress concentration factor for axial loading (Stress_Step_Axial)
 - b. Step stress concentration factor for bending (Stress_Step_Bending)
 - c. Step stress concentration factor for torsion (Step_Step_Torsion)

Templates for these routines can be downloaded from my website.

2. Solve the problem on the other side of this piece of paper using conventional techniques. Compute the principal stresses at points A and B as shown in the diagram. Take into account bending stresses, torsion, and transverse shear. Use the routines you generated in problem 1 to compute the applicable stress concentration factors.
3. Solve the problem on the back using Mechanica. Compare the answers you get using Mechanica with the answers you computed in problem 2.



Material: 2014

Compute the principal stresses at points A and B. Generate a Pro/E model of this and solve with Mechanical. Compare your results with those calculated using stress concentration tables.

Stresses applied in hole
1500 N down in FRONT view

All Dimensions mm